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The Extension Messenger

A series of brief notes from the weekly reports of the Farm
Adviser, College and Experiment Station Workers and the
State Leader's Office.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. III

January 7, 1920.

No. 1

Solidarity Of The Modern Farmer.

When New Year's comes with all its cheer
And we begin another year,
I think of all the things I'll do,
Of plans and courses I'll pursue.

I think I'll farm a different way;
In the business world a part I'll play.
I'll have a word in making laws;
I'll stand up strong for the farmer's cause.

I'll cease to grow such bumper crops,
For when I do the market drops.
Nor will I try to raise more stock,
For when I do the prices balk.

I will not work from sun to sun,
For even then my work's not done.
I'll go to work on the eight hour day,
For all the world now works that way.

I will not sell for less than cost,
For when I do my labor's lost.
I used to take what others gave
And be content to toil and slave.

But now I'll set the price I get—
Control production, let buyers fret,
And if they will not pay the price,
Why I'll not sell at a sacrifice.

Do you know what I think I'd like to do?
I'd go on a strike the whole year thru!
I've enough to live - why strive for wealth?
Let the rest of the world take care of itself.

But after all when its said and done,
And I've made my plans and the work's begun,
I s'pose I'll "carry on", as the doughbouns say
And feed the world regardless of pay.

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-Atwood-

Perchur, Perchur! They're off! 1919? The tractor schools at the University of Illinois and Bradley Institute. Training began in real earnest Monday morning of this week. Classes were well filled in both schools.

"Beginning January 5th, Bradley Polytechnic Institute, Peoria, Illinois, will give short courses in the operation and maintenance of tractors. The work in the courses will be very intensive, making it possible for the student to gain a very satisfactory knowledge of tractor operation and care in a limited time. Students may take the work in units of two, four, eight and twelve weeks. The instruction will consist of lectures, demonstrations and practical repair work. Special attention will be given to engine and battery ignition, carburetion, transmission and mechanical adjustments. The tractor equipment consists of twenty-five machines, including all standard types. Students may enter the work Jan. 5, Jan. 19, Feb. 2, or Feb. 16. The tuition is, 2 weeks 15; 4 weeks 25; 8 weeks 40; 12 weeks 50; This covers all fees connected with the school work. A booklet describing the farm tractor work in detail may be obtained by writing to Bradley Institute, Peoria, Illinois." - J. S. Hinkle.

Tractor School at the University was given in Messenger Vol. II No. 51, December 17, 1919.

New Assistant Advisers - Mr. Harold E. Koenig who has been helping Mr. Ederton since August 20, 1919 was officially employed December 1, 1919, as assistant adviser in Rock Island County. Mr. Koenig is a graduate of the Rock Island High School, has had practical farm training and has experienced about two years' hard military duties overseas. He is taking over a considerable share of the duties and responsibilities which have become increasingly heavy with the new membership of 1055 Rock Island County farmers.

The Knox County Farm Bureau has recently employed Mr. L. R. Marchant of Freedom Station, Ohio, as assistant farm adviser for a three year period beginning February 1, 1920. Mr. Marchant graduated in Animal Husbandry at Iowa State College in 1914 going directly to the management of a 1000 acre farm at Mansfield, Ohio. Three years later he took up the management of a large farm at Wheaton, Illinois, which he left in the fall of 1918 to go into the army. Mr. Marchant is especially well qualified to assist in handling the livestock problems in Knox County.

Mr. V. J. Banter, of Owensville, Indiana, took up his work as assistant adviser in Edgar County on December 31, 1919. Mr. Banter will have charge of County Club Work and other special projects.

Greek vs Greek. - "The Illinois Agricultural Association tried to put the Farm Bureau out of business this week, when Harvey J. Sconce in his Cadillac sedan, struck the farm adviser's car midships Christmas morning, much to the damage of the Ford, and inconvenience to the Cadillac. Fortunately no one was seriously injured." - Lumbrick, Vermilion County.

"In spite of the high price of clover seed, the farmers of this County are planning on using rather large quantities this year. The farm bureaus are handling about twice as much seed as last year, altho the price is about double." - Isaacson, Mason County.

"Our trade mark is now on our front window finished in green and gold, 4 x 6 feet in size, so that everybody going by can locate us, and think about clover as they go along." - Gernert, Edgar County. (The trade mark is a four-leaf clover bearing the words, Limestone, Phosphate, Livestock and Legumes, on the respective leaves.)

GLEANINGS FROM ANNUAL REPORTS.

Iroquois - "Farmers have begun to realize the possibilities of the Farm Bureau as an organization that can do much for them beyond the production side of their business." - Wise.

DeKalb - "The greatest agricultural need of DeKalb County is the handling of livestock diseases." - Eckhardt.

DuPage - "Have been able to accomplish more by publicity thru Farm and School Bulletin than in any other way, in changing crop conditions of the County." - Heaton

Grundy - "Much of the most valuable work to members is gradually taking the form of demonstrations and special projects." - Longmire.

Ford - "One of the acute problems in Ford County arises out of a set of conditions common to much of the Illinois Corn belt, i.e. - High land prices, high rents, high percentage of tenancy, considerable absentee landlordism and the question of decreasing soil fertility, all operating at a time of falling grain and livestock markets." - Hersman.

Woodford - "If all farmers used seed as good as that used by a few in each neighborhood the income per acre would be increased from 5. to 10." - Mosher.

Crawford - "The slogan used on our Orchard Improvement Campaign was 'Prune the orchards or cut them down'." - Logan.

Edwards - "The farmers are finding out that they can work together better than they could before they were organized." - Pollock.

Johnson - "The office consultations have been one of the most effective methods used by the farm bureau to render service to its members. Usually when one is willing to come to the office for information, he is in a state of mind to receive it." - McGhee

Marion - "One of the greatest needs of our County is getting the farmers to work together co-operatively." - Blackburn.

Moultrie - "The farm bureau is coming to be recognized as the real organization that speaks for the farmers and people look to it to handle farm problems." - Higgins.

Piatt - "The marketing problem is one which is attracting the attention of the farmers very strongly. Most of them believe this problem can be solved only by cooperation of farmers from all sections, who are interested in the same character of farming. Without exception, they favor the abolition of speculation in farm crops, and desire only a market established honestly upon a supply and demand basis. They do not favor the Government fixing prices." - Burwash.

Rock Island - "While the functions of a farm bureau are to encourage every legitimate interest of agriculture, there seems to be some few that are coming to stand out as highly essential and important. These have to do with organization of the buying and selling service of the farmers. Too long have we dwelt on increased production and neglected better systems of marketing. Therefore, it has been the part of the Farm Bureau this year to push such organizations as would help make better markets for the farmers' produce and demonstrate the fact that the farmers themselves are thoroly capable of conducting a great many enterprises that heretofore have been left to private initiative." - Edgerton.

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The Corn Growers' and Stockmen's Convention, Jan. 19-30, at the U. of I bids fair to be well attended according to all indications at the present time.

A crowd is expected in Peoria at the annual meeting of the Illinois Agricultural Association. Sure, we'll meet you there, January 13 and 14.

The Extension Service

A series of bulletins from the weekly reports of the Farm
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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. III

January 14, 1920.

No. 2

Get Feed Prices Daily. "Advisers and others have asked me for feed prices from time to time. They will probably be interested in knowing that the Chicago Daily Drover's Journal is now giving reliable daily quotations on all of the standard feeding stuffs on its grain and produce page." - J. W. Whisenand.

The Illinois Percheron Breeders' Association will hold its annual meeting January 23 in the Livestock Pavilion, University of Illinois.

Straighten River to Prevent Floods. - On Thursday December 11, a meeting of Stonington Community was held. On Friday a meeting was attended at Illiopolis where representatives from Macon, Menard, Sangamon, and Christian Counties talked of a plan to straighten and deepen the channel of the Sangamon River, thus affording relief to rich bottom lands now valueless; also better outlets to drain the upland prairie." - Hay, Christian County.

Farmers' Elevators. - "The adviser assisted in a meeting at Berdan which was called for the purpose of organizing a Farmers' Co-operative Elevator. The movement was well started and bids fair to succeed. If successful this will be our third farmers' elevator organized within a year. One or two other communities also seem ripe for such organizations. The Farmers' Elevators now show considerable interest in cooperating with the farm bureau in the purchase of limestone, phosphorous and seed grain. We, of course, welcome such cooperation." - Phillips, Greene County.

Soy Beans and Red Clover Seed wanted by Adviser P. S. Richey, Alledo, Ill.

Interest in Community Cooperation. - "The Farm Bureau members in the neighborhood of Pleasant Hill School district, 5 miles east of Rossville have held two meetings during the past week. These members are particularly interested in getting some cooperative work started and are planning to ship some livestock cooperatively and are also planning to buy some twine and flour in a similar manner. The twine will probably be purchased thru a local dealer. They plan to go to several dealers and get them to bid on certain amount of twine to be taken off the car on receipt and settled for at that time. They think that they can get better results perhaps than to try to buy elsewhere. They are also planning to ship in a few cars of coal. This district is a long distance from any town of any consequence and the cooperative feature has appealed very strongly to them. A president and secretary-treasurer were elected at their meeting last night and prospects look good for a thriving community organization." - Lumbrick, Vermilion County.

What influence will soybeans have on the yield of corn when the soybeans are planted with corn at the time the corn is planted. The beans and corn were seeded with a combination corn and bean planter. The amount of beans used per acre varied from three to about five pounds. The following table is taken from a circular to be published soon.

YIELD OF CORN AND SOYBEANS IN THE CORN AND SOYBEAN
MIXTURE EXPERIMENT (BUSHELS PER ACRE)

	Method of Planting	Crop of 1918				Crop of 1919				Ave. of Crops of 1918 & 1919.			
		Yield of Corn	Loss of Corn	Yield of Beans	Yield of Corn	Loss of Corn	Yield of Beans	Yield of Corn	Loss of Corn	Yield of Corn	Loss of Corn	Yield of Beans	Yield of Beans
Corn only	Checked	59.9			56.1			58.0					
Corn and Med. E. Yellow	"	56.2	3.7	3.7	53.0	3.1	1.8	54.6	3.4			2.8	
Corn and Ebony	"	53.1	6.8	5.3	47.1	9.0	8.8	50.1	7.9			7.1	
Corn and Hong Kong	"	52.1	7.8	3.1	46.1	10.0	9.2	49.1	8.9			6.2	
AVERAGE								51.3	6.7			5.4	
Corn only	Drilled	48.9			59.0			53.9					
Corn and Med. E. Yellow	2"	39.1	9.8	3.8	55.8	3.2	3.3	47.5	6.5			3.6	
Corn and Ebony	"	40.4	8.5	3.6	49.2	9.8	12.5	44.8	9.1			8.1	
Corn and Hong Kong	"	49.7	0.8	3.3	47.9	11.1	10.0	46.8	5.1			7.2	
AVERAGE								47.0	6.9			6.3	

These figures indicate that soybeans do "cut" the yield of corn when these two crops are planted together when the corn is planted.

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CLEANINGS FROM ANNUAL REPORTS.

Peoria. - "The Farm Bureau is thoroly convinced that it is a mistake for us, as an organization, to continue spending our energy toward increasing production and the quality of our produce, without attempting to answer the problem of marketing." - Pedgcock.

Knox. - "The fact is strongly impressed upon me that community organization put the Farm Bureau work on a much more stable foundation than it would be without them. It is exceedingly helpful and encouraging to feel that the local men are behind the movement and to secure the response that they give when called on." - Bracker.

Henry. - "Some of our farmers should farm very industriously with a lead pencil this winter. While we need more lime, phosphate, and legumes, we also need more brain work." -

"The soil is fertile, prices have been good, and Henry County farmers are becoming a bit careless of methods of procedure. There is a tendency to congratulate ourselves on the success we have had rather than to consider carefully whether we have done the best possible under prevailing conditions." - Montgomery.

Bureau. - "Our active campaign against Canada Thistle has brought decided results. The co-operation of the Farm Bureau and thistle commissioners have been effective and by July 1, 1920, several townships will be thistle free." - C. J. Mann.

Champaign. - "The conservation of our soil is of first importance. In fact, this is our main project and others only work toward this end." - Gathout.

Vermilion. - "During the year, advice has been given by the Adviser on practically every subject that can be thought of relative to farm work. Perhaps the most attention has been given to the soils and crops problems, particularly planning crop rotations, application of limestone, rock phosphate, and some bone meal in the growing of more legumes." - Lumbrick.

DeWitt. - "The most encouraging feature of the farm bureau is that the farmers are taking a more active part themselves and are realizing the value of the farm bureau movement more and more. They are taking hold of the work in a much more systematic and business-like way, because they see that thru cooperation much more can be accomplished. It is upon the farmers themselves that the improvement of agriculture primarily depends." - Johnson.

Coles. - "A community plan of organization would put a premium on the county meeting and thus aid materially in the development of the Farm Bureau." - Thomas.

Clark. - "The biggest job of the Farm Bureau is to develop co-operation among all farmers in producing better paying crops and marketing them successfully at a reasonable profit." - E. H. Walworth.

Saline. - "One farm bureau member who held his own wool for sometime and finally sold it separately, is quoted as saying: 'that on this deal alone he gained enough by belonging to the farm bureau to pay his dues for several years' and 'that he lost enough by not shipping in the wool pool to pay his dues for another period of years.'" - Price.

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Vol. III

January 21, 1920.

No. 3

The Farmers' Two Weeks' Short Course started off Monday morning, January 19, with a very much interested group of farmers. By Tuesday morning the registration had exceeded the 300 mark and was still climbing rapidly. An excellent program of lectures, judging and practical class work is being carried out. The particular fancy of any farmer can be satisfied, so completely does the work cover the agricultural field. "Pears like 's if they's goin' to' learn us most everythin' there is t' know 'bout this new agriculture," was the verdict of Farmer Eight Cylinder when interviewed by the Editor this morning.

A Special Lecture on "Seed Cleaning Machinery Operation and Cost" will be given during the short course by Mr. Peppard of The Peppard Seed Company of Kansas City. Mr. Peppard is recognized as one of the ablest authorities on this subject. He will also talk to the farm advisers of Illinois on Tuesday, January 27, at their meeting in Urbana.

Tractor Courses at the University are nearly filled up. Only two of the one week courses are still open to registration. According to latest information, there was still a chance to register for the courses beginning February 16 and February 23, all others being filled. (These courses are not in progress during the Stockholders' Convention January 19-30). The Farm Mechanics Division now has a battery of 15 different makes of tractors and 25 different makes of gas engines. Much interest is being taken in this valuable and practical instruction.

Off to the Short Course. "We have about twenty-five boys signed up ready to go to the Short Course at the University. These boys are going to leave in a group and I have made arrangements for them to room as close together as possible while there. I feel that having these young men go to the Short Course is one of the good things as I could do for the farming interests of the county." - Tate, Monroe County.

Keeping the Profits at Home. January 14 was the annual stockholders' meeting of the Stronghurst Farmers' Co-operative Elevator Company. This is one of the most successful elevators of the county. They are able to pay their stockholders this year, a cash dividend of 14%. The dividend checks were all made out and pinned to the United States flag and hung in the farm bureau office window, with the banner above as follows: 'We believe in keeping the profits at home,' Stronghurst Grain & Merchandise Company Stockholders." - Miner, Henderson County.

"Two days were devoted to Farm Management Schools conducted by Mr. Rauchenstein. One of these schools was held at La Prairie, January 8 and the other at Liberty, January 9. The attendance at each of these places was about 30, and a great deal of interest was shown in keeping accounts. Many questions were asked with reference to the reporting of the Income Tax." - Gougler, Adams Co.

"Will the Demand for Boars Decrease?" - Last fall we had a surplus of boars. This was due to the increased demand for, and the inflated price of, breeding stock during the past few years. With last fall's sales in mind, many see little encouragement in saving a crop of boar pigs this year. If it were not for the fact that many men had considerable amounts of money tied up in the game, there might even be a shortage of boars next fall. With pork production returning to a normal basis, we will undoubtedly see the older breeders saving a smaller number of boar pigs and many new ones discontinuing the practice altogether." - John B. Rice.

"Tankage for Hogs Following Steers." - Hogs that follow steers usually do not get all of the corn which they can eat. For this reason their tankage should be fed in limited amounts rather than as they may eat it from a self-feeder. One-third of a pound of tankage per head daily is a sufficient amount for hogs following steers. Hogs that are not also self-fed their corn may consume from one-half to one and one-fourth pounds of tankage per head daily from feeders." - John B. Rice.

Illinois Activities Over-Reach into Iowa. - "A meeting was held in Drury Township, January 8th for the purpose of organizing a Farmers' Co-operative Elevator for the people in that community. Since there is no convenient shipping point for these people on the Illinois side, they do their shipping from Muscatine, Iowa; therefore, this elevator must be located in Muscatine and organized under the Iowa Co-operative Act. A desirable site for this elevator has been located, the temporary officers elected and they are now ready to sell stock. They expect to erect an elevator modern in all respects. A number of Muscatine business men are enthusiastic boosters of this elevator." - Edgerton, Rock Island County.

"During the membership campaign we are keeping an extra stenographer." She starts to work at noon and comes back in the evening and works from 7 until 10 o'clock. In this way we keep all the records up to date, working a complete record of all those who signed up during the day, those not at home and those who refused and these lists are checked off against the total list of farmers in the townships. By doing this we check up on each farmer in the township." - Peoria County, Hedgcock.

"The plan of sending 2 men into each township the very next day after the membership campaign in that township, to see men who were not at home or were missed, is meeting with good results in Peoria County," says Adviser Hedgcock.

New Adviser in Jersey County. - "The Jersey County Farm Bureau has decided to employ Mr. R. L. Eyman as Farm Adviser in Jersey County to succeed Mr. C. E. Wheelock, who resigned on account of the condition of his health. Mr. Eyman expects to begin work February 1. He was brought up in Adams County, Illinois, attended the Western Normal School and afterwards graduated from the University of Illinois. Mr. Eyman was head of the Department of Agriculture in the Kent State Normal College in Ohio for three years, and succeeded Mr. Madder as head of a similar department in the Illinois State Normal at Bloomington.

"The \$10,000 limit on the amount that can be loaned in Farm Loan Associations makes this loan unpopular with many farmers for the reason that they need larger loans." - Richards, Kane County. (So reported by Kankakee and other counties.)

Monroe County Cows Won't Lack for Sweets. - "We received another carload of molasses. This makes the third carload we delivered to our members." - Tate.

GLEANNINGS FROM ANNUAL REPORTS.

Shelby - "Our farmers recognize more than ever before the need of closer co-operation to look after their own interests." - Felting.

Union - "We feel that the farm bureau is now on a firm basis and that its permanency is assured. We note a distinct change in the confidence of farmers since organizing." - Durst.

Randolph - "Demand for chinch-bug resistant corn was good, with considerable demand from other counties. Democrat corn again proved itself the most reliable corn to grow here. One man near Sparta reports a yield of nearly 50 bushels per acre of Democrat corn. Over most of the county the crop was a failure, due to drouth and chinch-bugs." - Doerschuk.

Stephenson - "A big problem facing the farmer today, is the labor situation. Hundreds of farm lads have left the field for the factory. The farmers' sons are going to town. More farm sales have been held the past fall than for years. The farm labor problem is a serious one. Some possible help for the situation may be the following: Greater use of machinery and labor saving practices such as hogging down corn and self feeding of farm animals; a real endeavor to make farm life more attractive to the boy and girl. To this end, club work should be encouraged to give every boy and girl a greater interest in the farm life." - Baumeister.

LaSalle - "A most effective form of co-operation in use here is the protective association. One or more townships organize and incorporate to protect game, wild fowl and birds; to create a game preserve and to prohibit trespassing upon the farm lands of members. Another form of co-operative enterprise carried out in the county is that of Township Farm Mutual Insurance, whereby the farmers are insuring against loss by fire and lightning. There are 14 companies in the county ranging in territory covering from 1 to 7 townships each." - Brooks.

Lee - "All thru the four years of work it has been the policy to conduct branch office meetings, especially since many of the members are not within easy reach of the office at Amboy. It is usually possible to hold one branch office meeting in a township, or at least in different parts of the county within reach of every member." - Griffith.

Kankakee - "One phase of the work that stands out to me as well worth while is the erection of the phosphate bins over the county. These bins are financed by members of the association thru their local organizations and the plants are so located that 90% of the farmers of the county can go to one of these bins without traveling over four miles." - Collier.

Bond and Schuyler Organize.

Bond County held their permanent organization meeting January 3rd. Schuyler County organized January 8. Bond has over 300 members and Schuyler 338. Both counties took membership in the Illinois Agricultural Association. This brings the list of Illinois counties organized up to the 78 mark.

Beg Pardon! Unfortunately we omitted to say that Dr. Burlison prepared the item on "Yield of Corn and Soybeans" in last week's issue of the Messenger.

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Vol. III

January 28, 1920.

No. 4

These are great days! The Farm Advisers' Annual Conference at Urbana is in full swing. Nearly every man is on the job. There are many happy greetings, many joyful smiles and a lot of joking as we come and go, but withal these chaps are a serious minded lot, alert to the advancement of agricultural interests and true to the wants and needs of that Farm Bureau back home. Let's give 'em an Oskee-wow-wow!

"A very enthusiastic and interesting meeting was held on Wednesday, December 17, of the executive committee and the newly elected township directors. A number of suggestions were brought up at the meeting and each committeeman has agreed to report that which has been accomplished during the month of the meeting in his special line. A general plan of work for the different township directors was mapped out for the coming year. This was one of the best farm bureau meetings ever held in Edwardsville." - Haberkorn, Madison County.

Controlling Swine Plague - "We are finding that our recommendations for the swine plague is proving very effective. We find the new membership especially responsive to the assistance that is being rendered, inasmuch as the veterinarians have been exclusively recommending vaccination for cholera rather than treatment for 'flu'." - Richey, Mercer County.

"Four days each week are spent in branch offices and very satisfactory results have followed. I believe at this time of the year more farmers can be reached thru branch offices than by making an effort to make farm visits." - Snyder, Ogle County.

"It Pays to Advertise." - We are planning our demonstration meetings this year on a larger scale from last. We are thoroly convinced that the State Leader is right in saying that a demonstration meeting should be carefully planned, well advertised, and properly carried out. We are of the further opinion too, that enough of these demonstration meetings should be put on in a county so that something worth while will be accomplished when the series are over. We expect to pay out more money this year for printer's ink, in advertising meetings, than we have done heretofore." - Kendall, Morgan County.

Short Course Not Successful this Year in Vermilion County. - "Our experience with short courses in this county was such that they will probably be discontinued." - Lumbrick, Vermilion County.

Livingston - "Our efforts have been devoted chiefly to farm visits, getting acquainted with the people, the county, and the work." - Allison.

"The Red Top situation was discussed at a recent meeting and it was decided to organize a Red Top Association at the annual meeting of the Farm Bureau. There are a number of men interested in practically nothing but Red Top growing, who are influential men in the county, and we believe if we can organize a successful association for them, we will get them to take more interest in Farm Bureau work and in time get them to be interested in phases of farming, other than the growing of Red Top." - Blackburn, Marion County.

Monroe County Farmers Learning Value of Purebreds - "I am certainly pleased with the interest which is being taken in better live stock thruout the county. In one community every member now has at least one registered Holstein and most of them have two or three. One of my members recently purchased a White Leghorn cockeral whose dam has an egg record of 278 eggs. Another member bought a barred Plymouth Rock cockeral, whose dam has an egg record of 256 eggs. In the last two or three weeks about fifteen registered hogs were bought by members. One member has just received a registered ram and two registered Shropshire ewes. These are not only registered, but very high class individuals. This makes me feel rather good when I think that when I came here there were only two or three registered animals in the whole county." - Tate, Monroe County.

"The Cow Testing Work in McHenry County has been re-organized. One cow testing association has been organized to take care of all cow testing work in the county. In addition to the President, Secy-Treas. a director was elected from each territory doing testing work. Each tester will do the testing work for twenty-six farmers making detailed reports to the farmers and a general summary of work to the Testing Association. Seventy farmers have made application for testing association work. Each member pays \$48. per year. The assistant adviser will have direct charge of the project." - Gafke, McHenry County.

Success in Treatment for Contagious Abortion. "Our local veterinarian, Dr. Harry Caldwell, located at Wheaton, has had very good success in treating some of our pure bred cattle for sterility trouble and contagious abortion. He has done a good deal of clinical work with Dr. Williams of New York and in following up Dr. Williams' work has been very successful. I persuaded him to discuss these problems at the Annual Meeting of the Farm Advisers at Champaign in January. This is quite a vital question in parts of the state in the breeding of pure bred cattle and there is yet a great deal to be worked out along this line. I feel that the Advisers are very fortunate in being able to find out what one veterinarian has done and is doing along this line." - Heaton, DuPage County.

Four feeding demonstrations in dairy cattle were held in Marion County with the help of Mr. E. L. Clark of the University. The attendance was very good considering the exceedingly cold weather. One of our greatest problems here is getting enough feed or the proper kind of feed for dairy cattle. I believe a number of our dairy farmers found out at these meetings that they will have to devote more attention to the growing of proper kind of feeds. One of the greatest things needed is the growing of legume hay and some silage crop which will insure silage. A number of the men will try sun-flowers next year on a part of their ground. It has been satisfactorily demonstrated that sun-flowers can be used as a silage crop and it is thought that they will be a more certain crop than anything else we can grow while we have so many chinch bugs." - Blackburn.

"Sunflower seed has more than twice as much digestible protein and more than four times as much digestible fat, as has corn." -

GLEANINGS FROM ANNUAL REPORTS

Lake - "Altho Lake County is almost an exclusive dairy county we have plenty of farmers that are still milking scrub cows that do not pay for their feed, dairymen who buy more feed than they produce, and others who can think and farm only in terms of milk." -

"The development of local and county wide committees that are necessary in taking care of a large membership must be pushed as soon as possible." - Watkins.

Will - "I feel safe in saying that Will County has had more favorable publicity over the county at large because of the Shorthorn Association and sale than it has had in an agricultural way from any other source." - Hedgcock.

Ogle - "At the county fair we took charge of the livestock department and also had a Farm Bureau exhibit on the grounds. We are also working with the Fair Association to secure a livestock pavilion on the grounds." - Snyder.

McHenry - "With our organization closely associated with other organizations in the county we can carry on the work both educationally and financially for the interest of the farmer. The National Farm Loan Association will take care of the man who needs money to improve his farm or to purchase the farm, the Cow Testing Association will help the farmer who wishes to find out whether his cows are profitable or unprofitable, and lastly, the Seed Association, which is now under way, will take care of the general business needs of the members of the organization." - Gafke.

McLean - "Ten Saturday afternoon meetings were held from December 1st to February 28, 1919, with an attendance of 460." - Center.

Kane - "There is great need for helping our farmers with farm management problems. The farm accounting work needs to be extended to the point where every farmer is keeping a record of his farm business." - Richards.

Warren - "The keystone and strength of the whole Farm Bureau movement must be a spirit of cooperation, a desire for improvement. To this must be added a regard for the rights of other men and other business, coupled with a vision of the wonderful possibilities of an agriculture honestly organized for its own development." - Wells.

Henderson - "The executive committee has had considerable influence in preventing fake stock salesmen from carrying on their business in Henderson County. It is poor business for the farmer to borrow money to invest in any stock selling scheme. He had better use his money for improvements on his own farm." - Miner.

Mercer - "Realizing the great need of obtaining nitrogen at the least expense, the increased use of all legumes will be urged and stimulated by means of demonstrations, news letters, bulletins, and special meetings. The results of former years of work show an increase of 15 to 30% in yield of corn due to the use of clover. Soy beans have resulted in an increase of 10 to 15% in the yield of corn." -

"For the elimination of fusarium, demonstrations have been held in diseased fields, and winter meetings are planned in which germination boxes will be shown with diseased and disease resisting seed grown." - Richey.

The Extension Messenger

A series of brief notes from the weekly reports of the Farm
Advisers' College, Experiment Station Workers, and the
State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. III

February 4, 1920.

No. 5

Douglas County Organized. - The number of organized Farm Bureaus in Illinois were increased to 78 when on January 26, 1920, Douglas County joined the ranks with 384 charter members, the permanent organization was formed, and prominent, progressive farmers were chosen as officers and executive committeemen. It is an interesting fact that eight of the nine men in these important positions were former students in the University of Illinois. It is expected that an adviser will be employed in the near future.

The Marshall-Putnam Farm Bureau has secured the services of Mr. F. E. Fuller as farm adviser. Mr. Fuller lived on a farm in Henry County until about grown and then went to Kansas where he farmed for six years. Mr. Fuller graduated from the Kansas Agricultural College and also from the Iowa State College. He later farmed four seasons in Idaho. During the summer of 1917 he acted as county agent in Montana. At the present time he is doing extension work in Agronomy and also holds the title of Assistant State Leader. It is expected that Mr. Fuller will begin work about February 20.

The Will County Farm Bureau has employed Mr. J. Franklin Hedgcock, brother of Adviser Hedgcock of Peoria, as successor to Mr. P. R. Lisher, who expects to devote his time to his farm in Iowa. Mr. Hedgcock was brought up on a farm in Schuyler County, graduated from the University of Illinois, farmed for a year after graduation, then taught agriculture in the State High School at Albert Lea, Minnesota, and has served as county agent there for the past year. He began work on January 16. The Will County Farm Bureau has recently been re-organized and the prospects for the future of the work there, are very bright.

Mr. J. W. Whisenand commenced his duties as Assistant Farm Adviser in Iroquois County, February 1.

The Annual Advisers' Conference held in Urbana, January 27th, 28th and 29th seems to have been very helpful if we may judge from the comments of the men attending. The Illinois advisers were present almost to a man. A number of prominent authorities addressed the conference on very timely topics and no one could afford to miss it. This item doesn't begin to do the meeting justice nor even mention that fine banquet - Mm-Boy!

Well Represented. "DuPage County, and especially the town of Wheaton, was well represented at the Peoria meeting. The list included D. O. Thompson, C. V. Gregory, Herman Steen, A. C. Page, E. L. Bill, and myself, all from Wheaton; Ed Peterson, Lombard; D. O. Sayer, Bartlett; and John Lamson, Hinsdale. When any of the farm advisers retire I suggest that they move to Wheaton. If they do, they can easily keep in touch with what is going on thruout Illinois, agriculturally." - Heaton.

"Should sows or gilts which have been bred for spring farrow be given the double treatment for hog cholera?"

"Yes, if there is danger of cholera. Immune sows are an asset, and provide a limited degree of protection against cholera to the pigs while nursing. The danger of treating pregnant sows is slight, and practically no ill results should be experienced providing the animals are healthy. A potent serum and virus, a careful operator, together with help to handle the animals quietly, are the essentials. Pigs from immune dams should be immunized ten to twenty days following weaning. The value of rotating feed lots and pastures, disinfection of houses, together with measures for the elimination of lice and worms need be emphasized in controlling swine diseases.

Request poster issued by Extension Division if 'cure-all' remedies are being exploited in your county." - Dr. Robert Graham, Professor in Animal Pathology.

Sunflower Silage. - "We have always considered sunflowers for silage to be only a sort of make shift or substitute for corn to be used when for any reason corn could not be grown. However, from the results reported by C. L. Rollins, Murphysboro, sunflower silage deserves higher rating. Mr. Rollins secured a much higher yield per acre from sunflower than from corn and this is not all. He reports that his cows actually gave more milk when he changed from the corn silage to that made from sunflowers.

At any rate it seems well for any one, especially in the chinch bug region to prepare to plant a patch of sunflowers for silage." - Thomas, Jackson County.

Sunflower Seed. "We have sold to date over 1300 pounds of sunflower seed and a part of my time this week has been taken in getting this divided and distributed. There are a great many farmers who are going to try growing sunflowers for silage." - Blackburn, Marion County.

Limestone Situation. - "Everything has been done that could be done to reach a satisfactory agreement with the limestone producers relative to output on price for 1920. While some progress has been made there are still a good many obstacles to overcome. The limestone committee appointed by the Illinois Agricultural Association and the Farm Advisers' Association, has worked hard to bring about a satisfactory agreement with the producers and still hopes to accomplish something, but it will require more time. In the meantime, we trust the farm bureaus will 'fit tight' and lend us their moral support and cooperation. If we will all work together the committees feel that much can be accomplished whether or not we shall be able to get all that we had hoped to get.

The farm bureaus will be kept advised as to the progress of the negotiation." - J. E. Readhimer.

"It requires no more bushels of corn to buy a bushel of clover seed than it did before the war. In December 1915, it took 22.8 bushels of corn to buy one bushel of Toledo Prime red clover seed. In December 1919, on the same basis of figuring, it took exactly the same 22.8 bushels of corn to buy one bushel of clover seed." - Mosher, Woodford County.

Adopt Budget System. - "The treasurer of the Sangamon County Farm Bureau announced at their annual meeting on January 21st that they had decided to adopt a budget system. This is an excellent idea and indicates that the farm bureaus are adopting modern methods in the handling of their business." - G. N. Coffey.

GLEANINGS FROM ANNUAL REPORTS

Christian - "With the large membership, one of the first things to be done this winter is the organization of all communities. This county is divided into 19 communities, and the membership for the county has increased from 476 to 1582." Hay.

Menard - "Community organizations have been developed along conservative lines, allowing people to make known their wants rather than to urge upon them something entirely uncalled for." - Wilder

Hancock - "The Board of Directors and Executive Committee have been very active in the work of the organization. The Executive Committee and the Board of Directors had entire charge of the extensive exhibit put on at the county fair, the management of which created much favorable comment." - Lloyd.

Adams County in speaking of office consultations, states: "The placing of the office, in a new and more accessible location has had a great influence on this phase of the work." - Gougler.

Greene - "The plan for an office day once a week, with which we started out no longer seems sufficient for taking care of the demands which are now made on the Farm Bureau office. Farm visits we believe, however, have been the means of rendering our best service." - Phillips.

Morgan - "At first, the callers in the office came to get acquainted, now the majority come for some specific service." - Kendall.

Sangamon - "Because of the increased number of members it has been necessary for the adviser to spend a large portion of his time in the office, making only such calls on the members as were requested, and spending only such time in the field as is necessary to keep in touch with farming conditions." - Madden.

Tazewell - "Some effort has been made to induce farmers' elevators' companies to sell limestone in a retail way. The use of limestone on all areas except the black clay loam and river bottom soils needs encouragement. The largest stimulus to the increased use would be supplies of stone on hand. The farmers' elevator is the logical handler of the limestone in less than carload lots. Same is true of phosphate." - Starr.

Macoupin - "Ten demonstration meetings were held in which we discussed the feeding of beef cattle and dairy cattle, the use of limestone and phosphate, the culling of farm flocks of poultry, the locating and burning of chinch bug areas and the treatment of wheat and oats for smut." - Miller.

Mason - "Farm Loan Association has been organized and placed on a working basis. This association has been organized in the past but the federal appraiser refused to make loans on sand lands, but the Federal Land Bank has reconsidered this action and sent an appraiser who is willing to make loans on the sandy land on west side of county." - Isaacs.

McDonough - "A tractor demonstration in which 18 tractors were entered to determine their fuel economy and quality of plowing, was conducted near Macomb in cooperation with the Macomb Commercial Association on August 6 and 7. From 4000 to 5000 people attended this demonstration." - Doneghue.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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No. 16

Conference a Valuable One. "After having a little time to think over the conference which was held at Urbana, I have come to the conclusion that it was a highly profitable one.

When one of the representatives of the American Press Association was speaking on publicity, an illustration of the value of publicity came to my mind. Last spring a farmer came into the office and asked if he could become a member of the farm bureau. He was on the point of signing the agreement when he noticed that the membership fee was \$10. He said 'This is too much,' and left the office without joining. Sometime during November he came into the office again and said to me, 'You have never been near my farm, and yet you did me a service that was worth around \$300. in cold cash. A situation arose on my farm and it occurred to me that you had an article in the Galesburg paper covering this situation. I found the article and acted on the suggestion given in it, with the result that it meant a saving of around \$300. to me.' Needless to say, he is now a member." - Bracker, Knox County.

"The roads have been almost impassable this week which made it a fortunate time for us to be at the Urbana meeting. Since returning from that, we had one good live account book school which requested a follow-up meeting a week later, on pruning demonstration, and a township committee meeting which laid plans for organizing a farmers' elevator company to take over three independent elevators." - Brooks, LaSalle County.

Illinois is no Place for Gypsum. - "A Plaster Company has offered to send gypsum to two farmers for trial in this county. They make this offer thru a local lumberman, who handles their stuff. The lumberman asked the adviser to recommend the farmers who would make the best trial of the gypsum. The adviser recommended that the lumberman refuse to handle the land plaster in view of the fact that it is a stimulant to the soil and has no part in the Illinois System of Permanent Soil Fertility. The lumberman assented to the recommendation." - Hersman, Ford County.

An Illini Club Proposed. - "Letters have been sent out to each person who has attended at least one year at the University of Illinois to meet in the farm bureau office Wednesday evening of next week for the purpose of organizing an Illini Club if they so desire." - Kercher, Pike County.

Held this Week. - "A Live Stock Shipping Association Meeting was held this week at Tiskilwa. There were 75 present and they formed an association also elected officers and have everything ready for work." - Mann, Bureau County.

Splendid Local Meetings. - "We have been having good township meetings, with a good attendance and much enthusiasm." - Collier, Kankakee County.

Carroll County Begins Work - Mr. G. R. Bliss, the new County Farm Adviser for Carroll County took up his duties the first of February. He comes from Scott County, Iowa, where he has been County Agent for seven years. Mr. Bliss was reared on an Iowa farm, is a graduate of Iowa State College and also holds an M. S. degree from that institution. His new headquarters will be Mt. Carroll, Illinois.

New Assistant Advisers. - Mr. Leonard A. Hammond of Warsaw has been employed as assistant adviser of Mason County. He will take up his duties the middle of February. Mason County Farm Bureau will locate in new offices in the near future in order to take care of the rapidly increasing amount of work.

"Mr. W. Floyd Keepers has just been employed as assistant farm adviser for Grundy County. Mr. Keepers has just finished his agricultural training for his degree this semester at the University of Illinois and will start work February 10. Mr. Keepers is a practical man, having been reared on a farm and has experienced numerous types of work that will be of value in this position. He is a Grundy County product. He and his twin brother enlisted in the air service during the war and they were ready to go 'Over There' when the Armistice was signed." Longmire, Grundy County.

Monroe County will have an assistant adviser in the near future. Mr. C. T. Hufford expects to take up his new duties there April 1, or possibly sooner. Mr. Hufford graduated in agriculture at the University of Illinois in 1916. Since that time and for nearly a year and a half before graduation, he assisted in Soil Survey work in Illinois excepting the time he spent in the Service. Monroe County is the first county in southern Illinois to employ an assistant.

McLean County has employed Mr. Harrison F. Fahrenkopf as assistant adviser. Mr. Fahrenkopf graduated in Agriculture at the University of Illinois in 1913 and since that time has been assisting in the work relative to the management and control of the Illinois Experiment Fields. He is at present Associate in Soil Fertility, University of Illinois. He will take up his new duties in McLean County in the very near future.

Feeder Pigs for Sale. We hold a letter from Mr. O. Rudesill of Gilkerson, Ark., telling of a carload of feeder-hogs for sale. Some are borrows, some sows and some pigs weighing from 20# to 150#. These are of Poland-China breeding from a registered sire and are in good health. Any one interest may write Mr. Rudesill direct referring to letter to University of Illinois.

A New Home for the Macon County Farm Bureau. - A new garage building has been secured and is to be fitted up in modern fashion for offices for the county agent and his assistants, and a comfortable rest and reception room will be installed for women. The rear room will be arranged for farm bureau meetings and live stock sales. The building will accommodate about 500 farmers.

"Our exchange list is beginning to show results. - The last one brought telegrams and long distance calls from other counties in the state where clover seed was needed. Though the organization is new the members are showing a great deal of interest in and are making free use of these exchangelists which are now being published once a month.

If road conditions permit, a regular schedule of branch office visits will be tried out as in this way it is thought that many more farmers will get in touch with the work that if farm visits were depended upon more at this time of the year." - Brown, Stark County.

GLEANINGS FROM ANNUAL REPORTS.

Cass - "Sweet clover has been grown on several of the loess hills, and two trials made under the direction of the farm bureau has shown that this crop is best to reclaim this type of soil which has previously produced nothing but poverty grass. A total of 1760 tons of limestone and 360 tons of rock phosphate has been ordered thru the farm bureau for the soils of Cass County since February 1, 1919." - Dickenson.

Macon - "The greatest agricultural need of Macon County is the maintenance and increase of fertility of the soil. The agricultural council adopted a program for working out these needs and included in their program the development of the live stock industry in order that a larger amount of grains and roughages may be consumed on the farms thereby leaving more of the fertility on the land than would be the case if the crops were removed directly." - Smith.

Fulton - "With proper community organization it should be possible to control contagious diseases among live stock in a manner never before undertaken." - Miner.

Jackson - "Fruit Growing. Much of Jackson County is admirably adapted to fruit growing. This branch of agriculture has been greatly extended this year and there is promise of still greater extension during 1920. This will be a great thing for Jackson County and will transform a great expanse of low valued land into valuable, high income-producing property. It is the duty and expectation of the Farm Bureau to assist in this enterprise by encouraging the use of proper varieties, correctly planted, fertilized, pruned, sprayed, and cultivated. Then will arise the need for cooperation in marketing." - Thomas.

Montgomery - "A chinch bug burning campaign was carried on in the southern part of the county during the first part of the year. Altho' conditions were very unfavorable for burning, quite a large area was burned over. The greatest number of these bugs were found in rubbish along hedges, fences, ditch banks, and timber. It has been found that 75 per cent of the bugs can be destroyed by burning." - Snyder.

Monroe - "Need of Education Greatest. Soon after starting work in the county, the adviser felt that one of the most urgent needs of the county was education and he believed that the quickest and best means of procedure was to try to get the people to establish community high schools in different parts of the county. The Farm Bureau started to agitate the community high school proposition in every way possible. As a result, I think there will be at least three community high schools established in the county, all of which will give a strong course in both domestic science and agriculture. This will mean much toward agricultural education." - Tate

Effingham - "The Farm Bureau has always been alert to put in a good word of encouragement for better feeding, using of better bred sires, and better care of live stock as well as the use of home grown feeds as much as possible." - Rucker

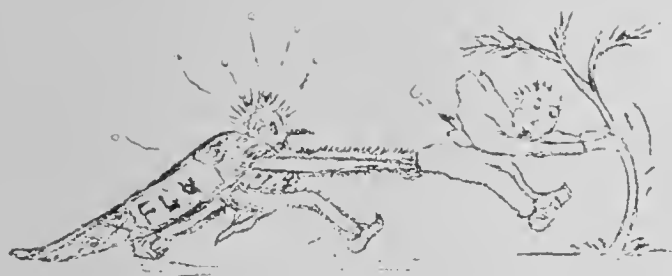
Clinton - "We consider that the biggest need of the county at the present time, and during the next five years perhaps, will be the adoption of a more evenly balanced and a better, sounder, and more diversified system of farming, and that the biggest job of the adviser is to plan such a system and get the county to adopt it. In other words, the greatest need is Farm Management." - Rehling.

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(Cartoon copied courtesy- O. J. Farmer)

Oh where did he come from?
This little Bug Flu
And how shall we kill him?
Oh what can we do?

He upsets our plans
And puts us to bed
And robs all our strength
And chokes up our head.

He brings pecks of trouble
And much sorrow too
But how can we stop him
This little Bu- Flu?

Influenza prevalent over State. The following are only a few of the items telling of the troubles occasioned in county advisory work by this disease.

"It was necessary to postpone all meetings planned for this week on account of the influenza quarantine in the various towns. I was ill with influenza during the entire week." - Lloyd, Hancock County.

"On account of an epidemic of influenza in our county we have cancelled all meetings for the next week." - Pollock, Edwards County.

"Bad roads and a most serious Flu Epidemic are a great handicap to the work." - deWerff, Franklin County.

"The Flu situation has been rather serious in outlying districts in Pike County during the past week. In some cases all meetings are prohibited." - Kercher.

A short course in Marketing for livestock shipping association managers and county agents is to be held in Chicago February 17th and 18th and another in East St. Louis, National Stock Yards on March 9th and 10th. A very valuable program is being arranged for these meetings. Some of the best authorities will lead the discussion in the methods of handling, sorting and weighing of cooperative shipments; the grading of market classes of cattle, hogs and sheep; prevention and collection of railroad claims; protective pointers for cooperative livestock shippers and other subjects relative to the problem of cooperative association management. The Chicago meeting will convene at 9 A. M. February 17th at the Office of the U. S. Bureau of Markets, Administration Building, Union Stock Yards.

Will County is preparing for real service. At the last regular Executive Committee meeting, definite steps were taken to employ an assistant county adviser, new office equipment has been purchased and a third room added to the office space.



"Inoculating Legumes" as discussed by Adviser Walworth of Clark County. "A good many people are making plans to sow sweet clover and soybeans in the spring. Remember that where these have not been grown before and where soil is not naturally inoculated as on overflow land, inoculation must be supplied for best results. The most satisfactory method seems to be what is called the "Muddy Water Method."

FIRST: Secure soil from around the roots of the kind of plant to be inoculated. Sweet clover can be found along roads or waste places in many parts of the County or Alfalfa soil can be used for sweet clover. This soil should be dried at room temperature to handle nicely and then screened thru about 1/10 mesh screen.

SECOND: Put into a pail or sprinkling can equal parts of water and inoculated soil (a little more soil than water works very well) and stir to make a smooth muddy paste.

THIRD: Pour out the seed into a wash tub or tight box.

FOURTH: Pour the muddy paste over the seed and with sleeves rolled up work it with the hands till each seed has a coating of dirt. If they are still moist, sprinkle a little dry dirt to take up the moisture.

The principal precaution in this method is to be sure and have the right kind of soil from a field that is inoculated."

Another Associate Adviser for Knox County. In addition to Mr. Lloyd Marchant, who began work as Associate Adviser in Knox County on February 1st, Adviser Bracker is to have still more help after March 1st when Mr. Ralph E. Arnett will take up his duties as Associate Adviser. Mr. Arnett is a farm trained man, as well as a graduate from Purdue University (1914) where he also received his Master's Degree in Animal Husbandry. Since 1917 he has been county agent in Hendricks County, Indiana.

Brunskill succeeded by Hopkins in Livingston County. Mr. Carl E. Hopkins, a brother of the late Dr. Cyril G. Hopkins, has been employed as assistant adviser in Livingston County to fill the position left open by the resignation of Lr. E. W. Brunskill. Mr. Hopkins did his college work at Brookings, South Dakota; operated "Poorland Farm" in Marion County, Illinois, for ten years and for the past three years has been Vice-President of the Federal Land Bank of St. Louis. Mr. Brunskill will take up the active management of a farm near Waynesfield, Ohio.

Mr. J. F. Ziegler has already taken up his work as Assistant County Agent for the Macon County Farm Bureau. Mr. Ziegler graduated in Agriculture at the University of Illinois in 1907 and has been in charge of the Warner farms in DeWitt County for a number of years past. With a new Assistant Adviser, new offices, rest rooms and Livestock Sales Room, Macon County plans to march in the front ranks of improved agriculture.

"The third annual Drainage Conference of the University of Illinois is to be held at Urbana on March 16-18, 1920. The purpose of the conference is a study of land in river bottoms where there is danger of overflow, and to bring together owners of such lands, drainage engineers, agriculturists, attorneys, contractors, and others concerned, for a discussion of specific enterprises and of ways and means for accomplishing the reclamation of the million or more acres of overflowed land in the river valleys of the State." - G. W. Pickels, Chairman, Drainage Conference Committee, Engineering Hall, Urbana, Illinois.

"The first annual meeting of the Tazewell County Sales Company was held Monday, February 2d. The report showed a net income of approximately \$800.00.

Changed the Tazewell County Brown Swiss Association to the Illinois Brown Swiss Association with 40 members to date." - Starr, Tazewell County.

GLEANINGS FROM ANNUAL REPORTS

Williamson - "Cooperation Essential; A farm adviser cannot do it all- his efforts must be met at least half way by the active efforts of farmers to help themselves. There are some things that farmers can do for themselves, working alone- and there are other things on which they must stand together if each and all is to receive his just share through the development of the business side of farming." - Hart.

Logan - "One of the greatest needs of the county is to instill into the minds of our farmers the necessity for returning to the soil the equivalent of what they take out in crops." - Ebersol.

Jersey - "Could not get sufficient limestone. Last year there was only one small crusher in Jersey County. Now there are four installed and three more ordered. There is room for many more as we have barely begun the use of Limestone." - Wheelock.

Whiteside - "In our corn variety test this year where each variety was grown side by side under the same conditions in the same field there was a variation of 25 bushels between the lowest and the highest yield." - Craig.

St. Clair - "In attempting improvements of poultry it was thought advisable to begin by culling out the unprofitable hens. Accordingly 26 so-called poultry schools were scheduled in different communities. These were attended by 300 people. The purpose of these meetings was to demonstrate systems of culling the hens which not only aren't laying at this time, but which by certain easily discernible characters are stamped as poor producers. Aside from these studies these poultry meetings are used as a means of bringing information regarding methods of feeding and breeding poultry. As a result of this work about 50 to 60 farmers have begun to feed tankage for egg production, and 10 farmers have purchased pure bred roosters out of high laying strains. One modern poultry house has been built in accordance with suggestions offered." - Tillman.

Richland - "Farmers generally are changing their systems of farming from that of growing red-top to that of growing red clover. The change is being made rapidly. Many fields that have been in red-top for fifteen to twenty-five years have been plowed up and limestone applied and a legume sown." - Piper.

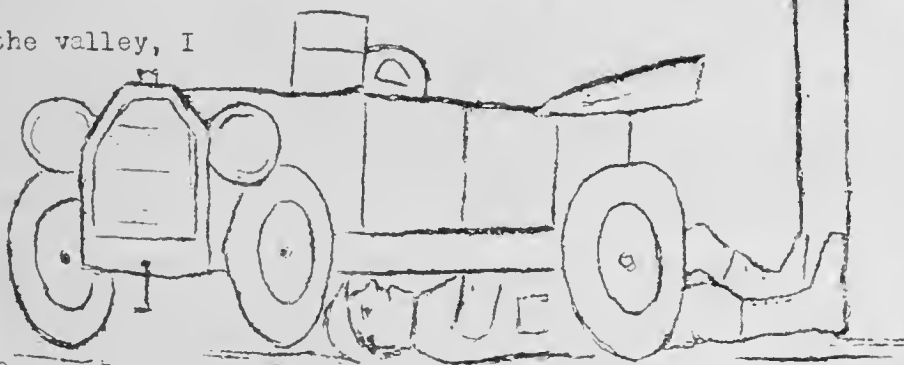
Morgan - "In general, whenever a project is undertaken, we have found it a good thing to mention it first in daily papers, then in circular letters and later in meetings and individual conferences. It does not seem advisable to start many projects in a year, but it does pay to complete those undertaken." - Kendall.

Pike - "The need of a permanent system of soil fertility providing for the growth of leguminous crops and the use of phosphorous. The introduction of better breeding in our livestock work and better feeding and housing in livestock management. We are also in need of livestock shipping associations and better accommodations and facilities from the transportation lines to carry out stock to market. A great deal of work needs to be done in the controlling of insects and fungus pests among our orchardists, also a program of fertilization for orchards and instructions along the lines of care and management." - Kercher.

"He that by the plough would thrive, himself must either hold or drive." - Franklin.

"The flivver is my car, I shall not want
another
It maketh me to lie down in wet places;
It soileth my clothes;
It leadeth me in the path of ridicule for
its name's sake;
Yea, though I run through the valley, I
am towed up the hill.
Its rods and its engine
they discomfort me.
It anointeth my face with
oil;
It prepareth me for break-
downs in the presence
of mine enemies.
Yea, to goodness, if this
thing follows me all the
days of my life,
I shall dwell in the house of
the insane forever!"

My - Flivver



Burning the Flea Beetle. - "S. C. Chandler made some burning tests for the destruction of apple flea beetle at the Braden orchard during the past week. The tests were not numerous to draw definite conclusions however, the data secured indicates the destruction of 905 of the beetles. The tests were made with a kerosene blow torch. The beetles were found harboring in the litter under the trees. Mr. Everett, manager of the orchard will continue the burning until the more highly infested area has been burned." - Piper, Richland County.

New Adviser in Menard County - Mr. C. A. Hughes of Charlestown, West Virginia, has been employed as County Adviser in Menard County to succeed Mr. G. J. Wilder, who will take up live stock farming in Ohio on March 1. Mr. Hughes was born and reared in Douglas County, Illinois, is a graduate of the College of Agriculture, U. of I., and has farmed since graduation. Mr. Hughes has been in county agent work in West Virginia the past year. He will take up his work in Menard County about March 8.

Assistant Adviser for Christian County. - Mr. F. H. Kelly, who has been with the soil fertility department of the University of Illinois for the past two years has taken up his work as assistant to Mr. Clair E. Hay in Christian County. Mr. Kelly is a graduate of the College of Agriculture and obtained his practical training as a farmer in Jasper County, Illinois.

Botulism in Silage. "Last month Mr. J. W. Wise of Iroquois County sent a sample of silage to the University, which in certain feeding operations had proven injurious to cattle. An examination of the silage did not incriminate molds so frequently referred to in connection with forage poisoning, but the presence of a bacterial toxin which has been found in other feeds in serious outbreaks of forage poisoning in horses and mules. The fatal disease in question is closely related to botulism of the human family. Recent associated press dispatches have referred to this disease occurring in Detroit and New York City, following consumption of poisonous ripe olives.

Inasmuch as it appears that small amounts of this toxin may prove fatal, it is obviously dangerous for farmers to taste samples of feeds which have proven poisonous to animals, and such practices might advisedly be discouraged.

Botulinus antitoxin has been used experimentally in immunizing animals against this form of poisoning occurring in the feed and field tests are being made with this serum in natural outbreaks of the disease. If the serum has any value it would mean that the value of poisonous feed could be realized without serious losses in animals. The disease occurs in horses, mules and cattle -- various poisoned feeds may be responsible.

Ask your local veterinarian to report outbreaks of forage poisoning to the Animal Pathology Division and secure limited amounts of serum for experimental use. Other remedial agents are of little value." - Robert Graham, Professor in Animal Pathology, U. of I.

Cattle Lice. - "At this time of the year cows and calves are quite often badly infested with cattle lice. Every dairyman should examine his stock very carefully to see if lice are present. It is rather difficult to rid cattle of lice in cold weather, but the following treatment has proven very satisfactory:

Apply with a stiff brush raw linseed oil to the affected parts. On calves the affected parts will usually be over the shoulders and neck and around the tail setting. After the oil has been applied, the animal should not be exposed to the sun for at least twelve hours to avoid scalding. A second application should be made in twelve or thirteen days, in order to kill the newly hatched lice. The walls and floors of the calf pens should be thoroughly disinfected with a 4% solution coal tar disinfectant. One pint of disinfectant to three gallons of water will make approximately a 4% solution.

In summer time the stock may be thoroughly washed with a 4% coal tar disinfectant to rid them of lice. This, however, is a dangerous practice in winter as it is hard to dry the animals and there is danger of them contracting pneumonia. The raw linseed oil treatment is much better to use in winter." - E. M. Clark, Assistant Professor of Dairy Husbandry.

Just Out! - Circular No. 240 - "Treating Oats for Smut" by W. L. Burlison and R. W. Stark, University of Illinois Experiment Station. This little four page circular gives the final recommendations of the Crops Division after a careful five years study of this subject. How many copies of this circular do you want? Send your request to the College of Agriculture, Urbana, Illinois.

More Legumes for Richland County. - "A member of one of our prominent seed firms, says their red clover seed sales are three times that of this time last year and their sweet clover seed sales are five times that of this time last year. This would indicate that Richland County farmers are applying limestone for the purpose of growing clover." - Piper.

Is Your Farm Bureau Efficient? The following are the factors which contribute to Farm Bureau Efficiency, as determined by a committee sent out to study the problem by the State Leader in Iowa.

1. An active membership of at least three hundred members distributed in proportion to the rural population.
2. An alert board of directors and executive committee taking an active interest in all phases of farm bureau work and giving regular attention to the meetings of the farm bureau for the purpose of carrying out its business.
3. A definite program of work formulated by the board of directors, adapted to the needs of the county, supported by the people, based on the successful experience of the past, distributed in proportion to the rural population, and not too large for the help available during the year or any proportion thereof.
4. Capable individuals of forceful personality as its employed agents.
5. A competent office girl to whom the agents of the bureau can delegate a large part of the routine work.
6. A roomy, well-lighted, easily accessible office, adequately supplied with substantial equipment.
7. Cooperation with all other agencies in the county working for the development of agriculture.
8. Simple, but adequate, records of its work and finances so that it may show clearly that its funds have been effectively used.

Service will Tell The Tale as S.H. Thompson, Assistant County Agent Leader of Iowa, puts it "Let us remember that when the tumult and the shouting die, following our membership campaigns, there is only one thing that will enable the Farm Bureau to retain new members. That one thing is Service."

Plenty of Work Ahead. - "The membership campaign closed Friday night with a total of 1009 signed up for the Farm Bureau and the Illinois Agricultural Association. The bad roads at times and the flu in this county slowed up the campaign but we are well satisfied. The campaign left the executive committee and the county agent with a man-sized job on their hands." - Kendall, Morgan County.

Getting New Ideas. - "Most of the Executive Committee Officers and the adviser attended the State Farmers' Institute last week. This has been, in my opinion, one of the most important weeks in the history of the Johnson County Farm Bureau, as the Executive Committee came back full of enthusiasm and new ideas about farm bureau work." - McGhee, Johnson County.

Most of the County Advisers in the southern part of the state, and many farm bureau executive committeemen attended the Farmers' Institute at Carbondale last week, and all report the experience as "days well spent".

"A very enthusiastic meeting was held at Beecher last week with an attendance of 100. It was decided that grain farming was the chief source of income, with dairying second. Steps will be taken immediately to organize a cow testing association for the dairying interests and the work on improving the soil has already been started. About a dozen men ordered raw rock phosphate at the meeting and part of them intend to use lime in the near future. The most of these men have never attempted using any fertilizer at all. The one problem that was not decided at this meeting was how to take care of the renters who are renting for one year. The township members felt that we should work out some plan whereby they would receive immediate results. This is rather a difficult proposition when they are renting for only one year." - Hedgcock, Will County.

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No. 9

Eightieth County Organize - On February 25, Lawrence County formed a permanent Farm Bureau organization with 335 members. Practically all of the preliminary work was done by local farmers. Headquarters will be established at Lawrenceville, Illinois.

Mr. H. J. Clinebell of Terre Haute, Indiana has been employed as assistant farm adviser. He will take up his work March 1st. Mr. Clinebell has been adviser in Vigo County for four years. Boys' and Girls' Club Work will be one feature taken up by him in his new work." - Madden, Sangamon County.

Get Right to the Point. - "In handling a large number of callers at the office I have finally blundered on to something that any person ought to have known long ago. When a man calls at the office give him the specific service he asks for and suggest nothing else. This is handling callers in a professional way just as a doctor or lawyer handles them. I do not believe the ordinary man who asks for service appreciates any other service except that which he asks for." - Kendall, Morgan County.

Bad Roads Handicap Limestone Project. - "Have been holding a series of limestone meetings this past week in the southern end of the county. Our meetings average about 50 in attendance and a great deal of good was accomplished. As a result of our meeting in Nebo, I ordered 150 tons of limestone and six bushels of sweet clover. Our meeting developed into a discussion of the roads on account of the fact that it was necessary for these people in this section of the county, in order to get limestone, to haul it over quite a bit of bad road. It is one of the big drawbacks in this section. As I have said before, I feel that the problem of roads is more vital than any other agricultural problem at the present time." - Kercher, Pike County.

To Make Good Roads. - "We have just formed the Logan County Auto and Good Roads Association for the purpose of securing more and better dragging of our roads and better marking of trails. Our farmers have not used the drag as much as they should because of the license fee on tractors used upon the road. We have, however, just secured, as the result of a personal visit to the Attorney General, State Highway Commission, Secretary of State and Automobile Department of Illinois, the witnessed statement that farmers having tractors may use them upon the highways for the purpose of improving the highways without procuring a license provided no compensation or pay is received." - Ebersol, Logan County.

"Our orchard pruning demonstrations and meetings which Prof. Pickett cooperated with us in the past week were not attended as well as we had hoped for, but his addresses, which were illustrated, were the best I have ever heard on orchard management." - Logan, Crawford County.

"Six orchards have been selected in the county for demonstration purposes. Beginning Monday, March 1, we expect to hold a pruning and spraying demonstration each day until the six orchards have been pruned and sprayed. These orchards have been selected where they can be reached by practically all farmers in the community. We are indeed surprised at the interest that is being shown in orchards this year, never before have we had so many inquiries about spraying. We are looking forward to having a good crop of apples in Rock Island County this season." - Edgerton, Rock Island County.

"A series of four meetings were held during the week under the Community Committee plan. At three of the places there was a short morning session held beginning at 11 o'clock. A lunch was served at noon by a committee appointed from the Home Improvement Association at that point, but the wives of the farm bureau members furnished the lunch. I was assisted at these meetings by Prof. Snapp of the University who talked on feeding beef cattle, and Sam W. Crabtree of Mackinaw who talked on community work. Some local talent was also used." - Richards, Kane County.

"Have been holding Farm Management Schools.- The men who attended the schools were very much interested in the work and were enthusiastic over it. I want to hold some more meetings of this nature early in March." - Belting, Shelby County.

Purebred Live Stock Exhibit.- "Plans have been completed for the greatest exhibit of Purebred Live Stock this fall ever seen in Logan County. The Logan County Purebred Live Stock Breeders' Association, composed of members of the farm bureau, is back of the move." - Ebersol, Logan County.

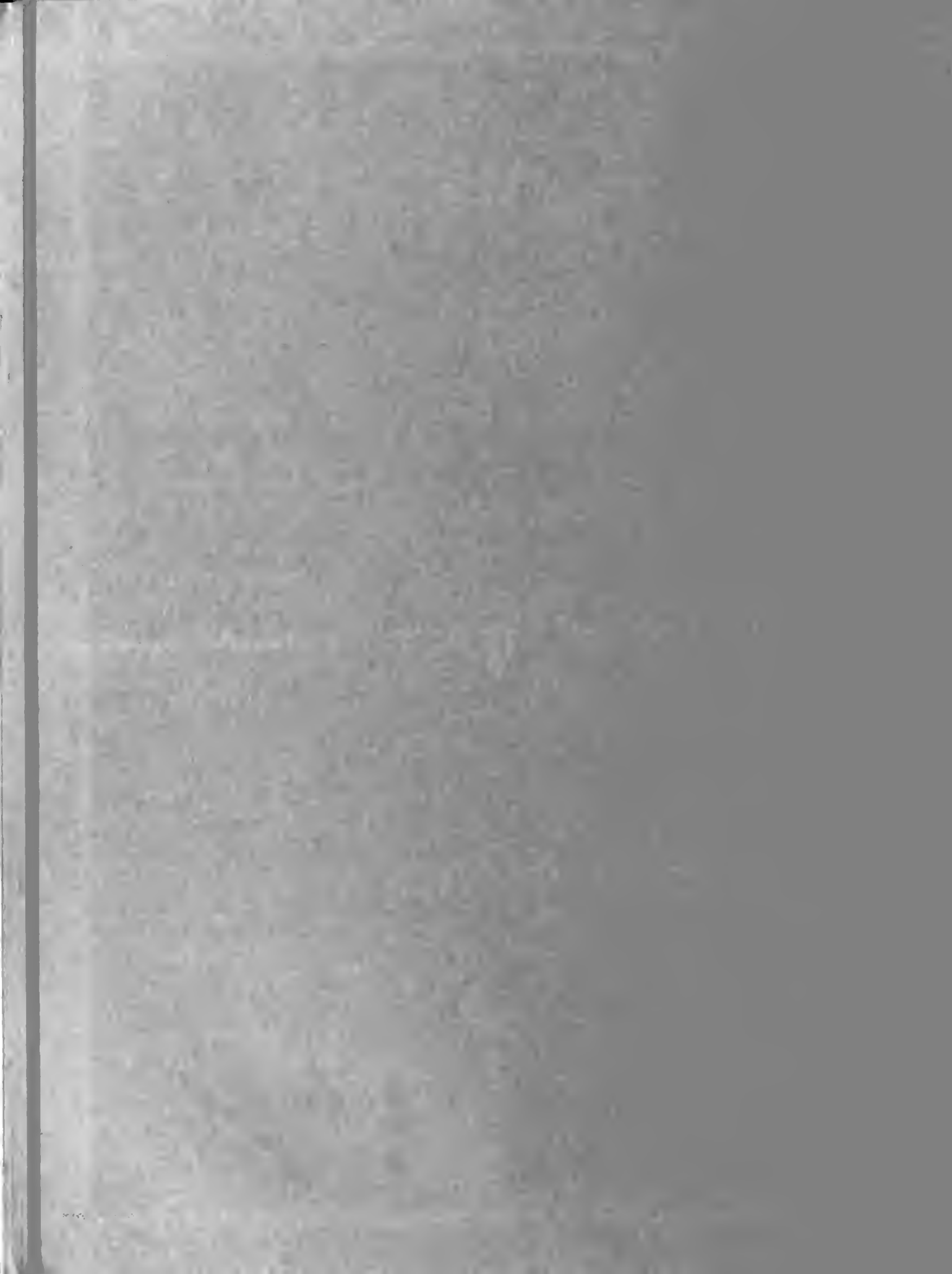
"A Chester White Fied Sow Sale was held Saturday, February 7, 1920, conducted by the Sangamon County Swine Breeders' Association. The hogs averaged about \$70 per head." - Ladden, Sangamon County.

Good Future in Hog Business.- "The interest taken in the Hog Breeders' Association sales this week indicate that our farmers are hopeful for the future of the hog business. It appears that they are becoming more and more discriminating in regard to the type of hogs they desire to purchase. The long, stretchy kind is in excellent demand, regardless of color." - Brooks, LaSalle County.

First Shipping Association in Piatt. - "At a meeting held at Cisco on Friday afternoon, February 27th, the farmers in that vicinity organized the first shipping association to be formed in Piatt County." - Burwash, Piatt County.

"Wheat has come thru the winter fairly well, although it is small and backward. The very early sown wheat is of course badly hurt by fly and in some cases is almost entirely gone." - Rehling, Clinton County.

"At a community meeting at Ruma, nine different farmers brought samples of limestone for testing. The limestone problems at those points away from the railroad is beginning to be solved by getting in these local crushers." - Doerschuk, Randolph County.



WILL THERE BE INCREASED DEMAND FOR DRAFT HORSES IN THE FUTURE?

"If there was ever a time when the county adviser should come out strong for the breeding of good draft horses, it is now. That feeling of doubt, which has been existing in the minds of many of our agricultural thinkers, is now being swept away slowly but surely. There is no longer any question about whether or not a farmer should be raising a few good draft colts each year. The draft horse business is coming back, and much faster than most people had any idea it would.

Farm sales every where this spring indicate that there is an increasing scarcity of big work horses and that this condition is becoming very acute in many communities. When farmers will readily pay \$500 - \$600 for a draft team of mares or geldings, as has been done this spring, and when 1000 - 1200 pound horses will sell in the same auction for \$75. to \$100., there is no doubt about what farmers are thinking over in their minds. There is every reason to believe that another twelve months will see a great change in horse breeding, and that long before farmers will be able to raise a crop of draft colts and grow them until they are ready to work, there will be the biggest demand for weighty drafters the business has ever seen.

First class draft horses are very scarce. A Chicago commission man has an order for 250 draft horses for the Consumers Coal Company. This man has been able to secure only 35 head in four weeks because this firm wants horses weighing 1600 to 1700 pounds, sound and of good ages. This buyer is paying an average of \$275. a head for these horses but even at such prices, it is impossible to find enough horses with such requirements to supply the demand.

Every county adviser should lose no time in telling his people that they should breed their mares this spring to a good draft stallion. However, every possible emphasis should be laid on the fact that it always pays best to patronize a first class sire, regardless of service fee. It is time well spent to take even a grade mare ten miles farther to breed her to a real sire; and in the case of a purebred mare, distance should not even be considered if the mare is a good one. Breed her to the sire to which she should be mated, no matter how far it may be necessary to go. If it is too great a distance to go by wagon road, ship her by train. It is always an unprofitable practice to breed a good mare, whether grade or purebred, to a common sire." - Ellis McFarland, Assistant Secretary, Percheron Society of America.

(The above is a portion of a recent article written by Mr. McFarland, which has been submitted to us by Professor Edmonds, who says: "I will subscribe to the facts contained in this article and trust you can use a portion of it in The Messenger.")

Poisoned Silage has been found in Clark County. This silage was fed to cattle and was followed by transitory illness and death in some animals. It is thought the trouble was caused by Botulism. It is most fatal with young animals between 1/2 and two years of age.

To build Sales Pavilion. - "A meeting was held in Manhattan Township where a great deal of enthusiasm was stirred, regarding the building of a sales pavilion. Plans were laid and contracts were made out to start raising money to build a sales pavilion at Manhattan. Also preliminary steps were taken towards organizing shipping association at this point." - Hedgcock, Will County.

To organize Bull Association. - "A good deal of interest has been aroused in the Dairy Industry by the two meetings held by E. M. Clark last week. A number of dairymen are considering the organization of Cooperative Bull Associations." - deWerff, Franklin County.



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No. 10

HOW MUCH LIVE STOCK CAN BE PASTURED ON SWEET CLOVER?

"Sweet clover has proven to be a successful crop for pasturing beef breeding cows on the University Farm. In 1916 nine head of pure bred, two-year-old heifers were pastured on 8.1 acres of sweet clover from the middle of June until the second week of October. This was the first year's growth of the clover. It was planted early in the spring on good, rich soil. The same summer where $1\frac{1}{2}$ acres of mixed pasture was provided for each cow and calf, it was necessary to supplement the pasture with additional feed before the end of the pasture season.

During the summer of 1919 first year's sweet clover had a carrying capacity of 102 pasture days for a cow and her calf. The second year's growth of sweet clover had a carrying capacity of 136 pasture days for a cow and calf. The cows were turned in on the clover the first week of May. The same season mixed pastures had a carrying capacity of 25 to 30 days less than that of the sweet clover." W. H. Smith.

"Giving the New Pig a Real Chance. - About one-third of the pig crop is lost before weaning time. The cost of a litter up to weaning time varies but little with the number of pigs. It is difficult to make pigs pay when the litters are small; in fact, small litters cause greater loss than most of us think. A man may be able to feed a weaned pig profitably but lose out because his sows raise so few pigs. Further than this, a pig well started and well weaned is fairly well grown. The following may be kept in mind in preventing this loss and in giving the pig the chance which he deserves:

1. Disinfect and whitewash the floor and walls of the farrowing pen previous to birth.
2. Give a little extra care and attention during the first two weeks.
3. Increase the sow's ration gradually during the first ten days. Over-feeding the young pig will cause scours.
4. Feed the sow a ration which is properly supplemented and of sufficient bulk.
5. Keep the beds dry and free from drafts.
6. Make the young pig exercise every day to help in preventing thumps.
7. Treat sore mouth infection upon first appearance rather than after it has taken its course.
8. Teach the pig to eat before weaning.
9. Give the pig good feed and care at weaning time when he is learning to make his own way." - J. B. Rice.

"THERE IS STILL TIME TO BURN THE CHINCH BUG!"

ABORTION IN BROOD SOWS

Abortion in sows is frequently attributed to traumatism, inferior feed or rations deficient in mineral elements. It may occur as a sequel following cholera, or other diseases accompanied by a high fever. Other outbreaks have been associated with the development of goiter. Reports of abortion in brood sows during the last six weeks from different localities of the middle west suggest the possible existence of a contagious form of the disease in some herds.

Until the cause of the disease can be definitely determined, all aborting sows should be isolated and the feti and the vaginal discharges burned. The hog houses and sheds should be thoroughly cleaned and disinfected. Valuable sows that abort should not be sold pending further observations since it is believed that future farrows may be strong and healthy even if the type of the disease in question proves to be a specific infection of the uterous and fetal membranes.

Several samples of undeveloped pigs have been submitted to the University Laboratory for bacteriological examination, and it is highly important to eliminate or confirm the existence of a contagious abortion in swine. Blood samples from valuable sows are also being subjected to the agglutination test for diagnostic purposes. This test may be employed on all suspicious animals for diagnostic purposes, and it is believed that the extent or presence of the contagious type of the disease may thus be determined.

There is no charge for the laboratory tests. Veterinarians should be employed for drawing blood samples for shipment to the laboratory." - Robert Graham - Laboratory of Animal Pathology, University of Illinois.

Hessian Fly lives thru Winter. - "Recent examination of Hessian-Fly puparia taken this spring from infested wheat fields show that less than 5% of the fly have been killed by the weather conditions during the winter. As parasites are very scarce, having been taken in only three or four localities in central and southern Illinois, it is highly probably that the spring brood of the fly will be very abundant. For this reason it is not advisable to sow spring wheat in the vicinity of infested fields of winter wheat, as such wheat would be almost sure to suffer heavy damage from the spring brood of the fly. Oats may be safely sown in or adjoining infested wheat fields, as the Hessian-fly never attacks this plant." - W. P. Flint.

Hessian Fly causes Absolute Wheat Failure. - "I found the worst infestation of Hessian Fly this week that I have ever seen. This field was about three miles northeast of Red Bud. I do not think the wheat on this field will produce enough to make the seed which it took to plant it." - Tate, Monroe County.

The United States Department of Agriculture has just issued a Bulletin #850 entitled: "Rent Contracts in Typical Counties of the Wheat Belt". We understand that this bulletin is of a technical nature and is being issued in limited edition. We are asking that a copy be sent to each farm adviser, and we would suggest that the Farm Advisers do not write for this bulletin themselves, in order to avoid duplication." - G. N. Coffey, State Leader.

Branch office maintained one day each week. - "Thursday of each week will hereafter be spent in the branch office at Bradford. It is rather difficult to maintain this definite schedule but we believe it is worth while to make the effort." - Brown, Stark County.

Gougler says here is a point in a collection letter that gets results: "We are running this Farm Bureau on the basis of your signature." - Vaniman.

Bred Sow Sale pleases Consigners. - "Friday, February 27, the Bred Sow Sale of Big Type Poland China, conducted by the Swine Breeders of the Farm Bureau was held in Watseka. The average on 35 head was \$88.33, with less than \$5 per head for selling, including advertising and all expenses. Consigners were pleased with sale." - Wise, Iroquois County.

Lee County Organizes Shipping Association. - "At the meeting of the Shippers' Association held at Dixon, Friday, the Association was permanently organized by 40 or 50 farmers who were in attendance. The plan is to take memberships at \$1.00 per year, allowing men to ship stock cooperatively thru the Shippers' Association. The local charge is 8¢ per hundred weight for hogs, 2¢ for the expense fund, and 5¢ for the insurance fund. For cattle the charge is 6¢ per hundred weight, 2¢ for the expense fund, and 2¢ for insurance fund. Mixed carloads of stock are the same rate as for hogs. Where a shipper has a carload of his own he may ship at half the rate, or 4¢ for hogs, 3¢ for cattle, the expense fund and insurance fund being the same. A shipper with a whole carload, however, can waive the insurance charge if he so wishes. In this case, of course, he runs his own chance of sustaining loss." - Griffith, Lee County.

Securing needed switch tracks and yard accommodations has been a difficult problem in North Aurora, but results have been secured by the organization of a Livestock Shipping Association. Railroad officials have listened to organization requests and promised to grant desired accommodations." - Kane County.

New Interest in Horticulture. "I find that there is considerable interest developing in horticulture this winter and spring. We took up the community spraying proposition at our community meeting at Columbia last Tuesday evening. All seemed very much interested and I think we shall start this work in the near future. I find that the orchards in this county have been very badly neglected and I believe community spraying will bring results faster than anything I know of." - Tate, Monroe County.

"Three of our Orchard Pruning and Spraying Demonstrations were held this past week, but on account of the severe weather, it was necessary to postpone the others. We had a good attendance and an unusual amount of interest in these demonstrations. Orders have been taken for twenty spraying outfits and something like 3000 pounds of spray material. We hope to be able to continue these demonstrations this week." - Edgerton, Rock Island County.

AN OLD SONG

"In the shade of the old apple tree,
Where the snow and the rain blow so free,
It's no place to store
The binder and mower
And implements there that we see;
For the rust and the rot, you'll agree,
Are worse than hard usage would be,
And the paint that they wore
Is a shade, nothing more--
Just the shade of the old apple tree." -

Fall and winter weather is detrimental to exposed machinery but hot sun and spring rains are much worse. Let's run the old binder and wagon inside, we will be time and money ahead.

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No. 11

TIMELY TOPICS FOR CIRCULAR LETTERS.

Your Messenger File for 1918 and 1919 will furnish some
mighty good items that are timely now
BUT, here are other suggestion for leads---

1. Treat your seed oats for smut every year. It pays.
2. Harrow the wheat field -- don't let all that valuable moisture escape.
3. Don't burn the corn stalks -- you are burning money.
4. Apply the torch to Mr. Chinch Bug. Every one you destroy now means 150 less in your wheat and 11,000 less in your corn.
5. Test every ear of seed corn every year. Thirteen dead ears means an acre lost.
6. Save every pig possible. This very largely determines the profit or loss.
7. Dock and castrate the lambs at two weeks of age.
8. Prime and spray that old orchard. Let's get some sound fruit this year.
9. Grow some soybeans for seed. There will be great demand next year and prices high.
10. Put the machinery in order! On the day you will need a machine, your time is too valuable!

Bad roads? No. Impassable rivers of mud, seems to come nearer the real description of the average Illinois highways just now. Heavy rains and overflowing streams have done considerable damage in many parts of the state.

Saving the Orchards.- "The demands for assistance in pruning and spraying the orchards of farm bureau members has become so great and the roads are in such condition that it has become necessary for the farm bureau to purchase a horse in order to comply with the requests. Several communities are organizing a community spraying club and have purchased or are ready to purchase hand power barrel sprays in order to save the apple orchards of the county. It is stated by old residents of the county that the interest that is being demonstrated is such as was never before seen." - Richey, Mercer County.

"Even though adverse weather conditions prevailed most of the time our pruning and spraying demonstrations last week were very successful from the standpoint of interest shown by those present. Mr. Brock made the demonstrations very interesting as well as instructive. So much good came from the demonstrations held a year ago and we believe these will be equally beneficial." - Thomas, Coles County.

"A cooperative limestone company was organized for one community last Monday. We expect to be grinding limestone by May 1st, and are figuring on getting out about 1200 tons this summer if possible." - Rehling, Clinton County.

"Considerable interest has been aroused among the farmers in farm accounting. The nearer the time for reporting the income tax approached, the more a great many of the farmers realize the importance of keeping farm accounts. The younger men especially are becoming interested in this matter." - Burwash, Piatt County.

"For Dairymen! A splendid little dairy record book has been worked out by Mr. C. S. Rhode, Department of Dairy Husbandry, University of Illinois. It contains 24 pages which include Inventories, Receipts, and Expenses with entries for feed purchased, feed raised, labor records, milk and cream sold and all other items which are necessary to make a thorough study of the dairy business. This is an excellent little account book for the dairyman and any one wishing a copy may obtain it for 20¢ by communicating with Mr. Rhode." - Atwood.

"At the State Holstein Sale held in Chicago Thursday and Friday, DuPage County had 1/3 of the consignments and 1/5 of the breeders taking part in the sale. The majority of the animal selling for the most money came from DuPage County. DuPage County farmers are especially proud of this showing." - Heaton, DuPage County.

Prospects in Dairying. - "Organizations of three bull associations was started during the week. These associations are planning to work together as a block, each purchase a high-grade pure bred Holstein bull, and after two years exchange with another block. Our dairymen are much encouraged with the dairy business, but like most others are also concerned with the market outlook for whole milk. A good market seems assured for the present, however, with the Waterloo Condensed Milk Company as they have established a shipping station at Sparta, also at four other points in the county along the M. & O., with fair prospects of starting a branch condensery at Sparta within a year." - Doerschuk, Randolph County.

Sunflower test in Marion County. - "We have sold about 4000 lbs. of Sunflower seed to be sown for a silage crop. I am not pushing that very hard any more as we are not positive that it will be a success every year, and I have sold enough that we will be able to give it a thoro trial this time. Men have purchased all the way from 8 pounds up to 120 pounds." - Blackburn, Marion County.

"The Morris Livestock Shippers' Association, organized a short time ago, recently made their first shipment and all of the consignors are exceptionally well pleased." - Longmire, Grundy County.

"A shipping association was organized at Bradford by farmers of surrounding townships of both Bureau and Stark counties. Directors were elected, officers and manager selected, and the organization is already doing business." - Brown, Stark County.

Quick Work. - "We organized another Farmers' Cooperative Elevator at Worden Illinois, last week. This was one of the best farmers' elevator meetings ever held. We started at 10:30 A. M. and by 3 P. M. the same day we had the organization perfected, elected directors and officers, bonded the Treasurer, bought an elevator and hired a manager. This makes the sixth elevator since last year and two more communities are talking of organizing." - Haberkorn, Madison County.

"Income tax returns are taking up most of the time. More and more people are becoming interested in the farm account books to help them in making our future returns." - Brooks, LaSalle County. This has been the story in most counties.

For the American Farmer. - "The treasurer of our association, Mr. Peterson, attended the meeting of the American Farm Bureau Federation in Chicago on Wednesday and in conversation with him since, he told me that it was the best meeting that he had ever attended. I feel sure that if more of our farmers could get more facts in regard to just what the American Farm Bureau Federation will mean to them that they would feel satisfied that it is going to be the biggest thing that ever happened for the American farmer. It would have paid every farm bureau in Illinois to have had a delegate at this meeting." - Heaton, DuPage County.

New Assistant in Macoupin County. - Mr. Leslie L. Hunt of Sparland, Illinois, has been employed to fill this position. Mr. Hunt graduated in Agriculture at the University of Illinois in 1916 and has been farming near Sparland since that time. He will take up his new work some time before April 1st.

Immediately put on the mailing list. - "In our membership campaign we sent out to the new members our regular circular letters as fast as their names came in. Every new member has received two circular letters before the Farm Bureau has received a cent of his money. In my opinion the moral effect of this move has been for the good." - Kendall, Morgan County.

First Impressions. - "Legumes, Limestone, Livestock, Phosphate, printed in bold type on a four leaved clover was the sign or trademark that confronted me as I arrived at Edgar County Farm Bureau office. That trademark impressed me greatly. Why can't a county grow and prosper if more limestone and phosphate are used, more legumes and livestock grown? Beyond a doubt it can. That's what Edgar County is doing. How do I know since I've been here such a short time. Simply because of the attitude of the farmers as they come into the office for a chat or some friendly advice. Enthusiasm for a better Edgar County seems to reign supreme among all of them." - Bunn, Edgar County.

"A bulletin board $2\frac{1}{2}$ by 4 feet, with the name of the bureau painted across near the top is now being used for posting market reports and other notices, in the plate glass front of one of our branch offices." - Brown, Stark County.

Service is the Answer. - "I do not know just why it is, but there seems to be a tendency for farmers all over the county to look more favorably upon the work of the farm bureau. We got five new members the last week and have gotten about thirty in the last four weeks. These are all voluntary signers, no one having solicited them at all." - Tate, Monroe County.

Seeding Dates Compared. - "We have some excellent examples of sowing wheat before and after the fly free date. One field seeded about the middle of October shows no infestation and the plants while small look thrifty. Just across the road is another field seeded about Sept. 20. This field shows 100% infestation and most of the plants are dead. Tis needless to say that the first field belongs to one of our farm bureau members while the other belongs to a non-member." - deWerff, Franklin County.

Egyptian Sugar Calore! - "At a meeting held at Red Bud, orders for 900 tons of limestone were received. During the past week orders for 57 carloads were received and sent to the Columbia Quarry Company. We expect to use just as much limestone this year as the quarries will let us have. Orders for several carloads of rock phosphate for spring delivery have been sent in also." - Doerschuk, Randolph County.

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No. 12

Timely Topics for Circular Letters. (#2)

1. Inoculate soybeans and cowpeas as well as alfalfa and sweet clover.
2. How to inoculate legumes and why.
3. Make the seed bed firm and plant shallow.
4. Seed your alfalfa in the spring but get rid of the weeds first.
5. Start a sweet clover patch. It makes the greatest pasture ever.
6. Let's build those limestone sheds, then we will have the lime when we want it.
7. Keep the hog houses and lots clean. We can eliminate swine diseases with a little persistent effort.
8. Report all hog cholera cases promptly. Don't let it spread.
9. A pure bred bull on every farm. The grade bull is a parasite.
10. Try out that tandem hitch in spring plowing. Don't pull the life out of four horses while two others stand idle in the barn.

Cook and Boone Counties Organize.

Cook County completed its membership drive and formed a permanent organization March 15, with 1205 members.

Boone County perfected its organization the following day with 818 members. One township in Boone County secured 145 members and the officers predict the county will have 1000 members by May 10.

Winnebago County is now the only county in northern Illinois without a farm bureau.

"Keeping Books for a Farm Bureau and the Illinois Agricultural Association presents a problem of no mean proportions. Keeping accounts with 2000 individual customers cannot be altogether simple. It were as logical to demand a grain binder that should be as simple as a screw driver. Mr. Fox, Treasurer of the Illinois Agricultural Association, together with the Extension Office, is working out as rapidly as possible, a set of records in loose leaf form, which will be as simple as is consistent with getting the necessary business information. It is hoped that the forms may be available at an early date." - W. F. Handschin.

"A limited number of the Tractor Record Books may still be obtained from the Farm Mechanics Division or from the Farm Management Department. These books are given out free of charge to tractor operators who will keep the records, and send in the books at the end of the year. After the records are tabulated the books will be returned to the cooperators." - E. Rauchenstein.

"Owing to a shortage of boats and aeroplanes, I had to stay in the office all of this past week. The roads are so bad that it is almost impossible for one to travel on them, even on horseback. We have ordered three cars of corn this week and have received three carloads of nitrate of soda during the last two weeks. We have received orders up to date for 39 cars of limestone and two cars of rock phosphate. Judging from the calls for sweet clover seed, the acreage of sweet clover in the county this year will be large." - McGhee, Johnson County.

"Bad roads prevented making many farm visits. There is a great deal of interest in soil improvement and in limestone. Orders for 200 tons were taken at the office Saturday. Arrangements for the distribution of 500 pounds of Montana Registered Grimm alfalfa seed in comparison with common alfalfa has been made for demonstrational purposes." - Fuller, Marshall-Putnam.

"Farmers are getting discouraged. Most of the wheat is gone, chinch bugs are awaiting the corn, clover and alfalfa is frozen out and it is now getting late for oat sowing. We continue to buy corn for feeding. Ten cars were received during the past two weeks." - Thomas, Jackson County.

Seeds. - "Since October first, the seed department of the farm bureau has purchased and sold to farm bureau members approximately \$20,000 worth of farm seeds. Most of this has been clover, including medium, mammoth, alsike and sweet and alfalfa. The main purpose of the farm bureau in handling these seeds is to enable the farmer to get good seeds free from noxious weeds at nominal prices. It is a very conservative estimate to say that the farm bureau has saved its members over \$3000 on this lot of seed. Although many will look upon this saving as a reason for belonging to the farm bureau we consider this one of the minor reasons because there are so many more important advantages." - Isaacs, Mason County.

"Group Meetings, we find, offer the best chance of seeing more members personally with the limited time at the disposal of the adviser than do farm visits. Besides community meetings held here and there about the county, we have found it fairly good practice to attend public sales where farmers are assembled in large numbers." - Phillips, Greene County.

"The second annual Tuberculosis Testing starts next week. There are more than 30 herds, which we expect to put on the accredited herd list after this test. Many application blanks are being signed up by owners of grade herds. We have the assurance that if enough applications are signed, that a veterinarian will be placed here for tuberculosis testing, exclusively." - Miner, Henderson County.

"Kanred wheat was tried out last year on 12 fields in a small way. In a general way it was found to be about equal to common Turkey, but no better. Iowa 103 oats apparently yielded superiorly to any other variety. Texas Rust Proof was second and Great American third. These are now the three important oats in the county and they are largely grown by the members." - Starr, Tazewell County.

A Neat Emblem or a Design featuring a farm bureau name or some of its chief aims is not only attractive and significant, but it may teach a lesson at the same time. Have you seen the designs adopted by Edgar, Cass, Clinton, and other counties? The idea is good if it is carefully worked out. Be careful!

"An all day horticultural meeting was held at Alma Tuesday with about 75 men present. A very good meeting resulted and several interesting and instructive talks were followed by some demonstration work in pruning. The meeting was held by the Alma Community Center Organization. Mr. Perrine and Mr. Brock were the principal speakers. One of the things brought out at this meeting was the lack of information or experiments relating to the growing of Kieffer Pears in the county and surrounding counties. Alma is approximately the center of the pear growing district. The commission men and buyers will pay a higher price for Alma pears than for any other variety. In a good year they ship out ordinarily 300 carloads of pears from one station. A great number of young pear orchards are soon coming into bearing. It seems to me the Horticultural Department at the University should undertake some experiments with pears to ascertain the best methods of taking care of the orchards and controlling diseases and insect injury. We can get several acres of orchard to be given over to such experiments, if the Extension Department at the University will cooperate and carry on this work. In fact, they are very anxious that we do some of this work in the pear growing districts. Nearly every farmer who has pears has a good crop much more often and a more profitable crop than apples on the same kind of land, and the expense is much less both for taking care of the orchard and taking care of the fruit." - Blackburn, Marion County.

Orchards. - "A number of members are taking interest in their farm orchards. Several visits the past week, revealed the presence of a heavy infestation of some of the injurious scales. Oyster Shell, San Jose and Scurfy Scale have been found in one orchard. We are assisting these men in getting equipment and material for the necessary dormant spray; also for summer sprays. Demonstrations in pruning have also been given." - Longwire, Grundy County.

"The DeKalb County National Farm Loan Association has been in operation one year, and the first of March this year we closed loans for \$135,800.00. This is one of the greatest services we have been able to render our people." - Eckhardt, DeKalb County.

The Greene County Farm Loan Association has negotiated loans of about \$70,000 with applications for 30,000 or 40,000 dollars more pending. Sentiment in this county is strong for having maximum loan limit raised from \$10,000 to \$25,000." - Phillips.

"The record Farmers' Cooperative Grain Elevator was organized for St. Clair County. It will be located at Summerfield. The company incorporated for \$30,000. This movement has made more friends for the farm bureau than any project we have put on to date. We have at least 100 new members waiting to come into the bureau but on account of our I. A. A. membership campaign in June, we are advising these new members to wait until then before coming into the bureau." - Tillman, St. Clair County.

"The Gibson City Farmers' Shipping Association is well on its way toward raising from \$15,000 to \$20,000 for the erection of a modern elevator for handling phosphate and coal." - Hersman, Ford County.

Bull Associations. - "We have organized two more Purebred Holstein Bull Associations in the county, one at Red Bud and one at Waterloo. This makes three such associations now at work in Monroe County." - Tate.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. III

March 31, 1920.

No. 13

TIMELY TOPICS FOR CIRCULAR LETTERS. (#3)

1. Sunlight puts vim, vigor and vitality into little pigs and lambs.
2. Breed - feed - weed - read, is the creed of the successful livestock man.
3. A mixture of charcoal (1 bushel), wood ashes (1 bushel) salt (8#), air slacked lime (8#), sulphur (4#), pulverized copperas (2#) is as good a mineral mixture for hogs as you can buy. Make it yourself.
4. A good sire pays and is inexpensive in the long run.
5. Get rid of the boarder cows.
6. Now is the time to plan a silo for next fall.
7. If you intend to sow spring wheat, be sure your seed will grow.
8. Of course you have treated your oats. Now give those seed potatoes a formaldehyde bath before planting. Why grow rough, scabby tubers?
9. Have you ordered that Limestone and Phosphate yet?
10. The successful farmer is the business farmer.

Clipping Small Grains.— "Last year, clipping oats when the plants were 8 inches high reduced the yield one bushel per acre. The clipping was done before any possible injury to the head could have occurred. In 1906, the Ohio Station clipped oats May 25 and May 31. The early clipping did not effect the yield but the latter clipping reduced the yield about three bushels. In 1907, clipping oats reduced the yield considerably more than in 1906. At the Ohio Station, wheat was clipped May 11, when the plants were 16 inches high, a stubble 14 inches high was left. The embryo head seemed to be below this point by an inch or more. The yield of grain and straw was reduced about 44 per cent." - W. L. Burlison.

"The largest contribution to agriculture in DeKalb County during the last thirty days is the information brought out by many tests of seed wheat. We have tested seed wheat obtained from many farmers. Germinations made under ideal conditions show the tremendously poor quality of this seed due to scab. We expect hundreds of fields will be planted with wheat this spring that will have to be re-seeded or replanted to other crops. Wherever clover is seeded with poor wheat there is also the chance of the loss of the clover seed. I count this information worth more to our county than the cost of this institution this year.

I would recommend as one of the most useful equipments of every county agent's office, no matter where located, a germinator as good as the incubator made by the Chicago Surgical & Electrical Company, Type #33, a specimen of which Dr. Burlison has in his office. Dr. Burlison called my attention to this splendid seed tester, and altho it cost us about \$180. its value this year is immeasurable. The temperature is maintained by the electric current and is automatically regulated. I would recommend that the state office give this matter a careful study." - W. G. Eckhardt, DeKalb County.



Little Need for Nicotine Spray. "Examinations of twigs in apple orchards in southern and central Illinois have shown very few aphid eggs present. Apparently it will not be necessary to apply a nicotine spray for controlling these pests this spring. There may be some orchards where eggs are present, and it would be well for the owners to make an examination of the twigs and make sure of the conditions in their orchards." - W. P. Flint. (March 26, 1920.)

Save the Orchards. - "The interest that is being demonstrated in saving the apple orchards through the county is being checked only by the fact that we cannot obtain the proper kind of spray apparatus. Community spraying clubs have been unable to obtain barrel sprays for lime sulphur." - Richey, Mercer County.

"The orchard men are exceedingly busy spraying and getting ready to apply nitrate on their orchards. The coming week will probably be the proper time for spreading nitrate on orchards in this part of the state." - McGhee, Johnson County.

"We were favored on Monday with a visit from Mr. Brock of the Horticultural Department of the University, who assisted us in putting in two demonstrations of pruning and spraying orchard trees. The men who attended showed lots of interest in the work and we believe it was highly worth while." - Phillips, Greene County.

"Fruit has not been killed by cold weather so far, and we have chances of having a big fruit crop this year. I find that many people are spraying this year that never did before. Our farmers are beginning to realize that if they want to produce fruit they will have to go about it in a business-like way. Heretofore fruit trees have been very badly neglected." - Tate, Monroe County.

"Corn Rot and Stalk Rot.- At our community meetings we have been discussing the corn root and stalk rot diseases of corn. A germinator showing the diseased seedlings was exhibited at each meeting. At almost every meeting farmers stated that they had noticed this disease in their fields, but had not known what the trouble was. There seemed to be no question on the part of most of the farmers that this disease really existed and they were anxious to learn what steps could be taken to control it." - Bracker, Knox County.

Oat Smut Circular Popular.- "Far more farmers are going to treat oats for smut this year than ever before. We are not holding any oat smut demonstrations this year but we are campaigning against oat smut. We sent out over 1200 copies of Dr. Burlison's circular." - Kendall, Morgan County.

"Farmers are showing more interest than ever for treating oats for smut. The new 1-10-80 formula seems to appeal to them because of less work and less chance of 'ruining' the oats by soaking them too much. The roads of the past month have shown clearly that more efficient work is needed in fixing up the bad places which resemble the weak links in the chain. The Executive Committee plans to call in all road commissioners for a general discussion some time in the near future. It is hoped that some plan can be worked out for more community cooperation in the interest of good roads." - Dickenson, Cass County.

Wheat conditions.- "In a trip over the county, made the first of the week, I found that very little wheat was winter killed, but about 30 to 40 percent will be put in some other crop because of injury done last fall by the Hessian Fly. In every case the later sown wheat was looking fine." - Burwash, Piatt Co.

Worth Reading.-- "If you want a clear, concise and readable presentation of Europe's economic, financial, and industrial condition after the war, read Frank A. Vanderlip's book, 'What Happened to Europe'".- J. D. Billsborrow.



New Advisers.- The Brown County Farm Bureau has employed Mr. Aubrey A. Davidson as Farm Adviser for that county. Mr. Davidson was born in Kansas and is a graduate of the Kansas State Agricultural College. Since graduation he has been teaching, and was in charge of the Department of Agriculture at the State Normal School, Warrensburg, Missouri, when selected for the position. He expects to begin work in Brown County about April 1.

Mr. J. R. Shinn has been employed by the Fulton County Farm Bureau as successor to Mr. A. W. Liner, who returned to his farm on March 1. Mr. Shinn is a graduate of the University of Illinois and has been for several years, County Agent in Spokane County, Washington. Mr. Shinn took up his work in Fulton County on March 24.

"The East St. Louis conference meant more than usual to me, I believe, because first there was a good deal of informal discussion, due to the nature of the committee meeting, and the second day because the Departmental Advisers gave definite suggestions, and also encouraged more open discussion." - Walworth, Clark County.

"I feel that the two days spent at the Advisers' Conference at East St. Louis this week was the best two days that I have had since the sectional conference there last year." - Piper, Richland County.

Crowds Witness Dairy Pictures. - "In spite of the down pour of rain both Wednesday and Thursday, the people flocked to see the 'Foster Mother of the World' pictures. Quite a few farmers attended. I am sure that our attendance would have been over 3000 if weather conditions had been favorable. The representatives of the Dairy Division pronounced the West Frankfort meeting with 2000 attendance the record breaker. Considerable interest has been aroused. Some farmers have purchased silos since that meeting. Others are looking for better sires." - deWerff, Franklin County.

To Clean Up Swine Diseases. - "In company with Dr. Branigan, the Federal Swine Specialist for this district, we visited two farms that had herds of infected hogs. One large herd was badly infected with Necrobacillosis and the second with worms. The owners were eager to cooperate with Dr. Branigan and the farm bureau in an effort to control the disease, hence we propose to put on a clean-up demonstration campaign on these diseased herds." - Bunn, Edgar County.

Clover Killed.- "Many of the farmers in this county are reporting that their clover has been killed. Anticipating the call for red clover seed at the last minute, we have taken an option on 200 bushels of clover seed, which can be sold very reasonably and is good state inspected seed. Never before has there been so much interest shown in sowing Grimm Alfalfa, we have taken orders and have had shipped something like 50 bushels of this seed, besides what has been ordered by the individuals themselves. This in turn arouses interest in the limestone proposition for no one wants to buy this high price seed without applying limestone." - Edgerton, Rock Island County.

Central Illinois Sale Circuit Sets Dates.- "March 26th the hog sale committee of the Central Illinois Sale Circuit met here and arranged dates for October sales in Macon, Piatt, Champaign, DeWitt, and McLean Counties." - Smith, Macon County.

That farming, the biggest business in the world, and advertising, the greatest selling force, need to get together, was one of the points brought out at a community newspaper conference held in connection with farmers' week at Cornell University.

The Extension Messenger

A source of good news from all kinds of reports of the Farm
Advisory, College and Departmental Work of the University and the
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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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No. 14

Blizzard April 4! More Snow April 6! What next?

TIMELY TOPICS FOR CIRCULAR LETTERS. (#4).

1. Clean the Hog House and Disinfect - 1 pound of lye to 40 gallons of water is a cheap but powerful disinfectant.
2. Clean the Poultry House - Use lye solution (1 pound to 40 gallons water) to kill mites and cleanse the house. Use Sodium Fluoride to get the lice.
3. Clean up the Barn, the Yard, the Lots and the Fence-rows - Keep the whole Farm Sanitary.
4. Plan now to Pool your Wool - The extra 10 or 20 cents per pound makes the real profit.
5. Ship Livestock Cooperatively - Then Farmers receive every dollar in it.
6. Breed the best Farm Lanes - Cool drafters will be in good demand.
7. Don't plant Soybeans too deep - They will break their necks getting out.
8. Calibrate your corn planter and grade your seed.
9. Be sure the Tractor is in good shape. A few hours repairing and overhauling now will save much time and trouble later on.
10. Bring your Farm Records up to date. It will be easier to keep them thruout the busy season.

"Agricultural students are beginning to apply for summer work on farms. Some have had experience. If you know of good places for such men, please notify Mr. A. W. Jamison, College of Agriculture, Urbana.

"Be Square with Her. - A man will pay \$225 for a binder, use it two days in the year; \$65 for a planter, use it two days in the year; \$130 for a wheat drill, use it a few days; and let his wife rub, rub, rub, on a washboard all day long, fifty-two to seventy-five days in the year. A power washer will do its work as well as a binder or any other machine."- Exchange.

BE A BOOSTER

"Boost and the world boosts with you,
Knock and you're on the shelf,
For the booster gets sick of the man who kicks
And wishes he'd kick himself.
Boost when the sun is shining,
Boost when it starts to rain,
If you happen to fall, don't lie there and bawl,
But get up and boost again."



"More oats is being sown this spring than usual due to the fact that farmers are afraid to risk corn on account of chinch bugs. We have imported a lot of Iowa 103 seed oats this spring. Our farmers never used it before. I have been recommending that they sow nothing but early oats. I find that last winter was very severe in its heaving effect. I find that the alfalfa in many places has been pulled entirely out of the ground and wheat is also badly heaved. The wheat, especially on poor ground, does not look well this spring. In many places there is a very poor stand. I believe in many instances this is due to the Hessian Fly, which has killed the wheat or so weakened it that it could not stand the winter." - Tate, Monroe County.

"Heavy rains and snow have delayed seeding so that very little oats was sown before the 1st of April. This delay will materially lessen the chances for a good crop of oats except where an early variety like Iowa 103 is used.- E. M. Phillips, Greene County.

"The majority of the wheat in this county is in very, very poor condition. Several of the farmers are sowing oats in their wheat, using an early oat in order that they may ripen about the same time as the wheat. It is thought the ice last winter caused much of the failure of the wheat. The Hessian Fly is very bad in the early sown wheat; in some sections of the county it has destroyed almost the entire crop, while in other sections the wheat does not seem to have any fly in it no matter how early it was sown." - Blackburn, Marion County.

"The Red Rock wheat, brought in from Michigan two years ago, did not stand the winter nearly so well as the Turkey Red. In many cases this wheat has been totally winter killed. The farm visits the past week have been made mostly to inspect fields of wheat. We find that wheat seeded before September 15, is badly infested with fly, and much of that is damaged sufficiently that the chances are very poor for a good crop. Owners have been advised to destroy several of these fields of wheat." - Longmire, Grundy County.

"Local mills have been paying \$2.10 for wheat and usually taking it at a dock at that. Two track buyers were induced to come into the community and pay \$2.45. I am told that local mills have boosted their price to \$2.30 already." - Piper, Richland County.

"The orchard men in the county claim that there has been more spraying done in the county this year than ever before, also that there has been a greater demand for spray rigs than ever before." - McGhee, Johnson County.

Local men learn to stand before an audience. - "Held a community meeting on horticulture with several local men on the program. One of the things we are developing in our community organizations, I think, is getting the local men to stand before an audience and give their experience and methods they have used in working out their problems. The old officers were reelected at this meeting." - Blackburn, Marion County.

"Most of the calls of late have been on pruning and spraying of orchards and to examine conditions of wheat. We estimate the wheat conditions to be about 60 to 65 percent of normal. A few fields will be plowed and seeded to oats or corn. Much depends on the weather and fly conditions the rest of the season." - Thomas, Coles County.



Bir Elevator in Dairy District. - On Monday, the Roselle Farmers' Elevator Company had their stockholders' meeting and elected their Board of Directors. On Wednesday the incorporators met and received stock and filled out the incorporation papers for a \$40,000 company. There are about 112 stockholders at the present time, with prospects for quite a number more. This is probably the biggest farmers' cooperative elevator company in a dairy district. The dairy farmers are going to protect themselves against low prices in milk by having a place to sell market grain if they decide to raise such instead of milk, and a place where they can store home grown grains for use of the members. In this way the elevator can act as a clearing house for farm grains as well as what little mill feed they may need. They also intend to handle lumber, coal, etc. The farmer stockholders are very enthusiastic over this new company and its success." - Heaton, DuPage County.

"At a noonday luncheon this week with the LaSalle Commercial Board of Commerce the cooperation of the organization with farmers' organizations, generally was enlisted. When tradesmen understand the conservative nature of farmers and the help to such an organization that such men can be in these times of general unrest, they are ready and willing to lend their influence to such a supplying force." - Brooks, LaSalle County.

"There is a demand in every community in our county for additional farm help. An extra effort will be made on the part of the farmers to do their work themselves with the aid of their families. At the present time there is no indication of reduction in acreage of crops.

A considerable acreage of the clover which was expected to be left for hay and pasture this year has been winter-killed. For the most part the area which was killed out was pastured last fall. Clover which was not pastured in the fall and which made a good fall growth has lived thru very well. Some of the wheat failed to live thru the winter and will be plowed up and corn planted instead." - Allison, Livingston County.

Dynamiting Hard Pan Soil. - "One of our farmers contemplated dynamiting the subsoil of a 10 acre area but was advised to cut down the area to an acre or so, inasmuch, as the experimental work on this subject did not show conclusive results. Accordingly, a demonstration meeting was arranged and the subsoil of about one acre area was broken up by means of dynamite. The charges were placed 12 feet apart. Unusual interest was shown in the work. The plat will be given careful study to observe the benefits of this method of breaking up so-called "hardpan" subsoils." - Tillman, St. Clair County.

Needy Tenants Make no Efforts. - "At the meeting of the Illinois Farm Commission which was appointed by Governor Lowden to study tenancy questions, about 50 landowners and tenants were in attendance here. Unfortunately the men who should have appeared were not before the committee. Those who appeared represented more nearly the better class of both tenants and landlords. The evidence of both the poor landlords and poor tenants was not available." - Lumbrick, Vermilion County.

Better Roads. - "The member of the Executive Committee having charge of the road improvement work of the farm bureau this year has issued an appeal to every farm bureau member to look after the road near his farm. The past winter has offered such a terrible example of what road neglect may do that a great deal is being heard now from the farmers themselves with regard to the building of better roads." - Price, Saline County.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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No. 15

1. TIMELY TOPICS FOR CIRCULAR LETTERS (#5).

1. Keep the Farm Orchard sprayed. Even if the cold weather killed half the crop, the remainder will be doubly valuable.
2. Three Fence Posts that won't wear out - Treated Wood, Steel, Concrete.
3. It costs no more to raise a 1200 lb. steer than a 600 lb. scrub.
4. Pure bred Stock Pays. Which way is your stock going, up or down?
5. The tractor does not add fertility to the soil.
6. Kill the weeds while they are small. They die easy then.
7. "Soybeans are the Life Savers of the land. Planting them in corn, and alone, and when clover fails, enables you to have a Legume every year on every acre of your farm."
8. Why buy high priced legume inoculations when you can get them from a field near home?
9. Poor crops are no longer justified on \$400 land. Plow deep - Plant good seed - Till thoroly - Harvest well.
10. "He who owns the soil owns up to the sky."

Good Farm Mares Should be Bred. - "Present conditions in the horse market certainly indicate that all good, sound draft mares should be gotten into good physical condition and be bred this spring to the best stallion available. There is no chance of the inferior kind being profitable. Good ones are bound to be scarce and high priced." - J. L. Edmonds.

Cold Snap at Easter Injured Fruit Buds. - "A temperature of 10 degrees Fahrenheit in western Illinois on April 5 caught many fruit buds unprepared. This was especially noticeable in the apple orchards of Adams, Pike, Calhoun, and Greene Counties where the destruction amounted to probably three-fourths of the prospective crop. Since the indications had pointed to a very uniformly heavy apple crop in that section of the state, it is quite likely that a fair yield may yet be had." - W. S. Brock, University of Illinois.

Seed Protecto. - "Experiments with Seed Protecto under greenhouse conditions show that seeds treated according to the directions put out with this material germinate somewhat slower than the same kind of seeds untreated. This retardation in early growth is partially overcome later, but at the end of forty days the plants from untreated seeds are a little over two centimeters taller than those from treated ones. Further tests are planned this spring to try out Seed Protecto under field conditions. Trials have revealed the fact that mice will feed upon wheat treated with Seed Protecto, even when untreated seed is just as conveniently located." - George H. Dungan, Crop Production, University of Illinois.

Sid claims he has recently moved into the "best Farm Bureau Building in the World."

Small Pig Crop. - "Indications are for a very short pig crop this year. Litters are generally small, many abortions, and the percentage of loss is high." - Baumeister, Stephenson County.

"The livestock breeders' associations of the county are behind an intensive program for boys' and girls' club work during the 1920 season. We believe the support of these breed organizations to be a more legitimate method of pushing this work than when backed up by a private institution." - Richey, Mercer County.

"The Cooperative Livestock Shipping Associations are playing an important part in the agricultural work of the county. Five shipping associations are now in operation in McHenry County. Farmers are realizing that they are now in a position to get all the stock is worth and that they can well afford to hire a good livestock man to take charge of the shipping work. The price paid by dealers has been increased from 50¢ to \$1.50 per cwt. on the same market basis." - Gafke, McHenry County.

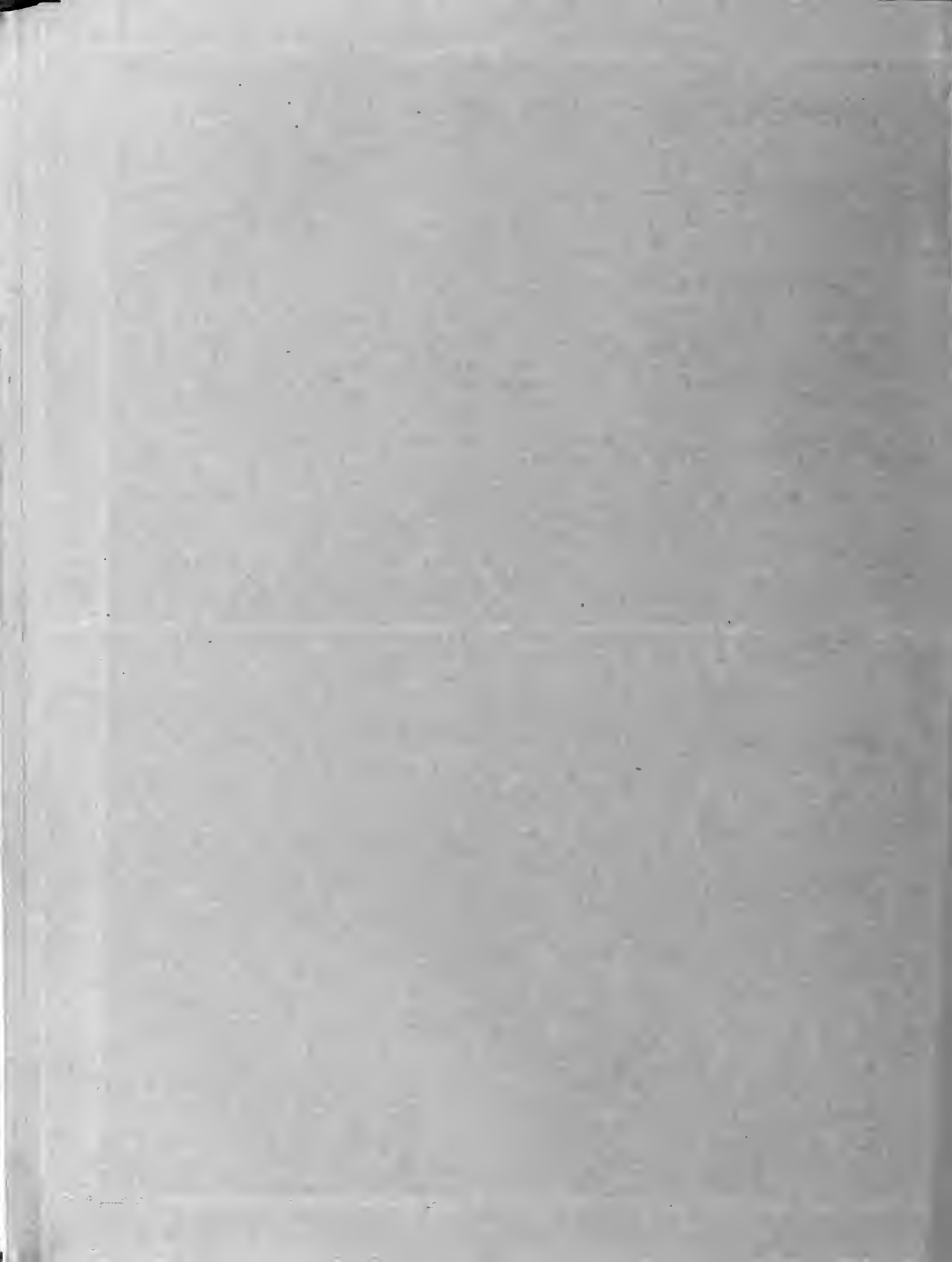
Cow Testing Association. - "Considerable time during the week was devoted to organizing a third cow testing association in the county. All the dairymen who wish to become members of an association cannot be accommodated in the two we have at the present time. The two we have are having a very desirable effect not only on the members, but on the dairymen who come in contact with the members of these associations. There are certain practices that have been followed by the dairymen of the district, such as buying their cows, flooding the market with milk in the winter, etc. which need correcting. The cow testing associations are the best agencies I know of to correct these practices." - Richards, Kane County.

"The Edwards County Farm Bureau purchased the first carload of rock phosphate shipped out through the Illinois Agricultural Association. This phosphate was bought on the cooperative plan and was divided among ten farmers. The phosphate tested 13.4%." - Pollock, Edwards County.

"The only wheat that seems to have any prospect is that sown on strong ground and sown after the fly-free date. In fact, a great deal of wheat sown on the 8th of October which was the fly-free date set for last fall is in bad condition. Nearly all of the fields sown before that time are about as bare as a floor as far as any wheat is concerned. The per cent of abandoned acreage this spring will be very high, probably 25 to 35 percent." - Doerschuk, Randolph County.

Results. - "We have just been having a good demonstration of the fact that our people are becoming interested in the organization movement, more so than they have been in previous years. Early in March we selected one farm bureau member for each four sections in the county and sent to him blank reports on which we had made a map of the four sections, asking him to mark it with the locations of the farm houses, and fill in the names of the men living in the houses, stating whether or not the men were owners or renters, and if renters, to fill in the names and addresses of the owners. 131 such report blanks were sent out to as many men. Only six have not been returned to the office with the names filled in. This is a far better percentage than we ever got on similar work even in war times." - Mosher, Woodford County.

A Good Idea. - "Several of the farmers in Knox County have recently gotten out new letter heads. Among other things which the letter heads carry is a statement that the farmer is a member of the Knox County Farm Bureau. This strikes us as a good idea." - Bracker, Knox County.



HORSE POWER HOLDS ITS OWN.

"Horses and mules are still the chief source of motive power in agriculture and in draying. They have been read out of existence a good many times in the world's history. - Nevertheless, the United States Census for 1910 revealed 19,833,000 horses and 4,210,000 mules on farms; and the estimates of the Department of Agriculture for January 1, 1920, show 21,109,000 horses and 4,995,000 mules on farms - an increase of 1,276,000 horses and 785,000 mules in the last decade. In addition to this, we exported, in the 9 year period ending June 30, 1919, 1,149,763 horses and 376,836 mules.

A national survey of the economic status of the horse vs tractor was made in 1919. The survey reported 200,000 tractors and 143,444 motor trucks on farms. The tractors displaced from 1 $\frac{4}{5}$ to 2 $\frac{1}{2}$ horses per farm where the tractors were owned. In no case did they displace enough horses to pay for the cost of the tractor; but on some of the larger farms, where there was much belt work to be done, they proved valuable for that class of service, and as a supplemental source of power in the fall when heavy plowing was to be done. The survey further points out that as horses must be kept to do the many phases of farm work which cannot be satisfactorily or economically done by a tractor, they are available to meet the farm needs for transportation of agricultural products.

Good draft horses and mules are returning to public esteem in cities. Men have found they furnish motive power that is reliable, regardless of wind and weather. During the blizzard in the East this winter, horse and mule teams furnished the only motive power that could get thru the drifts. Of this situation, a prominent business man in the East, writes: "Business in New York City was almost paralyzed for two or three weeks. Millions of dollars were lost, almost wholly due to the fact that it was impossible to secure enough teams to cart the snow. Enough money was lost in New York City alone this year to pay for and keep all the horses the city would need for years to come. In our own city, if it had not been for the coal wagons drawn by horses, thousands of people would have absolutely frozen to death."

Besides being reliable, horses and mules are long lived and low in cost of maintenance. Leading cartage and teaming companies report that draft animals of good type, sound and mature when put into heavy city work, will last eight years and then sell for one-fifth their original cost, for use in lighter work, where they often continue to give good service for several years.

The rise in prices for good draft horses and mules, in spite of the existence of more than twenty-one million horses and almost five million mules on farms, indicates how agricultural and transportation needs are growing. Good authorities predict a gradual rise in prices of horses and mules for the next three years." - Wayne Dinsmore.

All Shippers Join County Shipping Association. - "Meetings have been held in every community in Lee County during the past few weeks with an average attendance of 25, for the purpose of discussing the County Shipper's Association. Practically every farmer in attendance who has livestock to sell joined the Lee County Shippers' Association. Local Managers were appointed at each place. From the interest displayed in the association most of the stock at these points will be shipped thru the Shippers' Association in a very short time. Cars that have been shipped out thus far have cost a total of between 50 and 60 cents per hundred including the Shipping Association charge, freight charge, yardage and commission fee at Chicago. This also includes 5¢ per hundred weight for insurance which pays for losses of hogs from the time they are delivered to the local stock yards until sold in Chicago, and allows for full market price for such loss. The insurance in the case of cattle is only 2¢ per hundred." - Griffith, Lee County.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. III

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No. 16

QUESTIONS ON LAND PROBLEMS.

"How much is farm land worth? On what basis is farm land valued? How should it be valued? Should farm land be valued solely on its productive net earnings, or should the anticipated increase in value due to the development of the country and the consequent increased demand for land be considered in valuing land? How much has land increased in value during the past 30 to 50 years in different regions? Are such increases in land values to be considered as earnings, and if so, how much do such past earnings amount to in terms of annual interest?

Is tenancy undesirable? If so, would it be desirable to abolish it entirely if this were possible? If tenancy actually serves as a transition step or ladder for the prospective owner, how much tenancy is necessary to provide enough opportunity for young men while they are accumulating capital to enable them to buy land? When credit conditions are made easier for men who wish to purchase land, should such improvements be mainly in the direction of a lower rate of interest, or mainly thru making the condition of time and terms of payment easier and safer? If leases and plans for operation between landlord and tenant could be improved so as to insure more profitable farming, would the tenant tend to purchase a farm earlier because of such increased earnings, or would he remain a tenant longer and accumulate more capital before purchasing a farm because his status as a tenant would then be less objectionable?

These and many other questions of equal importance are interesting the student of land problems these days. These questions must be answered much more completely, if we are to have even a fairly good basis for working out the solution of the many and difficult problems involved in this field of study." - W. F. Handschin, Professor of Farm Organization and Management.

Farm Bureaus for Scott and Pulaski Counties. - The farmers of Scott County decided that being surrounded by farm bureaus without having an organization of their own was not conducive to their best interests, so a campaign was carried out by local men and 548 members were secured for the farm bureau and I. A. A. The organization meeting was held April 8. The office will be located at Winchester.

Permanent farm bureau organization meeting was held at Mounds in Pulaski County on Friday, April 9th. This is the eighty-fifth county in Illinois to complete a farm bureau organization.

"Held meeting of the soybean growers Saturday, April 10, and discussed plans for growing seed for other sections not so favorably situated for this purpose. The men organized the Champaign County Soybean Club. They propose to have several meetings and trips during the summer and hope with the help of the College of Agriculture to be able to sell certified seed. Mr. Hackleman of the University of Illinois attended the meeting." - Oathout, Champaign County.

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Winter Wheat. - "It is estimated for the State that the condition of the growing crop on April 1st was 67 per cent of the normal as compared with 101 per cent on April 1, 1919, and 82 per cent the ten year average. This indicates a crop of about 33,000,000 bushels as compared with an estimated production of 57,800,000 bushels last year.

For the United States the condition is estimated at 75.6 per cent of the normal as compared with 99.8 per cent on April 1, 1919 and 84.1 per cent, the ten year average. This condition forecasts a production of about 483,617,000 bushels upon the assumption of average abandonment of acreage and average change of condition during the growing season. This compares with an estimated production of 731,636,000 bushels last year." - S. D. Fessenden, Illinois Crop Reporting Service.

"With the coming of spring the early sowed fields of wheat are showing up very badly. Fields that looked fine last fall are practically bare this spring. Probably fifty per cent of the acreage that was seeded last fall will not be left for wheat crop this year. With only about half as much wheat sown in 1919 as was seeded the preceding year, and with half of this destroyed already, the wheat crop in Vermilion County will be very short this year." - Lumbrick, Vermilion Co.

"The acreage of oats this year will be cut down because of the continued wet weather. In some fields the oats have rotted, especially where covered with water. I do not think that late oats will be sown as much in the future. Next year several carloads of Iowa 103 seed will be shipped in. We expect to pool orders next spring, our farmers are seeing the benefits from poolings orders of many kinds." - Belting, Shelby County.

"Rains have again interfered with farm work. Very few oats have been seeded except in sandy soil or well drained fields. Some men are determined to sow as late as the last of this month if it is impossible to do so before. Others have given up sowing oats." - Logan, Crawford County.

"Old alfalfa fields are badly heaved and practically killed out where ordinary soil treatment has been used. One five year old field near W. Frankfort where 8 tons of limestone had been used, stood the winter fine. On the same farm where three or four tons of limestone had been used the alfalfa heaved out and died. These two adjacent fields are located on rolling yellow gray silt loam, and have adequate natural surface drainage. It looks like the amount of limestone used means the difference between success and failure in bringing alfalfa thru a hard winter." - deWerff, Franklin County.

"A number of alfalfa fields were examined this week. All of it is heaved by frost more or less. What was sown last fall is almost entirely killed out. The spring sowing has come thru the winter in fairly good shape. One member has a good demonstration of the value of northern grown seed. One part of the field was seeded in the fall of 1918 with the northern grown seed, and the other part was sown with seed gotten from a local store, source unknown. The Northern seed came thru the winter in good shape and that part of the field looks very well. The other part is almost entirely killed out." - Rehling, Clinton County.

"Last summer's seeding of alfalfa is in bad condition. A great deal of sweet clover is being seeded. Farmers are planning to sow considerable acreage to cow peas this year. They prefer a chance on peas rather than corn with the bugs showing up as they are this spring." - Eymann, Jersey County.

"This is the tendency of the paper market at the present time, while the chief concern seems to be whether paper can be had at all. Mills are flooded with orders, deliveries slow, warehouse stocks of many brands exhausted. Buyers of paper are contracting for their 1920 requirements, some for 1921 as well. If your stock is low take care of your paper and printing needs now - bond, mimeograph and bulletin papers, cards, letterheads, envelopes. The paper market is advancing." - R. D. Briem.

Need of Labor Serious. - "One of the most noticeable things one finds in talking with farmers aside from the condition of wheat and oats seeding is the lack of farm help. The situation in Coles County this year is far more serious than it was at any time during the war." - Thomas, Coles County.

"A great many fields of clover have been reported winter killed. This makes an additional problem to provide hay and pasture. A limited survey recently indicates that there will be one-fourth more acres of corn planted this year than last, a somewhat increased acreage of oats and a decreased acreage of spring and winter wheat." - Longmire, Grundy County.

"The young clover is in good shape over most of the country. Quite a number of our farmers have sown sweet clover in the wheat and a fairly good stand is promised as it now appears. This land has all been limed. We have succeeded in getting quite a number of our farmers to order limestone for early delivery. A great deal of interest is being taken in the sowing of sweet clover and alfalfa on the thin rolling land. The cool weather and much rain is very favorable to the late sown wheat in our country. A few oats have been sown. We have a few fields of fine clover from last year's seeding. In some localities the chinch bugs are beginning to fly. If we have much more rain it will hardly be advisable to sow oats. Cow peas will be sown in all probability to take the place of the oats now sown." - Eyman, Jersey County.

Sweet Clover Solves the Problem. - "Owing to the backward season, grass is slow to start and farmers scanty stock of feed is rapidly disappearing. One of our members says "That does not trouble me". He has 12 acres Sweet Clover now about 10 inches high upon which he is pasturing a large amount of stock. Furthermore, he says he never saw stock do better." - Thomas, Jackson County.

"Sodium nitrate to be of maximum value in orchards, both apple and peach, must be applied early. If not yet applied any where south of Urbana latitude, it would be just as well to wait till 1921. Apple trees may yet be sprayed with dormant strength lime sulfur in the northern horticultural section with the exception of the Mississippi river bluffs where the season is more advanced.

The United States Department of Agriculture, has just issued Farmers' Bulletin No. 1087 on "Beautifying the Farmstead". The fundamental principles of ornamental planting are well set forth and illustrated. Farmers' Bulletin No. 908 is the best practical hand book of sprays and spraying yet published. The schedule of applications is not applicable to Illinois conditions but as a general treatise on the subject, it is fine. A description of the more important insects and fungi is also given. The U. S. Department would be glad to send several copies of the above bulletins to each farm bureau office to supply any members who might request information." - W. S. Brock.

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Vol. III

UNIVERSITY OF ILLINOIS April 28, 1928 BANA, ILLINOIS

No. 17

LAND PROBLEMS.

"Earning capacity is undoubtedly the most important single factor in determining the selling price of farm land. In spite of other factors the differences in price between lands located in the same general region and having about equal marketing facilities are due to a very large extent to differences in capacity for producing crops. In Illinois, e.g., somewhat common variations in the price of farm land ranged from \$50 to \$60 per acre to \$250 or \$300 per acre before the war. At the present time, prices range from \$70 to \$80 per acre to \$400 or \$500 and even higher in exceptional cases. All available studies show that these differences in the price of land correspond quite closely to the differences in earning capacity of such lands in various parts of the state. In spite of occasional exceptions these differences in the price of farm lands of different quality seem to follow quite closely the differences in earning capacity.

So far as we have spoken of the relative prices of farm land, that is, of the variation in quality or productive capacity. But on what basis is the price fixed for a given farm or for land of the same quality in a given region? That is, why does a certain grade of land in a given locality sell for \$100, \$300, or \$500 per acre?

Practically all studies of farm earnings show that the average farm business in ordinary times does not earn more than from 3% to 4% on the investment based on the current selling price of land. Another way of saying the same thing is that the price of farm land is determined by capitalizing the net earnings at the rate of 3% or 4%. That is, the farmer is willing to bid the price of land up to the point where the net earning per acre will represent only 3% or 4% interest on the price paid per acre. To illustrate, if the net earnings of a certain grade of land are \$12 per acre, and these earnings are capitalized at the rate of 3%, the land will sell at \$400 per acre. If the net earnings are capitalized at 4%, the land will sell at \$300 per acre. The amount which the prospective purchaser can pay for land depends upon how low a rate of interest he is willing or can afford to take on his investment. In the illustration just cited, if the prospective buyer could afford to and were willing to take 2% on his investment, he could pay \$600 per acre for the land. If he were borrowing all of the money at 6% and had to pay the interest out of the net earnings he could pay only \$200 per acre for the land." - (To be continued in our next issue) - W. F. Handschin.

"Considerable effort has been made to relieve the shipping situation. Because of the strike on the Santa Fe Railroad at the stock yards, we have been unable to ship any livestock. It seems that other roads are putting stock into the yards and we have succeeded in getting permission from the Public Utilities Commission to grant us a special rate by way of Galesburg and Burlington route." - Liner, Henderson County.

Planning New Sale Pavilion. "The Executive Committee of the County Breeders' Association met Friday and made arrangements for a committee to take up the matter of building an exhibition and sale pavilion at Carthage. The Committee also authorized the secretary of the Association to publish a directory of the purebred livestock of the county." - Lloyd, Hancock County.

Cow Testing Association Pays. "On Tuesday I attended a sale of grade Holstein cattle. All of the milk cows which were old enough had a two year record in the Cow Testing Association. These cows all had extra good records and were of the dairy type. The high cow sold for \$325. and the average price for the 22 cows giving milk was \$191. The man who made the sale thinks that these records increased the average price per cow from \$50 to \$75. This was certainly a paying proposition and shows the advantage of the cow testing work." - Miller, Macoupin Co

"Cooperative marketing of fruits and vegetables was made the chief subject for discussion at the annual meeting in early March. Since that time we have held meetings at the 5 different shipping points in the county. At each meeting there was a good attendance and after a discussion a committee of 5 was appointed at each place. It will be the duty of this committee to ascertain the spirit in its community and determine whether or not it is advisable to go further at this time. There is hardly a question as to what the spirit will be and there seems to be a very strong sentiment in favor of an improved system of marketing.

The farm bureau has also appointed a committee of 5 to take the leadership in this matter. My feeling is, that we can put across a cooperative marketing association that will embrace the entire county. We also hope to organize it with the view of having it embrace all of southern Illinois sometime in the near future." - Durst, Union County.

Number of Breeding Sows Cut Down. - "The reports received from the correspondents of the Illinois Crop Reporting Service show a substantial reduction in the number of breeding sows on April 1 from the number in the State on the same date last year. The number now present is estimated at 86 per cent of last year. The country as a whole also shows a reduction in number according to the report of the U. S. Bureau of Crop Estimates, which reports that there are now in the United States but 90.1 per cent of the number on April 1, 1919.

Falling and unsatisfactory prices for hogs, high cost of feed, scarcity and high price of farm labor have done much to produce this result." - S. D. Fessenden, Illinois Crop Reporting Service.

To Get Livestock Survey. - "We plan to make a livestock survey of the county while getting the mailing list for our membership campaign. One man has been selected in each quarter of a township to get the correct name and address of each farmer or landowner in his respective territory and he will be provided with blanks for making the livestock survey at the same time. One of the men in each township will be responsible for the work of the other three. In our small county, 8 townships, we hope this method will prove satisfactory." - Brown, Stark County.

"Four shearing, docking and castrating demonstrations were held this week. O. W. Crawford of the University of Illinois did the demonstrating, and gave many valuable suggestions. At three of these meetings, there was an attendance of 25 to 35 each. A chance was given to sheep men to express their views about a wool pool again this year; it was almost unanimous opinion that we should pool this year. We have decided to load two cars, one at the east side and one at the west side of the County." - Wise, Iroquois County.

Peach Tree Borer. "Probably the greatest single enemy of the peach in Illinois is the peach tree borer. Many experiments with sprays, washes, and dry protectors in this and other states have failed to develop any efficient practical means of controlling this insect. The only reliable method of preventing injury by this borer is to go over the trees twice each season and remove the young worms with a sharp knife and a piece of flexible wire. This worming should be done during October and again between the 20th of May and the 10th of June - the worming in the fall to get the early hatched borers, and that in the spring to take out any which have been overlooked in the fall, and kill them before they begin to seriously injure the tree.

Scrape the earth away from the trunk to a depth of two or three inches before starting to remove the borers. Care should be taken in cutting out the borers. Use a sharp, pointed knife; cut with the grain of the bark or wood; have the cuts pointed at the upper and lower ends to facilitate healing; use the fine wire for killing the borers in deep burrows. If possible, spray the trunk of the tree thoroly with strong lime sulphur solution after cutting out the worms.

This borer is mighty important not only in the commercial but in the family peach orchards of the state, and is not given as much attention as it should be." W. P. Flint.

"Home Vegetable Garden and Orchard. Early cabbage should be transplanted as soon as the ground and weather will permit. A word of caution to those who are too eager to transplant tomatoes is in order; May 10 is a good date for central sections. String beans and sweet corn may be safely planted now.

The most important single spray for peaches is applied when the shucks are being pushed off. The materials are lead arsenate 1 pound, and freshly slaked lime 2 pounds, in each 50 gallons. This is to control the curculio which causes the wormy peaches.

Where cherries escaped the frosts, spray when the petals fall with lime sulphur, $1\frac{1}{4}$ gallons, and lead arsenate 1 pound, in each 50 gallons. This is principally to control curculio but is to control leaf-spot as well.

Early apples are ready for the calyx spray in the southern section. Fill the calyx cup with poison. Generally speaking, this spray will pay the largest dividends. Use $1\frac{1}{4}$ gallons lime sulphur and 1 pound of lead arsenate in each 50 gallons. The lime sulphur is also to control scab.

If you do not already have a supply of Circular 212 - Spraying Schedules for all Fruits - may we send you some?" - W. S. Brock.

Adviser for Bond County. - Charles Tarble, University of Illinois 1913, who has been manager of an 832 acre farm at Martinsville, Illinois, has been employed as county adviser for Bond County. He began work April 17, with headquarters at Greenville, Illinois.

Altho the JoDavies County Farm Bureau was organized last September it has just recently been able to secure Mr. Clifford C. Burns to act as Farm Adviser in that county. Mr. Burns was brought up on a farm in the southwestern part of Wisconsin and is a graduate of the Plattsville Normal School, Wisconsin, and the University of Illinois. He also attended the University of Wisconsin. He was Principal of the Harlem Consolidated School near Rockford in Winnebago County for four years, and was County Adviser in Aitkin County, Minnesota, during the season of 1918. He resigned his position there to enter the army. Since last September Mr. Burns has been assisting in the organization work of the Illinois Agricultural Association. He expects to begin work in JoDavies County on May 1, with headquarters at Elizabeth.

The Extension Message

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No. 18.

The formal opening of the Macon County Farm Bureau building Saturday was an impressive event. A reception committee of farm bureau members and their wives met visitors and conducted them thru the building. A regular jazz orchestra furnished the music for the occasion. Professor Handschin addressed the afternoon meeting and Dean Davenport the evening meeting.

"The business operations of our farm bureau are now entirely handled by the farm bureau's 'foster child', The Edgar County Seed Association. The Seed Association has hired its own manager and stenographer and now stands firmly on its own feet. Thru this 'foster child' we have been able to supply our own members with reliable, clean seed and have saved them hundreds of dollars. A concrete example of this is the saving of \$1500. on a car of seed potatoes last week."—Bunn, Edgar County.

"At the Farm Bureau Executive Committee meeting it was decided to devote a part of our surplus into building limestone and phosphate sheds. President King announced the farm bureau would subscribe \$300. to any farmers' elevator which would put up a like amount for bins."—Hughes, Menard County.

Flour Mill.— "No line of work that our organization has fostered has created so much interest as the community flour mill. We are all anxious to see whether it is possible for us to produce flour that will give satisfaction and that will meet people's requirements."—Eckhardt, DeKalb County.

Stock Going to Mexico.— "A number of men from Mexico have been buying cattle and hogs in this county and now have six carloads already at the stock yards in Shipman which they have not been able to ship out on account of the railroad strike. All together these men bought about 750 head of cattle and several hundred head of hogs. These animals are all to be shipped to a large ranch near Mexico City."—Phillips, Macoupin County.

County Grange offers Prizes.—"Met with the County Grange Fair board this afternoon and was assured of 150 for prizes for the Boys' and Girls' Pig and Calf Clubs for this year."—Logan, Crawford County.

Turning on Pasture.—"The time to turn on pasture will depend to some extent on the growth and condition of the pasture. It is usually desirable to give the grass a good start. In order to do this, turning on pasture may be delayed until May 1 or later. It is desirable to make the change from dry feed to grass gradually and slowly. One practice is to give the cows their usual feed and then allow them to be on the pasture for only a few hours during the first days. A sudden change from dry feed to pasture may affect the taste of the milk."—C. S. Rhode.

Burnt Offerings.- Nearly every evening now one can see the horizon lit up in many places with the glow of burning corn stalks. While this practice is still all too common yet it is becoming more and more unusual as farmers are learning the costliness of the practice. There has already been so much said and printed about the folly of burning cornstalks that there is actually a sentiment against it and the neighbors are apt to remonstrate nowadays.

Can you as either tenant or owner afford to burn off the stalks before plowing? Let us see what it means. There is only one excuse for it under the sun and that is to make plowing and cultivation a little easier. There are two good reasons for not burning. The nitrogen alone contained in the average acre of cornstalks is about 30 pounds. At the present market price of fertilizer it would cost at least \$10 per acre to replace the burned nitrogen alone. Then there is also some loss in the potassium and phosphate contained. The second reason is the loss of humus or organic matter that the stalks would furnish. The decaying stalks plowed under improve the physical condition of the soil making it looser, easier to work and more retentive of moisture. Every owner who burns stalks could legitimately claim a deduction of \$10 per acre from his Federal Income tax return for loss and depletion of fertility. I had the experience last year of being asked by a farmer sitting on his stalk rake, why the soil I was standing on worked so hard and was so run together. It was not hard to find one big reason at least. Figure it all out and then ask - does it pay?-

"Most of the calls for farm visits are in cases of sick hogs and poor stands of wheat. Also the farmers are beginning to inquire about the effect of the continued cold wet weather upon the oats which were sown several weeks ago and are only just beginning to sprout. Our clover went thru the winter in good shape except where it was mowed or pastured close and some of those fields have already been plowed for corn." - Lloyd, Hancock County.

H. C. Wheeler has been employed as Farm Adviser by the Lawrence County Farm Bureau, and began work May 1. Mr. Wheeler was brought up on a farm in Northeastern Ohio, graduated from the Ontario Agricultural College, farmed for nearly two years after graduation, and for a number of years had charge of the soil survey work in southern Illinois. The headquarters of the Farm Bureau will be at Lawrenceville.

Eckhardt Resigns. Succeeded by Roberts. - "The resignation of Mr. Wm. B. Eckhardt who has been farm adviser in DeKalb County since June 1, 1912, was accepted by the directors of the DeKalb County Soil Improvement Association on April 30, and Mr. Thomas Roberts, assistant adviser, was elected to succeed him. Mr. Eckhardt was made business manager of the DeKalb County Association, and will give two days per week to that work. Mr. Eckhardt has been chosen to head the grain marketing committee of the Illinois Agricultural Association. We regret very much to lose 'Bill' from our number, but congratulate him upon being called to this wider field of usefulness, - G. N. Coffey.

Land Problems.- "Because of the lack of exact accounting information, very few farmers can tell accurately what are the net earnings of any given piece of land. The most successful farmers, no doubt, have a fairly good general idea of the gross earnings of land in their own region, or any other region with which they are fairly familiar. It is evident, however, that without more accurate accounts upon which to calculate the value of land as based on its net earnings, that the basis for valuing such land in the case of the large majority of purchasers must be after all little more than a somewhat rough estimate.

In spite of these facts it is apparent that the prices which farmers have been willing to pay for land have been arrived at in the main as a result of more



or less deliberate calculation on their part. Evidently in making such calculations they figured by one method or another to arrive at the value of the land by capitalizing some portion of the gross earnings.

Since the gross earnings of a large proportion of farms are derived from a few sources of income, a very large proportion of which come from a small number of major transactions, it is much easier for the farmer who does not keep accounts to make a fairly accurate estimate of his gross than of his net income. In attempting to arrive at the net income of land farmers no doubt make certain deductions from the estimated gross earnings for such items of farm expense as are plainly recognized and which can be somewhat readily estimated with some degree of accuracy. The most common of these items would most likely be the larger ones, especially those paid in cash. This would probably include hired labor, taxes, threshing, new buildings and machinery, important repairs and renewals, and the larger purchases of feed, seed, and live stock. Other items more likely to be overlooked in estimating the farm expenses, are: the labor of the farmer and that of the members of his family not paid for in cash; depreciation of buildings, fences, machinery, horses, and breeding stock; and the miscellaneous items of expense of a minor nature which often amount in the aggregate to a considerable sum during the course of the year.

In making such calculations it is no doubt true that in the main the farmer usually overlooked certain items of farm earnings which were contributed by the farm to the personal use of the farmer and his family. Most important among these are the rent of the farm house, the use of farm produce such as meat, milk, eggs, fruit, garden vegetables, and the use of the farm horses for personal service. In the main, however, these items appear to be of much less importance than the items of farm expense usually omitted in the calculation.

As a result of the methods of calculation apparently employed by farmers in attempting to arrive at the value of land, there seems to have been a general tendency to capitalize too large a portion of the gross income. This assumption is based not only on general observation, but upon a considerable amount of experience in carrying on both detailed cost accounting and general accounting studies with several hundred farmers in various sections of Illinois during the past 7 years.

It appears, therefore, that farmers in estimating the value of farm land have tended to capitalize not the actual net earnings, but an amount somewhat larger than the actual net earnings, i.e. somewhat over-estimated or inflated net earnings.

In so far as this has been true it has no doubt resulted in the farmers paying more for land than was justified by its actual realized net earnings. For example, if a farmer estimated that the net earnings of a given piece of land were \$15 per acre, and he expected to make a return of 5% on his investment, he would figure that the land was worth \$300 per acre. That is, a net return of \$15 per acre would pay 5% interest on a valuation of \$300. If, however, the actual net returns were only \$10 per acre, instead of \$15 as estimated by the prospective purchaser, then by the same method of figuring the land would be worth only \$200 per acre instead of \$300. If the actual net return had been \$12.50 per acre, the value of the land would have been \$250. instead of \$300.

It is apparent, therefore, that in just so far as farmers tend to overestimate the net earnings of land, they will tend to pay more for it than is justified by its actual realized net earnings. In so far as this tendency to overestimate the net earnings of farm land has been a factor in advancing the price beyond the point justified by its earnings, - and consequently reducing the rate of interest earned, we may hope that this factor will tend to disappear as farmers generally get more accurate accounting information regarding their business. The more accurate information farmers have regarding the net earnings of farm land, the more accurately will they adjust the price they are willing to pay for such land, to its actual earning capacity.

A more important factor in advancing the price of farm land beyond the point justified by its net earnings, is no doubt, the anticipated increase in the price of land due to the increase in population and the resulting increase in the demand for food and the other products of land. This question will be discussed in the next issue of the Messenger." - W. F. Handeckin.



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No. 19

Winnebago in the Ring. - For the past three years the attention of every organized farm bureau in Illinois has been centered on Winnebago County. Last Saturday afternoon, during the busiest season of the year, 40 farmers left their plows and tractors to lend their aid and support in organizing a farm bureau.

After a thoro discussion and earnest consideration as to the advisability of organizing, every man present voted to form a temporary organization and put on a membership campaign. Twenty men wrote checks for their first year's dues to finance the campaign. Winnebago County intends to profit by the experience of the organized counties and develop one of the strongest farm bureaus in the state. - W. F. Handschin.

Robbins Employed by DeWitt County. - We welcome back to our ranks, Mr. E. T. Robbins, who was for several years farm adviser in Tazewell County, but for the last two years has been manager of a large farm in Adams County. Mr. Robbins takes the place of Mr. Floyd L. Johnson. His headquarters are at Clinton. - G. N. Coffey

"A meeting of the farm bureau officers and directors, the pure bred livestock officers and directors, and our seed company directors was called Wednesday afternoon, April 28. At this meeting it was the unanimous decision that the stockholders of the Woodford County Agricultural Association be called to a special meeting and provision made to increase the authorized capital stock to \$50,000 in order that a building may be erected and the seed business financed so as to take care of the probable increase during the next few years." - Mosher, Woodford County.

"Mr. R. E. Shaffer, who has been assistant adviser in Woodford County for two years past, has accepted a position as farm adviser in Knox County, Missouri. He will take up his work there May 15." - Mosher, Woodford County.

Durst Goes to Cook County. - Mr. C. E. Durst has decided to accept a position as Farm Adviser in Cook County, and will take up the work there as soon as arrangements can be made for his successor in Union County.

Farm Adviser for Douglas County. - The Douglas County Farm Bureau has decided to employ Mr. Frank W. Garrett as Farm Adviser for that county. Mr. Garrett was brought up on a farm in Kankakee County, graduated from the University of Illinois, and has for several years been connected with the field experiments in soil fertility. He expects to begin work about June 1.

"The DeWitt County Farmers' Elevator Company completed arrangements this week by buying both elevators in Clinton, and hiring a manager. They arranged to take over the operations of the Clinton Shipping Association and will begin the operations on the elevator about June 1." - Robbins, DeWitt County.

Farm Bureau Efficiency Factors.- The following results of a study of some factors having to do with the efficiency of farm bureau work was presented by Mr. S. H. Thompson, Farm Management Demonstrator in Iowa at the State Conference of Extension Work, which I had the pleasure of attending. It should prove of interest to the farm advisers in Illinois.

Mr. Thompson says: "In presenting briefly the results of this efficiency study we shall confine ourselves to the part played in farm bureau efficiency by the following factors: (1) Membership, (2) Board of Directors, (3) Program of Work, and (4) Records. No attempt will be made to discuss the agent or the stenographer as factors nor will any allusion be made to the office itself nor to cooperation with other agencies. Altho the importance of these factors is well recognized it is believed that they will be automatically taken care of provided the bureau has a large and interested membership and alert and active directors. Moreover, it is hardly to be expected that an able agent provided with a suitable office and a competent stenographer could accomplish much unless he has a strong organization supporting him". - B. N. Coffey

	AVERAGE PERCENT OF:		
	Nine Least Efficient	Nine Most Efficient	Fifty-eight Bureaus
MEMBERSHIP INDEX	35	43	40
Farmers who are members - 1918	15	19	17
Farmers who are members - 1919	12	19	15
Members who are farm operators 1919	78	90	87
ADMINISTRATIVE INDEX	47	71	58
Attendance at Board Meetings	31	58	47
Attendance at Executive Committee Meetings	63	84	69
PROGRAM INDEX	50	69	61
Rural population reached by meetings 1918	11	19	16
Townships reached - 1918	73	78	78
Townships reached - 1919	61	94	83
Members visited - 1918	39	67	54
Members served - 1918	67	87	72
FARM BUREAU INDEX (Average of all Factors)	44	61	53

"A joint meeting of the farm bureau members of the McDonough and Fulton County Farm Bureaus was held at Vermont Monday evening, May 3, to consider the organization of a Farmers' Elevator Company. It was decided that an organization capitalized at \$50,000 be formed." - Doneghue, McDonough County.

"A Farmers' Elevator Company was organized by the farmers in the vicinity of Voorhies this week. The company is backed with a subscription of \$20,000. This is the thirteenth farmers' elevator company to be organized in this county." - Burwash, Piatt County.

"The first livestock shipping association in Livingston County was organized Saturday evening, May 1, at Forrest. Forty-four farmers signed as members to the 'Forrest Shipping Association'. It is expected that the Forrest Shipping Association will ship not only from Forrest but also from Wing and it is probable that the membership will be greatly increased." - Allison, Livingston County.

LAND PROBLEMS

Land values in the United States have increased almost without interruption for more than two generations. For the United States as a whole the average per acre value of land and buildings as reported by the census was \$11.14 in 1850; \$16.32 in 1860; \$16.26 in 1870; \$19.02 in 1880; \$21.31 in 1890; \$19.81 in 1900; and \$39.60 in 1910. Every census period, with the exception of the one from 1890 to 1900 has shown an increase in the value of land and buildings.

For the entire 60 year period from 1850 to 1910 the average per acre value of land and buildings increased more than $3\frac{1}{2}$ times. The census of 1920 will, no doubt, show a further substantial increase in the value of farm lands in the United States as a whole.

For the East North Central section including the states of Ohio, Indiana, Illinois, Michigan, and Wisconsin, the average per acre value of land and buildings increased from \$13.38 in 1850 to \$75.25 in 1910, i.e. more than $5\frac{1}{2}$ times during the 60 year period.

For the West North Central section including the states of Minnesota, North and South Dakota, Nebraska, Kansas, Iowa, and Missouri, the increase was from \$6.40 per acre in 1850 to \$49.92 in 1910, i.e. an increase of nearly 700 percent.

For the state of Illinois the increase was from \$7.99 in 1850 to \$108.32 in 1910. That is, the average per acre value of land and buildings for Illinois farms increased more than $13\frac{1}{2}$ times during the 60 year period from 1850 to 1910.

It is obviously true that the average per acre values of the farmer's land and buildings for the various dates given do not represent altogether accurately his increases in wealth. During this period, the average size of farm for the United States as a whole decreased from 202.6 acres in 1850 to 138.1 acres in 1910. In the East North Central section the average sized farm decreased from 136.3 acres to 105. acres during the same period. In Illinois the decrease was from 158. acres in 1850 to 129.1 acres in 1910. Altho the West North Central section reported an increase in the average size of farm, from 180 acres in 1850 to 209.6 acres in 1910, the general tendency during this period was toward smaller farms both for the United States as a whole as well as for most individual states. This reduction in the size of farms was upon the whole relatively unimportant, however, when compared with the increases in their value per acre. That is, the decrease in the acreage size of the farmer's holdings was much more than offset by the increases in the value of his land per acre.

These increases in the average value of land per acre continued during nearly all of the period from 1850 to 1910 in spite of the fact that a great expansion in the farm area was taking place. That is, a great number of acres of new land having only a nominal or small value were being added to the farm area during each ten year period. Under these conditions the increase in value per acre for any given farm was likely to be more rapid than for groups of farms to which new areas of cheap or free land were constantly being added. We need only to note in this connection that the number of acres of farm land in the United States increased from 293,560,614 in 1850 to 878,798,325 acres in 1910. It is also important to note that while the numbers of farms increased from 1,449,073 in 1850 to 6,361,502 in 1910 that the total valuation of all farm land and buildings increased from \$3,271,575,426 in 1850 to \$34,801,125,697 in 1910. That is, while the number of farms was increasing 339%, the total value of the land and buildings increased by 943%. The more detailed discussion of how these increases in land values have affected representative local areas as well as individual farms will appear in the next issue of the Messenger. - W. F. Handschin.

1. The first part of the report
describes the general situation
of the country in 1950.
The second part describes the
situation in 1951.

3. The third part describes the
situation in 1952.
The fourth part describes the
situation in 1953.

5. The fifth part describes the
situation in 1954.
The sixth part describes the
situation in 1955.
The seventh part describes the
situation in 1956.
The eighth part describes the
situation in 1957.
The ninth part describes the
situation in 1958.
The tenth part describes the
situation in 1959.
The eleventh part describes the
situation in 1960.

The Extension Messenger

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No. 20

The Schuyler County Farm Bureau has employed Mr. G. E. Gentle as Farm Adviser for that county. Mr. Gentle was brought up on a farm in Knox County. After graduating from high school, he managed, with his brother, a farm of 280 acres for two years. Since graduation he has been connected with the soil survey in Illinois. He expects to begin work June 1st. His headquarters will be at Rushville.

Mr. Frank N. Barrett has been employed as assistant adviser in Pike County. Mr. Barrett graduated from the College of Agriculture, University of Illinois, in 1917. He is at present with the University of Kentucky, but will take up his new work in Pike County on June 1.

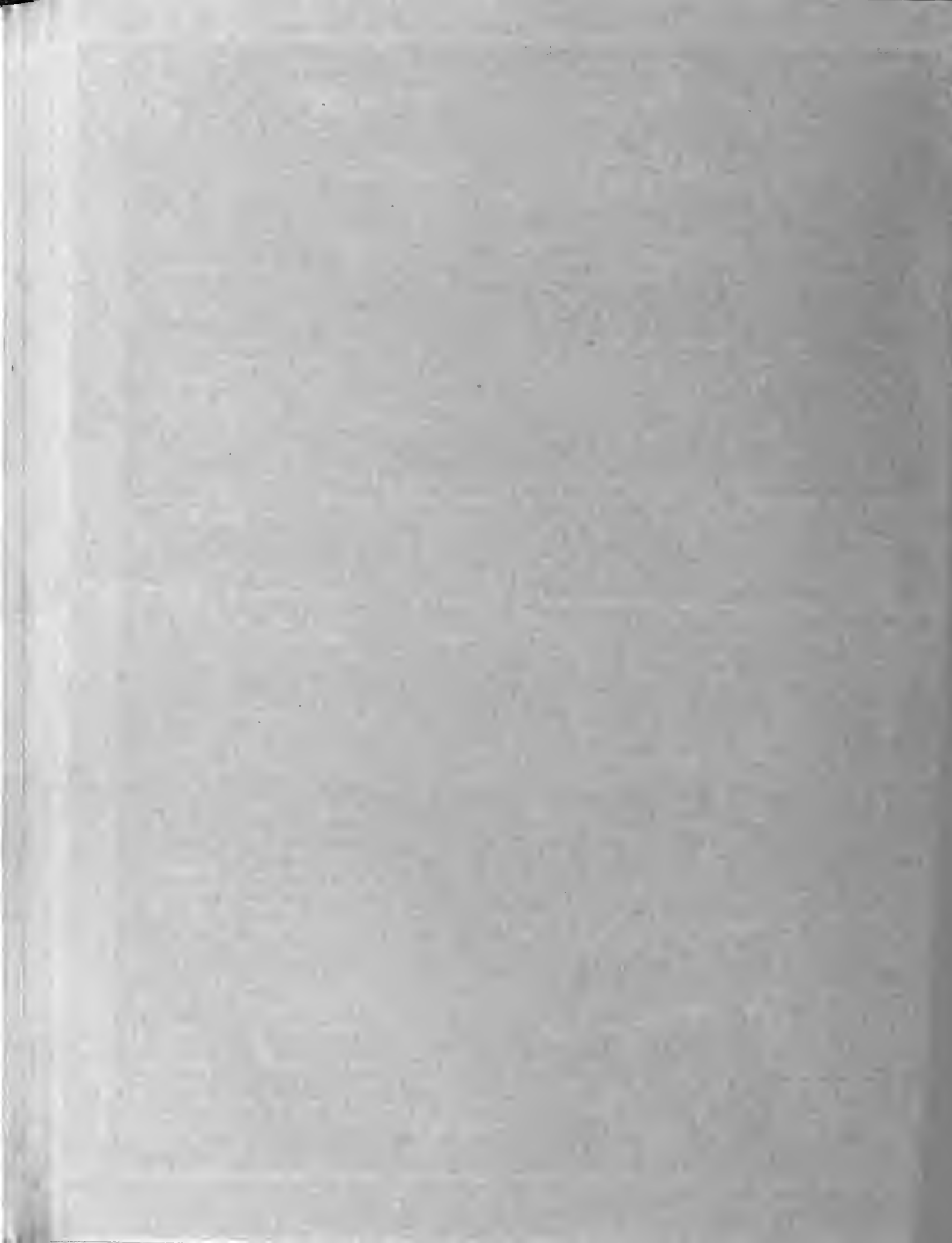
Do you want Agricultural College men who are born and bred farmers to come and work on the farm this summer? We are informed that a number of men who have been reared on a farm and know how to do farm work, are desirous of going to work on good farms this summer. They can begin about June 10. Some men desire positions on farms which handle considerable livestock. Address, Dept. of Animal Husbandry, College of Agriculture, Urbana, Illinois.

Wild Onion Flavor in Cream. - "Farm Bureaus should warn their members that are producing cream that there is great danger, especially at this time of the year, of cream becoming contaminated with the flavor of wild onions. This contamination is due to the cows eating the succulent tops of wild onions that infest pastures.

There is no method for eliminating this flavor from cream and it will be transmitted to the butter. There is difficulty in marketing onion flavored butter, and it must be sold considerably below the market price for good butter. If the cream producer can not keep his cows from eating wild onions by temporarily fencing off the onion infested areas of his pastures, he must be content with selling his cream as a second grade product at a lower market price than is paid for first quality cream." - H. A. Ruehe, Dept. of Dairy Husbandry, University of Illinois.

"Spring Conditions Affecting the Cream Producer", is the title of a four-page circular (#195) reprinted by the Illinois Experiment Station which treats in detail the chief troubles affecting quality of cream at this time of the year.

"The first Livestock Survey conducted by the Illinois Agricultural Association in cooperation with the local Farm Bureau has been under way in Knox County for about a week. To date, it seems evident that the farmers are going to respond in a splendid way, to the request for the information asked of them." - Bracker, Knox County.



LAND PROBLEMS.

"This farm has been in the family just 62 years, almost exactly two generations. My father bought it in 1858 for \$12.50 per acre. In 1889, after farming it for 31 years he sold it to me for just six times what he paid for it, or \$75 per acre. I have now farmed it another 31 years. In order to sell it for six times what I paid for it I should have to get \$450 per acre. I have recently been offered \$400."

The above remark was made by Mr. S. S. Chapman of Carthage, Illinois, to the students of the Farm Management classes on their recent field trip to visit the farms of some of the cost accounting cooperators in Hancock County.

Mr. J. H. Lloyd, the county farm adviser who stood near by, contributed the significant comment, "And if he doesn't want to sell he better not offer his land for \$450."

All who are somewhat familiar with the history of land prices in the corn belt will appreciate at once that Mr. Chapman's case is not an unusual one. As far as the increases in land values are concerned it is in fact somewhat typical.

We pointed out in last week's Messenger that the per acre value of land and buildings in Illinois had increased more than $13\frac{1}{2}$ times during the 60 year period from 1850 to 1910. If we study the increases in the value of land and buildings for some representative Illinois counties during the 50 year period from 1860 to 1910, we find that such increases range all the way from 200% to more than 850%. These increases are based on the average per acre value of land and buildings for all of the farms in the counties under consideration. In Champaign County, e.g., the increase during the 50 year period amounted to 737%; in McLean County 752%; in Iroquois 856%; and in Kane and DeKalb, two somewhat typical northern Illinois counties, 276% and 475%, respectively.

If we analyze these increases from the standpoint of the rate of interest earned as a result of such increases in the value of land and buildings, we get some further illuminating results. In Champaign County, e.g., the average per acre value of land and buildings was \$17.99 in 1860 and \$190.52 in 1910. This increase amounts to $4\frac{1}{2}$ % compounded interest compounded annually for each of the 50 years from 1860 to 1910. In McLean County the increase amounted to $4\frac{1}{2}$ % compound interest for the same 50 year period. In Iroquois County the increase was from \$13.53 to \$129.37 during the same period. This increase amounted to 5% compound interest for the 50 year period under consideration, being the highest for any county in the state. For Kane and DeKalb Counties the rate of compound interest amounted to 3 and 4% respectively, for the 50 year period. In Hancock County the increase amounted to almost 3% compound interest during the same years.

The figures just given do not take into consideration the further increase in value which have taken place since 1910. When the 1920 census figures become available they will no doubt show a very considerable increase in land value as compared with those reported for 1910.

We pointed out in an earlier article that "Practically all studies of farm earnings show that the average farm business in ordinary times does not earn more than 3 or 4% on the investment based on the current selling price of land." In view of the increases in land values amounting to from 3 to 5% compound interest over a considerable period of years, we can readily understand why farmers in the sections where land has been steadily advancing have been willing to accept a low rate of interest in so far as the direct earnings has been concerned. It is evident that farmers in general have been willing to accept as a part of their return the anticipated increase in the value of their land. Another way of saying

the same thing is that farmers have been willing to pay more for land than was justified by its net earnings, because they expected it to increase both in net earning and in selling value. Up to date this expectation has been realized in most sections of the United States, particularly for the more productive lands. The question of how much further land will increase in the United States the writer must leave to the "oui-jai artists".

Cost accounting studies carried on during the past 7 years do, however, throw significant light upon the question as to how far the present prices being paid for land are justified by their net earnings during the period covered by these studies. This question will be discussed in the next issue of the Messenger.

-W. F. Handschin.

"Farm visits made this week at the farms of members near Clinton revealed a large amount of first class demonstration material upon their farms that will be useful later in the season, which will convince the most conservative farmers that new methods of handling land, crops, and livestock are great improvements over the old time ways." - Robbins, DeWitt County.

"Most of the farm visits have been to look at fields of wheat. So far the condition has not materially changed. The fields sown after the fly free date are looking pretty good and the fields sown before that in most instances are not good enough to leave. I secured a photograph of a field where the man had sown part of the field September 27 and then finished on the 29th, which shows a distinction between the wheat sown on the 27th and that sown on the 29th." - Higgins, Moultrie County.

"Lore Rain, Lore Mud. In spite of mud and rain, managed first sale of the Illinois Brown Swiss Association. Sold 31 head for \$8295. Females averaged 1383. bulls 1144. One heifer sold to Brazil." - Starr, Tazewell County. (Report of April 29, 1920.)

"Very little oats were sown in this county as the ground continued too wet for seeding until it was too late. Some report that in some sections where oats had been seeded the seed was rotting in the ground, while others, in other sections, report the oats as looking fine." - Gougler, Adams County.

"Some corn was planted before this heavy rain and the men are worrying as to whether they are going to have to plant it over or not. It is probable that some will have to as the rain was heavy enough so that water stood for some time in a great many fields. In fact in some fields water is still standing today. This is not surprising considering the amount of the rainfall, which was four and a half inches according to the standard gauge." - Higgins, Moultrie County.

"Owing to scarcity of feed many cattle are going on grass too early and as a result there is an unusually large number of very thin cattle in the country. Heavy losses among spring pigs partly caused by bad weather conditions. Less than half the usual number will be grown." - Snyder, Ogle County.

"Millet, Sudan Grass and Fape seed are in big demand this year. A mixture highly recommended by men in a community where it has been extensively used is - Millet - 2 pks. or slightly less, and about 1 peck stock peas. It is almost sure to give a large amount of valuable feed, say the men who have tried it." - Thomas, Jackson County.

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Wool Boxes Not Best for Tying Fleeces. - "In various parts of the state our sheep men are using wool boxes for tying their fleeces. While a beautiful package is made by this method of tying, the results are not entirely satisfactory. In the first place, this kind of tying requires more twine than is necessary and in the second place the wool is pressed together so tightly that it does not show the life or "loftiness" that the buyers for the mills like to see. When graded into large piles in the warehouse, wool appeals most to the buyer when the bright side of the fleece, that is, that part lying next to the skin, is exposed and either is very loosely tied or not tied at all. Seven and one-half feet of twine is enough for tying the ordinary fleeces, and in such tying the string will be wrapped about the fleece but twice." - W. C. Coffey.

Getting the Wolves. - "A farmer brought five or six wolves to town the other day and I know of ten or fifteen other young wolves that have been captured recently. I also have on my desk at the present time, letters from four farmers who have had sheep losses from dogs to the extent of \$500 or more and have not been reimbursed for them." - Kercher, Pike County.

"Our shearing pool has been operating for a week. We first learned from the assessor's books the names of something over 500 farmers in the county who owned sheep, then wrote them a letter about the shearing pool. We also sent a list of the sheep owners in the township to the director of that township and asked him to appoint a chairman of the shearing pool. This chairman learns who was interested in having his sheep sheared by this plan. We engaged the best shearer we could find in the country, and as soon as weather and roads permitted, started him on his route. We keep a number of sheep owners ahead notified by telephone as nearly as possible when the shearer will arrive. In this way the sheep are always ready and no time is lost. We also carry wool twine, sacks and a sacking stand. So far the plan is working out entirely satisfactory to all parties concerned. It is not a particularly scientific piece of work, but a service which saves time for all the sheep owners and makes it possible for the shearer to cover much more territory because of his losing no time." - Brooks, LaSalle County.

Fair Grounds for Experiment Plots. - "We have laid off fourteen tenth-acre plots on the land enclosed by the track at the Henry County Fair Grounds. These plots will be ploughed soon and all but two which will be check plots, will be given a treatment of two tons of limestone and one ton of rock phosphate per acre. The treatment and plots are so arranged that it will give us a means of comparing any crops grown with regard to no treatment, limestone alone, phosphate alone, or with a treatment of both limestone and phosphate. It is planned to grow nine varieties of alfalfa on 12 of these plots. The other two plots will be sown with twenty different varieties of soy-beans and the new annual sweet clover from Iowa placed in rows twenty-eight inches apart." - Montgomery, Henry County.

LAND PROBLEMS.

"If the price of farm land were based solely on its net earnings, how much would it sell for? Since we lack exact accounting information regarding the net earnings of most land, we must answer the question in so far as it can be answered, on the basis of the farms for which such information is available. The detailed accounting studies conducted on the Hancock County farms during the past seven years furnish a basis for determining how much the land in these farms is worth when measured by its net earnings.

While the earnings of these farms are not to be regarded as typical of all farms, they may be considered as somewhat representative of the most efficiently operated farms in the general region in which they are located.

If we study the Chapman farm, discussed somewhat in our last article, we find that the average net earnings after deducting all operating expenses including the labor wages of the proprietor, have been \$24.02 per acre for the seven year period, 1913 to 1919 inclusive. If we capitalize these earnings at 5% the value of this farm would be \$480.40 per acre. The earnings for the last three years of the period under consideration have been still higher. During this three year period the net earnings per acre averaged \$35.12 per acre. Capitalized at 5% these earnings would make the land worth \$702.40.

If we study another of these farms consisting of 320 acres, practically all tillable, we find that the average net returns has been \$21.16 per acre for the seven year period. For the last three years the average net return has been \$37.80. On the basis of these earnings the value of the land would be \$423.20 per acre if we capitalize at 5%, the average earnings of the entire seven year period, and \$756. if we capitalize the earning of the last three years.

A third farm, consisting of 320 acres, 160 in permanent pasture, had net earnings of \$16.07 per acre as an average of the seven year period, and \$25.56 per acre for the last three years. Capitalized at 5% this land would have been worth \$321.40 based on the earnings of the seven year period, or \$511.20 on the basis of the earnings of the last three years.

While the returns for other farms included ranged both above and below those just cited these three farms were quite typical of the entire group from the standpoint of their net earnings over the seven year period. Other less detailed accounting studies which have been carried on with a considerable number of farms thruout central Illinois during the past five years, indicate that while farm earnings generally have ranged considerably below those made by these Hancock farms, they have been considerably higher during the past two or three years than they were prior to this period.

Evidently the high prices paid for land during the summer and fall of 1919 have been based upon its earnings during the past two or three years rather than upon the earnings of a longer period. Such prices would seem to be justified only on the assumption that the farm earnings of the past two or three years, which appear to have been considerably above the normal, will continue for some time in the future. Inasmuch, as we have no assurance that such will be the case, the extreme prices paid for land during recent months are to be regarded as somewhat speculative investments.

While it is true that the Hancock County farms studied have made a fair return on valuations ranging from \$400 to \$500 per acre for land which is all tillable as an average of a seven-year period, we must also bear in mind that

these earnings were made possible only thru the application of somewhat unusual management skill on the part of the operator. If we should assume that the operators of these farms are entitled to more than the usual labor wages because of the somewhat unusual management skill we should have to deduct as a part of the operating expense something for the wages of management. Under these conditions the net returns credited to the investment in land and buildings would be smaller and the capitalized value of the land correspondingly less. This question will be discussed in the next issue of the Messenger." - W. F. Handschin.

Ogle County Bureau Votes to Investigate all Selling Schemes. - "Ogle County in common with many counties in Illinois has been infested with salesmen selling everything from oil stock to enlarged photographs. In one community alone from 50,000 to \$75,000 worth of questionable stock was sold.

Farmers of the county decided at the farm bureau meeting last Saturday that it was time to take some action to curtail this annual loss. Three general ideas were brought out. First, there are plenty of opportunities for safe investments at home. Second, any legitimate proposition can be financed thru the usual channels used by business concerns. Third, if farmers will investigate before instead of after signing on the 'dotted line', and thereby head off one half the questionable investments they make, the farm bureau could lock their doors, send their adviser on a vacation and still save thousands of dollars to the county.

As a result of the discussion an investigating committee of three members was appointed to investigate every proposition offered to farmers in the county. Every farm bureau member will be advised and urged not to invest in any proposition offered by agents until the investment has been thoroly investigated by the committee. A confidential report will be made to farm bureau members, thereby giving them a basis in determining the action they wish to take. The Secretary reported that a similar plan was used in the city of Oregon, Ogle County, and had not only saved merchants hundreds of dollars, but also had decreased the number of unscrupulous salesmen calling on merchants." - J. D. Bilsborrow.

"Chinch bugs are getting out into the wheat. Have not seen much damage, but as the wheat is so thin, am afraid they will seriously injure the poor stand we have on most of the fields. They have been flying every day the sun comes out bright and warm." - Blackburn, Marion County.

Similar reports are coming from all counties in the infested section.

Rain, wet fields, delayed crops. - those few words sum up the story of anguish in the mind of the Illinois farmer this spring. Where? Oh! everywhere, anywhere in Illinois, North, South, East, or West. An abnormal amount of rain, continued over weeks of time when crops should have been planted, has brought about decreased acreage of oats, spring wheat and corn. Much corn will be planted too late--especially in southern Illinois, where drought and chinch bugs enter in to limit yields.

Adviser for Boone County. - The Boone County Farm Bureau has decided to employ Mr. James C. Kline as Farm Adviser. Mr. Kline was brought up on a farm in Indiana, graduated from Purdue University, taught agriculture for two years after graduation, then took up county agent work and has spent three years in this work in Indiana and Missouri. He is at present County Agent in Stoddard County, Missouri. He expects to take up the work in Boone County on June 15. The office will probably be located at Belvidere.



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Army-Worm. "Adults of the army-worm were abundant this spring during the first week in April, and again from about the 22nd to 25th, the period of scarcity between these two dates being due to cold weather. Eggs were laid during both the periods of abundance and have been hatching for the past two weeks in the south and south central counties; worms are now generally abundant and causing some damage in these counties. They may be looked for in considerable numbers in the central part of the state during the present week, and in the north central part during the week following. In many localities moths of the army-worm were more abundant this season than in 1919. During the next two weeks close observation should be kept on blue grass pastures, timothy meadows, rye and wheat fields, and if young worms are found, prompt control measures should be taken. From present indications the worms will be fully as abundant as last season and serious damage can only be prevented by poisoning or preventing the migration of the worms before they have become full grown. In Natural History Survey Circular 7, which has just been sent to all advisers, measures for control that have been found most effective in this state are given." - W. P. Flint.

"Army worms are very bad here now. We have been spending a good deal of time the last week helping farmers to combat them. I find that where farmers do as we direct them to do, they are able to keep them out of their corn, but it is hard to get them to do just as you tell them. As a rule I do not think army worms do much damage to wheat, but the wheat is not so far advanced this year as it usually is when army worms make their appearance. I cannot help but think that they will do wheat considerable damage this year." - Tate, Monroe County.

"The grasshopper, the army worm and the chinch bug are waiting for our corn crop to come up. A large amount of this crop will be in the ground by June 5." - Pollock, Edwards County.

Everything Against Corn Crop.- "In many respects this is one of the most disastrous corn seasons the county has ever experienced. Excessive rains, abnormally low temperature, chinch bugs and army worms, although of conflicting interests, seem to work in harmony to defeat the corn crop. We are recommending 90 day corn on fields that have to be planted over." - Tillman, St. Clair County.

Ninety Day Corn.- "The farm bureau is advising the farmers of the county to plant Reid's Yellow Dent or similar varieties of corn up to June 5, but after that date, a 90 day variety. A quantity of early maturing corn which we are sure will produce well in the county has been purchased. Many farmers are leaving orders for this corn." - Madden, Sangamon County.

"Interest in the county wool pool is increasing daily. Men opposed to the pool last year are coming in this season without solicitation." - Center, McLean County.



Whitchurch succeeds Price in Saline County. - The Saline County Farm Bureau has secured Mr. J. E. Whitchurch as adviser, to take the place of Mr. Price, who has accepted a similar position in Kendall County. Mr. Whitchurch was brought up on a farm near Centralia, Illinois, and since graduation from the University of Illinois in 1910 has been Superintendent of a group of experiment fields in south-eastern Illinois. He expects to take up the work there just as soon as satisfactory arrangements can be made to take care of the work of which he now has charge.

Mr. Price will begin work in Kendall County on June 15th with headquarters at Yorkville. Kendall was organized last December by local farmers, who secured 961 members in two days, - a record for a membership drive up to that time.

John E. Watt has been employed as assistant adviser in Fulton County. Mr. Watt was born in Illinois, reared in Kansas and graduated from Kansas Agricultural College. He received his B. S. from the Oregon Agricultural College, and since that time has been in Farm Management, County Agent and Agricultural Extension work in the states of Oregon, Wyoming, and New Mexico. Mr. Watt was to take up his work at Canton, Illinois, on June 1.

W. S. Brock appointed Departmental Adviser in Horticulture. While Mr. W. S. Brock has been serving in the capacity of Departmental Adviser in Horticulture and has been doing some splendid work in the field, we were unable to announce his formal appointment to this position until this time. Mr. Brock is giving definite aid to the farm advisers in spraying, pruning and other horticultural projects and he hopes to visit every adviser in Illinois during the year. If you have need of any definite service, write Mr. Brock personally in care of the College of Agriculture.

"The Effect of Latitude on Horticultural Problems. - In giving advice relative to sprays, planting dates, varieties of fruits, vegetables, etc., it should be remembered that the state is approximately 400 miles long which gives a variation in the advance of the season between Cairo and Rockford of about 30 days. We may, therefore, allow about one day for each 13 miles of latitude in calculating the difference between given points. Because of these facts the horticulturist has somewhat arbitrarily divided the state into three divisions known as the northern, central and southern divisions, divided as follows: An east and west line drawn between Mercer and Rock Island on the west and Kankakee and Iroquois on the east separates the northern from the central, while the north line of the southern division is between Pike and Calhoun, Edgar and Clark. This statement will assist the different divisions in preparing information on the development of fruit insects and their control." - W. S. Brock, and W. P. Flint.

Feeding Farm Horses. - "Regularity in kind and amount of feed, frequent watering, access to salt, regular exercise, and kindness, make for horse health. Work horses which are stabled at night appreciate a drink about 9 o'clock. The practice of watering everything in the stable when the last round for the night is made, is a good one. The horse is not a suitable animal through which to market damaged, musty, dusty hays or grains. Horse feed should be sound and clean. Where there are a number of teamsters, it is usually a mistake to allow each one to feed his own team, and in all stables, it is advisable to hold one man responsible for all of the feeding. It is always a good rule to feed hay to an empty manger, i.e., to insist that everything which is edible be cleaned up. Work horses do better when approximately one-half of the hay is fed at night and the balance divided between the morning and noon feeds. Idle horses require very little grain when good roughage is fed in abundance. Bulky rations are the best for the idle horse. Feed only enough grain to maintain proper condition. Hard-worked horses, when idle, should have their grain ration cut in half, and strict adherence to this practice would save much money for team owners." - J. B. Edmonds.

LAND PROBLEMS.

All investigations on the subject of farm earnings before the Great War, seem to show that farmers were, on the average, making returns ranging from about 3 to 4% on the current selling value of the land. Practically all such studies also showed that while a considerable number of farm operators were earning less than 3%, that in every area studied there was always a certain proportion of farmers who were making from 6 to 10% and in exceptional cases even more. In fact all studies of farm earnings, both before 1917 and since that date, seem to show rather wide fluctuations in the earnings for individual farms. Whether the average earning be 3, 5, or 8%, there is always a considerable proportion of farmers in every fairly large group, whose earnings range from 50 to 200% higher than the average. Such increases in earnings above the average seem to be nearly always due to somewhat unusual management skill.

Because of the fact that special management skill seems to be, in the main, necessary to make returns much above the average, and because of the size of the farm business in the corn belt section, it seems only reasonable to assume that farmers who can handle these relatively large business units and make a fair return on them, are entitled to some wages for the management skill applied, as well as for the actual labor performed. Men who can successfully manage business units with investments ranging from \$40,000 to \$100,000 cannot be secured in any other line of business without adequate compensation. It would seem only reasonable, therefore, to assume that men who can do this in agricultural production should be rewarded somewhat in proportion to what equal ability would command in other lines of industry.

We have already pointed out how, thru a lack of accounting facts, farmers have tended to overestimate the net earnings of land and therefore tended to overcapitalize it. Before farm land can be accurately valued and prices fixed in accordance with principles of sound business procedure, farmers must know more accurately what the actual net return of their business really is. In order to do this, all important items of expense, including the labor of the farmer or that of any member of his family must be deducted from the gross income. Depreciation on land, buildings, machinery, breeding stock, and other similar items of expense frequently overlooked entirely, must also be taken into consideration. In cases where more than a fair current rate of interest is earned on the investment after taking into consideration all items of operating expense, the question of deducting a reasonable management wage before proceeding to capitalize the net returns, must be considered. All of this necessarily involves a number of complex and difficult problems, which we are as yet not prepared to answer even fairly satisfactorily. The really important considerations seem to be that we recognize these elements in the situation and proceed to work out the problems involved with these important factors in mind. What is apparently needed most is, (1) that we make as good an analysis of the problem as we can make at the present time, and (2) that we undertake on the largest practicable scale, investigations which will give us the facts necessary to somewhat scientific procedure in placing a value on our farm lands." - W. F. Handschin.

The summer meeting of the farm advisers will be held at Urbana, June 17 and 18. The regular sessions will be held in Morrow Hall and a trip to the Experiment Field will be arranged. The definite program will be out next week.

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Larger results may be obtained by winding the clock than by moving the hands.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. III

June 9, 1920.

No. 23

Visiting Excursions to the University. County Advisers are beginning to lay plans for excursion trips to visit the University Experiment plots and fields. A few facts concerning the arrangements will no doubt be appreciated. All those planning such trips should correspond directly with Mr. W. H. Young of the College of Agriculture. It is planned to hold only one excursion on any day. The trip should begin in the morning as early as possible. There will be no schedules arranged on Commencement Day or on any Saturday as it is difficult for Heads of Departments and other men in charge of the experimental work to be present on Saturdays to explain the experimental results. Mr. Young wishes to know what any group will be interested in so he may carefully arrange details of the trip with guides and Heads of the Departments. A number of dates are already reserved. Other reservations should be made at once.

"Soy Beans for Seed. Many farmers are preparing to grow soybeans for seed this year for the first time. Care must be taken to keep down the weeds, otherwise the soybean seed crop is going to be disappointing. Seed produced in a mass of weeds and weed grasses is nearly always small and frequently inferior in quality. The time to prevent this injury is before these weeds get a start. The best method of handling the crop when seeded solid is to cultivate with a rotary hoe. If this is not available a light spike tooth harrow is perhaps the next best implement available. At times a weeder or a spring tooth alfalfa cultivator is used to advantage.

Soybeans seeded in rows are, of course, easier to keep clean, the work of cultivation being done with common corn tools. The first cultivation after the beans get above the ground can be made with a harrow and when the weeds begin to make their appearance again a good thorough plowing with the corn cultivator will usually discourage them so thoroughly that they will not require more than about one additional cultivation during the season." - J. C. Hackleman.

Adviser for Wabash County. "Mr. F. A. Fisher has been employed as farm adviser in Wabash County and will take up his work on June 16th. Mr. Fisher was born in Cumberland County, Ill., graduated in agriculture at the U. of I. in 1911 and has been connected with the soils work at the University and with the State Soil Survey of Illinois since 1910. His new headquarters will be Mt. Carmel.

New assistant advisers. - Mr. Wilfred Shaw has been employed in Peoria County, and Mr. L. S. Foote in Hancock County. Both are farm reared and graduates of the University of Illinois and both will take up their new work as assistant adviser about June 21st.

"More Limestone. The number of limestone orders that we have taken this week shows that the farmers are still hopeful, 35 ears booked this week." - McGhee, Johnson



Army Worms damage corn. "There has been a serious outbreak of army worms throughout the county. We are fighting them with ditches and the poison bran mash. Many pastures and meadows have been seriously damaged or ruined. A few farmers have had their corn seriously damaged by these worms before they knew of their presence." - Eyman, Jersey County.

"Army worms have destroyed a few corn fields and have been especially active on heavy growing patches of wheat, and particularly winter barley. One field of winter barley was noted where army worms had done a great deal of damage and were marching out into the clover and corn. In another case, one of our members had plowed a furrow with straight sides and post holes in the bottom thus catching thousands of the worms and preventing any damage whatever to his corn field." - Doerschuk, Randolph County.

Wire Worms. "Corn on land second crop from clover sod is being replanted on account of wire worm damage. Worms seem to be active nowhere but in fields of this sort. Examination of two fields the past week showed as high as five wire worms to the hill. Some corn root rot is present in every field of corn yet examined Center, McLean County.

Corn Planting not Done. "We still have a lot of corn to plant and the ground is so saturated that most fields are still unfit to work. June will be far spent before all the planting is finished. The demand for ninety-day corn is on the increase. We have already placed orders for a number of bushels of early maturing varieties. Substitute crops are also being planted." - Phillips, Greene County.

Communities and Elevators Handle Twine. "Three farm bureau community organizations are unloading a carload of binder twine totaling 35,955 lbs. The forming of this pool and the fact that several farmers' elevators in the county are handling twine, has standardized the price in the county." - Doneghue, McDonough Co.

Will pool wool rather than take 35¢. Not much interest was manifested by our farmers a while ago when Professor Coffey was in the county to discuss sheep and wool problems. However, when they were ready to market wool and found the price so low, 35¢ to 38¢ they rose up in arms and expressed a desire to pool the wool and ship cooperatively to the National Wool Warehouse and Storage Company. One of our biggest sheep men kindly offered us the use of a warehouse and we have made arrangements to receive wool at this place on the three following Tuesdays. Something like 1000 or 1200 fleeces have been tentatively promised for the pool." - Logan, Crawford County.

"Prices offered for wool by local buyers run from 35 to 40 cents per pound, mostly one quarter blood Shropshire wool. Judged by some markets this would seem to be about as much as would be justified but quite a number of our farmers desire to pool their wool by the plan worked out by the I. A. A. and farm bureaus. Just how much will be pooled remains to be seen but plans are pretty well made for pooling." - Logan, Crawford County.

Shipping Association working well. "We are highly pleased with the way our shipping association has started off. It has only been organized about three weeks and 15 cars have been shipped up to date. We find that it is much easier to get the shipping association into working shape in a short time by having no membership fee and by giving the privileges of the association to all farm bureau members free of charge. We have a sinking fund which takes care of our general expenses and \$5 yearly dues is charged to non members of the farm bureau." - Isaacs, Mason County.

"The corn crop is going in very late this year. We should profit by previous costly experiences, and should keep back some good seed corn. If we are unfortunate enough to have an early frost this fall, we will most certainly have a large amount of soft corn. Under those conditions we may expect a great deal of trouble in getting seed for the spring of 1921. Many farmers have excellent seed corn which they can put away now and hold over as a reserve seed supply. This would be good business in the light of past experience." - J. C. Hackleman.

Clipping sweet clover with a grain binder is the new plan in progress at the Dr. Hopkins Farm. Adviser Blackburn says, "A mower could not be raised high enough to clip it. Even with the binder it may be killed in some places." The sweet clover was elevated in the regular way through the binder but no twine was used. The bundles were kicked out continuously and had it not rained the manager planned to turn over these bunches allowing them to cure sufficiently for storage in the barn. We would be glad to know of any counties who have experimented with clipping sweet clover in various ways and the result obtained.

"A mixed pasture seeding consisting of sweet clover, alfalfa, red clover, and timothy has resulted in a predominate growth of sweet clover which was between three and four feet high when visited last week. Due to a shortage of hay on this farm it was decided to cut this pasture mixture for hay even though there was a risk of injuring the sweet clover." - Hedgcock, Peoria County.-

Since the sweet clover was clipped at least a week later than it should have been, we will be glad to know of the outcome, as the clipping proposition is one about which we need considerable more information. - Ye Ed.

"The feed situation in Randolph County is being helped a great deal by first cutting of alfalfa. The cool wet spring has made a heavy crop of red clover and alfalfa as well as a good growth of pasture. Livestock in the county was certainly in need of feed as it has been very difficult to get corn on account of the railroad strike. Farmers are going to sow a larger alfalfa acreage this year than ever before." - Doerschuk.

"Raw rock phosphate is showing its worth on the yield of alfalfa hay here this year. Phosphated fields, in some instances, grew more alfalfa per acre than I ever saw grown in the corn belt, unless it was, perhaps, on the phosphate plots at the Urbana Station. Four cars phosphate ordered to date and more orders in sight. Some has been spread in sweet clover and plowed down." - Thomas, Jackson Co.

Soy Bean Hay grows good Percherons. "On the farm of one Percheron breeder I saw Percheron horses which had never had any other hay but soy bean hay. The yearlings and two year olds, and also the mature horses raised in this way, bear every evidence of having been abundantly and suitably nourished. This man has raised soy beans as part of his rotation for many years." - Robbins, DeWitt Co.

Paid to Fall Plow. - "Despite the fact that we had an exceedingly late season for small grain this year, it is doing splendidly. There was more corn up this year on the first of June than I have seen for several years taking the county as a whole. The reason for this is the fact that practically all of the farmers in DuPage County plowed the corn land in the fall of the year. I have heard a good many farmers this spring say that this was their only salvation this season, and that hereafter they would always have their land plowed in the fall. I believe that the farmers of the state would be better off if they would plan their rotations so as to do their plowing in the fall." - Heaton, DuPage County.

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June 16, 1920.

No. 24

"Don't! ----- Don't What? Don't bring a party of your best farmers to the University without making arrangements with the Agricultural College in advance!" Disappointment may follow if you do. Farm Advisers are making dates for trips to the University and some are not conferring in advance. If you do so, you may disappoint your farmers and yourself. Because of limited forces at the University, it is practically impossible to properly take care of more than one party a day. If you will write to Mr. W. H. Young, College of Agriculture, and make arrangements for date and other details, you will be provided the very best care and attention possible." - YeEd.

"Winnebago County came back with 980 members in their farm bureau and I. A. A. as the result of a two day membership drive, June 10 and 11. Vice-Director Handschin and President Howard Leonard presented messages of inspiration and visions of the future at the organization meeting June 12. The goal aspired to by the bureau is:

1. Efficient production
2. Intelligent management
3. Economical marketing
4. Equitable legislation
5. The development of an attractive, permanent and more satisfactory rural life." - J. D. Bilsborrow.

Club Booklet Out - Junior Extension Club members are to have demonstrations and exhibits at the Illinois State Fair August 20 - 28, 1920. A very attractive 16-page booklet has been published listing club demonstrations, club exhibits, judging school contests, rules and prizes offered in each. Copies of booklet may be obtained from B. M. Davidson, Secretary State Fair, Springfield, Illinois.

Clipped Sweet Clover Successfully. "I notice in the last Extension Messenger Mr. Hedcock's report on clipping of sweet clover in Peoria County. More of our sweet clover fields were clipped this year than usual and the sweet clover was not hurt but is coming on again, making a fine start. This clipping was done about two weeks ago, or rather late for this part of the state. It was carefully done and the fact that it did not kill the sweet clover was probably partly because it had not made as tall a growth as usual this spring, thus leaving three or four branches on the stubble. Our sweet clover men believe that if carefully handled, they can get a fine crop of hay and also a crop of seed or pasture later from the sweet clover crop. Weather conditions for curing this hay happened to be just right this season, however." - Doerschuk, Randolph County.

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY
5408 S. DICKINSON DRIVE
CHICAGO, ILL. 60637

RECEIVED: JANUARY 10, 1968

TO: THE DIRECTOR, NATIONAL BUREAU OF STANDARDS
WASHINGTON, D. C. 20535
FROM: DR. J. H. GOLDSTEIN, CHICAGO
SUBJECT: CARBON-13 NMR SPECTROSCOPY
RE: REFERENCE TO YOUR LETTER OF JANUARY 8, 1968
AND TO YOUR REPORT OF JANUARY 10, 1968

Enclosed for you are two copies of a report
on the results of our work on the subject of
carbon-13 NMR spectroscopy. The report is
dated January 10, 1968.

Very truly yours,
J. H. Goldstein

Enclosure

cc: Dr. R. M. Waymouth, Stanford University
cc: Dr. R. E. Smith, University of California, San Diego

cc: Dr. J. Drenth, University of Cambridge
cc: Dr. J. Drenth, University of Cambridge

"Interest in the Wool Pool is continuing strong although there has never been a pool in this county before and there are not a great many sheep in the county. We have enough wool listed for a carload and the last two days have had over a dozen men come in to pool their wool after we were ready to close our books." - Davidson, Brown County.

"A large amount of the wool in Edwards County will be pooled thru the Farm Bureau. The local buyers are offering thirty cents for most of the wool. Some towns are offering thirty-five cents. They are not buying very much wool at this price." - Pollock, Edwards County.

"Failure to secure a car at Disco this week made it necessary to postpone loading our second carload of wool. We hope to load out this car and another from Carthage next week. More than 50,000 lbs. of wool have been reported for the pool to date, and more will come unless local dealers boost their prices." - Lloyd, Hancock County.

"A Livestock Shipping Association was recently organized at Oregon and the first shipment was made this week which consisted of a carload of hogs. They brought \$14.95 in Chicago and the expense of shipping was 58¢ per cwt. The local stock buyer said he could not give more than \$13. a hundred for this bunch of hogs. This is another demonstration of the value of organization." - Snyder, Ogle County.

"On fourteen acres of sweet clover near Chandlerville there is now an excellent stand of volunteer sweet clover. This field was pastured heavily last year from the middle of April to the middle of June and sixty bushels of unhulled seed harvested from it in the fall. It was intended to plow this for corn this spring but wet weather prevented this until the volunteer sweet clover loomed up as a better proposition, in which could be pastured more stock." - Dickenson, Cass Co.

"More red clover is now growing in the county than at any time since I have been here and I feel sure that there is more clover growing this year than has ever been grown before. Wherever limestone was applied the clover is certainly fine. Most of it will make at least two tons per acre." - Tate, Monroe County.

Limestone Stumps Labor (In other words Mr. Stumpf is between Limestone and Labor as you will agree if you read Adviser Tate's report). "Mr. Ben Stumpf, one of our members, came into the office the other day and ordered his thirteenth carload of limestone for this year. He remarked that his hired man said he was going to quit for if he had to shovel limestone all the time he might as well work for a quarry where they made it." - Tate, Monroe County.

"Ten days have passed without any rain and since the ground has gotten dry enough to work the farmers have been making good use of their time. A large percent of the corn has been planted but there are still a good many acres of ground which have not even been plowed. Some of the corn is up and looking fine. A considerable amount of ninety day corn is being planted." - Miller, Macoupin County.

"The chinch bugs are very, very serious in the wheat and some of the corn already has been killed by them. Some of the men have plowed up their corn and are planting it to peas. The demand for sunflower seed is getting stronger and I think it is safe to say we will have close to 1000 acres of sunflowers growing in Marion County this year." - Blackburn, Marion County.

A Rural Fire Department. "A community meeting of the farmers of a portion of Jackson Township was called to discuss the advisability of organizing a fire fighting company in that part of the rural community. A fire company was asked to have representatives to demonstrate the different machines at this meeting. A part of the equipment was bought at this time but a later meeting will be called to secure additional equipment." - Hedgcock, Will County.

Increases Capital Stock. - "A meeting of the shareholders of the Woodford County Agricultural Association was held at Eureka, June 10. In spite of the fact that the meeting was called for a day when everybody was busy in the corn fields, we were able to secure a two-thirds vote of the outstanding stock which required the attendance of nearly sixty men.

Without a dissenting vote the shareholders voted to increase the capital stock from \$10,000 to \$50,000. A committee was appointed to look after the selling of the stock, the securing of a site for building and deciding on plans for such a building." - Mosher, Woodford County.

The corn root rot experiment being conducted by the farm bureau in cooperation with Jas. R. Holbert of Bloomington is commencing to show striking results. This experiment has been planted in duplicate in both stalk ground and sod ground and is perhaps the largest Corn Root Rot Demonstration plot in the state. In a recent letter, Mr. Holbert, in speaking of the experiment in Rock Island County says, "I was glad to know that you succeeded in planting the corn root rot experiments in such fine shape and trust that you will be able to continue these experiments so carefully. I hope to be able to visit them sometime during July on my return from Minneapolis. Sometime in August, I would like to visit them again in company with Dr. Johnson and Dr. Humphrey of the United States Department. I am very anxious to convince these people and some others that we have a few county agents and farmers here in Illinois who can conduct a field experiment carefully and accurately. I feel confident that you and Golden are going to measure up to our expectations. I expect to write Golden in detail shortly regarding the data that we wish taken on these plots." (Mr. Golden is one of our live farm bureau members.)" - Edgerton, Rock Island County.

America Soon to Face Foreign Competition. "Statements as to conditions in Belgium put out by a reliable bond house indicate that the industrial and agricultural recovery of that country from the effects of the great war has been more rapid than would have been deemed possible a year ago. Practically all of the railroads that were destroyed have been repaired; sufficient locomotives are in service to handle 60% of pre-war passenger trains and 80% of pre-war freight trains. The devastated area, amounting to less than one percent of total is rapidly being placed under cultivation and agricultural production in 1919 is said to have surpassed the average in pre-war years.

Plans are also under way for developing the Belgian Congo region as a cotton producing area to partially supply the Belgian textile mills. 86% of cotton spindles are in operation and woolen mills are operating at full capacity. Coal production during April 1920 was 105% of production for April, 1913. Steel production is at present only 35% of pre-war output partly due to shortage of coke.

It would seem from the above that the war has had a stimulating effect in making industry more efficient and has thus hastened the recovery." - J. D. Bilsborrow.

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No. 25

The roses of June and Cupid's bow together have conspired in the fates of four Farm Advisers during this month. The lucky ones are Mr. E. B. Heaton of DuPage County, Mr. H. A. deWerff of Franklin County, Mr. T. H. Roberts of DeKalb County, and Mr. R. R. Wells of Warren County.

Summer Conference of Advisers. One hundred advisers, assistant advisers and farmers attended the annual summer meeting of the State Association of Farm Advisers last week. The program was prepared by the Farm Management, Livestock and Horticultural Committees of the Association. The meeting closed Friday afternoon with a tour of the Experimental plots.

Orchard Spraying Information. "Spray for second brood codling moth should be applied from Centralia south July 5th to 10th; Jerseyville and Effingham south to Centralia July 10th to 15th; Quincy and Urbana south to Jerseyville and Effingham July 15th to 20th; from Princeton north July 25th to 30th. First brood worms are present in about average numbers this season and this spray should not be omitted.

In all districts where bitter rot is not expected one pound of dry, or two pounds of paste, lead arsenate should be combined with two pounds of freshly slaked lump lime in each fifty gallons of spray. If lump lime cannot be secured substitute four pounds of hydrated lime. In orchards in southern Illinois where bitter rot has been prevalent, susceptible varieties should be sprayed with 3-4-50 Bordeaux combined with the lead arsenate. This should be repeated at intervals of ten days until four applications have been made. Do not use lime sulfur at this season." - W. P. Flint and W. S. Brock.

"Flag Smut and Take-all. Flag smut of wheat has been found in this country only in Madison County, Illinois. It has spread, however, since last year so that a larger area of Madison County is affected than last year. Some of the fields show as high as 15 to 20% of the plants infected. This disease promises to be a real menace if it is not checked. Flag smutted plants seldom produce heads. The vascular system of the upper leaves becomes filled with the black spores of the smut. These blades later become rolled and die prematurely. At the present time the diseased plants are much shorter than the normal healthy plants and they possess a characteristic leaden color which distinguishes them from the plants that may have died from some other cause.

Take-all is much more limited in extent and somewhat less in severity than last year. It has appeared again in a number of fields in Madison County, in three or four fields in Mason County and is strongly suspected of being in one field in Menard County. Take-all infected plants may be recognized now by their many slender timothy-like blades, their low growth, their late heading and ripening, and their ease of breaking off at the surface of the ground. If Flag smut or Take-all is discovered in other counties notification should be made at once to the Agronomy Department, University of Illinois." - G. H. Dungan.



"Scab and Hessian Fly are showing effects in wheat. One rye field visited yesterday contained about 35% dead and unfilled heads, probably due to scab. New brood of chinch bugs coming out in great numbers. this week, may do considerable damage to wheat if it stays dry." - deWerff, Franklin County.

Hog Losses. "We have had some experience with feeder hogs shipped in from the National Stock Yards, St. Louis. In my opinion a buyer ought to have those immunized against hemorrhagic septicemia as well as cholera if our experience here is worth anything. Some of the losses in some of these shipments were quite heavy." - Kendall, Morgan County.

"Robbers of the Roost. Hen lice are tourists, sojourning on the hen's body and eating only scales of skin, but red mites are highwaymen, hiding in the house by day and sucking the blood of hens or chicks at night. This explains the difference between lice and mites. Mites steal the profits of the poultryman.

Red mites have sucking mouth-parts and suck the hen's blood. They live in the cracks of the woodwork around the roosts, drop boards and nests. They can best be controlled by painting the woodwork with lice paint. Crude carbolic acid and white-wash are excellent when used as a spray over the interior of the house. Carbolinum is widely used." - Connecticut Agricultural College.

"Four Lee County farmers are using 2 tons each of shale potash shipped from southern Illinois, and to be used on one acre to determine the results on corn. This material will be applied to peat or alkali soil, and an acre along side the treated spot will be left separate as a check plot, and report made to the College of Agriculture." - Griffith, Lee County.

"The early Transparent apples will soon be ready to pick and shipments are so uncertain now that orchard men are very uneasy about getting baskets." - McGhee, Johnson County.

"Alfalfa Fields Live Longer When Cut Later. Alfalfa growers in western Kansas who have had the greatest success in maintaining old stands in a condition of profitable production usually cut their hay at about full bloom stage. The same experience holds true in central and eastern Kansas.

Following is summary of Manhattan Kansas Station results: (1) All plots were entering their third season when this work began. After cutting for one summer every time the flower buds were ready to open, the early cut plots were so weakened that they never again yielded as much as the others. From the second year on, the three or more tons of hay credited each year to these early cut plots were from 50 to 85% crab grass and foxtail. It required by one season's cutting at too early a stage to ruin the stand. The feeding value of the hay from this early cutting was, of course, highest of all, for certain kinds of livestock; (2) Cutting at the tenth bloom stage has not yielded as much hay per acre as the full bloom stage and generally means one more time over the field with mower and rake. Grass is now entering the tenth bloom plots but is not in the full bloom plots; (3) Cutting in full bloom has produced the highest yield of hay. Chemical analysis shows that it contains the most crude protein per acre. Considering the slightly higher yield, the absence of grass and saving of labor from one less cutting, and raking, this stage has much to recommend it. The second growth has frequently been smothered off before cutting these plots, and if not, it has frequently been 15 to 18 inches high. There has been no damage whatever from letting it stand. (4) Cutting with seeds forming has produced less hay than earlier cutting. It has not injured the stand."



"A Michigan banker says: 'farm buildings out of repair and needing paint indicate that the owner is slow pay.' Such farms are rated at about one-third of the assessed value for loans. Where the farm buildings are in good shape the rating is one-half.' The president of a middle western bank says that when real estate loans are considered, painted buildings are always taken into consideration in making an estimate. The general appearance of the property surrounding the house and barn and also the fields and fences would be carefully observed. A Massachusetts banker states that it is a policy of the bank to absolutely refuse to loan on farms when the buildings are not kept up and well painted." - Farm Economy Bulletin.

Annual Financial Reports and Salary Certification of Farm Advisers for the fiscal year July 1, 1919 to June 30, 1920 are due early in July. Suitable blanks for recording the data will be mailed to reach all counties by July 1st.

"The DeWitt County Sheep Society was organized on June 12th with a charter membership of sixteen. This was organized for the purpose of improving the flocks in DeWitt County and marketing the production of the flocks to the best advantage. Prices from a number of firms were submitted and it was voted unanimously to pool the wool through the Illinois Agricultural Association the same as was done last year. Prices offered at present were only 35 to 38¢ for grades of wool which the National Wool Warehouse & Storage Company quoted at 50 to 55¢ on the same day." - Robbins, DeWitt County.

"An automobile demonstration trip for Grundy County Farm Bureau members is planned for next Thursday and Friday. We will make one stop in Livingston County, spend half a day at the University, visit Wm. Riegel and J. E. Meharry near Tolono, Frank I. Mann farm at Gilman on return and one of the Kankakee County limestone and phosphate bins." - Longwire, Grundy County.

County delegations scheduled to visit the University during the next week or so are: June 24, Grundy; June 25, LaSalle; June 26, Kane; June 29, LaSalle; June 30, Moultrie; July 1, Tazwell, and Lee; July 2, DeWitt and Woodford.

Roosters should be removed from the poultry flock as soon as the breeding season is over. Those first on the market bring the high prices.

Swat the Early Fly. "The fly's the one to swat. It comes before the weather's hot, and sits around and files its legs, and lays at least ten million eggs, and every egg will bring a fly to drive us crazy by and by. Oh, every fly that skips our swatters will have five million sons and daughters, and countless first and second cousins, and aunts and uncles, scores of dozens, and fifty-seven billion nieces, so knock the blamed thing all to pieces. And every niece and every aunt - unless we swat them so they can't - will lay enough dodgasted eggs to fill up ten five-gallon kegs, and all these eggs, ere summer hies, will bring forth twenty trillion flies. And thus it goes, an endless chain, so all our swatting is in vain unless we do the swatting soon, in Maytime and in early June. So, men and brothers let us rise, gird up our loins and swat the flies! And sisters, leave your cozy bowers where you have wasted golden hours; with ardor in your soul and eyes, roll up your sleeves and swat the flies." University of Idaho.

"Agriculture occupies four-fifths of the laboring population of the land; from the agricultural ranks have sprang many of the most illustrious names whose services have adorned and honored their country." - B. B. Johnson.

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Advisers, College and Experiment Station Workers and the
State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. III.

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No. 26.

"Field examination and certification of wheat and oats are a part of the program recently worked out by the Farm Crops Committee of the Advisers and now being started in a few counties. The present plans call for two types of certification, (1) a field certification or statement of quality of the best fields now available and (2) a mass selection which will look forward to the production of pure seed in quantity three years hence.

The certification of the best available this year seems advisable because it is practically impossible to get the pure certified seed of varieties wanted. Turkey Rod, Kanrod and Fulcaster will receive most attention this year. Iowa 103 Oats was a favorite this spring but certified seed could not be had. Here again certification of the best seed available seems desirable.

It is hoped that one or two men specially interested in seed grain production in each of six or eight counties will become interested in the field selection of the pure seed and will devote the time necessary to do the work. This will probably require the time of two men for one day. The heads so selected may be sent to the University where they will be threshed, recleaned and the seed treated for smut. The treatment will control loose smut as well as bunt of wheat.

The seed so selected and treated, perhaps one-half bushel to three pecks, will be returned to the producer who will grow it separately and in this manner propagate the pure strain. This small lot of quality seed sown this fall or next spring should produce ten to fifteen bushels at harvest time next year and would be something which cannot be purchased at any price now." - J. C. Hackleman

Picnics- picnics- picnics. This is the season of the year to arrange for these get-to-gether times of good fellowship. Picnics advertise the farm bureau in an advantageous way. A good picnic should have music, plenty of eats, lemonade, games for all sorts of folks, and one or two good speakers who can be short and snappy.

Wool Pool Shipments Grow. The following consignments to the wool pool were reported this week: Woodford 18,000#, DeWitt 9,150#, Piatt approximately 22,000#, Marshall-Putman 11,600#, Richland 6,000#, Jo Davies 9,565#, Lawrence 5,000#, Stark and Morgan 1 car each.

Chinch-bug ravages in corn are being reported from many counties- Macoupin, Monroe, Greene, DeWitt. Mr. Tate reports demonstrations with creosote barriers to control the pests.

New Illinois Bulletins. Experiment Station Bulletins: Variations in Farrow: With Special Reference to the Birthweight of Pigs No. 226, W. J. Carmichael and J. B. Rice. A research bulletin dealing with variations in farrow among the several breeds of swine, compiled from breeding and farrowing records kept by the Animal Husbandry Department of the University from 1903-1916 inclusive. In the summary are found the following points:

In 549 litter studies the gestation period ranged from 98-124 days with an average of 114.58 days.

The size of litters averaged 8.1 pigs with the average weight of a litter about 20 pounds. Litters larger than the average tended to contain a larger proportion of dead or immature pigs. Among a total of 5657 pigs 51.9% were males, 48.1% females.

Average number of pigs from sows $1\frac{1}{2}$ years old was 7.5, and 2 years old and older 8.6, with average weights of 2.44 and 2.61 pounds respectively.

There was a general increase in the number of pigs per litter and in the weight of individual pigs until the fourth litter at which time the sows were $3-3\frac{1}{2}$ years old.

Sulphur in Relation to Soil Fertility No. 227 by Robert Stewart deals with the S. requirement of plants, S content of soil, effect of S on production of crops. The chief conclusion made in this bulletin and drawn from available data is that, under humid conditions S need not be added to the soil as a plant food.

An Epidemic of Ropy Milk No. 228 by H. A. Harding and M. J. Prucha dealing with the 40 causes, sources of outbreak, and method of control. Conclusions point out that ropy milk is caused by certain germs in the milk, usually introduced at the farm, which tends to make the milk viscous, while not affecting its healthfulness or flavor. Control measures are steam or disinfecting solution (bleaching powder).

Extension Circulars: Fashion; Its Use and Abuse, No. 33; Artistic Dress, No. 34; Color in Dress, No. 35. Reprints of these three popular bulletins have just been published.

General: The University of Illinois Animal Register, 1919-1920 is just off the press. Copy may be obtained by addressing the Registrar.

Boys' and Girls' Club Exhibit at State Fair. The premium list for the Boys' and Girls' Club Exhibit at the State Fair is now available for distribution. Larger premiums are offered and a more satisfactory classification has been made up than ever before. Copies of the list may be had by writing to the State Leader in Junior Extension, 1210 Springfield Avenue, Urbana, Illinois.

Clover Seed Insects. "There is a fair set of clover seed in the first crop of clover in many of the central counties. Some of the clover seed insects are more abundant than usual this season and one should make a critical examination of the heads to see if these insects are numerous before leaving the first crop of clover for seed." - W. P. Flint.

Chinch-Bugs in Central Counties. "In spite of the heavy rains early in the spring, the present season as a whole has been very favorable to the increase of the chinch-bug. At the present time there are a number of wheat fields in counties north of the area where infestation was reported last fall where bugs are present in numbers to cause some damage to adjoining corn. Barriers should be used around such fields at harvest time to kill the bugs before they have spread into the corn." - W. P. Flint.



The Good Ship "Farm Bureau." Some eight years ago two ships set forth upon an uncharted sea as the Spanish caravels of old. Their passengers were few in number and some of little faith. The captains, pilots and officers were in each case, however, of steadfast purpose and guided well the new crafts. Other vessels followed year by year, the eighty-sixth recently having gone down the ways, with others in process of building.

You ask- whither are they bound, have there been any wrecks, have any arrived? The way has not been smooth, some have even started without a compass. Several have drifted dangerously near shoals and hidden rocks. One stove a hole in her side and was beached for the past three years, having only recently been replaced by an entirely new vessel.

The voyage has been long but not without incident. Of all the voyages of history this one has never been exceeded for length. Some have tired of the voyage and have been taken off by lighters. Some unknown to themselves and neighbors were "dead" when they first embarked, others have been buried at sea. Recently, as promise of reaching port has been given, many new passengers have been taken on until the total list now approaches 90,000. Those who continue on the voyage have not been idle. For years they have been studying efficient methods of production, and better management. Local marketing problems have been solved through shipping associations and farmers' elevators.

As the voyage has progressed and the horizon has been extended many realize that other problems beyond the scope of their vessel are to be encountered. The shoals of uneconomic marketing must be marked and the channels of legislation straightened. No single vessel felt equal to these tasks, so a new and stronger pilot vessel was launched through the united effort of all the crews and named "The Illinois Agricultural Association." This staunch vessel is now acting as convoy to guide and point out the course through the dangerous waters. Two other fleets, the Home and the Junior Bureaus, have recently joined in the voyage.

The end is not yet. Not a single vessel has yet arrived. Some far sighted lookouts claim they are able to see the haven. Never for a moment have those of clearest vision lost sight of the final goal- the improvement of rural life. Captains, pilots, and officers, can you see the haven, have you a clear chart and compass, whither are you bound? - J. D. Bilsborrow.

"Members make use of Exchange List." A young man came into the farm bureau office and stated that his cousin, a non-member, had wanted to sell a two row cultivator. The member told him he could sell it for him, and so inserted an ad over his own name. The June 1st letter had scarcely gotten out, when the plow was sold through the ad. Since then a dozen men have come to buy that cultivator, and several letters about it have been received. Incidentally, the non-member who formerly would have nothing to do with the farm bureau has sent in word that he wishes to join." - Mosher, Woodford County.

"The Sangamon County Threshermen's Association is meeting this Saturday afternoon to establish a fair price for threshing." - Madden, Sangamon County.

"Cut worms have ruined the corn in several large patches this week. One place, about 10 acres, was nearly all cut off two inches under the ground. This was a piece of land which had become grassy in the corn last year and no attempt was made to subdue the grass after the first cultivation." - Robbins, DeWitt County.

If you need additional copies of the booklet "A Few Straight Questions about Your University" we shall be glad to supply you. - W. F. Handschin.

The Extension Messenger

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No. 27

Chinch Bugs Working North. With the gradual extension of the chinch bug area farther and farther north, the situation is becoming serious. Appearing in considerable numbers in Cass, Morgan, Menard and Sangamon counties, chinch bugs are causing alarm among farmers who have usually considered themselves outside the infested area. Unless heavy rains occur in July and August when the second brood is small, to help control the spread and multiplication of these insects, there will probably be need of a very strenuous control campaign next year. Without doubt, "Burn and Starve the Chinch Bug" will be a popular slogan.

"Red Top" in this part of the country is practically a failure. Most of the fields are growing up in hog-hair and wire grass. In some respects we are glad to see the failure of this prominent hay crop in Southern Illinois, as we believe this will cause a large number of farmers to purchase limestone, which is badly needed in this part of the country. It often takes just such a failure as this to change our habits. It seems hard at first but in the end it is the best thing that could happen to us." - Pollock, Edwards County.

Clover a New Crop to Many Farmers. "I have been called out several times this week to look at clover as to whether it was ready to cut or dry enough to put up. There are so many farmers here who have never before raised clover, that they know practically nothing about harvesting it, and most of them have no hay tedder or side delivery rake, so it is hard to get the clover properly cured. Most of them want to feed their clover to their cows and they have been so much in the habit of buying all their feed for the dairy cattle, they have no place in the dairy barn for storing away a large amount of clover hay. I think if we have success with our clover this year, it will not be long before more farmers will want to grow clover to feed." - Blackburn, Marion County.

New Home Advisers: Miss Agnes Hitt has been elected to succeed Mrs. Mary Johnson in the position of Home Adviser in Champaign County. Miss Hitt was born near Ramsey, Illinois, graduated at University of Illinois, and has been four years in Alabama in teaching and Home Demonstration work.

Miss Myrtle Weldon is succeeding Miss Ethel Dole as Home Adviser in Kane County. Miss Weldon's home is on a farm in Winnebago County, Illinois. She is a graduate of Rockford College and has taught two years in the High School at Burlington, Iowa, and three years at LaGrange, Illinois.

Miss Fairie Mallory is to succeed Miss Label Wilkerson in the position of Clothing Specialist on the Home Economics staff, University of Illinois. Miss Mallory's home is in Freeport, Illinois. She is a graduate of the University of Chicago, has done graduate work at the University of Wisconsin and has taught in the Swaney and Rollo Consolidated Schools and comes to us from the headship of the domestic art department of the Sioux City High School.

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Cities boast of their efficiency.

Various kind advisers waste reams of white paper trying to bring the rural brethren up to the city standard.

But if the percentage of efficiency was as low in the country as it is in the city, large numbers of people would go hungry, who, as it is, find food in abundance. Think it over for a minute.

Go over the country any day - out in Will County or Grundy, Livingston, Kendall, or Kankakee Counties - during the spring or summer or autumn.

You will find everybody working; no strikes, no eight hour days, no five and six-day week.

The farmer is at it every day from dawn to dark. His ground is always planted and tilled and harvested.

There is no such thing as ungarnered crops, unless war or pestilence intervenes.

How is it in the city, with its boasted efficiency?

Tens of thousands of men today are idle over the country. As soon as one industry calms its workers, another set of men lay down their tools.

We are not discussing the justice or equity of the strike - we are merely pointing out the fact that today, as usual, in the cities of the country a large percent of the workers are not working, and a big proportion of the necessary work is not being done.

Add the tens of thousands of monied idlers who throng the streets, fill the theatres, infest the clubs, the race courses, the highways, with their high-powered touring cars - not only are they loafing, they are each monopolizing the constructive efforts of half a dozen workers, who waste their energy feeding and clothing and amusing these idle ones.

Cities today are not efficient at all compared to the country.

The farmers of the world are the ones who feed the world." - Joliet Herald.

(The above illustrates the newer attitude of publications generally toward the farmer).

"One Big Thing and Hammer it Hard" is the Farm Bureau slogan adopted in Wisconsin. Some slogans have already been submitted by Illinois advisers, but we want to get more of them so the very best one may be selected. Please submit your contribution at once or sooner. Send it "Special to the Messenger."

"To get results" is probably Sidney B. Smith's greatest hobby. Have you seen his latest notice intended to bring in Farm Bureau dues? Well, here it is:

"The sweetest words of human speech
Are not 'I love you', as some men preach;
Another sweeter phrase, by Heck,
To me, is this:

ENCLOSED FIND CHECK"

followed by - "Please mail your check to Secretary, etc."

"All of the 118 men who had corn in the Woodford County Test last year have again furnished samples to go into the Test in 1920. We had no thought that all of these would come in. In fact, I had the idea that if a hundred were in the second year, we would be doing well." - Mosher, Woodford County.



The Draft Horse "Crop" - It takes five or six years to grow a "crop" of draft horses. A "crop" of poultry or hogs can be grown in one year and the increase for one year is very much greater than is possible with horses in several years. Sheep and cattle occupy a somewhat intermediate position with reference to the time required to increase numbers.

Because of these facts it is very much more difficult to keep the supply of draft horses adjusted to any changes in the demand, than it is in the case of animals which multiply and mature more rapidly.

In spite of the large war demands for certain classes of horses, the supply was in excess of the demand during most of the period from 1914 to 1919. As a result, the price of horses was lower during the war than during the period just preceding, even though prices for nearly all other commodities increased from 50 to 100% or more, above the pre-war level.

Several factors seem to have been responsible for this condition. Most important seem to have been the following: In spite of the fact that we exported nearly a million horses during the three year period from 1915 to 1918, the absolute number in the United States increased from 20,962,000 in 1914 to 21,555,000 in 1918. The demand for horses in many lines of activity, such as railroad building, logging, and general development and construction work, seems to have fallen off largely during the war period.

The introduction of the automobile and the truck, principally in towns and cities, seems to have reduced considerably the number of horses used in the city streets. Although only 12% of all horses were in cities in 1910, and though this proportion has likely been still further reduced since then, we must appreciate that the city market represents the most exacting demand and, therefore, exerts a very important influence on the price of horses. This is especially true with reference to draft horses of the best quality.

The farm tractor has also been a factor in displacing a considerable number of horses, although as compared with the total number of horses on farms, the percentage displacement has been relatively small, perhaps, not more than 3 to 5% of the total number. On the basis of some preliminary studies made in Illinois, farmers generally seem to have decreased the number of horses carried whether they used tractors or not. This was no doubt due in large measure to the rapid increase in the cost of feed during 1917 and 1918.

Every indication points to a short horse "crop" coming on. The number of mares bred in 1916, 1917, and 1918, was much below the normal. It will be 1924 or 1925 before a normal "crop" of foals will be ready for market. Prices for good draft horses are high. They will likely be much higher within the next few years. It would seem the part of good business for Illinois farmers to have a "crop" of good draft horses ready for market any time during the next five or six years.

- W. F. Handschin.

"Thirty-five people took the two day demonstration tour from Grundy County Thursday and Friday. The members of the party were very much impressed with the work they saw on the University Farm which showed many things of value to them. After seeing the University experimental work the party was very much interested in the practical application of many ideas established at the University, which were being put into practice by Wm. Riegel near Tolono. The excellent herd of hogs on the J. E. Moharry farm, near Tolono, was seen and on the return two hours were profitably spent with Mr. Frank I. Mann on his farm near Gilman. The farms of both Mr. Riegel and Mr. Mann showed the practical application of the proper rotation and the soil treatment." - Longwire, Grundy County.



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"Farmers and threshermen at the call of the adviser met Wednesday night in Toulon to arrange a schedule of prices. Each of the threshermen present handed in a schedule of prices which he wanted established with the understanding that they would be averaged. When averaged up and presented to the farmers for consideration, the farmers voted to accept them. Prices agreed on were 3 $\frac{3}{4}$ ¢ and 4 $\frac{1}{4}$ ¢ for oats, 7¢ and 8¢ for barley, 8¢ and 9¢ for wheat and rye, and 60¢ for timothy." - Brown, Stark County.

"Christian County Threshermen met and decided that 4¢ per bushel for oats and 8¢ for wheat was a fair threshing price. They endorsed tight bottomed racks, canvases under the feeder, etc." - Hay, Christian County.

Hay in Egypt. "Farmers are harvesting from 1 to 2 $\frac{1}{2}$ tons of clover and mixed clover hay from limed land. Untreated land will yield a small hay crop of inferior quality. New clover hay is selling from \$30 to \$35 delivered loose. Some farmers are selling at \$40 to \$45 for baled hay. In some cases the hay crop is worth close to \$100 per acre. Pretty good for Egypt, eh? That means that we will see many more "tombstones to red-top" (piles of limestone) scattered over this county this fall." - deWarff, Franklin County.

"McLean County clover fields will be cut largely for seed rather than hay. The first crop of clover is "loaded" with seed. Alsike too gives promise of exceptional yields of seed. The difference between early and late sown oats is daily becoming more apparent. Early oats sown before the Easter snow give promise of heavy yields. Fields are already ripening and examination shows the heads to be well filled and plump." - Center, McLean County.

"Several acres of Iowa 103 oats were sown in the county last spring and they are showing up much better than other varieties. In one field where the farmer ran out of Iowa 103 oats and finished sowing with Red Rust Proof Oats, the Iowa 103 oats are thicker, taller and heavier than the Red Rust Proof. The Iowa 103 seems to be far superior to any other variety ever grown in the county." McGhee-Johnson Co.

Lantern Talks Successful. "Have been holding a few meetings primarily in the interest of the Livestock Survey and talking and using slides and illustrations in the interest of better sires for developing better paying livestock. I find the lantern valuable in interesting people and getting them out to meetings. It is a little trouble to take a screen along and set it up, but judging from the results it is well worth while. On three consecutive nights we had about 125 to 150 packed in a schoolhouse, 75 in a church and 50 in another schoolhouse." - Alworth, Clark Co.



Dangerous Animal "Dope" Habits. Probably there are few injurious practices more extensively followed by some live stock men than the habit of continuously giving tonics or medicines to the herds or flocks. An earnest effort should be made to impress farmers that unlimited confidence should not be placed in testimonials or other printed "cure-all" literature which may be misleading or even false. Some pure bred breeders have tried the continuous use of medicines and tonics and their experiences should be valuable in this connection. The impression that "cure-all" medicines have assisted in the development of animals, enabling them to win in the show ring is subject to correction for in reality there are many observations that point to the fact that some of the best breeding animals have been "doped" beyond repair.

Medicines and medicinal substances are very valuable in assisting nature when properly prescribed, but are dangerous indeed to the life and health of animals if recklessly or continuously fed. Healthy animals do not require daily doses of medicine. Furthermore, they are not capable of withstanding strong or irritating medicine day after day without losing the vigor and vitality of health. The following letter is typical of requests coming to the University. "Enclosed is sample of ---- hog tonic powder which has been fed to many herds in ---- County. Several farmers have reported deaths where same has been fed. One farmer in ---- County reported that he fed it to 60 and lost 40 of them. My farmers are asking for an analysis of this powder, and we would appreciate the analysis as soon as possible."

An analysis of the hog powder will not save the hogs. The common ingredients found in tonics of this character include copperas, salt, charcoal, magnesium sulphate, fenugreek, sodium hypo-sulphide, with sand or other cheap filler. None of the ingredients mentioned are indicated in the daily rations of animals and experience has definitely shown that such remedies may result in injury. Swine, sheep and chickens are probably fed more "cure-alls" than other classes of farm animals, and carry the main burden of ill effects from these preparations.

The health of the herd is fundamental to every owner's peace of mind, but the secret of healthy herds and flocks is not in tonical medicines, pills, powders or other fancy potions. Enteritis is the most common acute disease induced from "cure-alls" and unfortunately it proves fatal in a high percent of cases. The real injury comes from disturbing normal digestive functions and death results from a variety of causes, many of which may not be associated by the owner with continuous feeding of "dope". Discard the "cure-all" before it has an opportunity to induce illness and death. Refuse to recommend it and best of all, look forward to the time when all farmers may shake the vender's persuasive selling power of patent medicines. Better protection against worthless and injurious remedies for animals, with more attention to sanitary surroundings is an urgent need of the live stock industry." -- Robert Graham, Professor of Animal Pathology, University of Illinois.

Note: During the last two weeks there has seldom been a day pass that complaint and loss from feeding "cure-all" medicines has not been reported. The above item was prepared for the Extension Messenger to fortify the county agents on this subject.

New Assistant Adviser. Mr. A. Lloyd Keepers has been employed as assistant adviser in Kane County and began work on June 21st. He was reared on one of the best farms in Grundy County and is a graduate of the University of Illinois. His brother, W. Floyd Keepers, is Assistant Farm Adviser in Grundy County.

Mr. C. E. Durst has taken up his new work in Cook County and Mr. J. J. Doerschuk has followed Mr. Durst as Farm Adviser in Union County.



Wool pool for purposes last year. Some counties pooled from five to ten times as much wool as in 1919. The following figures give some indication of the results to date: Greene 20,374; Adams 28,118#; Marshall-Putman 30,500#; Mercer 69,329#, with 8 to 10,000# more to be pooled; Knox 35,000#; Crawford 25,178#; McDonough 26,249#; Colles 22,000#; Brown 29,400#; Kane 14,359#; and O. D. Center says - "McLean County wool pool this season is more than ten times larger than in 1919. The sharp break in the wool market has aroused our wool growers to the point where they propose to 'sit tight' and see the thing through."

"Iroquois County Swine Breeders stopped making hay last Thursday and toured the county visiting each other's herds. The trip was planned to get the breeders acquainted and to inspect the systems practiced and the live stock kept on the various farms. Argument, discussions, and explanations brought out many fundamental factors and impressed them upon the minds of the various breeders. Successful results of the use of forage crops in swine growing was so evident on many of the farms that no further demonstration is necessary. The same is true with the use of nitrogenous feeds as supplements to corn. Hogs that were improperly fed bore evidence of the fact when compared with those that have been receiving the proper kind and combination of feeds. Blood lines were discussed and animals with show and breeding records were carefully studied. Animal type also came in for its share of discussion and scrutiny. The trip was carefully planned in advance by Advisers Wise and Wiseman and proved to be of real value. Now that the official touring season is on, live stock associations might well consider the advisability of making inspection trips over their own county and adjoining counties."

-- W. H. Smith, Department of Animal Husbandry, University of Illinois.

County Fair Exhibits. "Thirty requests have been received from county advisers for county fair exhibit material. The circuits of fairs around which this exhibit will be sent have been made from the list of dates that have been received. If for any reason the dates of the fairs have been changed, let us know immediately in order to prevent conflicts in the circuits. Six sets of exhibit material are being prepared which will accommodate six fairs at the same time. Already six requests have been made for the week of August 23 - 27 and also that of September 6 - 11. However, if there are any of the advisers who desire the exhibit on other weeks besides the two already mentioned arrangements can still be made. Requests for the two weeks just mentioned can not be granted as it would necessitate making up an entire new set of material for each case. Full directions will be issued in the near future to those who are contemplating using this exhibit." - W. H. Smith.

Summer Visitors to the University. "Twelve counties and two other parties have had delegates visiting the College of Agriculture so far with a total attendance of 973. Cass County, a Farm Institute group from Tazewell County, and Jerseyville High School boys, and from one to two hundred Louisiana boys are scheduled for trips in the near future. The Louisiana itinerary calls for thirteen stops chiefly in Illinois, Wisconsin, and Iowa, with visits to the State Colleges. Conditions on the University farms are extremely good at the present time, and all the visitors find much to interest them." - J. H. Young.

"A splendid demonstration of the result of limestone and sweet clover on gray silt loam on tight clay was found near De Witt. The field had been unproductive until it was limed and sweet clover grown last year. Sweet clover was plowed under this spring and now the corn is exceedingly good." - Robbins, De Witt County.



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No. 29.

"Picnic Speakers. We have had requests from several advisers for the names of speakers who might be available for picnics. We would very much appreciate the advisers writing us a confidential letter giving the names of men whom they have secured for such an occasion, with some idea as to whether their address was satisfactory. By compiling such a list we may be able to help you secure some one for your picnic. Let us hear from you." - G. N. Coffey.

A series of group meetings have recently been held over the state by Mr. J. R. Bent of the Phosphate Department of the I. A. A. to discuss various plans for storage of limestone and rock phosphate. Practically every adviser attended one of these meetings and reported "valuable information and discussion".

"Handy Maps. We have recently completed a map of the county by townships, on which we have located the residents of each farm bureau member in the county. We have blue prints made of this map by townships and when going about the county, have this clipped to the wind shield and find it very convenient in locating the men and in covering the county systematically." - Isaacs, Mason County.

"The summer meeting of the Illinois Horticultural Society will be held at Salem, Illinois, July 29 and 30. Those who expect to attend should notify the Secretary, A. M. Augustine, Normal, Illinois, as soon as possible, so that hotel reservations may be made. Those in attendance will be shown over the fruit districts of Marion County in automobiles." - W. S. Brock.

"A roll call was made of the number of apple and peach trees represented at the Johnson County Farm Bureau picnic held at New Burnside, July 16th. 36259 peach trees and 150925 apple trees were given by the owners present. This locality, situated on a spur of the Ozarks is surely finding itself." - Spitler.

Joint Exhibit. "The farm bureau organizations of Brown, Schuyler, Adams, and Hancock Counties have taken first steps in the formation of a joint exhibit to be used successfully at each of the four County Fairs." - Lloyd, Hancock, Co.

"Black Glumes in heads of wheat have been proven not to be a form of disease, but to be a peculiar strain of the Turkey Red variety of wheat. Consequently these black or brownish glumes, which look a little like smut at a distance, should cause no alarm whatsoever.

Kanred wheat is still showing itself to be resistant to black stem rust. Barbless barley, a new variety, is being grown for the first time in Illinois on the DeKalb field. This barley has beards, but there are no barbs, the beards being perfectly smooth." - Division of Crop Production, U. of I.



"The wheat is being threshed in several sections of the county and the yield is ranging from eight to thirty-five bushels to the acre. Most of the yield will probably be around ten to fifteen bushels per acre." - Miller, Macoupin County.

"Wheat is shocking up better than was expected tho the yield will be low. W. E. Riegel has on well treated soil the best field of wheat seen in the county." - Oathout, Champaign County.

"Reports on yields of Iowa 103 oats are coming in. Every report has been favorable and members seem to like this variety. One thinks they will make 50 bushels to the acre which is pretty good for Southern Illinois. In another case, 30 acres have been cut and threshed making about 30 bushels to the acre while the Texas Red oats on the same farm have not yet been cut." - Doerschuk, Union County.

"Two varieties of oats were grown on the Ewing Experiment Field this year. Texas Red was sown, on the regular series while Iowa 103 was sown on the series that should have grown wheat. Texas Red appears to have done much better on treated plots; while on the check plots the Iowa 103 looked best. Both varieties were sown the same day. The Iowa 103 ripened almost a week ahead of the Texas Red. Iowa 103 has given satisfaction over the county this year." - deWerff, Franklin County.

"Barley has shown again this year that it would pay the rent whether any other crops are satisfactory or not. This is our one sure grain crop in DuPage County. It never filled better than the present indications show despite the very late seeding. The spring wheat is in splendid shape and filling fine." - Heaton, DuPage County.

"Sunflower seed for silage is in greater demand since the rain has made planting practical on ground where the corn has been destroyed by chinch-bugs." - Tarble, Bond County.

"Sunflowers to follow chinch-bugs. Have interested about a dozen of our farmers in the planting of sunflower seed to grow silage on patches of land where chinch-bugs had destroyed the corn. Some farmers are quite skeptical about this crop as it is a new idea in this county. We are much interested, however, to see how successful it may be as a silage proposition." - Phillips, Greene County.

"Creosote line, where it is used, is holding the chinch-bugs effectively. Seven farmers are using it and each one of them is absolutely satisfied with the results being secured. We feel that every day that the bugs are held out of the corn means that the corn will have much more vigor to withstand the attack when the bugs fly." - Piper, Richland County.

"Chinch-bugs are ravaging in our corn fields and the Madison County Farm Bureau is considering a move to eliminate corn in the county next year, and will ask cooperation of our surrounding counties to do likewise. We feel that wheat is our cash crop and is reasonably sure and consequently corn would be the logical crop to eliminate. Expect to plant more wheat this fall to take care of some of this corn acreage and plant the greater remaining part in soybeans and sunflowers." - Haberkorn, Madison County.

"Some clover has been cut for seed instead of for hay. One field of al-
sike threshed this week was yielding nearly 4 bushel per acre." - Brown, Stark County.



"Will Discontinuing the Growing of Wheat stop the Chinch-Bug? This question is an old one, and has been discussed wherever the chinch-bug is abundant. From our experience in this state, we can say positively that stopping the growing of wheat will not prevent chinch-bugs from breeding in localities where this is done.

When chinch-bugs leave their winter quarters in the spring they fly to fields of small grain, settling generally in fields of wheat and rye, as these crops, due to their size, are more attractive to them at this time of the year. In many cases, however, they settle in oats, even where wheat and rye is abundant and if no wheat or rye is present, most of the bugs will settle in oats and the remainder in grass lands. In a recent drive of half a day through the southern part of Macon County, three fields of oats were found so heavily infested with chinch-bugs that much of the grain was killed, while adjoining or nearby fields of wheat showed very few bugs.

In general, the best methods of combatting the chinch-bugs are, in the southern part of the state where the soil is not well adapted to the growing of corn, to discontinue this crop, putting in a maximum acreage of wheat and rye, as the second brood of chinch-bugs depends almost entirely on corn for their food supply. In the central sections, where corn is the main money crop, the acreage of small grain should be cut down as low as possible. In both sections the maximum acreage of legumes should be grown.

A bulletin is now being prepared giving the best rotations for the sections of the state now infested with chinch-bugs. This bulletin will probably be ready for distribution early in August." - W. P. Flint.

Marketing Association to Begin Work. "The Champaign County Farm Bureau has just engaged the services of J. E. Johnson, Cashier of the Broadlands Bank, and also manager of a grain business at that place, as business manager of the marketing work. Mr. Johnson will have charge of all cooperative buying, selling and other work of a business character done by the Farm Bureau. We hope and expect to be able to work in close cooperation with Farmers' Elevators. These elevators are owned by farmers, practically all farm bureau members, and are so financed and located as to be able to serve the farmers of the county better than they could be served by a large centrally located corporation. Such a corporation could not do business except in more or less competition with these elevators, and we wish to avoid this.

We may use potatoes as an illustration of the way we hope to handle this proposition. This county buys the biggest percent of its potatoes every year. Mr. Johnson will visit the potato growing districts and determine where he wants to buy. He will make contracts with Farmers' Elevators, township farm bureau organizations or other groups of farm bureau members to put up the money and to handle the potatoes locally. When he buys he will draw on these local companies or organizations for the money and will ship the potatoes to them. They can usually be distributed direct from the car but may be stored to be used during winter or spring. We think that there are many things that can be handled in the same way.

We have had meetings of our township farm bureau directors and of the officers of the Farmers' Elevators and all seem enthusiastic over the plan. We know, however, that it will take lots of missionary and educational work, and careful planning so we engaged the services of the best man we could locate. He is capable of doing the preliminary work and also the business part of it. Of course, all the details will have to be worked out by him. He has studied the job very carefully before accepting it. We expect to go slowly and carefully, realizing that mistakes and criticism will be plentiful at best." - C. H. Oathout.



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The Threshing machine is again at work in many counties. In general, wheat yields are surpassing expectations although the average is below the normal. The value of limestone and rock phosphate is very evident this year as reports of comparative yields come in. The following are but a few of the items at hand.

"Threshing has started in the county and the wheat that has been threshed so far is yielding fairly well with the quality excellent. It looks as though the average for the county would be about fifteen to sixteen bushels, although there are some twenty-five to thirty bushel yields and one field that was limed and phosphated last fall turned out better than thirty-five bushels to the acre. The Turkey Red wheat is showing a marked superiority over the smooth head wheat again this year, running at least five to six bushels more to the acre, and testing two or three pounds more to the bushel." - Higgins, Moultrie County.

"Quite a lot of wheat has been threshed in Crawford County this week. Yields range from 12 to 36 $\frac{1}{2}$ bushels per acre. The latter yield was on phosphated brown silt loam soil. Indiana Red was the variety. Turkey Red is more popular this year than last. Most of the wheat threshed has sold as No. 1." - Logan.

"Farmers had excellent weather for threshing and have all finished now. The average of the county was probably twelve bushels per acre. Two things with reference to the yield of wheat this year were very noticeable. First, it showed that it pays to get the ground in good shape. Secondly, it pays not to plant the wheat before the fly-free date." - Tate, Monroe County.

"Threshing has now begun, but it is being interfered with on account of the coal shortage. Yields are running from 10-30 bushels per acre." - Belting, Shelby County.

"A large percent of the wheat has been threshed and the highest yield so far was forty-two bushels on a fifteen acre tract. The average of three men who used rock phosphate ran from thirty-four and one-half to forty bushels per acre and the wheat in the same neighborhood without phosphate yielded on the average of ten to fifteen bushels less. The phosphated ground shows up better this year than for two or three years past." - Miller, Macoupin County.

"Single Township put on a Tour to University. "One of our townships worked up a party to make a tour to the University. While the crowd was small, it was a most satisfactory tour. Everyone had a chance to talk and ask questions and to get full information about what they wanted to know about. They went home prepared to put into operation at once the soil improvement methods which they got so clearly in mind." - Brooks, LaSalle County. Mr. Young says this was one of the most successful party tours ever conducted about the plots. There are distinct advantages in not having parties too large.



Black Rust. "It was found on examining the wheat fields this week that black rust was quite prevalent in both the winter and spring wheat. It will not do any damage to the winter wheat as it did not develop early enough to make sufficient headway to be damaging. To what extent it will damage spring wheat will depend on how long it will take it to mature and whether the weather is suitable for the development of the rust or not. It goes to indicate that black-rust may become a menace to the growing of spring wheat in this region just as it is in the northwestern states. Last year I found some late fields of spring wheat damaged by black rust." - Richards, Kane County.

Wants Seed wheat. "I am desiring to buy seed wheat for some of our members. The varieties which are called for are Fults and Swamp, sometimes known as Indiana Swamp. I am anxious to get nothing but good, clean seed of the varieties wanted. Please write immediately if you have any such wheat for sale. Send a small sample and quote best price per bushel." - Tate, Monroe County.

Producing Good Seed. "One of our members has spent considerable time going through a fifteen acre field of Iowa 103 oats two or three times, cleaning out what late oats were in it. I think that he has done a very good job and we hope to get four or five hundred bushels of seed from this field and put it in the hands of careful men who will complete the cleaning out process next year and thus give us a very good supply of seed which will stand inspection.

Another member has done as careful work in cleaning out a ten acre field of Iowar oats. He feels that the Iowar is better than the Iowa 103, although the field on which he has the Iowar oats produced less corn per acre last year than the field where the Iowa 103 oats are now growing." - Mosher, Woodford County.

Clover Seed from first Crop. "A number of the farmers are threshing their first crop of clover for seed. Those fields that have been hulled have yielded extra fine quality of seed yields ranging from $\frac{1}{2}$ bushel to 2 bushels per acre." - Ladden, Sangamon County.

"The present outlook for clover seed is very good. As a general rule, Pike County is a big producer of red and alsike clovers. In place of going on the market and buying seed as we did last year, I now believe we will have considerable seed for sale." - Korchner, Pike County.

"The first truck load of new alsike clover came in July 21st to be recleaned on the Seed Association's big recleaner. Alsike gives promise of very good yields this year. A field of nine acres threshed last week averaged $5\frac{1}{2}$ bushels of good quality seed per acre." - Gernert, Edgar County.

Limestone Makes Hay Crop. "One of our members reports 54 loads of clover hay from 19 acres where limestone was used. Those who have not used limestone upon this type of soil, have a light crop of red top and weeds. One man who spread limestone with a shovel is able to go over the stubble and notice the length and direction of his stroke." - Wheeler, Lawrence County.

Demonstrations with Horses and Horse Hitches. "Mr. Wm. P. Newell, Washburn, Illinois, is prepared to give demonstrations in breaking green or mean colts and unruly horses and also demonstrate methods of hitching and other things regarding the handling of horses. He is prepared to give demonstrations at picnics or other county gatherings. If you are interested in this matter you should take it up with him." - G. N. Coffey.



Sunflowers in the Silo - A number of questions have come to us regarding when and how to put sunflowers in the silo. Investigation shows that the best practical information on this subject, which is available at the present time, is given in Bulletin 131 of the University of Montana at Bozeman, Montana.

We have extracted the following - "Good Silage can be made from Russian sunflowers from the time they begin to bloom until the seeds begin to harden. The stage of growth that will produce the maximum weight of the most palatable and digestible silage has not yet been determined. Apparently there is a greater loss of juices when the crop is harvested in the immature stage, and the more mature plants seem to have a greater feeding value. The Department has a very complete series of tests in progress at present to determine this point.

The most practical and satisfactory method of harvesting sunflowers is with the ordinary corn binder. However they may be cut by hand or with a stationary knife attached to the side of a sled. Low, flat-topped wagons are desirable for hauling the sunflowers from the field to the silo. The ordinary corn silage cutter is used in cutting and filling the silo. A cutter with rather wide throat will handle the heads more easily. More power is generally required than for corn.

Little difficulty has been experienced in getting stock to eat sunflower silage. In some cases a few days have been required to get them to eat it readily. It is palatable to cattle, sheep, and swine. In the experiment of 1917-18, 2.83 pounds of sunflower silage was equal to one pound of alfalfa hay when fed to dairy cows receiving grain and a limited hay ration. Brood sows and breeding ewes ate sunflower silage readily, 2.5 pounds of silage being apparently as high in feeding value as one pound of choice alfalfa hay when fed as a supplement to a grain ration. Sunflower silage, made from plants that are 30 percent in bloom, compares favorably in total digestible nutrients with corn silage made from immature corn." (Bulletin was published in 1919 and is now available.)

To Store Phosphate. "Enough stock has been subscribed in the El Paso Cooperative Phosphate Company to put a permanent structure up for six hundred tons, with elevating machinery. While the building is being put up by a separately organized company, it will be managed through the office of the El Paso Farmers' Elevator Company. There were special reasons why it seemed wise to organize as a separate company. Other points in the county have been waiting for the El Paso people to act, and these others will probably take up the matter of phosphate bins at an early date." - Mosher, Woodford County.

"The use of big headed tacks on a county map, indicating the sections as the livestock survey reports come in, is proving wonderfully helpful in indicating the parts of the county where the farm bureau members are responding to the request for cooperation." - Mosher, Woodford County.

"The grasshoppers are very numerous in some sections. One of our members caught over one-half ton of grasshoppers by actual weight off of a forty acre clover field. He rigged up a grasshopper catcher and pulled it with his Ford. He rigged up a hitch which pulled the catcher out to the side of the car." - Miller, Macoupin County.

Do you want Alfalfa Seed? "Any Farm Bureau interested in securing seed of either registered Grimm alfalfa, Grimm alfalfa not registered, or common Montana alfalfa, may be able to do so if our present plans do not miscarry. We believe that dependable seed can be secured direct from the growers thru the Farm Bureau in the alfalfa seed producing section of Montana. Any further information may be had from this office." - Fuller, Marshall-Putnam County.



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"Third Brood Codling Moth. From present indications there will be a moderate third brood of the codling moth throughout the south third of the state this season. Worms of this brood will be hatching from Centralia southward from August 20th to 25th; from Jerseyville and Effingham south to Centralia from August 25th to 30th. Late worms of the second brood will be hatching in large numbers throughout the first two weeks of August, and where only one spray has been given, it would be advisable to apply another a little before the appearance of the third brood. This spray should be applied from Centralia southward from August 10th to 15th; from Jerseyville and Effingham south to Centralia August 15th to 20th. Where two sprays for the second brood worms have been given, apply a spray for the third brood to be on the trees by the dates of hatching that brood.

A late second brood spray should be given from Quincy and Urbana south to Effingham. This should be applied August 10th to 15th. The spray should consist of 1 pound of dry, or 2 pounds of paste arsenate of lead combined with 2 pounds of freshly slaked lump-lime to each 50 gallons of solution. If lump-lime cannot be secured, substitute 4 pounds of hydrated lime." - W. P. Flint.

"Hessian Fly. Last year over 50% of the early sown wheat was destroyed by Hessian Fly. A survey of the state is now being made and a statement of Hessian Fly conditions will be mailed each farm bureau about September 1st. We know now, however, that flies will be numerous enough to damage early sown fields and now is the time to start a campaign for proper date of seeding, which in general will be three days later than advocated last year." - W. P. Flint.

"Will Grow no Corn. We are recommending that the farmers in the southern half of Macoupin County do not plant corn the next season. This is meeting with a hearty cooperation with a large number of farmers and we hope to be able to bring the others into line. Most of the men realize that something radical must be done in order to get rid of the chinch bugs." - Miller, Macoupin County.

"The Chinch Bugs are on the wing. There will be lots of chaffy corn this fall, due to injury by the coming brood. Visited several 4 to 5 acre patches along edge of large fields that were completely killed." - Fisher, Wabash County.

"Chinch Bugs, Chinch Bugs - the incessant worry of so many farmers and farm advisers!. Reports have grown worse and worse. Creosote lines have been used effectively in some cases, but all too many fields have gone unprotected, and the infested area is spreading rapidly from Southern Illinois to the real corn belt of Illinois. Let us not forget these ruined fields of corn, when the chinch bug has hidden himself in winter quarters next spring. Let us keep up our present determination to leave no stone unturned in our campaign of destruction next fall, winter and spring." - C. A. Atwood.

"Fowls including chickens, turkeys, ducks, and geese are susceptible to ~~parasitic~~ and germ diseases. Certain diseases of poultry respond to treatment, but as a rule when chickens become sick it is better to kill them in view of the cost of medicine and the value of time required in treatment. However, preventive measures offer protection against diseases of domesticated birds and it is important that the veterinarian and poultry owner be enlightened as to the characteristics of some of the more important diseases of chickens. During the last two months numerous specimens of afflicted poultry have been submitted to the laboratory of Animal Pathology for diagnosis, and frequently of intestinal worms in chickens one-third to one-half grown is evidence of the unclean and unwholesome chicken lots and runs throughout the state. Round Worm and Tape Worm have been encountered. U. S. Department Bulletin #957 on 'Important Poultry Diseases' contains a brief description of the prevalent poultry diseases encountered in Illinois, together with preventive measures.

The importance of the poultry industry and the meager academic training received by veterinarians in Poultry Pathology has stimulated requests from many practitioners that the next annual Veterinary Conference at the University devote a portion of a program to poultry diseases. Aside to parasitism of poultry, such diseases as Cholera, Tuberculosis, Roup, and Chicken Pox prevail in many Illinois flocks. The prophylactic value of Chicken Pox vaccine used in California has been the subject of many inquiries during the past few months." - Dr. Robert Graham.

"The first automobile tour of the Marshall-Putnam Farm Bureau, making a trip of 40 miles with 50 in attendance, proved entirely satisfactory. A great deal of interest was aroused for sweet clover, phosphate and soybeans. The most unusual scene of the day was a 25 acre field of A. K. soybeans. The owner explained his method of using sweet clover in conjunction with phosphate, which system last year netted him 86 bushels of corn per acre. In nine years of continual raising sweet clover he has never failed to secure a stand. Once the sweet clover was killed by lodging of the grain. From the success of this auto tour, we believe that more should be held. The question is to avoid attempting to show too much. On such a tour, the farm adviser should take rather an inconspicuous part. The talks by the farmers whom you visit are of most value. The farmer is the man who has accomplished the thing under surveillance and the others are ready to listen to him." - Fuller, Marshall-Putnam County.

Very successful Field Meeting. "The Farm Bureaus of Wabash, Lawrence, Richland, and Edwards Counties held a meeting Friday, July 30th, at the West Salem Experiment Field. Prof. J. E. Readhimer addressed one of the largest crowds that has ever gathered on a Southern Illinois Experiment Field. The crowd was estimated at 450 to 500 men. Last year Prof. Readhimer talked to 100 at a similar meeting. We believe these figures speak for themselves. Prof. Readhimer had the undivided attention of the entire crowd for over an hour and he was compelled to leave some of the men to make the evening train. There were farmers from Wayne, Richland, Lawrence, Wabash, Edwards, and White Counties of Illinois and Knox County, Indiana." - Pollock, Edwards County.

"We now have rock phosphate stored at four cooperative elevators, and we hope to within the next year to have them carrying a stored supply for the farmers who use only a small amount at a time." - Wise, Iroquois County.



Horticulture to the Front. "Summer meeting of the Illinois Horticultural Society was held in Marion County July 29th and 30th. Considerable interest was taken in the experiments that the University of Illinois is conducting for the control of Blotch. W. S. Brock has had charge of this work. Over 300 people made the auto tour visiting several of the orchards located near Salem and Alma. More pears are probably grown in Marion County than any county in the United States. It is estimated that 400 car loads will be shipped from Alma alone." - Spitler.

"The McHenry County Farmers Cooperative Association was to have been incorporated for \$50,000 to handle seeds only, but the interest in the organization increased so rapidly that a group of farmers in McHenry contracted for the largest feed plant in the county and will proceed to turn it over to the county association. The plan now is to increase the capital stock to \$100,000 and build or buy a plant at three or more towns and handle feed, seed, etc. The feed business at McHenry is being conducted under the management of the farmers and approximately \$500 worth of business is being done per day. Over 95% of farmers interviewed to date have purchased stock in the County Association." - Gafke, McHenry County.

Better Sires - Better Stock - \$1000 Money Prize. Under rules and conditions provided by the Bureau of Animal Industry, United States Department of Agriculture, a money prize of one thousand dollars will be paid by Chapin & Company, 327 S. LaSalle Street, Chicago, to that county in the United States which first becomes free from inferior sires. By inferior sires are meant low quality purebred sires as well as all crossbred, grade and scrub sires. The word "sires" includes stallions, bulls, jacks, rams, boars, and bucks. Poultry is not included. No time limit is placed on the offer of this prize. County agents or officials of county livestock organizations desiring to enter their counties as competitors for this prize, or wanting complete rules of contest, will indicate their intention of so doing by letter to Chapin & Company, sending a duplicate of the letter to the Chief of Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C.

"Phosphate grows clover. We have a glowing example of the value and lasting effects of rock phosphate applied to the brown silt loam soil in Edgar County. This particular field on which the value of rock phosphate was noted was treated ten years ago. Eleven hundred pounds of rock phosphate were used per acre. A check strip was left near the middle of the field. The field is in red clover this year. Actual weights of the clover over like areas on the treated and check strips, made by a farm bureau representative, disclosed the fact that there was a trifle more than 2.5 times as much clover by weight on the treated portion as there was on the check strip." - Gernert, Edgar County.

Limestone shows in Wheat. "The majority of the farmers are through threshing wheat. Yields per acre vary from two to thirty bushels. Farmers who have been using limestone for several years and have their soil in good shape received the best yields and are fairly well satisfied. The poorer farmers, of course, are discouraged and ready to quit." - Tate, Monroe County.

"During our auto tour, we visited a sweet clover field grown by the first man in the county to grow sweet clover. The owner related his experiences with sweet clover and told us he raised 114 bushels of corn to the acre following sweet clover crop. He also assured us it was absolutely folly to grow sweet clover in Pike County without first applying two tons of lime to the acre."



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Dr. Bauer returns to take charge of Soils Extension in Illinois. After a two years leave of absence to complete his work for his Doctor's Degree, Frederick Charles Bauer is welcomed back to the University of Illinois. As Assistant Professor, he will have charge of Soils Extension in the Department of Agronomy.

As a Christian County boy, "Freddie" Bauer grew up in the midst of farm life in all its phases and he still maintains an active interest in the management of the old farm. His academy work was completed at James Milliken University and in 1909 he graduated from the College of Agriculture, University of Illinois. In 1918 he was given the M. S. Degree by the University of Illinois for work in Agronomy, Chemistry and Botany, and in 1920 the University of Wisconsin conferred upon him the Ph. D. Degree for work in Soils, Chemistry and Agricultural Economics. His thesis was entitled "Factors Affecting the Availability of Rock Phosphate".

After graduation in 1909, Dr. Bauer spent two years as supervisor of Agriculture at Boise, Idaho and seven years in Soils work at the University of Illinois, where he maintained close contact not only with Soils teaching but with the Soil Experiment Fields.

"A no-decision tractor demonstration was held at Griggsville August 5th with six tractors participating, the Parret, Sampson, Emerson, Fordson, Wallis Cub, and the Cletrac. About 300 people were in attendance. In addition to the tractors, we arranged for the owner of the field to enter the demonstration, under the rules and regulations governing the tractors, with two span of mules hitched to a gang plow. The contrast was very striking and proved to be the feature of the afternoon. Plowing continued for three hours, during which time the mules plowed 1.1 acres of ground at the depth of $4\frac{1}{2}$ " while the area plowed by one tractor was 4.4 acres to the depth of 7" and the least plowed by any tractor was 2.3 acres. The results of the tractor demonstration were so favorable that it has been decided to make it an annual affair. Cost records, data, etc. collected will be published in the county papers and the farm bureau circular. We did not, however, make the decision announcing that any one tractor won the contest. I think that a contest of this kind is very much more appreciated by dealers and by farmers if no decision is made." - Kercher, Pike County.

Black Rust. "We have been keeping close tab on the development of black stem rust in the spring wheat. There has been considerable damage done to the crop from this disease. A few fields have been badly injured to the extent of shriveling all the grain. Most of the wheat is injured to the extent where the kernels will show some slight shrink with some of the low spots badly damaged in the fields. The spring wheat is not all in the shock at this time so it is hard to estimate definitely the extent of the damage. The late fields, of course, will be damaged more than the early fields." - Richards, Kane County.



"Much corn is injured by continued drought. Pastures are very short. The only pasture left is that of sweet clover. This crop is showing its superior pasturing qualities under adverse conditions. Grundy County will have a lot of sweet clover seed for sale, both the large growing variety and the smaller or recently named Grundy County Sweet Clover. One 30 acre field of this Grundy County Sweet Clover hulled out a little more than 10 bushels per acre." - Longmire, Grundy County.

"Threshing will be about finished all over the county next week. Iowa 103 oats are out-yielding all others and weigh heavier. Turkey Red wheat is also the highest yielder and in nearly all instances tests No. 1 grade. Much of it tests 61 to 62# per bushel." - Belting, Shelby County.

"Iowa 103 oats yields from seed obtained by the farm bureau last spring for about 40 farmers, are from 30 to 60 bushels per acre. Farmers express themselves as well pleased with this variety and will continue to use it. We feel that the showing made by this variety is remarkably good considering the adverse weather conditions of early spring." - Phillips, Greene County.

"The one field of Iowa oats in the county averaged 75 bushels per acre. Judging from requests for information which have been coming into the farm bureau office recently more care as regards varieties of wheat, method of seed bed preparation, and date of sowing will be exercised by the farmers in putting in this year's wheat crop than ever before.

A summary of the readings which were made by Mr. Holbert on one of the corn disease investigation plots in Knox County indicates that the special plot treated with phosphorus may be the best. The preliminary reading shows 15% more strong plants and 6% fewer weak plants for the phosphated rows planted with diseased corn, and 18.8% more strong plants and 9.8% fewer weak plants in the phosphated rows planted with disease free corn. There is also a 14.3% better stand for the disease free corn as compared with the diseased corn when the soil treatments are ignored on the entire plot." - Bracker, Knox County.

"We find that Marquis wheat is not so badly affected by rust as Blue Ribbon. Where spring wheat has been threshed the yields have been from 9 to 15 bushels and the grain is of poor quality. Winter wheat is of good quality and yielding 25 to 30 bushels. Alsike seed is yielding as high as 6 bushels per acre." - Snyder, Ogle County.

"The two best wheat yields of the county came from land which had had an application of one ton or more of rock phosphate, the best yield reported being an average of 38 bushels per acre on 145 acres. The oats crop varies widely with the time of seeding and condition of the ground when sown. The best yield reported was on 22 acres which averaged 97 bushels per acre. A great many fields are making 50 to 70 bushels. A few fields are yielding as poorly as 25 bushels." - Burwash, Piatt County.

Phosphate elevator to be built in Woodford County. "At a farm meeting attended by about twenty-five farmers living in the community around Metamora, it was decided to organize a cooperative stock company for the purpose of building a phosphate elevator at Metamora. Stock is selling quite readily and indications are they will be ready to go ahead and purchase a site and make building plans very soon." - Mosher, Woodford County.



"Killing Wood Chucks. Several farmers have made inquiry in regard to eradicating wood chucks. A very practical method was tried out and was found to be 100% effective. The "lizzy" (Ford) was backed up to the nests of the wood chucks, a small pipe about five feet long was placed over the muffler and a rubber hose about four or five feet long was placed on the end of this. The pipe was used to prevent the burning of the rubber hose. The hose was placed in the hole in the ground and a sack or dirt was placed around the hose. The engine was run for about five minutes, until the smoke or gas came out very freely from the other holes. (In case the gas does not come through some of the holes plug the one up where the gas is escaping and it will start out through the other holes.) About a dozen different nests were treated in this manner and all holes were carefully covered with dirt. Two days after this operation the holes were examined and none were dug out. Several holes were dug into and in each case, one or more dead wood chucks were found. I am convinced that this is sure death to the animals where the gas is given as above." - Kline, Boone County.

"'Cure-all Medicines' -- Mr. J. M. --- of this locality fed a patent hog medicine manufactured at Quincy to several head of healthy hogs which had been immunized against hog cholera and were seemingly in perfect condition at the time he started to feed this medicine. Within three or four days, 18 or 20 of the larger hogs were sick, 9 or 10 have died and the remainder seem to be doing better since the medicine has been taken away. This patent hog medicine was fed in a self-feeder. One owner, whose hogs were affected kept several ewes and had wonderful success with his lambs until he was persuaded to feed the sheep and cattle remedy to his ewes. Since that time the lambs that have been born, lived long enough to nurse two or three times and die in convulsions." - Dr. H. R. Simkins, Elmwood, Illinois.

"Teaching the Boys How. There will be a school of instruction and demonstration at the hog barn at the Illinois State Fair grounds for the purpose of instructing the Pig Club members of the County how to make their pig look his best in the show ring while the judge is looking him over." - Madden, Sangamon County.

"A car of cotton seed meal recently came into Ogle County guaranteed to analyze 38.5% protein. It was not satisfactory and the farm bureau called on the state department of foods and dairies to analyze it. Their analysis showed 34.73% protein. This service in helping the buyer to get this information was good advertising for the farm bureau." - Snyder, Ogle County.

Seed Company Recapitulates. "An audit of the seed company books has just been completed. We find that a little over \$25,000 worth of seeds were sold the last year at a margin of approximately 15 percent above purchase price. There was a profit of approximately one thousand dollars after ten percent of the net gain had been set aside as surplus and seven percent had been paid on the capital stock. Since the farm bureau carried the management, we can say that the business just about broke even." - Mosher, Woodford County.

Important to Make Farm Visits. "Most of the week was devoted to making farm visits. My experience with farm visits recently convinces me that it is important to make as many as time will permit without neglecting other lines of work that may be of equal importance. Undoubtedly, the success of farm bureau work demands that a certain amount of time be allotted for farm visits outside of those made upon request." - Richards, Kane County.



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Calhoun County organizes. "On August 11th more than 500 farmers met in Hardin and organized the Calhoun County Farm Bureau. This is the eighty-sixth farm bureau in Illinois. It was one of the most enthusiastic organization meetings I have ever attended. There was no hall in town large enough to hold the crowd and the meeting had to be adjourned to a grove. With approximately 550 members and a good executive committee, this county, which is the largest apple growing county in the state, is ready to go forward with the work just as soon as a suitable man can be found for farm adviser." - G. N. Coffey.

Winnebago County Employs Adviser. "Winnebago County Farm Bureau has decided to employ Mr. Charles H. Keltner as farm adviser for that county. Mr. Keltner attended Mt. Morris College and also graduated from the University of Illinois. He taught Agriculture in Mt. Morris College and also in the Northern Illinois Normal at DeKalb. For the last three years he has been farming in Jo Daviess County. Mr. Keltner expects to begin work September 1st." - G. N. Coffey.

Mr. A. R. Kemp has been employed as assistant adviser in Mercer County. Mr. Kemp was born on a grain and livestock farm in Indiana, graduated from the Agricultural College at the University of Illinois and has been teaching in Smith-Hughes work and club leader in Indiana since graduation. He will take up his work in the very near future.

Liked Exhibit. "The past week has been fair week in Schuyler County and all of the time has been devoted to the fair exhibit. The exhibit seemed to create quite a favorable impression on practically everyone who saw it. While not nearly all our farm bureau members were present during the fair, we had a great number that were not farm bureau members who were equally interested. The farm bureau secured a small badge which was given to each member when he called to see the exhibit." - Gentile, Schuyler County.

Cartoons to be used. "The farm bureau is planning to have another exhibit tent at the county fair this year. We are not cooperating with other counties, but attempting to put on this exhibit alone. Charles Plumb, cartoonist for the Illinois Agricultural Association, has been in Rock Island this week making some cartoons to be used for this exhibit and the exhibits in other counties, if they are desired." - Edgerton, Rock Island County.

Miniature Experiment Field. "In preparation for the Lee County Fair, August 17, 18, 19, 20, it is planned to reproduce the Dixon Experiment Field in miniature form, showing the different soil treatments with growing crops, with appropriate signs; also a display of weeds will be on exhibit." - Griffith, Lee County.



Wheat vs Potatoes. "We have an extensive area of brown sandy loam on gravel which is practically all cultivated. Wheat is the main crop and straw has been burned in former times but is now baled and hauled off. It affords an excellent example of soil robbery. One member has a 40 acre farm in this area. Five acres of potatoes in this area brought him over \$2000 this year. The wheat growers in that vicinity are beginning to wonder if they can afford to follow a one crop system or to farm less and in crops which pay a larger profit per acre. This man grows the Irish Cobbler potato." -- H. C. Wheeler, Lawrence County.

Getting Coal for Threshing. McLean County Farm Bureau did a good service for farmer members who wanted to thresh and could get no coal. After several conferences, the county advisers prevailed upon a local mining company in Bloomington to set aside 20 tons daily to be secured by farmers for threshing only. Also it was necessary to have a written order signed by the farm bureau showing number of acres to thresh and coal required. Allotment was made on basis of a ton for 40 acres. A total of 60 farmers secured coal the first four days. This permitted the threshing of 60 jobs which otherwise would still be in the shock.

Silo filling with corn has already started. Sunflowers, however, are not yet ready for silage and promise a fair yield." -- Rehling, Clinton County.

Feeder Hogs. "If you know of any feeders in the corn belt who want to buy feeder hogs we can supply them with some. There will be thousands of bushels of feed bought in this county this year." -- Tate, Monroe County.

The only farm bureau shipping service plan in this state is surely proving out to be a very satisfactory method of organizing the county for cooperative shipping. The Warren County plan is new in that it has no membership except that of the farm bureau. The county manager is employed and supervised by the executive committee and he in turn selects with the township committee and the local shippers the local managers at the different points. We now have nine shipping points supplied and doing business and expect to furnish this service in every quarter of the county within a few months. The service has met with enthusiastic response at nearly every point and remarkably small work and advertising was necessary to get started. The service has brought in quite a few new members who have joined the farm bureau voluntarily. From present indications, it should only be a matter of time until the service will be shipping the bulk of the less-than-car-lot stock in Warren County." -- Wells, Warren County.

Three tenant farmers from Clay County drove to Clinton one day this week and looked about for places to work by the month on farms the coming year. They said they wanted to get located in a good farming country and felt that in the long run they would be better off to dispose of their farming equipment in the southern part of the state and start here as farm hands. I found places for all of them and tentative arrangements have been made to get them located here." Robbins, De Witt County.

For Grain Storage. "The farmers of Greenview are contemplating the building of storage bins at the Farmers' Elevator for their grain in anticipation of storage troubles and car shortages next season, and as a marketing proposition." -- Hughes, Menard County.



"Alfalfa Seeding on the University Dairy Farm has been very successful the past two years in the following scheme: Fall wheat is sown following corn cut for the silo. The next year the wheat stubble is plowed as early as possible and the ground thoroughly compacted. As soon as rains supply sufficient moisture the alfalfa is drilled sometime in August, (August 13th, this year). A compact soil and ample moisture are considered essential. About September 28th the wheat is drilled. The following season gives a crop of wheat and two crops of alfalfa after the wheat. An excellent and uniform stand of alfalfa has been secured in this way, although the wheat has lodged badly in places and the alfalfa stands two or three weeks past its normal cutting time waiting for the wheat harvest. The scheme is well adapted to our peculiar rotation requirements, where corn for silage and alfalfa for hay are the principal crops. It may be found of value elsewhere, under similar conditions of soil and season." - W. L. Gaines, Department of Dairy Husbandry, U. of I.

"Resistance in Wheat to the So-Called Take-All Disease. The so-called take-all disease was first found in the United States in the spring of 1919, in Madison County, Illinois. Later in that season it was found in Mason and Sangamon Counties, Indiana. The cause of the disease is not yet fully known. In 1920, take-all was very destructive on wheat in the experimental plots at Granite City. This was especially true in the case of certain varieties. The disease also was severe in a few commercial wheat fields near Granite City and also in Mason County, Illinois. While the disease was very severe where it occurred in 1920, it was very much less prevalent than in 1919. This undoubtedly is explained by the fact that the majority of farmers in the infested districts did not sow any varieties which gave evidence of being susceptible to take-all in 1919.

Results from experiments thus far indicate that wheat is the only crop attacked. As to the relative susceptibility of different wheat varieties, very striking differences became evident this year in the series of plots at Granite City. Certain wheat varieties were found to be very susceptible to the disease while others showed striking indications of resistance. These differences became evident rather early in the spring and remained so throughout the season. Ten of the leading varieties of winter wheat adapted to Illinois conditions were used. These were sown in adjacent parallel strips a drill-width (54 inches) wide and 50 rods long, on a uniformly infested level field.

Results show that Salzer's Prizetaker and Red Cross varieties are very susceptible to this disease and that Red Wave, May, and Turkey Red apparently are immune. The immunity of these varieties offers a very promising means for controlling the disease. Winter Fife and Harvest King showed only a trace of the disease, Fulcaster 2%, Fultz 2%, and Illini Chief 25-30%. Spring wheat varieties developed symptoms somewhat similar to but not identical with the take-all symptoms of winter varieties. Rosen and common rye showed no take-all. The all-important thing in the infested areas is to avoid the sowing of the very susceptible varieties, particularly Salzer's Prizetaker and Red Cross, and to grow the best adapted varieties known to be immune." -- George Dungan.

"Limestone situation is becoming very unsatisfactory. The demand far exceeds the supply. Marblehead, our most convenient source of good limestone is over 100 cars behind orders and we are sending them orders almost daily. One day this week I gave them orders for nine cars for two men. We have in mind the organization of a large cooperative company of farmers who will secure a desirable quarry and install a large plant located near Quincy." -- Gougler, Adams County.

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Field examinations and collections of Hessian Fly flaxseeds from different sections of the state have shown the following general conditions:

For the north part of the state every field of winter wheat examined has shown from 20 to 70 percent of the stools infested with the Hessian Fly. Spring wheat and barley have shown from no infestation to 40 percent. There is a moderate amount of parasitism, but does not exceed 25 or 30 percent. Conditions in this section of the state will not be far from the same as they were in the fall of 1919.

In the central and south parts of the state practically every field of winter wheat stubble shows Hessian Fly flaxseeds in varying numbers. The percentage of parasitism runs from 60 to 90 percent, and the fly will probably not be as bad as it was in the fall of 1919. Enough healthy fly remain in the stubble, however, to cause a general heavy infestation of all early sown fields.

Practically no fly have emerged up to this date in any part of the state, so there will be little or no danger of a supplementary fall brood. This means that the fly free date as given out should hold substantially." - W. P. Flint.

Nursery Stock. "Nearly all kinds of fruit trees are scarce and expensive at this time due to the small number of trees propagated during the last three years and to the difficulty of securing suitable stock for propagating purposes. Anyone expecting to plant trees or ornamental plants next season should place orders with some reliable nurseryman as soon as possible. If convenient the best plan is to visit the nursery in person, selecting those trees or plants which conform to the desire of the purchaser. If this is not possible, orders should be placed direct with the nursery. With few exceptions "tree agents" should be shunned. The following rules should be observed:

Buy only standard varieties. Choose or specify strong trees but avoid overgrown plants or plants too old to conform to the best information for the species in question; as for example, two year old apples and pears should be planted instead of those older or younger; only one year peach trees or strong June buds should be purchased. Have order shipped as soon as plants have matured naturally and "heel in" immediately upon arrival.

Spring planting is best in the northern and north half of the Central Section. Fall planting is successful and advisable south of Urbana." - W. S. Brock.

Hail Injures Corn. "Last week witnessed a severe hail storm in a restricted area of the county. About 1000 acres of corn was affected, some seriously. Seven farms suffered real damage. Careful investigation and estimate placed the most serious damage at about 20 or 25 bushels per acre.

In very limited areas it may later be found advisable to use this damaged corn for silage, or green feed, depending on the facilities at hand on the farm."
- Center, McLean County.



Pulaski County employs Adviser. "The Pulaski County Farm Bureau has employed Mr. William R. Eastman as farm adviser. Mr. Eastman is a graduate of the Iowa State College and has had special training in horticulture and poultry, in addition to his training in general agriculture. Mr. Eastman was brought up on a farm near Ames, Iowa. He was assistant in Botany and Vegetable Pathology in the Maryland Agricultural College and Professor of Horticulture and Forestry in the Winona College of Agriculture for about three years. He has also had considerable experience on fruit farms in different parts of the country. For nearly three years he was county agent in Hampshire County, West Virginia. Mr. Eastman expects to start work about September 10th with offices at Mound City.

Haberkorn goes to Randolph County. Mr. J. B. Haberkorn, who has been farm Adviser in Madison County since the farm bureau started work in April 1918, has resigned, his resignation to take effect August 20th, and accepted the position of Farm Adviser in Randolph County where he succeeds Mr. Doerschuk, who went to Union County.

McLean County has employed Mr. R. L. Cuff as Livestock Assistant. Mr. Cuff has been county agent in Barren County, Wisconsin for the past five years and is especially trained in livestock work and dairying. He will take up his new work as soon as he can get his release from Barren County.

Dr. Martin J. Prucha Acting Head of Dairy Department. Mr. Ruehe, who has been acting head of this department, will take a year's leave of absence for the purpose of completing his doctor's degree at Cornell. Dr. Prucha will assume his duties here.

"Mr. Orr N. Allyn of Fergus, Montana, a former student of the University of Illinois, a member of the Field Experiment Staff, and manager of the Farmer's Elevator at Fergus, Montana, was hired to assist us with our work at DeKalb, Illinois." - Roberts, DeKalb County.

"Grundy County Sweet Clover is turning out exceptionally well with one field yielding thirteen bushels of seed per acre. There will be quite a lot of this seed for sale. Several showers this week have helped our pastures and new seedings some and also helped the corn crop which has been firing badly and needed rain. Even with these showers it continues to be quite dry and we need a real good rain to bring things along the rest of the season." - Longmire, Grundy County.

"A busy week was spent at the Galesburg District Fair. The farm bureau was represented with an educational exhibit. This was visited by a large number of interested farmers. The noteworthy thing about these visits was the fact that they were made by many of the original members of the farm bureau who manifested a very keen and friendly interest in the work of the farm bureau. This fact brought a great deal of satisfaction to us." - Bracker, Knox County.

In the last issue of the Messenger, page 3, we ran an item about "Take-all". Mr. Dungan has requested us to state that most of the credit for the investigation mentioned and results given, is due to Mr. H. H. McKinney of the U. S. Department. George is modest, which is still more to his credit.

"Potatoes for Sale. We have a letter from Mr. P. W. Huntimer, County Agent, Melrose, Minnesota, stating that his farmers will probably have somewhere between 350 and 400 carloads of potatoes for sale this fall. If your Farm Bureau is interested in this matter you might write to him in regard to it." - G. N. Coffey.



"Some of the sunflowers that were planted early and in a good seed bed are showing up fine. With the present outlook, we expect to push the sunflower idea hard next year. Especially do we intend asking every man to use them for silage next year if the bugs show up this winter as they did last winter. Sunflowers planted late that had to stand through the dry weather are making rapid growth now and are going to make a good crop since the recent rains have furnished sufficient moisture." - Eyman, Jersey County.

Silage Prospects. "The rains in the last two weeks have caused big improvements in the prospects for corn. In the chinch bug section fields that appeared to be beyond hopes a month ago now look as if they will make a large amount of silage. Sunflowers planted for silage have just began to get a growth. Farmers were very disappointed in them until the late rains. Many of the fields of late planted sunflowers are still not much over a foot high." - Miller, Macoupin County.

Planted Seed. "Some of our members sowed soy beans upon limed land and inoculated the seed. They are greatly pleased with the showing as compared with adjoining corn this year. We want to find a good source of seed of cow peas, soy beans and sweet clover so that it may be purchased this fall." - Wheeler, Lawrence County.

Melons. "There is a territory of approximately three townships in this county where water melons and cantaloupes are one of the chief money crops of the farmers. This is on sandy land and the industry is in a way quite specialized. Marketing of melons is one of the chief draw-backs to the business. I should like to know if there are any counties which have melon grower's associations or that have tried cooperative shipping of produce of this nature." - Dickenson, Cass Co.

Increase Stock. "The DeKalb County Agricultural Association has increased its capital stock from \$40,000.00 to \$100,000.00 so that it may finance storage capacity and the buying of wheat for our flour mill. The mill is now being installed, to be completed by the first of September. We are experiencing very little difficulty in placing the additional stock. Most of the present stockholders desired to take the limit of five shares in the association." Roberts, DeKalb Co.

"Six tractors started in our demonstration August 10th. There was a Fordson, Moline, Hart Parr, Waterloo Boy, Samson and Bates Steel Mule. Records were kept on amount of oil used and the time of finishing a three acre plot which each tractor plowed according to the rules of the contest. We had Mr. Doneghue judge the plowing and these records were given to the papers and distributed through circular letters. This method seemed to meet with the approval of our dealers, and I believe it left as good an impression with the farmers as if a decision had been given out as to the relative merits of any one tractor. There was an unusual amount of interest shown and one of the largest crowds out we have ever had at any meeting." - Dickenson, Cass County.

Branch Office at Belvidere. "To accomodate farmers of the southern part of the county, a branch office has been located at Belvidere. Last Saturday orders for five cars of limestone and one of phosphate were taken." - Kline, Boone County.

A real Game! "Members of the Home Bureau, under the leadership of Miss Hoover, played the members of the Farm Bureau a game of base ball at the second annual Williamson County Farm Bureau picnic. Final score was 5 to 5." - J. C. Spitler.

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Wheat Scab in 1920. "Wheat scab, like most other plant diseases, responds quite readily to the influence of environment. The weather factors of temperature and humidity are known to have much to do with the development of scab. It seems that weather conditions most favorable for proper filling and ripening of the wheat; i. e., warm temperature accompanied by abundant moisture, is most conducive to the distribution and growth of scab. The summer of 1920 was particularly dry and cool in Illinois during the latter part of June and the first part of July, while the same season was very warm and humid in 1919. It is beginning to be felt that the knowledge of disease in plants depends upon an understanding of the relationship of host and parasite and their response to the various factors of environment in all combinations. From this viewpoint, it would seem that the best thing to do to be prepared for the unfavorable season would be to minimize the chance of infection by seeding clean seed and by practicing sanitary farming as far as practicable." - George H. Dungan.

Wheat treated with 300 pounds of rock phosphate, sowed with a fertilizer attachment on a grain drill, yielded better than some in the same field treated with 250 pounds of steamed bone meal applied the same way. The yield of the whole field was rather low and it could, therefore, hardly be called a fair demonstration. The whole field was sowed in clover and we are anxious to see the comparative yields from rock phosphate and steamed bone meal on this crop next year. The bone meal wheat looked better early in the spring, but at harvest time the rock phosphate was better. We had practically the same results in this county two years ago except that the yields from commercial fertilizer and rock phosphate, applied the same way only somewhat heavier, were about the same. The rock phosphate application cost only one-fourth as much as the other." - Rehling, Clinton County.

Soybean Demonstration. "Mr. Davis has one of the finest fields of Virginia soybeans that I have ever had the pleasure of seeing. At this time they are more than shoulder high. He has about six acres and if they produce seed, as present conditions would indicate, he will probably have about 25 bushels per acre. There is a very great demand for this variety of beans, as they are so well adapted for silage purposes. In addition to this field, Mr. Davis has 28 varieties growing in his trial plots. A demonstration soybean meeting is being planned for September 14th at Mr. Davis' farm. People from Missouri, Iowa, and our own state are invited to attend this meeting." - Gougler, Adams County.

The Grain Farming Lease devised by the Farm Management Department at the College of Agriculture promises to become quite popular. One of our farmers used this lease in renting two farms this past week. A prominent attorney, who executed the lease thought it was too cumbersome when first presented, but after reading it over carefully, he pronounced it the best lease he had ever seen." - Kendall, Morgan Co.

Apple Packages. "Both barrels and baskets are abnormally high this season. As a result, many apple growers have not bought barrels sufficient to handle the crop and there are very few buyers who are willing to furnish packages or in fact to buy any fruit what so ever. This condition will undoubtedly result in a flood of bulk apples at the harvesting season and continuing nearly to the holidays. To the fruit growers this means that where possible it would be best to secure packages at any reasonable cost and place fruit in storage until the bulk stuff has been worked off. Needless to say it is imperative to pack well and cull closely. To the farmer who has a small amount of fruit to market the present situation is bad inasmuch as he cannot take advantage of cold storage. To keep well, apples should be stored in cool places with a high humidity. An earthen floor is much better than one of cement or concrete. Store in well ventilated crates, not in tight barrels or in bins. Careful sorting will result in long keeping fruit. Windows should be opened during nights when temperature is above freezing and closed in the daytime. Wrapping in unsized paper or newspaper is good if especial care is desired." - Prock.

Good Hog Exhibit. "Two years ago 16 hogs were exhibited at the Clark County Fair. This year there were nearly 200 and everyone was from the herds of Clark County breeders. The most indifferent fellow will concede that the farm bureau through its breeding associations must be given credit for this increased interest." - J. C. Spittler.

Simple Simon took some livestock
To the County Fair
But his scrubs with all the purebreds
Did not well compare.
How can I improve my stock?
Simon did inquire.
And the Judge told Simple Simon
Use a pure bred sire." - Dairy Division, U. of I.

Bureau Exhibits at Chautauqua. "The county agent has tried the experiment of maintaining a farm bureau tent at the Jacksonville Chautauqua as a sort of a headquarters where members might loaf and look over such little exhibits as we staged from time to time. The mornings were spent in the down-town office taking care of the calls for service and answering the correspondence and the afternoons were spent on the chautauqua grounds. We quite likely met some members in a social way that we would not have met in the ordinary run of affairs, but I am very much in doubt as to whether the venture was a howling success or not. We observed August 27th as farm bureau day and had perhaps ten percent of our membership on the ground wearing badges. A special day at a chautauqua cannot take the place of a farm bureau picnic." - Kendall, Morgan County.

Woodford County Exhibit. "The entire week was spent at the El Paso Fair, putting on the usual exhibit and meeting our people. The farm bureau tent again covered the County Soil Map, 10 x 16 feet in size, with the leading types of soil worked into scale with township lines shown. The township lines and larger streams were laid out with white sand. The series of twenty charts prepared by the University attracted much attention and we feel were a very valuable part of the exhibit. I estimate the number of people who visited the tent at about 5000 during the four days that the exhibit was in place. We had personal interviews with from 200 to 300 of our members on definite topics." - Mosher, Woodford County.



Truck Growers appreciate Service. "I find that there is a wonderful opportunity for assisting the truck growers to better control insects and disease. Aside from dusting Paris Green over potatoes - the very worst possible method to use - practically no spraying whatever is done. The past week one of our members purchased, at my suggestion, an outfit for treating egg plant lice. He had the worst attack of those insects I have ever seen. I helped him get started and before I left his premises many of the lice were dead and dying. The same evening a meeting was held in his neighborhood and this man brought several leaves showing that the lice had been effectively controlled. It was a great surprise to this man and his neighbors to find that the insect could be controlled. They had, apparently, felt heretofore, that plant lice could not be controlled. We do not have many members in this neighborhood now, but I am satisfied that this demonstration will do a great deal to break the ice. It is a fact that the average truck grower thinks that he is a good farmer and that a farm bureau cannot help him." - Durst, Cook County.

Farm Bureau Picnic. "Thursday was our farm bureau picnic at Watseka Fair Grounds. About 3000 people attended, including farmers and their families. Entertainment for the men consisted of horseshoe tournament and a base ball game in the forenoon. Much real sport came out of these contests, which provided enough entertainment for one-half day. The afternoon was given over to a speaking program in the amphitheatre at the fair grounds." - Wise, Iroquois County.

Big Picnic. "The big thing in Pike County last week was the Pike County Farm Bureau Picnic held at Griggsville, Illinois. The crowd was estimated between 5 and 8000, - the largest picnic ever held in the county. Among the speakers were D. O. Thompson and Carl Vrooman, J. R. Bent and H. H. Armstrong. The farm bureau served free fish and free coffee. We had over half a ton of fish and did not have sufficient to feed the crowd. Neither were we able to gather up any baskets full afterwards. A well rounded program of the horseshoe pitching contest, base ball, foot races, mule and horse races was executed. Mr. Thompson and Mr. Vrooman made addresses to the crowd immediately after lunch." - Kercher, Pike County.

Legumes were found growing on ten farms out of eleven visited the past week. Eight farms were growing sweet clover, seven red clover, and two soybeans." - Whitchurch, Saline County.

Civic Leaders' Conference. Mr. Vaniman attended the summer school on Community Leadership conducted by American City Bureau at Madison, Wisconsin. He was impressed with the similarity in methods used in handling many city problems to those used in rural affairs.

"J. E. Stanley, Fresno, South Dakota, states that he has a considerable amount of hay (probably alfalfa) which he would be glad to sell direct to farmers. If any of your farmers are interested in this matter you might write to him in regard to it." - G. N. Coffey.

Farm Bureau Record and Account Books are now being delivered to counties. Three accountants are helping counties that asked for assistance in installing the books.

Every sound business organization must be prepared to absorb losses as well as take profits.

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New Assistant Advisers.-- Harry L. Carlson has been employed as assistant adviser in Logan County. He graduated at the College of Agriculture, U. of I. in 1917. He began work in Logan County September 1.

Mr. A. R. Kemp, a graduate of Illinois, has been employed as club leader and assistant adviser in Mercer County and took up his work there September 1.

Mr. Roy H. Taylor, class of 1919, U. of I., took up his work as associate adviser in Shelby County on September 1. He has been teaching Smith-Hughes work in the Shelbyville High School the past year.

Potatoes for Sale.-- A letter from S. E. Johnson, Manager, Farmers' Elevator Company, Brandt, South Dakota, says: "We expect to have 100 acars of potatoes to offer for sale this season. Any information regarding a market outlet in your state will be appreciated." If interested, you may write Mr. Johnson. We judge this is a cooperative farmers' company.

Potatoes to be Grown Locally. "The west side of JoDaviess County produces a surplus of potatoes while the east side usually ships in several carloads each year. The Executive Committee of the Farm Bureau has appointed a committee to work out a plan whereby the local surplus may be used to satisfy the demand within the county." - J. D. Bilsborrow.

"Corn and Soybeans for Hogs. A recent experiment at this station shows that ground soybeans were worth \$2.35 per bushel when corn was worth \$1.25 per bushel and tankage \$120. per ton. The cost of feed for the corn and tankage lot per 100 pounds gain was \$10.73 at the above prices. It required 404 pounds of corn and 32 pounds of tankage per 100 pounds of gain to grow out 20 pigs from 100 pounds to 225 pounds, while it required 374 pounds of corn and 66 pounds oilmeal for the second lot. The addition of 1/10 of a pound of tankage to a corn and soybean ration did not help to produce any more economical gains, as some men have thought. Soybeans do not give a ration the palatability that tankage does. The pigs receiving the corn and tankage would have eaten more feed thruout the experiment than the pigs receiving the corn and soybeans. This work should throw some light on the value of soybeans in hogging-down since the figures would be more accurate than those secured under field conditions." - J. B. Rice.

"Hogging Down Corn. - At this time of year we find many men having trouble with their pigs due to the changing from dry grain to the new corn. A gradual change from one feed to the other helps much in keeping the pigs on feed and gaining well." - J. B. Rice.

"The acreage of wheat will again be reduced. Last fall it was reduced about thirty percent over the previous year and it will probably be reduced about the same amount this fall. Indications are that those who will seed will observe the Hessian Fly date." - Longmire, Grundy County.

Turkey Red Proven Superior. "The farm bureau is ordering a carload or two of Turkey Red wheat for farmers. This variety is proving to be a superior yielder in Greene County. On two adjoining fields, on one farm where conditions were very similar, there was a yield of 22 bushels per acre for smooth wheat and 28 bushels per acre for Turkey Red. This fairly illustrates the advantage of the latter variety over others." - Phillips, Greene County.

"The beardless varieties of spring wheat, the Marquis and Bluestem, have shown this year that they are superior in yielding quality. The farmers who have Marquis and Bluestem are getting 10 bushels more an acre this year in cases that have come to my knowledge. The best yield of the Marquis was on a small tract of about $6\frac{1}{2}$ acres which averaged 50 bushels per acre, but I have found a lot of yields running better than 40 bushels per acre." - Heaton, DuPage County.

"Several bad infestations of the wheat midge have been found. This is an insect which has not appeared in such great numbers for a half century in this country as far as my records are concerned. They seem to have been pretty late so did not do the damage they would have if they had been earlier. Some fields we have threshed, show millions of these insects in the grain at the time of threshing. One place where they were threshing spring wheat several bushels of this larva was under the separator after a half day's work. Our farmers very seldom put in wheat after wheat and practice a very good system of rotation, so we should not have much trouble with them next year. Some of our farmers were very frightened until they found out just what they were." - Heaton, DuPage County.

More Alfalfa. "More rain has made plowing fine and a large acreage of alfalfa will be sown next week. Most farmers who wanted to seed alfalfa have provided their lime and the seeding will be done under excellent conditions. Very little feeding will be done in the county this winter. Due to dry weather and chinch bugs, there will be a small crop of corn silage. The northwest portion of the county has considerably good corn but these men refuse to attempt any feeding operation after the treacherous market of the past year." - Eyman, Jersey County.

"There is a very marked increase in acreage of alfalfa being sown this fall. One man told me that he believed there was five times as much alfalfa being sown this fall as ever before." - Tarble, Bond County.

Peaches Valuable. - "A local orchard man has just harvested 9,000 bushels of peaches from thirty-five acres. Mr. Poff, the owner and member of our executive committee representing Horticulture refused \$24,000 for the crop on the trees several weeks ago. He received \$3.75 per bushel for a large portion of the crop." Piper, Richland County.

Apples. - "There will be a very large crop of apples in this county this fall and many of the orchardists will be in position to furnish apples in carload lots and other quantities. The principal varieties raised are Ben Davis, Jonathon, Grimes Golden, and Willow Twig." - Kercher, Pike County.



Fall Spraying. "Dormant tree spraying is generally speaking, best done in the spring. The exception is the dormant spray on peach trees which is probably as important for "peach leaf curl" as for San Jose Scale. The application should be made as soon as enough leaves have fallen to enable the operator to thoroughly coat the tree but before very cold weather starts. Lime sulphur solution, at the rate of one gallon to eight of water, is the best material. The reason for this recommendation lies in the fact that "leaf curl" begins to develop with the swelling of the buds in spring and inclement weather often results in a delayed spray which is not effective on peaches." - Brock.

Sweet Clover Silage. - "It seems to me Mr. Fred Rehling has found a means of solving the summer pasture problem. He had sweet clover which was nearly ripe and after he was about out of pasture, he asked me whether or not I thought it would do to put that sweet clover in the silo for silage. I told him that I was afraid that it was so coarse that they would not eat it, but he said he was going to risk it. He went ahead and cut it for silage in quarter-inch lengths. He used a lot of water with it and I am certainly surprised to know it made fine silage. The cows relish it and are giving lots of milk on it. They clean this sweet clover silage up better than they did good corn silage." - Tate, Monroe Co.

Sunflowers make heavy silage crop. "A few of our farmers grew sunflowers for silage this year. The yields seem to be much heavier than corn would make." - Belting, Shelby County.

Several of our farmers have gotten good yields of clover seed by allowing the first crop to stand. In one or two cases the men clipped the clover. Yields are running from 3 to 5 bushels of clover seed per acre. One man hulled a mixture of timothy and red clover and got 35 bushels 15 pounds off five acre."

"The practice of clipping clover is followed by several of our Morgan County farmers. This season the clipped clover does not seem to be as full of seed as the men expected. I think that the element of chance enters into this practice to a remarkable extent and I am very frank in stating that I do not believe a county agent can make a 100% record for satisfaction in selecting a time to clip clover." - Kendall, Morgan County.

"The greatest attraction at the fair was the Farm Bureau Exhibit which was under the management and control of the Assistant Adviser. This display was housed in a targetent favorably located and was visited by practically every farmer on the grounds. Such an exhibit requires a great deal of time and labor, but it is our opinion that it is eminently worth while both from the standpoint of educating farm folks and the advertising of the county bureau work." - Lloyd, Hancock County.

Sales Exchange. - "At the monthly meeting of our Board of Directors, the resolutions of the Champaign County Farm Bureau in reference to railroads were warmly endorsed. A resolution was also unanimously adopted favoring the establishment of a livestock commission or sales exchange at the Chicago Stock Yards by the American Farm Bureau Federation." - Bliss, Carroll County.

Peoria County has enlarged and redecorated their farm bureau office rooms. They now have a general office and two private offices - all large, well lighted, sound proof rooms equipped with new oak furniture. You are invited to call. The location is still 3rd Floor, Association of Commerce Building.



The Extension Messenger

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No. 37

Picnics- Great!- Grand!- Fine!- BIG! Largest Ever! These and other equally glowing titles come to us from every county describing their respective picnics. The following are good examples:

"The most important event of the week was the Marshall-Putnam Farm Bureau Picnic, at which there were approximately 3500 present. The best events of the picnic were the two very appropriate speeches of the day given by D. O. Thompson and S. L. Strivings. We believe the manner in which the picnic was carried on thruout, together with the thoughts that Strivings and Thompson left will do more to cause us to attain a 90% Farm Bureau membership when our drive is completed October 2nd than anything else. Everyone was interested in the speeches, as well as the other events of the day. We believe that one element of the success of the picnic was due to the fact that there were no commercial organizations, hecklers or sideshows, proving that people can have a good time in the old fashioned way. Two speakers were enough. A good system of parking cars was beneficial."- Fuller.

"The annual Farm Bureau Picnic was a great success. Three sides of beef totaling 750 pounds were barbecued with 10 bushels of potatoes and 25 pounds of coffee. The crowd of people was closely estimated at 2000 and they were nearly all served in a space of 15 minutes. Only a few pounds of beef and less than a bushel of potatoes were left. Chas. Adkins made the principal address and Sidney E. Smith of Decatur gave a poultry culling demonstration. Everybody was greatly pleased with the picnic and the splendid team work of the Farm Bureau Committees."- Robbins, DeWitt County.

"The annual Home Bureau and Farm Bureau picnic was held on Labor Day. Chester H. Gray of Missouri and Mrs. Frank I. Mann were the speakers. Over 3000 people attended. Gray has unusual ability in presenting the things which concern farmers, in a way to make them think about their own affairs."-Brooks, LaSalle County.

"The first annual Knox County Farm Bureau picnic was held on the 7th inst. at Gilberts Park, Knoxville. Ideal weather conditions, an immense crowd, beautiful grounds and setting, splendid music, good sports and helpful informing addresses by Dean Davenport and Chester H. Gray, were the chief factors that made this, our first annual picnic, a decided success, the crowd numbering over 5000."- Bracker, Knox County.

Of course we haven't said anything about the stupendous picnic held by the I. A. A. and the Sangamon County Farm Bureau. We couldn't do it justice. It simply was a "ringer"! Who said Horseshoe tournament?



Orchard Meeting. "An orchard meeting was held at Ernest Heidenreich's in Rush Township to show the results of spraying on an old farm orchard which had been badly infected with scale and other pests. This orchard has had the oyster shell scale cleaned out of it by two years of dormant spraying. Two trees that were practically dead in the beginning now have new bark and are clean of scale. Although there was a threshing rig in the community that day, we had 35 people present who stayed most of the afternoon talking about renovating orchards. One man came from another township with 18 varieties of apples which he had grown in his own orchard. These apples had been sprayed three times and were practically clean." - Burns, JoDaviess County.

"Orders for nitrate of soda are coming in pretty regularly now to the farm bureau office. The men were pleased with the way the nitrate was handled last season. Some orders have been taken by an agent in the extreme northern part of the county and in another county for \$12 per ton more than the farm bureau quotation.

At a demonstration meeting which was broken up by a rain the effect of sweet clover on a peach orchard was shown. Most of the peach orchard had been limed and all had been nitrated but on the limed portion where sweet clover had been grown the effect on the trees was much better than on the unlimed even where the nitrate had been used. The sweet clover had not even been turned under but was clipped in the early part of the summer. Apparently the nitrogen furnished by the growth of sweet clover through the decay of the roots had benefited the trees considerable, even more than the use of nitrate." - Doerschuk, Union County.

"Clover and alfalfa seeding have come through this season in good shape. The best new growths are where rock phosphate has been used, and the men who have been using rock phosphate are more enthusiastic than ever, because they have found that where the clover plant is properly fed that it can stand more dry weather." - Heaton, DuPage County.

"There are three alfalfa fields in the county which were sown in August. The seed bed was well prepared, the soil well treated with limestone and the seed inoculated. The fields are green and have grown exceptionally well." - McGhee, Johnson County.

"At the horse breaking demonstration, Mr. Newell drew the largest crowd ever. Folks came and stayed all day. Every one was highly complimentary to his work in their remarks, because of its being practical material which every farmer can use every day in the year." - Brooks, LaSalle County.

The new extension circular No. 39 entitled "Crop Rotations to Starve the Chinch Bugs", just issued by the University of Illinois, has been in great demand. In approximately a week's time orders have come in from practically all counties of the state where this circular is of interest. A total of 55,375 copies have been ordered at this date. W. P. Flint and W. L. Burlison are the authors.

Horrible Fate of a Soybean. Last week "A soybean" was ground thru the messenger press and in some way, (unexplainable of course) came out as "oilmeal". At any rate in the "Corn and Soybeans for Hogs" item, line 6, we should have said - "66 pounds soybeans for the second lot."



Corn Disease work in Illinois. "In cooperation with the division of Crops Extension and with the county advisers, certain farmers have been conducting studies of corn disease development. The Plots under supervision are in DeKalb, Rock Island, Knox, Macon, and Clark counties. In addition to studying the effects of corn root rot on the plant and its subsequent yield of corn, we are also studying the effect of different soil treatments on the development of the disease. In Clark County, for example, we are studying only the effect of lime. In Macon County we are studying the effect of lime and phosphorous.

The plots are showing up noticeable differences and we intend to hold demonstration meetings on each of the plots at time of harvest and expect a large number of farmers to be present. In Macon County, the lime and lime phosphate plots are apparently much better than the untreated plot. When all plots are harvested, the results will be compiled and discussed for the benefit of everyone interested."- J. C. Hackleman.

"Corn disease plots are showing that the corn with less disease is ripening earlier than that grown from the badly diseased seed. From appearances the stalks from the healthy seed are likely to produce more corn." - Smith, Macon County.

"An extended study of Soybean varieties is also being made by the University. We had a fine demonstration meeting in St. Clair County. Ten varieties of beans were grown for hay and seed studies and the same number for silage. The 125 farmers who attended were more than pleased with the results. Other demonstrations were held in Adams, Warren, Randolph, and Champaign Counties. All these demonstrations seem to be attracting considerable attention, especially in the chinch bug infested area where soybeans are being very favorably considered by the farmers as a substitute for at least a portion of the cultivated area which they now have in corn."- J. C. Hackleman.

When to put Sunflowers in Silo. "Farmers are getting rather anxious about their sunflowers and I have made several farm visits to see the fields and help them decide the best time to put them in the silo. We have about decided that the proper time is when the majority of the heads have the yellow petals starting to dry up and the seed is pretty well in the dough stage. A number of the fields are ripening very unevenly." - Blackburn, Marion County.

Filling Silos. "Farmers in the southern part of the county are beginning to fill their silos. Corn is drying because of the bugs and the silage is poor both in quality and quantity. The first man that cut sunflowers for silage put the first three loads in the silo and finished filling it with corn. He is offering the sunflowers to any one that will take them off the field. We think that this is not the fault of the sunflowers but was largely due to cutting them while too green."- Hunt, Macoupin County.

"In the eleven poultry culling demonstrations recently held, the most striking thing was the fact that there were always a few people in attendance who were inclined to hang back at the start but who became so interested that they were catching and passing on hens themselves, before the flock was fully culled. Many remarked that they had no idea that there was such a difference in hens. The discussion was always started after two widely different hens were found, and the lesson was then taught by contrast between these two hens."- Hart, Williamson Co.



The Extension Messenger

Material of broad interest from the weekly reports of the Farm
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No. 38

Study Farm Management Results. "On Thursday September 16, the Woodford County Farm Bureau conducted a Farm Management Trip. Five farms were visited which were selected from a group of farms that had been keeping records of their farm business during the past four years. The following facts regarding the farm impressed the writer.

1. That one cannot judge the profitability of a farm by its appearance.
2. Profitable farming does not necessarily mean soil depletion. Each of the five farms visited has consistently had 20 to 25% of its crop acreage in legumes and has been maintaining or increasing its crop yields.
3. Efficient use of labor is essential to profitable farming. The lowest crop acreage per man was 86 and the highest 96.
4. The productive organization of farms may vary widely in the same county, and Adviser Mosher has found it worth while to study the financial returns of various systems of farming for a number of years before drawing conclusions. The percentage of the crop area in corn varied from 25% to 60% on the five farms visited. The proportion of live stock receipts to total farm receipts, ranged from 38% to 96% and the average cattle receipts varied from \$83. to \$2911. Different methods of production were also followed on different farms. For example, one farm had consistently followed the practice of having spring pigs farrowed in April and marketed the following March. The fall pigs were farrowed in September and marketed the following August. Forage crops and other roughages were used to good advantage and expenses for hog equipment were kept at a minimum. This 160 acre farm has produced more than 50,000 pounds of pork in one year, and is one of the most profitable farms in Woodford County.
5. Comparing these productive and efficiently managed farms with the average farms in Illinois one realizes that farmers in general still have many problems of production to solve." - E. Rauchenstein, Associate in Farm Organization and Management, U. of I.

"Better Community Conference." The fifth annual state-wide Better Community Conference under the direction of Robert E. Hieronymus, Community Adviser, will be held at Urbana-Champaign, Friday, Saturday, and Sunday, October 1, 2, and 3, 1920. Some of the most noted authorities in the country will be present to discuss the various phases of community betterment. A program of the conference will be sent you and we believe that it will be well worth the while for every farm adviser who finds it possible, to attend." - G. N. Coffey.

Filling Silos. - "Farmers have experienced a great deal of difficulty in getting cutters to fill their silos. In some instances, where the farmers had grown sunflowers for his silo the sunflowers became over ripe and he was forced to fill with corn." - Piper, Richland County.



"The Farm Bureau has purchased nineteen and one half acres of land near Paris to be used as a demonstration field. The location is almost ideal, being along a brick thoroughfare, less than one-half mile from the city limits and near the Edgar County Fair Grounds. The soil is a poor phase of gray silt loam. It is not the object of the Bureau to use this land as an experimental plot, but rather to use it as a demonstration field. By so doing we hope to clearly "drive home" to every farmer in Edgar County by actual demonstration, sound, constructive practices in the treatment of soils and the management of growing crops. Money appropriated by the County Board of Supervisors will aid in the maintenance and operation of the field.

We have an example of a fair comparison of the relative value of spring wheat versus oats, in this county for this season on brown silt loam. A forty acre spring wheat field yielded $22\frac{1}{2}$ bushels per acre. A forty acre field of oats on the same farm and similar land made an average yield of 65 bushels per acre. The local market today is \$2.00 per bushel for wheat and \$.62 for oats." - Gernert, Edgar County.

A new Limestone Company for extreme Southern Illinois. "The stock-holders of the Belknap Limestone Company recently held a meeting at Belknap and elected their directors and officers. The \$50,000 worth of stock has been subscribed and it is now only a matter of time until the plant will be in operation. This plant will be of great value to the extreme southern counties, in that the new freight rates make the use of limestone in those counties prohibitive." - McGhee, Johnson Co.

"One of the features of our farm bureau picnic which seemed to be particularly successful was the provision for supervised play for children. The picnic committee provided a play ground specialist to take charge of the girls under sixteen. Races and contests of all kinds were conducted, and she taught the children a number of new games and drills and later in the afternoon, with the assistance of some others, there were a number of story telling circles for the younger tots. It will be mighty hard to keep these children away from the picnic next year. The Physical Director of the High School was secured to take charge of the play grounds for the boys and later to umpire the baseball game. We think this feature was one of the most successful parts of our picnic." - Wells, Warren County.

"Hog Pasture. This has been another season that has definitely proven that one cannot rely upon bluegrass for furnishing hogs with pasture thruout the summer. Alfalfa, clover, sweet clover and rape have been good during July and August and have helped in carrying the pigs through on light grain rations." - J. B. Rice.

Sprayers. - "Don't let that spray rig or any spray pump lie all winter full of corrosive spray material. Take out the valves, clean and oil them after running clear water thru the pump. Be sure to drain the pump. Every winter hundreds of them freeze and burst. Take the hose to the dampest part of the cellar and store it full of water. Make a note of repairs needed and better still, order them now. You will be delighted to have these things done when spraying is necessary which will doubtless not be in the most agreeable weather for working out of doors." - W. S. Brock.

J. B. Haberkorn, who had accepted the position of farm adviser in Randolph County and began work there August 27, is now associate adviser in Bureau County.

Lamb Feeding. "During the week ending September 3, over 20,000 sheep and lambs were bought for Illinois corn fields and feed lots. Lamb feeding probably will be less extensive this fall and winter than it was in 1919-1920. Each season, buyers and commission men report many cases where lambs are returned to market after an 80 to 90-day feeding period, a little heavier in weight but no better in finish or condition than when sent out as feeders. The margin between purchase price and selling price is not likely to be so great this winter as a year ago, and consequently it will pay feeders to return lambs to market with a good finish. This can be done by buying vigorous lambs and feeding them well. Lambs need feed for producing fat. The length of time between purchase and proposed selling date will determine how the lambs should be fed. Good healthy 56-pound lambs, if liberally fed, should gain .3 to .4 lb. per day during an 80 to 90-day feeding period. They may be purchased in the fall, used to clean up the fields and fence rows, and later put on feed with a good chance of finding a strong market in January, February, or March. Sheep and lambs usually sell better during these months than in the months just preceding.

Western growers are glad to sell feeder lambs in considerable numbers direct to corn-belt feeders, but this is often not a satisfactory method for those who feed in a small way. Men in a community who plan on turning lambs in corn fields or feeding them, might well make combined purchases direct from western lamb raisers thru their county agents. Skillful buying, proper finishing, and marketing on a strong market are factors which must be carefully watched by the feeder in order to get the largest profits." - W. G. Kammlade, Associate in Animal Husbandry, U. of I.

"Wild morning-glories are considerably of a pest in some corn fields about the county. A number of farmers are coming to the practice of turning sheep, especially lambs, into such fields and find that the sheep are very fond of morning-glories, hence obtain considerable feed in this way and at the same time rid the fields of the pest." - Phillips, Greene County.

"Just what and where to motorize has been the question before draying and cartage companies for the past two or three years. Without question, some companies would have both kinds of power, but in making the division of labor, detailed investigation had to be made and many factors taken into consideration. Cost consideration is foremost. Comparative figures for six leading cartage and transfer companies prepared by certified public accountants, show a margin of difference between companies, but a uniform economy where horses are employed. Charging in all days of idleness,--Sundays and holidays,-- against the days actually worked, it cost these firms from \$4.06 to \$7.75 per day to put a pair of big draft horses and a five ton team truck on the city streets. Add to this \$5 per day for a driver, and the total operating expense is from \$9.06 to \$12.75 per team and wagon per day. The cost figures for the cheapest one-ton auto truck were \$5.35 per day; a two and a half ton truck \$7.66 per day, and a four ton truck \$13.29 per day. Adding \$6 per day for driver, the operating cost of an auto truck runs from \$11.35 to \$19.29 per day. The conclusions, therefore, are in favor of horse use for short haul heavy transportation, within the working radius of a horse, and for all hauling involving frequent stops or long waits. A wealthy drayman doing successful business says: 'A horse drawn outfit costs 1/3 as much originally as the motor truck, less than 1/2 as much to operate, earns quite as much in a year's time in congested city districts, where most of our business is done, and lasts twice as long.'" - Wayne Dinsmore.

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The Extension Messenger

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Better Sires. "General conditions seem to indicate that it is a good time to make an attempt to eliminate the scrub sire from the farms of Illinois. Breeders report a greater supply of high class animals available for breeding purposes than usual and the large exhibits of pure bred livestock at most of the fairs indicate this to be a fact. Bulls, boars and rams can be purchased at prices which would warrant a movement to assist the breeders in disposing of their surplus to the farmers who need to improve their stock thru the use of better sires.

Livestock associations might well consider plans and projects at this time that would assist the breeders in the disposition of their surplus sires. The following methods might be used in addition to the holding of pure bred sales:

1st - Urge the castration of undesirable individuals.

2nd - Put a campaign of local advertising thru the county press and other local advertising agencies.

3rd - Arrange a farmers' tour and visit the breeders who have boars, bulls, and rams for sale. Invite and urge all farmers who are thinking of purchasing a sire to make the trip and visit the breeders. The breeders should have their animals on exhibition and quote prices. After all the breeders are visited, intelligent selections and purchases could then be made." - W. H. Smith.

"The Farm Management Auto Tour was held September 16. Professor Handschin of the University and Mr. Case of the U. S. Department of Agriculture were present. Five of the twenty-three farms where the University account book records have been kept for four years, 1916 to 1919 inclusive, were visited. Seventy-five people, including about fifteen members of the Smith-Hughes agricultural class in charge of Professor King of the Metamora school made the trip.

It is the belief of our Board that this matter of keeping definite records is of much value not only to the individual members but as a means of getting demonstration material along Farm Management lines. It is our intention to have Mr. Johnson do considerable work along the line not only of assisting men with general farm accounts but with more careful accounts along the line of hog cost records which were kept a few years ago." - Mosher, Woodford County.

Mr. Paul E. Johnston has been employed in Woodford County as assistant farm adviser beginning October 1. Mr. Johnson has been engaged in farming in Pike County.

Annual Sweet Clover. "One farmer in this county has about 400 square feet sowed to annual sweet clover. Some of this is now more than 5½ feet high and is seeding abundantly. Many farmers have small amounts of this in their gardens, a few are ordering very small amounts at one dollar per pound." - Price, Kendall County.

A Successful Method of Grouping Farm Visits. (Durst Profits by Earlier Experience.) "We have been holding what I call group field meetings and these are proving quite successful. These meetings are arranged for in advance with the township chairmen. Notices are sent from the farm bureau office on form post-cards, printed for that purpose. The members meet at a given farm where we examine the soil, crops, etc., and then we proceed to another farm. In a half-day we can visit three or four farms in this way. The farmers become quite enthusiastic during these meetings. They learn from one another, as well as from the adviser, and points are brought out that are never brought out in the ordinary farm visit. Furthermore, such meetings promote fellowship.

I cannot help but feel that such group meetings offer a solution of the farm visit problem. By means of these and individual farm visits I have reached 500 of our members in the last 75 days. These meetings provide an opportunity to distribute the service more uniformly and in my opinion will keep the members better satisfied. Furthermore, by trying to keep ahead of the game with such meetings fewer farm visits will be requested. This will leave more time for office work and other problems." - Durst, Cook County.

"The use of Kainit on land slightly alkali has shown up wonderfully in the recent development of corn crops. According to the owner this treatment has made all the difference between practically no crop at all and a most excellent yield on one of his fields." - Price, Kendall County.

"The contract has been let and work has been started on the new Livestock Sales Pavilion in Galesburg. This building will be large enough to take care of such pure bred livestock sales as will come to Galesburg." - Bracker, Knox Co.

Big Oats Yield.- "Mr. L. L. Douglas had 10.34 acres of oats which I measured carefully that yielded $922\frac{1}{2}$ bushels or an average of 89.2 bushels per acre. This is the largest yield we have had here. He says these are "just oats" and of no special variety. The large yield is accounted for by the fact that for a number of years he rented the adjoining land and kept considerable stock on the home place." - Robbins, DeWitt County.

"Held 11 poultry culling demonstrations this week at which I culled about 1600 hens. About 25% of these hens were non-productive. Counting the cost of feed per hen for a year at \$1.50 (which is plenty low) this means an average saving of about \$36.00 in each of the eleven flocks culled. I am asking all of the people who had their flocks culled to send me records of the flock egg records before and after culling." - Belting, Shelby County.

"On our inspection trip we found a farm growing 120 acres of Red Clover where a few years ago it was impossible to grow any. On one 40 acre field the first crop of hay this year was estimated at not less than two tons per acre. The wheat crop of last year on this same land produced 25 bushels per acre. This field had received an application of limestone and rock phosphate. An adjoining field has lain idle for the past three or four years because it was so run down that no one would rent it." - Whitchurch, Saline County.

"The best limestone results found in this county are on gray silt loam near DeWitt. Meetings were held on three of these farms where sweet clover had been grown after applying limestone. Subsequent crops show great improvement." - Robbins, DeWitt County.

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An increased production of good horses and mules on corn belt farms in the immediate future is predicted by the President of the Vermilion County Farm Bureau. "The shortage of work stock was keenly felt the past spring and the farmer would rather pay himself \$200 for the raising of a good three-year-old and be sure to have it, than to pay some one else that amount or more, and not be sure of getting what he wanted at that. In the grain belt, particularly, there is an appreciation in the value of horses rather than a depreciation. For instance, in the spring of 1917, I bought a gelding coming four years old for \$140. I worked him steadily for four work seasons and then sold him in July this year for \$200. This tallies with the reports of the Farm Management Departments of our western universities, which state that there is a constant appreciation in the value of young horses used on farms thruout the corn belt. Therefore, if the farmer does not wish to raise horses, it is good business for him to buy three-year-olds and work them three or four seasons, as they will do the farm work well and at the same time increase in weight, strength and value. I am urging our farmers to breed good horses, and where they have not enough pasture to raise young stock, to breed mules. Mules are saleable at any age. The demand and market for them is as staple as for wheat or hogs." - Wayne Dinsmore.

"The demand for horses is seasonal. The best market of the whole year for all classes, comes from March to June 1. Horses are wanted for the spring work on farms, --most of the farms in the east do not raise enough horses for their own use,-- and draft horses are wanted in cities by the ice men, the building contractors and other lines of business especially active in the open months of the year. There is a strong demand again in the fall, when logging camps must be supplied with horses, and coal companies, trucking concerns and dealers take on extra horses to carry on their work in the winter. Drafters sell readily at these two seasons. The farm chunk sells well in the spring season, as well as the expressers and wagon horses, and there is more or less demand for single animals throughout the year." - Wayne Dinsmore.

Pig Club Exhibits Fine Pigs. "Fifty-six boys out of 74 members of the pig club exhibited their pigs at the Boone County Fair. Roberts, Farm Adviser of DeKalb judged the pigs. The pigs were checked up on the following basis: Conformation 50%, Rate of Gain 25%, Cost of Gain 15%, Record 10%. The record made by the boys and girls were exceptionally fine. Several of the pigs made an average daily gain of 2.1 pounds. The Fair Board recognized the importance of the pig club work and decided to build a special building for club exhibition purposes." - Kline, Boone County.

"A concrete mixing and silo demonstration meeting was held last week with the assistance of R. R. Snapp and J. E. Scott, the latter of the State Highway Department. A monolithic concrete silo 80 feet high, just being finished was examined, Mr. Scott discussed and demonstrated the mixing of concrete for use on the farm. Mr. Snapp discussed silage and the feeding of silage. About 150 attended." - Hay, Christian County.

New Sale Barn in Kendall. "The Board of Directors of the farm bureau this week purchased a feed and tie shed in Yorkville, and have arranged for fixtures to make this a fairly substantial sale barn. It is the belief of the directors that the breeding of better livestock can be encouraged by having consignment sales within the county, also that it is wise for the farm bureau to take care of the sales of the pure-bred men who are now holding individual sales." - Price, Kendall county.

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No. 40

"Hundreds of acres of sunflowers went into silos last week. The general tendency is to cut them too green. Many are now leaving them lay in the fields from one to three days after cutting to do away with some of the juice. Many silos that were not tight have small lakes of juice around them after they are filled." - Hunt, Macoupin County.

Sunflowers Make Heavy Work. "Some of the farmers who have been putting sunflowers into their silos complain that they are very heavy and make much harder work than corn, but I am telling them that I think they will be paid for their work for if they had not had sunflowers they would not have had any feed at all." - Tate, Monroe County.

Use Goats to Tramp Silage. "Silo filling is in full force. Farmers around Pleasant Hill have a novel way of tramping the silage. They have secured about 12 goats. These are placed inside the silo and kept busy moving around. At night an extra door is put in, they are given a little water and salt and the next morning they are put to work again. When the silo is full a rope is tied around the goats' horns to let them down." - Kercher, Pike County.

A Great Crop. - "Mr. R. C. Forbes (President of Illinois Shorthorn Breeders' Association) planted one acre of sunflowers upon land that had been a pond up until the middle of June. In 12 weeks time the sunflowers produced a crop yielding between 35 and 40 tons per acre. Mr. Forbes is very enthusiastic over the apparent value of this crop for silage." - Fuller, Marshall-Putnam County.

"Sunflowers in the county are yielding all the way from 2 to 17 tons per acre depending upon the ground and the way in which they were put in. In any instance, these sunflowers are yielding about twice as much per acre as the corn yields on similar land in the same field. If the sunflowers were properly put in they have yielded well and given excellent returns. We have about 20 fields in the county this year and there will be much greater use made of them next year if the chinch bugs show up next spring. Most of our men realize now that sunflowers are our one chance for a supply of silage in the face of chinch bugs." - Eymann, Jersey County.

Another from our ranks gone wrong (?) "Our assistant adviser, Mr. L. S. Foote, was one of the principals in a double wedding held on Wednesday, September 22. His bride was Miss Martha Hedgcock of this county, who is a sister of Wm. E. and J. Franklin Hedgcock. The other contracting parties were Miss Nellie Hedgcock and Melvin Roske, County Agent in Big Stone County, Minnesota. It would seem that the Hedgcock family runs pretty strong to farm advisory work. Mr. and Mrs. Foote will be on the job in Hancock County October 4." - Lloyd, Hancock County.

Many fine exhibits were made up locally by the Farm Bureaus for their respective County Fairs. Some of these were novel, very attractive and received a great amount of attention. We should like to tell of all of them in detail, but lack of space prevents, even if we could do these exhibits justice. One of the most novel perhaps, was an exhibit worked out by Adviser Richey of Mercer County. "Two model displays showed the present system of grain marketing and the I. A. A. system as planned. Miniature trains, elevators, storage plants and other models gave a comparative picture of marketing systems now and as planned by the I. A. A. to eliminate losses sustained by useless handling." - Miner, Henderson Co.

Soil Map at Fair. "We wish to mention an idea of exceptional merit which Adviser Mosher had worked out at the El Paso fair. It was a map of Woodford County about 16x20' made to scale, and showing actual soil types in place. It was simple in execution but very effective. I stood and heard person after person pick out their home location and favorably comment on the better idea, the soil type map had given them of their county." - Center, McLean County.

Buying Potatoes. "Many counties are making arrangements to buy potatoes for Farm Bureau members. Meanwhile prices are declining, and in some cases, local merchants promise to sell lower than Farm Bureau prices, whatever such prices may be. This complicates the buying problem.

Poultry Culling Demonstrations have been reported by many counties as being very successful. Most advisers are endeavoring to teach a few farmers in each community so they may assist all their neighbors in properly culling their flocks. The egg records measure the value of culling and make the project attractive as a Farm Bureau service.

Culling supplemented by regular poultry campaign. "Mr. Barrett, the assistant adviser, is conducting a poultry campaign that is taking him into every nook and corner of the county and is perhaps winning more friends for the farm bureau than any one thing we have been able to do. The Bible says, 'The devil fleeth when no man pursueth', but Barrett and I think that he maketh better time when something is after him. At the present he is going some, from the way Barrett is cleaning the poultry flocks of the county and robbing the hen roosts of lice, mites and bed bugs." - Kercher, Pike County.

Colt breaking demonstration valuable as well as popular. "Wm. P. Newell of Washburn made his second series of demonstrations at our county fair this year. During three days he worked 12 green and spoiled colts and in addition showed the eight-horse ditch. Mr. Newell worked both forenoons and afternoons and at every demonstration he held a large crowd, more than could easily see his work. A very gratifying feature of this work was the large number of men who reported to Mr. Newell their success in using his method that they learned at the demonstration last year. The farm bureau and the fair association cooperated in putting this work on. Miss Audra Newell, daughter of Mr. Wm. P. Newell, gave a three-horse tandem exhibition and a riding exhibition each day with her pure white horses. Her clever work was appreciated by the crowds." - Longmire, Grundy County.

No Corn Root Rot in this Row! "On one farm visited this week a 22 inch fence supported by twine to a row of corn, is being used where corn is being hogged-down. The upper parts of the stalks have been cut off so that the hogs would not try to reach the ears and thus tear the fence down." - Price, Kendall County.

Hog Sales are Draggy. "Three Poland China Breeders sales held by our breeders were attended. They were very draggy and indicate that farmers are hesitating about paying as high prices for breeding hogs as has been paid during the past few years. There is considerable evidence that prices have been raised to a level that is unwarranted thru certain practices that have been carried on in connection with sales. This has been detrimental to the interests of the farmers and will eventually be to the interests of the breeders as a whole." - Richards, Kane Co.

"Attended two Poland China hog sales. Buyers are not bidding very high in this section. One sale that amounted to \$60,000 last year only totaled \$14,000 this week. The general unsettled condition of the country seems to be the cause." - Kline, Boone County.

Sale Prices Low. Two Pure Bred Livestock sales were held in this county on September 29 and 30. The bids were not very spirited. Fully half of these hogs brought little better than stock hog prices. Evidently price cutting has started in pure bred circles. It will result in a great deal more pure bred stuff being put into the feed lot." - Kendall, Morgan County.

A unique but effective method of hulling sweet clover was worked out on the farm of James Gould near Merma. Mr. Gould had 35 acres of sweet clover cut for seed with the tractor-binder. It was very much branched and bushy, making it practically impossible to feed into the regular clover huller. It was suggested that the bundles be first run thru a regular grain separator and the seed, chaff, and broken stems and other litter be put into box wagons and taken to a huller. A short discussion in company with Mr. Gould and the farmer having the huller, brought out the suggestion that the huller be set along side of the grain separator and let the grain spout deliver the seed and other litter directly into the cylinder of the clover huller. This was done, and one of the cleanest, quickest and best jobs of sweet clover hulling I have ever known was the result. The cost too, was but little more for the two machines than would have been required for the huller alone. It was the most effective plan for clean and rapid sweet clover hulling I have ever seen. The yield of sweet clover seed was a little over 10 bushels per acre, as it came from the huller. It was so clean that after re-cleaning it will still show a good 10 bushel yield. Most of this seed has been sold at \$15. without recleaning." - Center, McLean County.

Sweet Clover Seed. "One farmer with 35 acres of sweet clover has been able to save more sweet clover seed by cutting the clover before entirely ripe, putting it in shocks and letting the maturing process continue in the shocks. He is about to thresh his seed and will apply two tons of rock phosphate per acre and plow for fall wheat. He claims that this amount of phosphate will balance up the nitrogen and prevent lodging of the wheat." - Fuller, Marshall-Putnam Co.

Bees Make Clover Seed. "A certain alsike clover field in this county containing 9 acres yielded 5.5 bushels per acre. One acre in this field yielded as much seed as any two acres of alsike we have been able to hear of in the county thus far this year. This clover field was located on good soil and was a fairly thick stand, however, the soil was no better nor were the plants thicker per sq. rd. than on many other alsike fields in the county. The increased yield in this certain field over the yields of other alsike fields in the county is undoubtedly accounted for by the fact that a bee keeper had forty stands of bees within honey gathering distance of this field." - Gernert, Edgar County.

The Extension Messenger

A series of brief notes from the weekly reports of the Farm
Advisers, College and Experiment Station Workers and the
County Leader's Office.

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No. 41

Chinch Bug Resistant Varieties of Corn. "Tests of corn varieties for resistance to chinch bugs, conducted during the past season have shown that where only the second brood of bugs attack the corn that there are several varieties which exhibit marked resistance. The varieties making the best showing this season are in the order named: Democrat, Black Hawk, St. Charles Co. White and Arlington Prolific. None of these varieties will successfully resist the first crop of bugs coming in from the fields of small grain.

Based on the results of three years' observations of the White Democrat and Black Hawk, we would recommend the planting of these varieties in the areas in southern Illinois where the chinch bugs are abundant. Seed of the Democrat and Black Hawk will be available in limited quantities in several counties in southern Illinois. The St. Charles and Arlington Prolific are not so commonly grown but seed can be located for those who desire these varieties. The Prolific is late in maturing and should be considered only as a silage corn." - W. P. Flint and J. C. Hackleman.

Hessian Fly. "Will County has more Hessian Fly in sections of it than has been known in the County in years. Wherever volunteer wheat has been allowed to come up, the young plants are simply over-loaded with the Fly, finding as high as two dozen larvea in one small wheat plant. As they develop they burst the sheath of wheat. The Fly has not been known to do a great deal of damage in this County, although quite a little damage was done this spring." - Hedgcock, Will County.

The Corn Disease Exhibit. "That just looks like my corn," said many a farmer, as he would look at a "down stalk", a broken shank, a dead or a barren stalk. The little invisible fungus has made its way into practically every corn field in the corn belt, and the observing farmer is taking notice. Complete rotation and careful seed selection must be practiced if we are to eliminate the losses resulting from this disease." - Mercer County Fair.

Good Exhibits. "This has been fair week for Greene County. As usual, the farm bureau had one of the best exhibits at the fair, consisting of a set of good charts from the University of Illinois, a good exhibit from the state seed analyst's office at Springfield, a model farm kitchen, a corn show, an apple exhibit from one of the large orchards of the county and numerous other things that attracted attention and interest. We estimate that 5000 people visited this exhibit during fair week." - Phillips, Greene County.

"The Man Worth While is the one who can Smile,
when everything goes dead wrong."

"More winter wheat is being sown this fall than has been sown for many years. This is, I think, in a large measure, due to the campaign we have been waging against the chinch-bugs. The majority of the farmers observed the fly-free date, but we still have a few that insist it is only luck and sowed as early as possible." - Hunt, Macoupin County.

"Practically all farmers have started sowing wheat. A few of them have finished and if the good weather continues for two or three days, nearly all the wheat in this county will be sown. While a few people sowed too early, as a general rule farmers held off until fly-free date before starting. I can notice that Farm Bureau members pay more attention to the fly-free date than the non-members."

"There seems to be a renewed interest in local limestone crushers this fall. Two things are responsible for this unusual interest in limestone crushers. One is the fact that most farmers have learned by this time that they cannot do without limestone. The other is that the increased freight rate has brought the price of limestone up to such a point that they can well afford to turn it out on their farms through small local crushers." - Tate, Monroe County.

"A car of limestone on the siding where farmers coming into town can see it, will do the work of much publicity." - Brown, Stark County.

"There has been a little wheat sown in our County to date. I am very well pleased with the results we have obtained in our campaign to hold back wheat sowing until the fly free date, October 3. A few men got excited and had their wheat sowing started September 20. The wheat generally, is going in, in a good seed bed." - Eyman, Jersey County.

The Man with Scrub Purebreds. "The one who thinks all he needs to do to acquire fame and wealth is to buy a lot of purebred cattle, hogs, horses, or sheep, and then proceed to let them shift for themselves will soon earn the reputation of 'the man with the undesirable purebreds'. He will find that his wealth is not the kind the banker will recognize." - Weekly News Letter, U.S.D.A.

"The Red Top market is very dull this year, and we have not been able to dispose of our Red Top seed with any profit. Do not seem to be able to do anything with the seed which will give us a better market, as too much was left over from last year." - Blackburn, Marion Co.

"The outlook for the dairy men is not extremely bright at this time. The price of milk is being cut in many places \$1.00 to \$1.20 per cwt. Farmers are discouraged and are selling their entire herds in many cases." - Gafke, McHenry Co.

"The shrink of 50% in the value of what the farmers have earned this year, is putting them in a very determined mood to support their organization in making a study of, and establishing means to avoid fluctuations." - Brooks, LaSalle Co.

"J. W. Watson, now assistant adviser in Champaign County, has been employed as Farm Adviser in Piatt County, to take the place of Mr. A. E. Burwash, who will assume the management of the Allerton Farms near Monticello. Mr. Watson was reared on a farm in DeKalb County, graduated in agriculture at the University of Illinois and has been assistant adviser in Champaign County for two years. He will take up his new work with headquarters at Monticello about October 20.

The Illinois Way. "The Illinois system of soil fertility was spelled out in a bed of black prairie soil by sprouted oats. Limestone, phosphate, clovers and manures, spelled in large letters, encircled a bunch of alfalfa. The bed was six feet by twenty-six feet and attracted the eye of every visitor." - Mercer County Fair.

"The field meeting at Ewing Experiment Field was well attended, Dr. Bauer gave a very interesting talk which brought the facts home to the visitors in a manner they will not soon forget. The effects of limestone on corn and clover were an excellent object lesson for the unbelievers. Few people have realized that this experiment station shows the best results for limestone in the state. The influence in the immediate vicinity of the field is noticeable. Last year over 120 cars of limestone were shipped to the little village of Whittington, which is the freight outlet of the Ewing territory. The Orange Judd Farmer, in a recent number, named Whittington the 'Limestone City'. Some of this limestone and rock phosphate is hauled twelve miles. Limestone, legumes and phosphate are putting the Agriculture in this section on a profitable and more permanent basis." deWerff, Franklin County,

Value of Spraying. "There is no excuse for the DuPage County farmers not having plenty of apples for their own use and some for the market. Mr. Ferdinand Weigand, a farmer in York Township, had become so disgusted with wormy apples that he had made up his mind to destroy the orchard until his boy persuaded him to spray his orchard this year. The San Jose Scale was very bad in parts of the orchard, and they gave it a thorough spraying with a scale spray. They also gave it one spraying to control the moth. The result was that he spent \$16.45 for spraying materials. People from the neighboring towns came to his place and purchased apples, and he has sold over \$200. worth of early apples alone and he has several hundred bushels of late apples in the orchard. Mr. Weigand has 87 varieties of apples alone, and most of them are just coming into good bearing condition. This year has shown him what spraying will do, and he should reap big profits from the apple orchard alone. He has as nice an orchard of Jonathans, Northwestern Greenings, Ben Davis, Stayman Winesaps, Missouri Pippins, and a good many other varieties of apples, as I have seen anywhere." - Heaton, DuPage County.

Sunflowers are Frost Resistant. "Montana State College gives some interesting data on the resistance of sunflowers to frost. At both the Experiment Station farm at Bozeman and the Ft. Ellis farm the sunflowers on September 24 resisted a temperature of 4 to 6 degrees below freezing. At this time they were able to withstand more frost than on August 29, when a temperature of one degree below freezing caused a few of the leaves on more immature plants to wilt. J.B. Nelson, in charge of the experimental plots at the Montana Experiment Station, has for a number of years tested sunflowers as to the date of seeding. He says, in review: 'sunflower seeds germinate at a low temperature, the young plants are very hardy and the greatest yields are obtained by early seeding.'

"The Eighteenth and Twenty-third Reports of the State Entomologist of Illinois (the Seventh and Twelfth of S. A. Forbes), giving a complete, profusely illustrated account of the insect injuries to Indian corn, have been reprinted by the state and are now available for distribution to all Farm Bureau agents who have not the original editions, and to Illinois schools in which agriculture is taught. These reports were first published in 1894 and 1905 respectively, but the original editions have long been out of print. Requests for copies should be sent to the State Natural History Survey, at Urbana, Illinois." - Stephen A. Forbes, Chief.

The Extension Messenger

A series of bulletins from the weekly reports of the Farm
Advisors, College and Experiment Station Workers and the
State Land Office

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The corn disease investigation plots were inspected a week ago by Dr. A. J. Johnson and Mr. J. R. Holbert, both of the U. S. D. A. The effect of soil treatment on different forms of corn diseases was especially noteworthy. The following observations made in two plots in different parts of the county indicate that soil treatment works differently with different forms of disease. For instance, corn planted from an ear which was affected with the Fusarium disease was found to be leaning to a marked degree in the plot which had received no soil treatment; in the limestone plot adjoining, the corn was standing as straight as a sentinel, while in the plot treated with nitrogen, the corn was down to an even greater extent than in the no treatment plot. This indicated that limestone had acted favorably on this form of corn disease, while nitrogen seemed to have aggravated it. In another row the corn was planted from an ear which had been affected with another form of the corn disease. Observations on this row indicated that the corn was in a decidedly improved condition in the nitrogen plot, while it was practically the same in the limestone plot, as it was in the no treatment plot. The final readings are being awaited with much interest." - Bracker, Knox County.

Two corn demonstration meetings were held with an attendance of 175 farmers. The plots were planted with corn secured from farmers thruout the county, with high and low ear strains from the University of Illinois, disease corn from the Funk Farms at Bloomington, and disease-free corn.

There were marked differences in variety, characteristics, maturity, height of ears, uniformity of height, etc. The chief value of the demonstration was not that it was done as a corn breeding demonstration, but it gave a chance to tell farmers the things to bear in mind when it comes to selecting seed corn. Mr. Hackleman gave a talk on Corn Root Rot." - Wise, Iroquois County.

Several corn picking demonstrations have been held at which the men were much interested. We noted with a great deal of pleasure the effort that a great number of our farmers have put forth in securing disease free seed corn this season." - Edgerton, Rock Island County.

The Farm Account Book. "In making some study of 57 farmers who asked for aid in starting the farm account book, we find that about 25% are keeping them up in creditable shape. More than 50% are using some kind of day book account. Of those who have their farm account book in good shape, more than half of them do it by posting occasionally from some day book account. A very small percent are found to be making their entries from day to day direct in the farm account book." - Brooks, LaSalle County.

"It isn't necessarily the right road because it is well beaten."

Potatoes. The Farm Bureau has handled the orders for nearly all of the potatoes that will be shipped into this territory. Where Farmers' Elevators are located they have cooperated with us in working out plans for distribution. We hold orders from 1,000 people to the total amount of 19,575 bushels which is over 30 minimum carloads. In the whole plan the Farm Bureau has not aimed to deal in the potatoes directly but to furnish an organization whereby the orders may be pooled. For this quantity of potatoes the Farm Bureau saw fit to send a competent man into the potato regions to make the purchase. The few people who have shipped in potatoes have been compelled to reduce their prices as much as 25 cents per bushel, on account of the competition of the potato pool." - Fuller, Marshall-Putnam Co.

"Orders have been taken to ship in 10,000 bushels of potatoes to the Farm Bureau members. This is the first step taken to ship in potatoes to Will County." - Hedgcock.

"Work in handling apple and potato orders is requiring most of our attention at present. Orders for nine cars of potatoes have been received." - Longaire, Grundy County.

"Our orders for several cars of potatoes have kept down the prices which the merchants are asking." - Brown, Stark County.

"Twelve carloads of Red River Valley Early Ohio potatoes have been ordered by the Farm Bureau. These are being distributed by farmers' elevators and shipping associations in various parts of the county." - Doneghue, McDonough County.

"Seed Potatoes Located. 100 bushels of selected, disease free seed potatoes, located in East Galena Township as a local project." - Burns, JoDaviess County.

"Apple picking is on in full force. Truck loads of barrels are passing along the highways in every direction. Most of them are shipped directly into cold storage at Hannibal, Quincy, and Valley City. There is fruit everywhere of every kind. It is estimated that the crop is about 40% normal." - Kercher, Pike County.

Window Exhibit Attracts Attention. "During the last week we have had in the window, an exhibit of an experiment that was put on in the county, of a comparison of White Democrat and Reid's Yellow Dent corn. We have a chart showing estimated yield and also an average stalk and an average ear of each variety. The word "Democrat" attracted much attention and the display caused more comment and excitement than any exhibit we have had in the window for months." - Leslie Hunt, Macoupin County.

We take it Mr. Hunt wishes to point out the fact that White Democrat corn produced a fair crop despite the chinch bugs, while Reid's Yellow Dent produced practically nothing under like conditions. This display in a Farm Bureau window would certainly attract attention. More of us should use our windows to point out such lessons and keep the exhibits live, attractive and up to the minute. Y.E.

Threshing Soybeans. "The most of the soybeans are threshed. The growers had a good deal of trouble with split ones this year. Mr. Riegel and Mr. John T. Smith each got attachments for their separators, the former an Altman & Taylor, and the latter a Red River Special. These run the cylinder and other parts of the machine at different speeds than they are run for threshing grain. Their work is very satisfactory." - Oathout, Champaign County.

Chinch Bugs a Plenty. "The dry weather is giving the chinch bugs all the advantage they could want. Old Settlers tell me that they have never seen so many bugs in Franklin County before." - dewerff, Franklin County.

Weather conditions favorable to Fly. "It seems more than ever probable that there will be a good deal of damage from the Hessian Fly. I have examined fields sown as late as October 2 and there are a great number of eggs on the wheat. Unless something happens to the larva they will be present in great numbers." - Gentle, Schuyler County.

Similar reports from other counties indicate the same danger. This continued warm, dry weather is very unusual and is fatal to the "dope" of the prognosticator. But we will hope and trust Dame Nature will yet come to our rescue. - Y.E.

"There are several small limestone crushers in the county and these crushers will start crushing soon after wheat sowing. We have one small crusher that has ground better than 400 tons this summer, and it will perhaps grind that much more before the weather breaks up."

Flint in Limestone detrimental. "The visit of Bent and Armstrong of the Illinois Agricultural Association to investigate the old Ullin limestone quarry in the north part of county shattered all hopes of getting a cheap supply of ground limestone developed there. Small thin streaks of flint were found every 6 to 9 feet thruout the rock formation, which is enough to make the pulverization of the rock very costly and probably not practical for us. Our attention will now be turned to the new plant at Belknap with the hope that they will furnish all we want." - Eastman, Pulaski County.

Community Development. "During the past few weeks special effort has been made to organize the Farm Bureau members into local community groups. Twenty-six of these groups have been formed and we are making an effort to get each Farm Bureau member to designate the group to which he wishes to be identified. Our constitution provides for a system of delegates for the annual business meeting and we had to have the groups in order to select the delegates.

In order that it will not be necessary for a representative of the Farm Bureau office to attend the monthly meetings of the local committees, we are arranging for monthly meetings of the local officers. These monthly meetings will be in the nature of schools of instruction and an effort will be made to put before the local officers the things that we wish to get before the local communities. It will also serve as a training school for local leaders. We are expecting the cooperation of the extension department in making these schools successful." - Lumbrick, Vermillion County.

"Considerable hog disease was reported this week. Two of our purebred breeders were forced to postpone their sales on account of sickness in their herds. So far we have had no 'breaks' in the herds vaccinated with the serum and virus handled by the Farm Bureau." - Lloyd, Hancock County.

"Two infections of hog cholera have developed as the result of treating well herds by the simultaneous method. The trouble is due to dormant or weakened virus. The herds were retreated and it is hoped the disease will be confined to these premises. There is no other cholera in the country to our knowledge." - Bliss, Carroll County.

"Our Duroc Jersey Sale of Bears, Gilts and sows averaged \$37. per head. Just about market price when all expenses were paid.

we have taken orders for four cars of potatoes and two cars of apples with checks in advance. The greater part of these orders and checks were secured in a series of 12 meetings over the county." - Hughes, Menard County.

The Extension Messenger

A source of information from the various departments of the Farm
Bureau College and Extension from the Workers and the
State Leaders Office



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"Riegel Invents Straw Spreader. W. E. Riegel manager of the C. E. Meharry farm at Tolono, has a unique way of spreading straw. It consists of two logs 24 feet long; these are connected together like a drag by three 2 x 6's about three feet long nailed on the bottom of the logs flat-wise. A board one foot wide is placed between the logs on top of the 2 x 6's, this for a man to stand on. The front log is eight inches in diameter and the rear one 5 inches, these sizes being necessary to get proper weight.

A team is hitched on either end and a man with a fork assists in keeping the straw going properly in front of the drag. Using a 3/8" cable which is thrown around a portion of the stack and connected to the tractor, from two to three load loads of straw are dragged out at a time and left in bunches over the field. The drag or straw spreader with team hitched on either end is then used in scattering these bunches of straw. Mr. Riegel states that by this method a good sized straw stack can be spread in a half day and the spreading is very even if stack is new."- Vaniman.

"A Good Idea. The officers and directors of the Farm Bureau were given a luncheon at the Y. W. C. A. Saturday. There were 24 present; D. C. Thompson of Chicago was the main speaker. The table decorations carried out were as follows: A number of small pumpkins were placed in the center of the table, these were labeled 'County Farm Bureaus'; three medium sized pumpkins were placed on top of these and labeled 'State Farm Bureau Associations'; capping these three was one large pumpkin called the 'American Farm Bureau Federation'; place cards for every director and officer were furnished. From each place card red baby ribbon ran under the pumpkin pile, the idea being to impress the directors and officers that they were very definitely 'hooked up' with a big organization. A local mirth maker was present for the entertainment feature. Everybody had a good time. This will be a quarterly event from now on." - Edgerton, Rock Island County.

Agricultural Open House. All that is agricultural in and about the University proposes to open itself for general inspection in a grand, big, "Open House" on Saturday afternoon, November 13, 1920. From 1 to 6 o'clock, on that date, the various departments in agriculture will be in their best dress to show all visitors something of the attainment in Animal Husbandry, Dairy Husbandry, Crops, Soils, Farm Management, Floriculture, Genetics, etc. Some splendid exhibits will be prepared for the occasion. There will be no admission charges and everyone is invited. Who's responsible? Why, the "Ag. Club" of course.

If Zimmerman is right, we may all be destined to be economists. He says: "Take care to be an economist in prosperity; there is no fear of your being one in adversity". It looks as if adversity were coming our way.

"Resists Chinch Bugs. After looking over several fields of Champion White Pearl corn in the county, we find that chinch-bugs do not damage it as much as the yellow varieties. In one case the bugs went thru a field of Champion White Pearl, which will yield between 40 and 50 bushels, and took practically all of the member's Reid's Yellow Dent on the other side. A large amount of this corn will be planted in this county next year." - Pollock, Edwards Co.

"Convincing evidence of the superiority of White Corn (Especially Democrat or White Pearl) over yellow varieties with regard to chinch bug resistance may be found on every hand. There will be a big demand for Democrat Corn for use within the county, yet we expect to have about 1000 bushels to spare."- Thomas, Jackson Co.

"Acid Phosphate most economical potato fertilizer. A comparative test of 16% acid phosphate, and a 0-12-4 commercial mixture on potatoes in connection with manure gave the following instructive results:

Manure alone	121 bushels per acre
Manure & 350 lbs. acid phosphate	220 bushels per acre.
Manure & 350 lbs. 0-12-4	161 bushels per acre.

This demonstration was carried out on a member's farm near Belleville. The results are in accordance with the advanced thought on potato fertilizers."- Tillman, St. Clair County.

Soybeans a great Crop. "Carl Walker of Clinton has just hulled 400 bushels of soybeans from 23 $\frac{1}{2}$ acres making an average of 17 bushels per acre. These are known locally as the Walker bean and are grown to the exclusion of every other variety in this county. I believe they belong to the black beauty variety. These are exceedingly popular because they yield well, shatter very little, and are hardy and make a good crop either of hay or seed. Carl Walker has used soybean hay exclusively for a number of years to feed his horses and cattle, and his purebred Percherons are as good as any in the county. His soybean land was drilled to wheat immediately after removing the crop. The beans had been sown solid one bushel to the acre with a grain drill.

Claude Thorp has just started hulling his soybeans, also of the so-called Walker variety. His were sown one peck to the acre in rows 28 inches apart and were cultivated. He says he will drill them in solid a bushel to the acre another year, because he believes they can be handled more satisfactorily that way. As fast as the ground is cleared he is drilling in wheat." - Robbins, DeWitt County.

"Three Carolina Soybean pickers have been successfully operated in Edgar County this season and paid for themselves the first year with a handsome additional profit. Men who own them like them especially because one man can, by their use, harvest a 50 or 60 acre field, all by himself with very few cracked beans, and the machine leaves stalks and trash on the ground as a winter protection, and it is observed that no more beans are shattered or lost by this method than by the use of a mower or binder in harvesting the crop. An extra fine quality of seed is obtained when the picker is used and very few broken or cracked beans can be found when the seed is cleaned." - Gernert, Edgar County.

"A carload of Nebraska Potash was shipped into this county last spring, for use on peat and alkali spots. The results from its use have been most gratifying, and a large number of men have left check strips where the effects of the potash was very plain. Several of these men are planning on husking this separately; this should prove a valuable demonstration in those communities."- Isaacs.

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Madison County Secures Adviser. "The Madison County Farm Bureau has secured the services of Mr. Alfred Raut as Farm Adviser in that county. After graduating from high school Mr. Raut farmed for several years before entering the University of Illinois. Since graduating from this institution, he has been in county agent work, having spent nearly three years in Virginia, two years as district agent in Missouri, and two years as county agent in Perry County, Mo. Mr. Raut expects to take up the work there December 1."

Oats as a Nurse Crop for Sweet Clover. "On our outlying soil experiment fields we have this year some eight fields located in as many different counties upon which we have successful stands of sweet clover from a seeding in oats this spring. On land which has been treated with limestone it is a rare case to have a failure of sweet clover from a seeding in oats. One disadvantage is that on fertile soil and a favorable season the sweet clover will grow up and be bound up in the oat bundles. This allows slow drying and sometimes darkens the grain. Some of the advantages are that a fairly good hay crop may be harvested in the fall, or a good fall pasture may be had without any great danger of injuring the growth of the following spring. The spring growth may then be used as an early pasture from which later is obtained a seed crop, and when corn follows oats, this spring growth turned under will add many bushels to the corn yield." - H. J. Snider, U. of I. Experiment Fields.

"The sweet clover tour the past week revealed the great benefit that sweet clover has been for pasture during the past dry season. One man reported 22 head of horses and cattle on 15 acres all summer and he still has considerable left to plow under. This man says he will always have sweet clover pasture hereafter." - Price, Kendall County.

"Attended the Advisers' Conference for southern Illinois. It seems that we get more than twice as much good out of these district conferences as we do out of the general state meetings. I have talked with several of the other Farm Advisers in southern Illinois, and that seems to be the general opinion. When we meet at the University we get some good work on what the college is doing and the departmental officers, but it seems the men from the northern part of the state monopolize the greater part of the time, and since southern Illinois is in the minority at the state meetings, we do not have very many things taken up, that are of special interest to us." - Blackburn, Marion County.

"Our first annual Swine Breeders' sale held October 21 was well attended. We sold about 50 head of pure bred stock, half of which were boars. The consignment was about equally divided between Duroc Jerseys, Big Type Polands and Spotted Poland breeders within the county. No fancy prices were paid for either gilts or boars but we averaged about \$42. a head which was considerably better than a good many of the sales in this part of the state have been averaging of late. This price would equal about \$20. a hundred on an average for all pigs consigned." Phillips, Greene County.

"We held two pure bred sales. On Tuesday we sold 42 head of Duroc Jerseys for an average of \$44.17 and on Thursday 47 head of Poland Chinas for an average of \$47.66. Considering the bad condition of the pure bred hog business this fall, we think these were good sales.

"Corn huskers are coming in about the same as usual and most of them are satisfied with the 5¢ price." - Robbins, DeWitt County.



The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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"Acid Phosphate most economic liquid fertilizer. On a member's farm, a comparative test of 16% acid phosphate, and a 6-12-4 commercial mixture on potatoes in connection with manure, gave the following instructive results.

Manure alone	121 bushels per acre
Manure & 350 lbs. acid phosphate	220 bushels per acre
Manure & 350 lbs. 6-12-4 mixture	161 bushels per acre

The Acid Phosphate was given as a surface application in the spring, just before planting the potatoes, at the rate of 350 pounds per acre. It was worked into the soil by a double harrowing. The ground had been plowed in the fall, after receiving an application of barn-yard manure. The purchasing price of the Acid Phosphate was \$16.50 a ton which made the acre application of 350 pounds, cost \$4.65 not counting the work of spreading." - Tillman, St. Clair County.

"Despite intermittent rains and muddy roads, a group of farmers met at three of the fields where we made studies of the corn disease. One farmer stated that he had a 25 acre field which made but 20 bushels to the acre last year. When asked, he stated that it should have yielded at least 50 bushels per acre, indicating that he had a 60% loss. He stated that his neighbor across the road was having similar experience this year with his entire field, despite the fact that the seed corn which he used was obtained from four different sources including South Dakota as one of them. Another farmer gave an experience similar to that of the first. A field was visited that was literally shot to pieces by the corn disease, and one farmer in the crowd exclaimed that he had exactly the same condition on his own farm 36 years ago. Farmers are beginning to realize the seriousness of these diseases of corn, and are showing increased interest in the work done in Knox County, where control measures are being studied, as well as in any information that can be obtained from other sources." - Bracker, Knox County.

Agricultural Tours Valuable. "At the Field Meeting the farmers were shown some very excellent corn on the treated plots while that on the untreated plots will probably not run more than 25 bushels per acre. After the field meeting an inspection trip was made to neighboring farms where some excellent red and sweet clover were seen growing on land that had been limed. I believe these agricultural tours should be held frequently to give the members an opportunity of knowing what their neighbors are doing." - Whitchurch, Saline County.

"Preparation for a meeting is just as important as the meeting itself."

Group Demonstration Best. "We find the group demonstration meeting the best method of taking care of soil problems. There are many questions that are asked that are of interest to everyone, which could not be obtained from individual visits. A large percentage of the soil questions in our two counties are very similar in their nature." - Fuller, Marshall-Putnam County.

Approximately 600 people have attended the poultry culling demonstrations held in this county during the past two weeks. At each of these demonstrations, everyone has been given an opportunity to do some culling and a great amount of interest has been shown, which cannot help but reflect much good to the poultry industry in this county." - Isaacs, Mason County

Farmers favor less expensive phosphate storage bins. "A meeting was held at the Farm Bureau office for the purpose of discussing storage of rock phosphate. About 25 people attended, largely township chairmen. Mr. Bent, of the Phosphate Department of the Illinois Agricultural Association was present, with plans for storage bins. Most of the farmers present favored the less expensive structures with the minimum amount of equipment. Several communities are seriously considering the storage proposition." - Wise, Ingham County.

"A Good Roads Trip. Our Farm Bureau Executive Committee invited each township highway commissioner in the county, the Committee on State Aid Roads of the Board of Supervisors and the County Highway Engineer to be their guests on a Good Roads Tour thru northwestern Illinois and southern Wisconsin. Fourteen commissioners, 2 supervisors, and 5 other persons made the trip. In Wisconsin, they traveled 133 miles on almost perfect state roads last Wednesday, and learned that there were enough more state roads in the state to take 58 days of such travel to see. The greater part of these roads are just earth. The great advantage over Illinois roads is the fact that a definite, practical system of maintenance has been worked out and is being applied. The expense of this maintenance is being paid by the automobile license fees. Since the State Highway Commission has demonstrated this effective means of road maintenance, the counties and townships are adopting similar systems on the secondary roads. Our people came back saturated with enthusiasm because of the excellent roads they saw, maintained out of whatever material the road happened to be, at a reasonable cost. Whatever funds are available for construction work are used on the parts of the roads which are more difficult to maintain." - Brooks, LaSalle County.

"The interest in the Farm Bureau work in Winnebago County seems to be growing nicely. Farmers come to the office more frequently than I had anticipated and seem to be eager for information. The little notice sent out sometime ago concerning the presence of an obnoxious weed, yellow star thistle, in some of our alfalfa fields has resulted in its being found in a great many fields and has increased the local interest in the securing of clean grass seed. Men who have examined their fields carefully in search of the above named weed are finding the presence of clover dodder also." - Keltner, Winnebago County.

Recording Soil Tests. "The Farm Bureau is making detailed tests for acidity of the soil in Sangamon County. A Truog Acidity Tester is used, and an accurate record of tests, with the added information as to character of soil and location is kept." - Madden Sangamon County.

"Pig Club Sale. The boys' and girls' Pig Club Sale was held this week on the Fair Grounds at Belvidere. The sale was topped by a Poland China gilt weighing 305 pounds and which brought \$377.50. This sow was an exceptional individual and was from the Clansman stock. The average price paid for the 66 gilts sold was \$47.25. The day before the sale Mr. W. B. Bunn judged the pigs. Seven boys or the winner from each township will be given a free trip to the International Livestock Exposition." - Kline, Boone County.

"The Durce Pig Club Show and sale Friday morning was a big success, 28 gilts selling for an average of \$81.50 per head.

The Durce Association Sale Friday afternoon was not satisfactory, the offering of 53 head averaging only \$43.25 per head. About half of the animals sold were spring boars. The selling cost was about \$5.00 per head which leaves about market price or a little more for the hogs sold." - Lloyd, Hancock County.

"Soil Infection. I have been called to several places for a soil test where farmers said they had pieces of ground that were unproductive and they thought some plant food was lacking because the corn and wheat especially, failed to produce profitable crops in the last few seasons. While limestone has been needed in a number of cases, I have found that wheat scab and corn root rot infection of the soil is the principal trouble." - Burns, JcDavies County.

Yellow Star Thistle is a weed which seems to have been introduced into Winnebago County in imported alfalfa seed last spring. The attention of the County Agent has been called to a number of fields in which it is found. In appearance the plant differs radically from the more common thistles. It grows to the height of 30 inches or less. It is gray in color with loose, wooly hairs. Stem leaves are small, narrow, each with one margin growing down the stem, heads 1/2 to 3/4 of an inch broad, color bright yellow. The spines on the same are rigid and yellow measuring as much as an inch in length. Some of the seeds are said to fail to germinate the first year and appear the second and even the third year. The best method of eradication is careful and complete removal of the plant from the field by pulling them by hand. The extreme undesirability of this plant makes this procedure almost a necessity." - Keltner, Winnebago County.

"Rice Grown in Monroe as well as in Saline. I noticed in the Prairie Farmer some time ago that Saline County was boasting of being the first county in Illinois to grow rice. This is not the case, however, for we have a man in our county who grew a much larger patch than the Saline County farmer on the Okaw River bottoms, close to Red Bud. This man is Chas. P. Fehr, Sr. He brought us a sample into the office the other day and said it would yield about 70 bushels per acre. Mr. Fehr is also interested in some rice plantations in Arkansas." - Tate, Monroe County.

"During the recent membership campaign we sent out a report card every night, giving the names of the members who had signed up during the day. This was mailed so the cards were on the mail routes the next morning in all parts of the county. The State solicitors considered this one of the best pieces of advertising which had been done; and made the work much easier for them. A few men who were not at home during the campaign are mailing in their membership agreements. We expect several more of these before our campaign is finally completed. Ninety percent of those eligible for membership are signed up." - Minor, Henderson Co.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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"Variety Tests of Corn and Soy Beans for Hogging Down.

On June 9, Elmer Paris planted five one-acre plots of corn and soy beans as follows:

Plot No. 1	Northwestern Dent Corn	-	Wisconsin Black Soy Beans
Plot No. 2	U. S. Selection 133 Corn	-	Wisconsin Black Soy Beans
Plot No. 3	Silver King Corn	-	13-164 Soy Beans
Plot No. 4	Lancaster Surecrop Corn	-	13-164 Soy Beans
Plot No. 5	Funk's Yellow Dent Corn	-	A. K. Soy Beans

The object was to study the feasibility of using these varieties for successive ripening for hogging down. We have found these varieties good for a succession for hogging down. By September 10, the first plot was ready for hogs. The corn and beans were getting hard. On September 16, 46 pigs averaging 68.9 pounds per head, were turned in. Gains and results are indicated in the following table:

Plot No.	Yield per A. Bu. *	Hogs Turned in	No. Hogs	Wt. of Hogs	Av. Wt.	No. Days in Plot	Wt. of Hogs	Av. Wt.	Pork per Acre °	Gain per Head	Gross return per Acre **
1	65.7	Sept. 16	46	3120	68.9	11	3690	80.2	526.0	11.3	\$73.64
2	60.0	Sept. 27	46	3690	80.2	12	4040	87.8	353.5	7.6	49.49
3	74.3	Oct. 9	46	4040	87.8	12	4950	107.6	919.0	19.8	128.66
4	80.0	Oct. 21	46	4950	107.6	(Now Being Harvested)					

* Green weights as taken from field in September and October.

** Computed at 14 cents per pound of pork.

° Note 1/100 of each acre was husked to obtain yield per acre.

The average gains made were made on 99/100 of an acre but are computed to an acre basis." - Sidney B. Smith, Macon County.

"A new Bulletin abstract has just been released at the Illinois Station. This is a 4 page brief of Bulletin No. 230, "Elimination of Germs from Dairy Utensils." A copy should be placed in every dairyman's hands. Address, College of Agriculture, Urbana, Illinois.

"Waterproofing and Mildew-proofing of Cotton-Duck. Farmers' Bulletin 1157 is now available from the Division of Publications, U. S. Department of Agriculture. This bulletin tells how to select and care for duck or canvass on the farm and describes simple methods for prolonging its period of serviceability.

Don't forget that Ag Open House, Saturday afternoon 1 to 6, November 13!

"Trend in Commodity Prices. There has been a downward trend in the price of practically all commodities during the last few weeks. Most of the cereal crops have suffered decided slumps as have some of the other farm products. Just what the trend has been in the various groups of commodities for the last 7 years is shown in the following table of index numbers taken from the September issue of the monthly Labor Review of the U. S. Department of Labor. In computing the index numbers of any group of commodities, the average monthly or yearly price of each article in the group is multiplied by the estimated quantity of that article marketed in the census year 1909. The different results are added for each group and all groups combined. These sums are then reduced to percentages of the 1913 sum, taken as a base. In this way each article has an influence on the result proportionate to its importance in the countries markets. Corn, wheat, and oats prices have been calculated on the same basis as the other commodities and included in the table, taking the place of three other groups of commodities which were of minor importance. The average fluctuations by months have been included for the year 1920. Lack of space permitted their inclusion in the other years. With the averages given for each year, an idea may be gotten of the period in which the price of each group of commodities started to rise, when each reached its highest point and just what relationship existed between the several commodity prices thru-out the whole period." F. F. Elliott, Ass't. in Farm Management Extension, U. of I.

Index Numbers of Wholesale Prices in Specified Years and Months
1913 to October 1920 by Groups of Commodities. (1913 price=100)

	All Com- mod.	Farm Pro- ducts	Corn	Wheat	Oats	Food etc.	Cloths & Cloth- ing.	Metals & Metal Pro- ducts	Lum- ber & Bldg. Mater.	House Furnish- ing Goods
1913	100	100	100	100	100	100	100	100	100	100
1914	100	103	112	105	105	103	98	87	97	99
1915	101	105	116	137	129	104	100	97	94	99
1916	124	122	133	144	120	126	128	148	101	115
1917	176	189	263	237	170	176	181	208	124	144
1918	196	220	255	235	205	189	239	181	151	196
1919	212	234	260	261	188	210	261	161	192	236
Jan. 1920	248	246	245	274	225	253	350	177	268	324
Feb.	249	237	245	258	224	244	356	189	300	329
Mar.	253	239	256	254	240	246	356	192	324	329
Apr.	265	246	271	279	255	270	353	195	341	331
May	272	244	315	305	287	287	347	193	341	339
June	269	243	308	312	295	279	335	190	337	362
July	262	236	265	296	272	268	317	191	333	362
Aug.	250	222	250	267	198	235	299	193	328	363
Sept.	242	210	235	267	176	223	278	192	318	371
Oct.			169	234	145					

Note - In all, 327 commodities were included; 32 farm products, 91 foods, 77 cloths and clothing, 25 metals and metal products, 30 lumber and building materials and 12 furnishing goods.

"It's the little things that separate us from success - not the big ones."

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"The Results from the Application of Different Amounts of Limestone. As a basis for the recommendation for applying limestone, the Newton Experiment Field, (Jasper County) offers the following evidence. On this field the applications of limestone are made on the same land once in three years, and of the amounts indicated below. To date there has been made three applications of limestone. The following table shows the rate at which the limestone is applied, and the sweet clover seed yields for 1920.

500 lbs. limestone per acre per year	3 bu. sweet clover seed
1000 " " " " " "	5½ " " " "
2000 " " " " " "	8 " " " "

This land is the very light prairie soil which is very acid and difficult to drain." - H. J. Snider, Experiment Fields.

"Large Volume of Business. The Manager of the Adams County Shippers' Association reports the largest volume of business during the month of October that we have had since the organization of this association. It has been in operation since September 9, 1919. The total number of cars shipped during the month of October is 60. The entire county is now organized." - Gougler, Adams County.

"A case of hog cholera has been identified in Winslow Township. About 80 head will be sacrificed to this disease. The local veterinarian first called in, thought it was the lung infection and treated them with bacterins. Another veterinarian was called in and he called it cholera. An attempt was then made to treat a few, but it was evidently too late. Dr. Habecker, federal veterinarian, was called in on the case Friday, and he corroborated the cholera diagnosis. Neighbors will vaccinate to protect themselves." Baueister, Stephenson County.

Hog cholera has appeared in a number of other counties.

"Interest in Percheron horses is increasing. Men have the idea that real good horses will be scarce a good while in time to come. James O'Brien showed me one of the best young stallions I have seen this year. This is one which he purchased from the University of Illinois. He has some splendid colts sired by this horse and there are a number of others of these colts in the community north east of Clinton." - Robbins, De Witt County.

"A Short Course for livestock shipping association managers will be held at the Stock Yards in East St. Louis on December 14 and 15. This meeting is being arranged for by Mr. Ralph Loomis, Extension Specialist in Marketing, Columbia, Missouri." - Spitler.

"Pope County has decided to proceed with the organization of a Farm Bureau. Mr. Spitler and Mr. Easterley held a school of instruction for the leaders and a membership campaign will be conducted during the week of November 22.

"Massac and Jefferson Counties expect to secure enough additional members to enable them to begin work in the near future." - G. N. Coffey.

Editor's Note. At some of the District Conferences the Messenger was discussed. The farm advisers seemed to wish a greater proportion of technical items and contributions from the Extension Specialists, Agricultural College workers and county advisers. We shall try to publish what our readers want. What is your suggestion? Help us make this the best sheet of its kind.

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Add these new figures to Sidney Smith's data on corn and soybean plots in last week's Messenger. "The following figures are relative to the fourth plot which was planted with Lancaster Surecrop.

The 46 pigs were turned into the plot on October 21 and taken out on November 2, a period of 12 days. When turned in they weighed 4950 pounds, an average of 107.6 and when taken out they weighed 5520 pounds, an average of 120 pounds per head. They gained 570 pounds on 99/100 of an acre, or at the rate of 575 pounds of pork per acre.

The hogs were turned into the fifth plot, Funk's Yellow Dent, on November 2. This plot yielded at the rate of 60.2 bushels per acre, green weight." - Sidney B. Smith, Macon County.

"The First Year After Applying Rock Phosphate. The question is often raised as to the results which may be expected the first season after an application of rock phosphate. The Joliet Experiment Field (level prairie soil) affords the following evidence. Here in September 1914 was applied $1\frac{1}{2}$ tons of rock phosphate on top of a stand of alfalfa which was seeded the previous June. This phosphate was not worked into the soil other than by rain, snow, thawing and freezing. This land had been limed but no manure or other organic matter had been applied. The season following, the increase of air-dry alfalfa hay due to rock phosphate was 1400 pounds per acre, and the season following this, the increase due to phosphate was 2600 pounds. In this case there is no doubt that the rock phosphate was profitable the first year, but more profitable the second." - H. J. Snider, Experiment Fields.

"Illinois system with sweet clover doubles corn yield after five years operation in Henry County. Light brown silt loam yielded 66 bushels last year. Indications point to over 70 this year." - Montgomery, Henry County.

"Corn husking in Illinois is going on generally, though some farmers are delaying it due to failure to agree with huskers as to price. Yields seem to be a little disappointing so far, not running up to expectation in many cases. Considerable soft and chaffy grain is showing up.

Winter wheat has generally started well and has been making good growth during the week, tho some southern sections report the plant coming up unevenly. Fly has been present over a wide area but was quickly checked by rains, cool weather and the frosts of last week. Apparently but little, if any, fall damage from this source has been done." - S. D. Fessenden, Agricultural Statistician, Springfield.

"Leaders are ordinary persons with extraordinary determination."

"One Afternoon's Demonstration Told a Story Many Pages would not Convey. The corn root rot demonstration conducted in this county on the farm of J. H. Maurer, of Marshall, thru the cooperation of the Crops Extension Division and Funk Farms, is in my opinion, of fundamental importance as a Farm Bureau Project. After the meeting, a leading farmer remarked, 'I've read a lot about root rot, but I learned more about it to-day than in all my reading.' Another said, 'That was worth more than anything else we have done in the county.' There were 58 rows of 60 hills in length, each row planted from samples either disease resistant or of various degrees of susceptibility as determined by germination test. Eighteen hills at the end of each row where the label was placed were left standing; two border hills at the other end were cut off and the intervening 40 hills husked and records made. The husked corn was separated into three classes, good sound corn, chaffy corn, and unsound grain and nubbins, and placed at the unhusked end of the row. Many of the farmers arrived before the husking and records were completed and they took interest in helping to finish, which made them feel the thing was not 'cut and dried'. With all the material before them, Prof. Hackleman's explanation carried weight and these farmers took pride in picking out examples to prove the points explained. Simple observation of the rows would not furnish any striking comparisons, but with all the records and the material furnishing them under observation, the lesson was easily and well learned. As an experiment to gain information, I would consider this kind of a program (as necessarily conducted) of doubtful worth. But as a means of demonstrating a fact already pretty well worked out experimentally, this sort of work is of highest value because of the variety and character of the demonstration material presented. The records also help to confirm the results of real experimental work that has made this demonstration possible. I believe it carried more weight too, by being done on a farmer's farm than on specially prepared plots." - E. H. Walworth, Clark County.

Use Home Grown Feeds. "In almost all sections horses can be well fed and maintained cheaper on home-grown feeds. The systems of crop rotations which are most highly thought of from the standpoint of soil fertility and economical use of man and horse labor furnished the most satisfactory horse feed. Good pastures are essential for growing and breeding stock. After its first rank growth, pasture helps to keep the farm work horse healthy and comfortable during the pasture season. Plenty of roughage of good quality is required by all classes of horses, and in the case of drafters, proper use should be made of the legumes, alfalfa and clover, as they are high in protein and mineral matter, and in many instances, do away with the necessity of purchasing protein concentrates; but they should be fed in limited amounts, as they are very nutritious. Our experimental work with colts, draft horses, and mules at farm work has shown that the best results are obtained when legume hays of good quality make up one-half to two-thirds of the total amount of roughage fed. Carbonaceous roughages, such as timothy and prairie hays, oats straw, and corn stover, may be used satisfactorily to make up the balance of the ration.

During the late fall and winter months, much use may be made of oats straw and well-cared-for corn stover; these feeds are good for the horse and cheapen the rations. During the remainder of the year, mixed clover and timothy hay or alfalfa and timothy may be fed. For horse feed, alfalfa should not be cut too soon, as very leafy, fine-stemmed, pea-green hay is inclined to be washy; the stemmy, first-cutting alfalfa hay is preferable." - J. L. Edmonds.

"Sowing Unhulled Seed in Winter. There seems to be considerable interest in the sowing of sweet clover. One of our leading growers has had good luck sowing the seed with the hull on in wheat, or rye in December on the theory that the seed coat would be disintegrated by spring and the seed made already for germination. We are going to try this out pretty thoroly." - Tarble, Bond County.

To store phosphate. At the monthly meeting of the Board of Directors of the Farm Bureau, the Farm Adviser was instructed to take up with the Elevator Companies, in a direct way, the proposition of storing phosphate at the different elevators in the county. Many companies have already been talking about this and I think there will be no difficulty in making an arrangement." - Price, Kendall Co

"The Okaw community association has leased a site from the railroad company on which to build a lime and coal shed. Money is being raised to build it immediately. The farmers will haul gravel from the creek and do all of the work for nothing." - Belting, Shelby County.

"The nitrate of soda orders for Union, Johnson, Jackson, Pulaski and Edwards counties were pooled and contracted for. This amounted to 325 tons and was bought for November delivery at \$62. per ton, f.o.b. New Orleans." - Doerschuk, Union Co.

"Farmer reports loss from Root Rot. While getting his potatoes from the car, one of our farmers remarked that corn root rot (he said he diagnosed the trouble immediately upon receiving Illinois Circular #243, which was enclosed with one of our recent circular letters) cut the yield of part of one of his fields from 20 to 30 bushels per acre. He further said that he could tell just to a row where corn selected from the badly diseased part of the field was used for seed." - Brown, Stark County.

"Edgerton's pumpkin idea successful in Stephenson. A very successful dinner and meeting was held at the Brewster Grill, Saturday, November 6. Those in attendance were: Executive Board members, Community Chairmen and their Committeemen, representatives of farmers' elevator companies, livestock shipping association. Thirty-one were in attendance and the weather was bad. Edgerton's 'pumpkin idea' was carried out. Thanks for the suggestion." - Baumeister, Stephenson Co.

"Value of Publicity. One of our members learned the value of publicity during the past few weeks. I have reference to the little article we printed in our monthly Farm Bulletin in regard to the value of spraying apple trees. One of our town papers printed a copy of this article and as a result the member, Mr. Weigand, says he could have sold a thousand bushels of apples if he had had them. He did sell all that he had and has received the value of his membership in the association for a good many years." - Heaton, DuPage County.

"Value of having Executive Committee at District Conferences. Galesburg conference was highly profitable. Two members of our Executive Board who attended this conference in turn explained to the other members of the board at their monthly meeting, the value of such a conference. We expect to always have, at least two members present at such meetings in the future, if possible. Their attendance at such meetings will make the board understand more clearly the value and viewpoint made at these conferences and will be in a better position to help the adviser." - Fuller, Marshall-Putnam County.

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November 24, 1920.

No. 47

Hessian Fly Summary. "During the past three weeks a moderate number of wheat fields in different sections of the state have been examined for presence of the Hessian-fly. The data thus far obtained show that the fly free date held perfectly for the northern tiers of counties. In the central part of the state the fly continued to emerge and to infest wheat from 5 to 10 days after the fly free date as given out this fall, altho the wheat sown 5 days or more later than the date given out is but very slightly injured. In southern Illinois there is a slight infestation in wheat sown three or four days after the fly free date, but not sufficient to cause any real damage. In fact, it is so light that it is rather hard to find the fly in the fields. The unusual weather conditions of the fall are responsible for the late infestation by the fly. A more detailed statement of the infestation in the date-of-seeding plots will be given to the county advisers within the next two weeks." - W. P. Flint, Entomologist.

"Vaccinating pigs a few days old. Dr. R. E. Nesbitt of Clinton, President of the Illinois Veterinary Medical Association, tells me that each year during the last several years he has vaccinated probably 100 or more little pigs, from a few hours to a few days old with a simultaneous method for hog cholera. These were from non-immune sows. He had less deaths among these than pigs vaccinated at weaning time and believes the immunity is permanent enough to protect these pigs until they are old enough and large enough to sell on the market." - Robbins, DeWitt County.

"Winter Meeting. The winter conference of the Illinois Farm Advisers' Association has been arranged for Tuesday, Wednesday, and Thursday, January 18, 19, and 20, at Urbana. Chalk up the dates NOW so no conflict will arise." - M. L. Mosher, President.

The State Meeting of the Illinois Horticultural Society will be held in Bloomington December 15, 16, 17, with headquarters at The Illinois Hotel. In the past, these meetings have not been attended by the advisers in the Horticultural Counties of the State, but since many things are brought out at these meetings which are very important to Horticultural counties, it seems advisable for them to attend. - For further information write W. S. Brock, College of Agriculture.

"Galesburg Corn Show. Plans are taking definite shape for the Corn Show which is to be held in Galesburg, January 5 and 6, 1921. The Committees are working on the details and public announcements will be made very shortly. Inquiries are being received from practically all parts of the state relative to this show. It gives great promise of being the agricultural event of the winter in the state." - Bracker, Knox County.

"Trend in Commodity Prices. (continued). The following table of index numbers is supplementary to the table appearing in the November 10 issue of the Messenger. Index numbers showing the trend in price of top hogs, feeder and fat cattle and cotton have been calculated using the 1913 price as a base. Index figures on 'corn' and 'all commodities' grouped together have been republished from the previous table to give a basis for comparison.

It is interesting to note that corn has led all commodities in the upward trend in prices and both corn and cotton have led all commodities after the United States entered the war. It will be noted further that the price of stocker and feeder cattle has been fairly stable thru-out the whole period and has fluctuated much less widely than has the price of fat cattle. In fact, these figures indicate that during the period under discussion, the chances for making profits in cattle for the farmer who fed corn which he himself produced, were greater in feeding out cattle than in growing stockers and feeders. In other words, the corn belt feeder could buy his stockers and feeders anytime during the period at a price from 1 to 50% above the pre-war price and could sell them finished at a price ranging from 4 to 110% above the pre-war price. One of the contributing causes for the losses sustained in feeding cattle is apparent when it is noted how the price of fat cattle has lagged so far behind the price of corn, which is the chief grain used in their production. Thus the feeder who bought corn to feed out his cattle, faced a greater difficulty in realizing a profit than did the man who fed corn which he himself produced. According to Farm Management studies, DeKalb County, Illinois, feeders actually realized \$1.38 per bushel for corn marketed thru cattle in 1919 and \$1.21 per bushel in 1920." - F. F. Elliott.

Index Numbers of Market Prices in specified years and months
1913 to November 10, 1920, by different groups of commodities.

	All Commod.	Corn	Cotton	Top Hogs	1200-1500# Steers	Stockers & Feeders.
1913	100	100	100	100	100	100
1914	100	112	85	99	106	101
1915	101	116	76	87	104	102
1916	124	153	121	114	118	101
1917	176	263	178	189	150	104
1918	196	255	243	207	135	144
1919	212	260	245	218	193	153
Jan. 1920	248	245				
Feb.	249	245	311	167	186	133
Mch.	253	256	321	173	174	138
Apr.	265	271	324	177	170	140
May	272	315	319	166	160	140
June	269	308	319	171	189	142
July	262	265	309	178	198	136
Aug.	250	250	269	178	202	127
Sept.	242	235	221	192	210	132
Oct.		169	166	167	211	120
Nov. 1-10		141	151	153	205	123
Av. 10-1/3 Mo.	256	245	271	172	191	133

Note - Cotton price - Middling upland New Orleans.

1200-1500# steers - Choice & Prime grade - Chicago

Stockers & Feeders - Choice & Common grade - Chicago

Longmire gets the Blue Ribbon. "His Annual Report is the first to reach the State Leader's office. It arrived bright and early November 22."

Talking of "Getting Results" Brown has the right idea! We quote him - "When members are to be notified of the arrival of a car of potatoes, apples or other products, I find a great saving of time can be effected by preparing a copy of the message and a list of the parties to be called and giving it to the telephone girls along with a good box of candy." - Brown, Stark County.

"The Co-operative Association has purchased an additional Feed Plant at Crystal Lake taking possession on November 3. This organization will take over all the business, i. e. seed, potatoes, apples, etc. which has been handled by the Soil Improvement Association. Individuals have heretofore borrowed money so that good seeds etc. could be secured for the farmers. The taking over of this business by the Co-operative Association will eliminate the necessity of purchasing on this basis." - Gafke, McHenry County.

"A School of Instruction for Community Chairmen was held in Pulaski County November 19. The object of the school was to give these men information and suggestions to help them in the community meetings that have been planned to make a program of work for the county. The school was conducted by Mr. Spitler with the assistance of the State Leader. The men present seemed well pleased. This is the first county to take up a program of work suggested at the recent district conference." - G. N. Coffey.

"Good Roads Ahead." - This imaginary sign leads LaSalle County on! Read Adviser Brooks' report. "In preparing for our road meeting to be held the 24th, we have found a most encouraging spirit of cooperation among all the folks we have come in contact with. Newspaper people seem to be especially interested in furthering road information. The meeting will start off with a good feed. J. T. Donoghey, Highway Maintenance Engineer of Wisconsin will be the chief speaker. Already we note on some of our roads that township commissioners who went on the road tour are trying out some of the things they learned." - Brooks, LaSalle Co.

"The McLean County Veterinary Association met in joint session with the officers and directors of the McLean County Farm Bureau to discuss and plan ways and means for more helpful cooperation. The spirit evidenced was most helpful and encouraging thruout. The County Vets are-affirmed their support of the plan for the control of hog cholera and immunization as agreed upon by the State Association and the I. A. A." - Center, McLean County.

"Excellent alfalfa seed can be obtained from Gooding County, Idaho, according to a letter from Mr. A. M. Smith, County Agent, addressed to our Extension Director. The letter says - "This seed is grown around Wendall and Gooding, Idaho. It is very fine seed and we will guarantee that it contains no dodder. Address, County Agent, Gooding, Idaho."

"Burn the Bugs." - The vegetation is in good condition for burning out chinc-bugs. We want to get our farmers started at that next week. We have found that fence posts can be protected from fire by sprinkling or spraying water on the base of them." - Belting, Shelby County.

"Provide a creep where the little pigs may be fed separately just as soon as they will eat." -

The Extension Messenger

Abstracts of bullet notes from the weekly reports of the Farm
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"It pays to spray even a farm orchard. From Mercer County we get the following figures on a demonstration orchard which had been badly infested with scale and was sprayed for the first time this year.

NELSON STEAD DEMONSTRATION ORCHARD -- MERCER COUNTY

	72 Trees - - Area 1-1/4 Acres	
Fall apples	210 bu. @ 1.50	\$327.00
Winter apples	66 " " 2.00 & 2.50	135.00
Windfalls	54 " " .75	40.50
Ciders	12 " " .75	9.00
Given to friends	40 " " .75	30.00
Total Produced	390 Bu.	\$541.50

EXPENSE OF PRODUCTION

Spraying six times	45.00
Picking and delivering	50.00
Pruning	25.00
Pump (depreciation)	4.31
Material	18.00

Total Expense 142.31

TO BALANCE 399.19

In addition to the figures which are supplied by Adviser Richey, an inspection was made by the departmental adviser; the scale had been brought under satisfactory control. No further comment is necessary." - W. S. Brock.

"The LaSalle County Road Maintenance Meeting was attended by about 250 people from 15 or more counties of Northern and Central Illinois. The meeting was addressed by J. T. Donaghey, Highway Maintenance Engineer of Wisconsin; Frank I. Bennett, Director of Public Works and Buildings of Illinois; S. E. Bradt, Superintendent of the Division of Highways of Illinois and Clifford Older, Chief Highway Engineer of Illinois. The idea of patrol maintenance, to make such roads as we now have as usable as possible, seemed to be exceedingly well received by all those present. The Illinois officials stated their intention of asking the next legislature for an appropriation, to be made from the Road Fund to be used for patrol maintenance." - Brooks, LaSalle County.

"The DuPage County Duroc Breeders' Association held their first Pig Club Sale last Saturday. The pigs that were in the best condition sold quite well, considering the present slump in prices. They were all gilts around seven months of age. The top price at the sale was \$81. The twenty-nine head sold, averaged \$52. In one way the slump in price is probably a good thing because the majority of the boys' fathers bought the pigs themselves and will, as a result, get into the purebred Duroc business." - Heaton, DuPage County.

The Trail of the Stock Food Remedy. "One of our farmers sued the National Livestock Remedy Company for damage due to the loss of hogs supposed to have been killed by feeding this remedy. The case was tried in court yesterday, but the jury decided in favor of the defendant. If a man feeds any patent medicine and it does not prove satisfactory, he will have no recourse thru the courts. His safe course is to leave the stuff alone." - Kendall, Morgan County.

"The County Unit plan for carrying on of Cow Testing work has worked out in a very satisfactory way during the past year. Few members are placed on the waiting list until such time as a new tester can be out to work or some of the members drop out. We are in a position to keep the testers busy every day in the month and keep in close touch with each man's herd." - Gafke, McHenry County.

"The Macoupin Purebred Holstein Association held their annual sale Friday. Bidding was draggy and the average was not within \$100. of last year's sale. Good young bulls sold as low as \$30." - Hunt, Macoupin County.

"Considerable interest is being taken in the organization of our Percheron Association which we initiated a short time ago. We have now secured enough farmers to purchase pure breeds, or who will purchase in the near future, to assure us a first class pure bred Percheron Association. With one of the best known Percheron breeders in the United States and sires and dams of national reputation in the county, we will start out with especially favorable advantages." - Phillips, Greene County.

Alfalfa. "Stark County farmers are becoming more and more interested in alfalfa and next year will see many men who have never tried it before seeding small patches of 4 or 5 acres." - Brown, Stark County.

"Five cars of nitrate of soda were received this week. Farmers are glad to get it now because the roads are in good condition for hauling and there is some saving in price for fall delivery. The nitrate, however, cost \$72. per ton delivered compared with \$67. last year. We hope that thru government operation of the Muscle Shoals plant we will sometime be able to get cheaper nitrate and also to receive it in better condition, which is very important. The nitrate is shipped in 200 lb. bags making it very hard to handle and a very large percent of the sacks are torn resulting in much leakage." - Doerschuk, Union County.

The maps furnished us by the soil survey are proving a great help. When I am asked to visit a farm and test the soil, I always take with me a plat book of the county and these soil survey maps. After locating the land on the plat book, I locate it also on the soil survey map and see what types of soil were found in that section by those who made the survey. After that we go and test the field that the farmer has asked us to test. We have found that the survey in this county has been very accurately done." - Kendall, Morgan County.



"Many fruit growers have been busy spraying for the San Jose Scale. Weather conditions most of the week have been fine for spraying. The scale has been worse this year than for many years and our fruit men welcome the opportunity to do an effective job of spraying. In some of our best kept orchards, scale has made quite a lot of headway and it is thought by the men that it is possibly due to unfavorable spraying conditions last spring when the first dormant spray was applied. The fact that some of the orchards are fairly free of scale, however, seems to indicate that the proper care in making up the solution may have had something to do with it also." - Doerschuk, Union County.

"The sleek Democrat and the Champion White Pearl varieties of corn have become very popular here this year, on account of their resistance to chinch-bugs. We will have considerable seed corn of this variety provided we can induce the farmers to save it for seed and buy other corn for feed." - deweriff, Franklin Co.

"The seed business in Bureau County grew to such proportions that the Executive Committee felt that the seed business must be taken care of thru channels other than the Farm Bureau. We have finished organizing what is known as the Farm Bureau Co-operative Supply Company. The company is capitalized at \$50,000 and over half of the stock has been subscribed and paid in, making it possible to complete the organization of the Company and commence business. The Company already has a building 50 x 150 along side of the railroad tracks which can easily be equipped for handling seeds and other commodities. This will relieve the Farm Bureau and advisers of a lot of work and put the business in the hands of a company equipped to handle it." - Wilson, Bureau County.

Farm Movie Films Attractive. "We have held a series of community meetings thruout the County. At these meetings we have shown two educational farm movie films, including an excellent poultry reel. The other part of the programs has consisted of informal talks and discussion on the subjects of interest to the community, emphasizing especially the work of the County, State and National Farm Bureaus. The time of the meetings has been favorable due to good roads, good weather and slack season of work. We have had the best attendance at this series of meetings of any we have ever had. Four community meetings have totaled an attendance of 479." - Longmire, Grundy County.

Notice - Chemical Test of Material. There seems to be a little misunderstanding regarding the sending of various materials to the University for chemical analysis. Such work is done by J. M. Lindgren, Chemistry Bldg., Urbana, but it is necessary for the University to make a charge large enough to cover the actual cost of doing the work, since there are no state appropriations available for this purpose.

Agriculture is the parent of all industries; it is from the cultivator of the soil that the mechanic, the manufacturer, and the man of commerce draw their supplies; his granary is the storehouse from which all households receive their daily food; from his flocks and fields are wrought the fabrics which clothe the human race; and upon his domains are laid the foundations which support the pillars of government, and upon which are erected those institutions which encourage the arts, cultivate the sciences, and render the charities of life effective for improving, beautifying, and benefiting the whole world." - E. P. Day.



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No. 49

College of Agriculture Generous Host to Arkansas Legislature. On December 2, the Governor-elect and 90 members of the legislature of Arkansas were the guests of the College of Agriculture and the Champaign Chamber of Commerce. The group was taken by autos around the campus, buildings, and University Farm where the work of the College of Agriculture was explained by Dean Davenport and members of the staff. Then the group assembled in the Stock Judging Pavilion where the work of the various departments and divisions was explained by the respective departmental heads. In the evening the Champaign Chamber of Commerce entertained at a banquet in the Elk's Club Rooms. The legislators were making a tour of leading Agricultural Colleges with a view of establishing an up-to-date Agricultural College in Arkansas. They were a very appreciative group of men and it was a genuine pleasure to entertain them.

Short Course Dates Set. "The Annual Meeting of the Corngrowers' and Stockmen's Convention, or two weeks course in agriculture, will be held in the College of Agriculture beginning January 17, 1921, and continuing two weeks. The Program is arranged especially to meet the needs of farmers and farmers' sons who can spend but a short time away from home. Three lectures will be given daily upon topics of general interest to food producers. The remainder of each day will be divided into 7 sectional meetings. These programs consist of lectures, demonstrations, conferences, and laboratory work arranged to cover subjects of interest to everyone, such as classes in the study of soils, farm crops, judging of grains, farm mechanics, judging of livestock, dairying, and horticultural topics. No registration fees or examinations will be required. The only expenses of the meeting will be that of travel and living expenses while here. A detailed program will be available soon and may be secured by addressing the College of Agriculture, Urbana, Illinois." - F. H. Rankin.

Scott County Begins Work. - The Scott County Farm Bureau has secured the services of Mr. Guy H. Husted as Farm Adviser for that county. Mr. Husted was reared on a farm in Greene County and graduated from the University of Illinois and has been farming and teaching since graduation. His headquarters will be Winchester, Illinois. Mr. Husted began work on November 22. He will be glad to receive the circular letters, etc. from other farm advisers.

Alfred Raut began work as Farm Adviser in Madison County on December 1, 1920. Mr. Raut farmed for 12 years before going to the University of Illinois, where he graduated in Agriculture in 1914. Since graduation he has been constantly in county agent work, first in Virginia, then in Missouri. He comes to Illinois from Perry County, Missouri, where he has been County Agent for the past 2 years.



"A Wheat Disease similar to, but seemingly not identical with, the so-called "Take-All", is described by Mrs. Louise J. Stakman in Minnesota Bulletin 191. This disease causes a seedling blight by dwarfing the plants and producing a foot and root rot. The leaves of heavily infected plants are pale reddish-tan in color, very narrow, and about one-third as long as those of normal plants. Many blighted seedlings die, but often some plants recover and grow to maturity. Infection on older plants produces dark brown blotches on, (1) the leaves, (2) the nodes, and (3) on the chaff and grain. The source of infection is thought to be the seed and the soil, but definite proof of soil infection has not been worked out. Ordinary formaldehyde seed treatment has little benefit in the control of the disease. The use of clean seed is the best known control measure. This disease is caused by a species of *Helminthosporium*". -- Geo. H. Dungan, Assoc. in Crop Production.

"Plans and Object of Farm Management Demonstration Work in Illinois. The policy of the Farm Management Extension workers in the future will be to devote the major portion of their time to definite projects to be agreed upon by the farmers, farm advisers, and farm management demonstrator. Most of these projects will cover a period of at least three years.

For the next two or three months farm accounting will be the main line of work. The objects of the farm accounting work, as outlined in the written project, are as follows:

1. To determine every year for three consecutive years the returns of the farm business on the farms of the cooperating members.
2. To carefully analyze these records in order to get a better understanding of the factors that make for permanent and profitable farming under the varied existing conditions.
3. To discover really live farms which demonstrate by their records, the results of good farm organization and efficient operation.
4. To help each farmer to study his farm from the business standpoint, in order that he may come nearer to the standards of efficiency which have been attained by the most successful farmers of his county and state." - E. Rauchenstein Associate in Farm Organization and Management.

TRACTOR SCHOOL ANNOUNCEMENT. The Division of Farm Mechanics, College of Agriculture, University of Illinois, will conduct a Tractor School during the months of January and February 1921, omitting the two weeks, January 17 to 29, in which the Annual Corn Growers' and Stockmen's Convention will be in session. The school will consist of 5 one-week courses, and registration therein for each week will be limited to 25 students. Twenty-two hours are to be devoted to lectures and 22 hours to practical laboratory work. Those who desire to attend the school should make application at once, stating the week for which they desire to register. Permission to register will be given in the order in which applications are received. Students will register in the Farm Mechanics Building at 8:00 A. M. on the following dates: January 10, January 31, February 7, February 14, February 21, a registration fee of \$10. being the only charge. For further information concerning the course, fees, room, board, etc., address correspondence to R. I. Shawl, Division of Farm Mechanics, College of Agriculture, Urbana, Illinois.

A Big Wolf Hunt was staged in Edwards County on December 3 under the management of the Farm Bureau. For some time wolves have been killing pigs, lambs, chickens and geese, so a round-up hunt was planned and 11 captains with 400 men made a drive covering 10 sections of land. The wolves were driven toward the center of the circle and six were killed, although two escaped.

"Fertilizers for Potatoes. Potato yield from four experiment fields. Yields given in bushels per acre 5 year average except Dixon 3 year average.

TREATMENT	LAMOILLE	MT. MORRIS	UNION GROVE	DIXON	DIXON FIELD WITH POTASSIUM
None	131.9	111.0	53.3	60.7	61.0
Manure	160.4	171.0	181.5	101.1	114.3
Manure, Limestone	158.4	176.4	144.9	94.2	108.3
Manure, Limestone, Rock Phos.	145.0	182.6	144.8	87.3	101.6

Potato - alfalfa rotation

Manure (except Union Grove) applied at rate of 30 tons per acre.

Limestone applied at the rate of 4 tons per acre.

Rock Phosphate applied at the rate of 2 tons per acre.

Kainit applied at the rate of 400 pounds per acre.

"The above results from the respective Experiment Fields in Illinois would seem to indicate that Limestone and Rock Phosphate were of questionable value when added with manure to increase the yield of potatoes. However, the evidence is quite conclusive that, on these soil types at least, the greatest value comes from the addition of a good supply of manure thoroly worked into the soil." - H. J. Snider, Experiment Fields.

Illini Homestead Beechwood Breaks Illinois State Record. Illini Homestead Beechwood No. 461198 known over the state as "Two Fifty", (250 beingher herd number in the University of Illinois herd) is a daughter of Emblagaard Tritomia Homestead, the famous University Holstein Bull, which died about $1\frac{1}{2}$ years ago. The dam of Illini Homestead Beechwood is a daughter of Sarcastic Lad, grand champion bull at the world's fair, St. Louis, and regarded by many as the greatest sire of sires. "Two-Fifty" freshened this time at 6 years and 23 days of age and altho she did not produce especially high at any time, she kept everlastingly at it. During the time she was on test she was taken into the class-room for judging purposes many times, handled frequently by people visiting the University and taken to the National Dairy Show with four of her sisters to demonstrate the value of the sire in breeding. While on exhibition at the National Dairy Show, altho in her 11th month of test, she milked 70 pounds per day. Her year's record is 25,589 pounds of milk and $894\frac{1}{2}$ pounds of fat." - W. W. Yapp, Assistant Professor of Dairy Husbandry, U. of I.

Shipping Association Managers to Meet. - Just as we "go to press", we receive notice of the Third Short Course for Live Stock Shipping Assn. Managers and First Annual Meeting of the Missouri Federation of Cooperative Live Stock Shippers to be held in East St. Louis, Illinois, December 14 and 15. The forenoon sessions will be held at Exchange Hall, National Stock Yards, Ill.; afternoon sessions at Community House, St. Louis Ave. & 5th St., East St. Louis, Ill. All Illinois Shipping Assn. managers are invited.

"The farmer needs constructive assistance rather than altruistic ideals. Agriculture and industry must move forward hand in hand. There must be an understanding and a sympathetic interest between business aman and farmer. Industry looks to agriculture as a stabilizing influence. The farmer must look to industry for modern business methods." - H. C. Weaver, Hyatt Roller Bearing Company.

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No. 50

THIS LOOKS GOOD! "The Best Messenger that we can make." That's our slogan! One man cannot do it, neither can a few, but if all of us contribute our share, it can be done! Around the central idea of "More Legumes in Illinois," will be woven a large portion of our work of the year 1921. In accord with this, "The Messenger" will run a systematic and timely series of brief articles on the chief points to be emphasized in promoting the Legume Campaign. The best authorities in Crops, Soils, Animal Husbandry, Dairy Husbandry, Horticulture, Entomology and Farm Management will contribute. Watch for this series - beginning our next issue!

Vermilion County Develops Program. "Vermilion County has developed a program of work based on data secured through a service survey covering every member. Half of the membership responded to the request of the committee. The survey was made not only to secure valuable local data upon which to build a program, but also to give every farm bureau member an opportunity to contribute to the program. The Program of Work Committee when meeting to analyze and summarize the returns, were impressed with the completeness of the returns, the careful manner in which the sheets were filled out and the many constructive suggestions received to guide the committee. As was remarked, it was difficult to realize any method where as much information of value to the bureau could have been secured with the same expenditure of time, money and energy. The detailed report and recommendations of the Committee will be presented at the annual meeting, December 16." - J. D. Bilsborrow.

"Kane County Approves Plan. Last Friday the Kane County Bureau Executive Committee unanimously endorsed the service survey method of building a program of work. Details of the plan will be worked out by a committee headed by Henry McGough, President of the Farm Bureau and member of the Executive Committee of I. A. A. The plan will be put into operation directly following the annual meeting." Bilsborrow.

F. L. Bane Accepts offer of Henderson County. Mr. Bane is coming back to Illinois to take the position of farm adviser in Henderson County. Mr. J. H. Miner who has been adviser there since the work began in the county, wishes to take over the personal management of his Michigan farms, but will not leave Henderson County until Mr. Bane can take up the work. Mr. Bane was reared on a farm near Dana, Illinois; graduated from the College of Agriculture, University of Illinois; was director of Animal Husbandry at St. Charles School for Boys over a year; was assistant Farm Adviser in Livingston County, Illinois, for a year and a half; and the past two years has been county agent at Sleepy Eye, Minnesota. He will take up his work in Henderson County, just as soon as he can close up his duties in Minnesota.



"Pasture Crops in Growing and Fattening Hogs. (Taken from Ohio Bulletin 343-W. L. Robinson) Pigs on pasture need less nitrogenous concentrates in the ration, require fewer pounds of concentrates per unit of gain and usually gain more rapidly than do those with no green feed. In comparing pasture with dry lot feeding, one acre of hog pasture was worth the equivalent of 19.3 to 51.5 bushels of corn. When figured in terms of pounds of pork produced the estimated averages of 242 to 609 pounds of gain per acre were attributed to the pasture. The feeding of a medium-to-a-full grain ration on pasture, is advocated over a lighter ration. Three pounds of concentrates per 100 pounds or about a three-fourths ration is as small an amount as should be fed on pasture for the most economical use of feed. With cheaper pasture and high-priced concentrates, larger returns over the cost of feed and pasture may sometimes be secured from the feeding of a limited grain ration than from full-feeding for the entire time. The feeding of a ration consisting of 5% of tankage, to pigs being full-fed corn on clover or rape, produced more rapid and economical gains than full-feeding corn alone and more economical than where corn and tankage were self-fed separately. There was a tendency for the pigs to eat too large quantities of tankage from the self-feeder for the most economical gains. This was true in the dry lot as well as on pasture. Pigs consume more tankage from the self-feeder from 100 to 150 pounds than before or after. Pigs full-fed on forage need about one-fourth of a pound of tankage until a weight of 100 pounds is reached and .3 pound daily to pigs under 100 pounds and .4 pounds to pigs above this weight is about right." - J. B. Rice

"Pike County Installing Local Limestone Crushers. Annual Meeting of Griggsville, Perry Limestone Cooperative Association held at Griggsville December 9. Adviser Kercher recommended that contract be let by company to an experienced man to get out 2000 cubic yards of limestone ready for crusher. Also that crusher be secured with capacity of 6 to 8 tons per hour. Also plans were considered for storing several thousand tons of limestone. The plant at Detroit is working satisfactorily and the Griggsville, Perry Company will have the benefit of the experience of the Detroit plant." - Vaniman.

Limestone prospects. "We consider the help which the I. A. A. is giving in sending Mr. Armstrong to help inspect limestone sites as a great help. Mr. Armstrong is an expert on all matters relating to quarrying limestone and is able to offer some valuable suggestions. There is a rather extensive deposit of very soft white limestone here that tests not far from 100 percent which we hope will be available sometime for a large limestone plant." - Doerschuk, Union County.

"The chinch-bug winter quarters were well explored this week. Mr. Chandler found in one bunch of brome sedge grass, over 1000 chinch-bugs, in a spot where he found only 50 last year. That seems to be a fair comparison of the numbers present this year over last year. Old settlers here say they have never seen so many chinch-bugs." - Dewerff, Franklin County.

Second Assistant Adviser in Henry County. Mr. Ralph A. Gale of Lincoln, Illinois has accepted the position as Second Assistant Adviser in Henry County. Mr. Gale is a graduate of the University of Illinois. He assisted in swine work at the University for a year and during the past year has been Farm Manager for the Foley estate at Lincoln, Illinois. Mr. Gale will have charge of community organization and club work in Henry County.

Township Meetings Good. - "This week we have started holding a series of meetings in each township in the county. These meetings are held at either the noon hour or evening, in conjunction with a banquet. The township director for the coming year is elected and talks on agricultural topics of the day are given by Mr. Borgelt, President of our Farm Bureau, Mr. Hammond, Assistant Adviser, and myself. The meetings are being well attended and much interest is being shown at these meetings." - Isaacs, Mason County.

Farmers Stick Together. "The first car of livestock shipped by the Vienna Livestock Shipping Association was shipped this week. All the shippers are well pleased with the results. The local stock buyers were present, as they were when the Elvira Livestock Shipping Association loaded its first shipment about six months ago, trying to buy the livestock as it came in and thereby break the organization, but the farmers all stuck to the association." - McGhee, Johnson Co.

Cooperate in Placing Corn with Feeders. "We have been trying to co-operate with the Clinton County Farm Bureau, as they wish to buy corn and we have some to sell. I have advised that they send a man over here about January 1, as by that time our growers will be through husking and in a position to load cars. There is a minimum freight rate since both farm bureaus are on the B. & O. Railroad." - Wheeler, Lawrence County.

Held a field demonstration on corn disease plot on E. C. Paris' farm November 13. The effect of limestone on the corn yield was easily discernable in the difference in size of piles of corn raised on limestone treated soil and soil receiving no treatment." - Smith, Macon County.

Directors will meet more often. - "The Directors of our Farm Bureau have been meeting once a year, but they and the other members of the Bureau feel that this is not often enough for them to keep in touch with the work of the Bureau and agricultural interests in general, so it was decided at our annual meeting that they could meet every three months in connection with the Executive Committee which meets every month.

The membership voted that no more cooperative buying for members of the Farm Bureau would be handled thru the Farm Bureau office. A committee was appointed to investigate the feasibility of organizing a cooperative association, not for profit, but for cooperative buying and selling for farmers' use." - Edger-ton, Rock Island County.

Has Never Missed a Meeting. During the past three years that J. S. Howe has been President of the Richland County Farm Bureau, he has never been absent from a monthly or called meeting of the Executive Committee. As far as I know, this is a record that has been attained by no other farm bureau president." - Spitler.

Please submit questions. - In conjunction with our new Messenger plan of a systematic series of timely items, it is our hope that all advisers will write out and send us the particular questions they want someone in authority to answer. Now interrogate, please!

"Agriculture is the greatest among arts, for it is first in supplying our necessities, it is the mother and nurse of all other arts; it favors and strengthens population, it creates and maintains manufacturers; give employment to navigation and materials to commerce; it animates every species of industry, and opens to nations the surest channels of opulence." - MacNeven.

The Extension Messenger

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No. 51



Merry Christmas is here once more,
Let's forget our troubles and griefs galore;
For one whole day let's just have fun,
We'll play with the kiddies and romp and run.

Goodbye to the office and heaps of work,
Goodbye to the duties - so hard to shirk
For this is Christmas - the Old Yule Tide,
And the whole world's happy far and wide.

We'll forget the letters, and desk stacked high,
We'll turn our backs and heave a sigh,
For the annual report is done at last,
'Twas a busy year - this year just past.

We had the worries of a membership drive,
To make each farmer a member live.
Then there was phosphate and calls for lime,
But we couldn't get cars moe'n half the time.

The orders for seed kept piling up,
And the big wool pool kept us busy enuf,
Then orders for sugar were taken in doubt,
The results of our purchase? I'll leave that out.

Oh yes, we handled a carload of twine,
Potatoes, and apples took up some time,
While institute meetings and County Fair
Kept us going I do declare.

These trying duties were only a few
Of all the lot the adviser went thru,
But now it is over - the year is done,
And we'll all go home to our Christmas fun.

For Christmas is the time of year
To wish folks happiness and cheer,
And the Messenger sends its greetings true
To all its readers, especially you.



MORE LEGUMES

"Restoration of pre-war conditions is the popular cry. Agricultural readjustments must inevitably develop slowly. In the very nature of things, farming systems require long periods of time for readjustment. This explains why we have just harvested a war crop two years after the war was over. Farming systems and crop rotations in Illinois are more out of their proper alignment than they have ever been within recent years. But even in pre-war conditions our farming systems were decidedly unbalanced. We have now reached the point where we dare stop to take an inventory of our farming operations and consult our compass to see where we are headed.

A careful survey, just completed in Vermilion County shows an average of only 9% of the cultivated land in legumes; red clover making up 8.1% and 9/10 of one percent was alfalfa and soybeans. In some parts of the county the percentage of legumes was as low as two percent. Expressed in another way, this means a legume once in every eleven years, or in some communities, once in every fifty years. The inevitable results of such unbalanced cropping systems are only too well known. Unless we can immediately take steps to correct this condition, we will undoubtedly pay heavily in decreased yields, more serious outbreaks of crop diseases, more frequent and more disastrous insect ravages and an inferior quality of products grown.

By the liberal use of limestone and rock phosphate and with legumes in sufficient amount to properly balance the cropping system, the actual acre yields will be increased, the fertility will be maintained, cropping problems will be more easily solved, labor distribution will be more easily taken care of and general farming systems will be more desirable. While many farmers are seeking a system that should prove immediately profitable, the provident farmer is now looking for a system which will cut down costs, build up the soils and provide a better crop rotation-- a rotation which will make more efficient use of labor and equipment.

Such a rotation should provide for clovers or other legumes to appear in the rotation at least once in every four years, i. e. at least one fourth of the crop area should be in some leguminous crop each year. Only such a system will prepare the farming business for the profitable times which must inevitably come." - J. C. Hackleman.

"Service Survey Brings out Important Facts.- A detailed summary of service survey sheets presented at Vermilion County Annual Meeting brought out some significant facts as a basis for a program of work adopted at the meeting. The survey covered 620 farm bureau members, 52% of whom are tenants. The returns were grouped by communities. The average percentage of land in corn was 45.%, clover 6.7%. Hoopeston community reports highest percentage of corn 56.8%. Ash Corner the lowest 29.3%. Armstrong reports the highest percent of clover 13.8%. Rossville the lowest 2%. The returns indicate that the best balanced cropping system in the county is in the vicinity of Union Chapel with Corn 31.6%; Oats 18.6%; Wheat 13.8%; Clover 11% and Pasture 22.5%.

Fifty percent of those replying, indicate they would use lime and phosphate if local storage bins were provided. 285 men asked for help in keeping farm accounts. The figures also show that there was only one colt foaled this year for each 184 horses on farms, or only one for each 377 acres of land. Twenty-eight percent of those replying use tractors. Quoting from the committee report: 'On the basis of all the information obtained thru the survey, and from every other source and after full consideration of all the facts, it is the opinion of the



committee, that projects relative to more efficient and cheaper production, and the application of the best methods of farm management should be given first consideration by the farm bureau for the coming year.' Three county-wide projects were recommended— 'Grow More Clover'; 'Landlord-Tenant Conference'; and a 'County Marketing Conference'. Special projects recommended include, farm management; limestone-phosphate storage; club work; organization of shipping associations and elevators where needed; and service to pure bred breeders." Lumbrick, Vermilion County.

"How has the change in Prices affected the Dairymen? A recent communication to the writer from northern Illinois stated— 'The farmers are a bit discouraged with dairying and would like to have you attend our meeting and give them a word of encouragement.' Is this condition true? A study of the following prices of dairy products and feed prices may throw some light on the situation.

Comparison of 1919 prices of grains and dairy
products with the 1920 prices.

<u>Dairy Products</u>	<u>Prices</u>		
	Dec. 1919	Dec. 1920	% Decrease
92 score butter (Chicago market)	\$.71	\$.49	31.0
Cheese, single daisies	.32	.25	21.9
Whole milk (spread not deducted)	3.65	2.60	28.8
 <u>Mill Feeds</u>			
Gluten feed	66.00	48.00	27.3
Bran	40.25	29.64	26.4
Hominy feed	55.25	35.50	35.7
O. P. Oil Meal	75.25	46.72	37.9
Cotton seed meal	76.50	47.75	37.6
		Av.	32.9
 <u>Farm Grains</u>			
Corn	1.39	.63	54.7
Oats	.78	.47	39.7
Barley	1.25	.63	49.6
		Av.	48.0

There has been a great reduction in the price of Dairy Products. There has likewise been an average decrease of 32.9% in the price of mill feeds and of 48% in farm grains. Under present conditions dairymen are justified in feeding a liberal supply of a good balanced grain mixture. The opportunities of weeding out the low producers and replacing them with better grades and pure breds have never been greater." - C. S. Rhode.

"Control of Orchard Scale. Most of our fruit growers have completed the work of pruning out dead wood and late fall spraying. It is noticeable fact that the men who depend upon springtime for the dormant spray, have not successfully controlled scale. On the other hand, one man who had an orchard badly infested with scale seems to have completely cleaned it up, by both a late fall and early spring spraying." -

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No. 52

MORE LEGUMES

General Adaptation of Legumes for Illinois.

"Soybeans grow best on well-drained soils containing plenty of limestone. Climatic requirements are about the same as for corn. Altho not particularly sensitive to moisture, they will not thrive where water stands for any extended length of time. They are hardy and will resist drouth and considerable cold weather, even when young, and they are still more resistant when they have advanced toward maturity. 'If the pods are fairly well filled before a killing frost occurs, they will usually ripen satisfactorily.'"- Burlison

"The cowpea is a warm weather crop; has its greatest value in the southern states, but is grown successfully in the southern part of Illinois. It is adapted to about the same climatic conditions as corn but requires more heat. It will withstand considerable drouth. It does apparently quite as well on sandy soil as on heavy clays but will do better than clover or alfalfa on thin soils that are acid. No other legume can be grown so successfully and on such a variety of soils under adverse weather conditions as the cowpea." - Burlison.

"Sweet Clover is adapted to a very wide range of climate and thrives under Middle Western conditions. It is also adapted to a wide range of soil types. It grows on lands having very thin top soils, on soils low in fertility, and on those somewhat deficient in organic matter. On acid soils the plants may grow for a while, then become sickly and die. Even if a stand is obtained, the plants are never so thrifty and the yields never so large as they would be on land which contains limestone. However, sweet clover is more or less resistant to any alkaline condition of soil found in Illinois." - Burlison

"Alsike clover prefers a cool climate, withstands severe winters better than red clover, and thrives best where summers are cool. It prefers a rather heavy silt or clay soil with plenty of moisture. Altho it will thrive on good loams, it does not do well on dry, sandy, or gravelly soils. A rich, moist bottom soil suits it best, and on such soils it will grow luxuriantly. It responds to an application of lime, but is not as sensitive to acidity as red clover, and can be successfully grown on many wet, cold, and 'sour' soils on which red clover does not succeed. Alsike clover is very promising in central and northern Illinois." A. J. Pieters.

"Crimson Clover grows and makes its crop during the fall and early spring when the land is not occupied by the ordinary summer grown crops. Because of this it is one of the most economical legumes for green manuring, and has been largely used for that purpose in regions to which it is adapted. It requires very rich soils. Normally, crimson clover is a winter annual comparable to winter wheat, that is, it is planted in the fall, lies more or less dormant over the winter, grows rapidly in the spring, and dies after going to seed early in the summer. Red, sweet, and alsike clover are better suited to Illinois conditions than crimson clover. Crimson clover is used to a very limited extent in Illinois." - Burlison.

"Stop Culling Poultry. Several recent inquiries indicate that the culling of poultry flocks is being continued after the culling season has closed. Leading poultry authorities state that the proper time to cull flocks of poultry is during the late summer and early fall, preferably during the months of August and September. Under most conditions it is unwise to continue the work later than the middle of October, as after that time there is considerable danger of culling out some of the best layers that have been late in moulting and do not show their laying qualities. Pullets are also likely to be culled out unless the work is done by an expert. Further, if the flock has been fed until late in the fall it is considered profitable practice to keep them for the remainder of the season for the eggs they lay even tho the number might not come up to the average of the flock." - W. H. Smith.

Good "Horse Sense". "The enormous decline in the value of farm products, the big increase in freight and express rates, and the lessened popularity of the slogan, 'speed at any cost' are some of the reasons for feeding farm horses and mules this winter in such a way as to bring them out in good shape for next spring's work. It would seem to be good 'horse sense' to help a bad market by using more farm-grown fuels in the shape of horse and mule feed for doing farm work. Perhaps, also, a few more acres in pasture for horses and colts will not, in the long run, affect adversely farm profits as much as has been figured at times during the past few years. Such practice will lessen labor charges and help to improve the price for those products which are sold.

Boost your own business! No, gentle reader, such action will be no infringement on any of the anti-trust laws, will not require the passage of any more laws, nor the organization of any new societies.

Mr. Jas. McNary, manager of the 30,000 acres of fertiles and level farm land belonging to the Baldwin estate, located in the vicinity of Ellendale, North Dakota, informed the writer, during this year's International, that all of their tractors were put in good repair and placed in the sheds this fall, to be removed in the future, only for belt work. The use of horse-drawn implements for field work under their conditions has proved a big economy. Mr. McNary, while holding the position of county agent in one of Minnesota's best counties, carried on statistical work in connection with determining the cost of field work with horses and tractors." - J. L. Edmonds.

"The very low prices of live lamb and mutton on the market and the relatively much higher price of the cuts of meat at local shops should be an incentive to home butchering. Sheep can be killed and dressed with less trouble than either cattle or hogs. A 60 or 65 pound lamb will give about 30 pounds of dressed meat and cuts of convenient size for an average family can be taken from it. Select a moderately fat lamb for butchering. To kill it, cut its throat just behind the lower jaw and below the ear. Remove the pelt and intestines; wash the carcass inside and out and cool thoroly. Before cooking, remove the fell, a thin membrane on the outside of the carcass. Properly cooked and served hot it is a dish that will be wholesome, appetizing and economical even to a county agent. If you don't know how to do it, send for Farmers' Bulletin #1172 of the United States Department of Agriculture, Washington, D. C." - W. G. Kammlade.

"Burn the Chinch Bug" Illinois Circular No. 28 has just been revised and brought up to date. You will be particularly interested in getting a copy because of the splendid chinch bug map, showing severe, moderate and slight infestations on December 1, 1920. Write the Agricultural Experiment Station, Urbana, Illinois.

"Don't Forget the Galesburg Utility Corn Show - the first corn show of its kind. The corn will be judged and placed on its real merits, including germination record, disease free characteristics and improved type. Remember the dates, January 5 and 6, 1921."

"The Illinois Percheron Breeders' Association will hold its Annual Meeting in the Live Stock Pavilion at the University on Thursday, January 20. We would appreciate having the county advisers call the attention of their Percheron fraternity to this meeting. A splendid program has been prepared." - J. L. Edmonds, Secretary Illinois Percheron Breeders' Association.

"Index for Farm Bureau Monthly. Mr. C. C. Logan, Farm Adviser in Crawford County, has made an index of his Farm Bureau Monthly for the year 1920. With this index it is easy for him to find the various articles treated in the Farm Bureau Monthly during the year. This seems to us an excellent idea." - G. N. Coffey

"Farm Advisers are kindly requested to check up their mailing lists to be certain that all their farm bureau bulletins are going to every other adviser in Illinois and to the State Leader's Office. Several advisers report to us that they are getting bulletins from only a few counties." - Atwood.

"Feeder Cattle. Mr. Lewis M. Woodruff, County Agent, Onida, S. Dakota, states that his county as a whole, is organized to place feeder cattle directly with men desiring car load lots or more who desire grade Herefords of Shorthorn cattle. Anyone interested in this matter might write to him in regard to it."

"Springfield Producers Meet. On Wednesday a meeting of the Springfield Milk Producers' Association was held at the Farm Bureau Office. The outstanding feature of the meeting was the appointment of a committee to work with the Springfield distributors in advertising, to increase the consumption of milk in Springfield." - Madden, Sangamon County.

"To Standardize Democrat Corn. "Ten farmers who are growing 'Democrat' corn, and who are interested in furnishing corn of this famous chinch-bug-resistant for the purpose of forming an organization in order that they might standardize as to type, quality and selling price. Each man brought samples. The corn root rot was discussed and it was agreed that every precaution to eliminate corn from our seed be taken." - Thomas, Jackson County.

"Piatt County Farm Bureau is of the opinion that it holds the record in the State for the greatest number of members in any one township. The township is Cerro Gordo, and the number of members is 227. It is interesting to note that the president of the Farm Bureau, Mr. Wise, lives in Cerro Gordo township." - Vaniman.

HAPPY NEW YEAR TO YOU!

The Extension Messenger

A Series of brief notes from the weekly reports of the Farm
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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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No. 1

MORE LEGUMES

"The Importance of Legumes in a Balanced Rotation. Legume crops must be grown on the great majority of our farms if the soil nitrogen is to be maintained economically. This is not the only reason for growing legumes, however. In the corn belt, the cotton belt, and the wheat growing section of the north-west where one crop is outstandingly more profitable than any other, the proportion of the crop area which is devoted to this maximum-profit crop is usually very large, -- almost always too large to meet the requirements of a good crop rotation. The introduction of a legume crop into the corn belt rotation almost of necessity results in a considerable amount of diversification in the crops grown. It requires a small grain in addition to the corn crop. In the central and northern portions of the state, oats is the most common small grain, with wheat ranking second in importance. In actual farming practice the introduction of a legume crop into the rotation is an important factor in bringing about a reasonable amount of diversity, and a certain balance between the several crops which must be grown to work in satisfactorily with the legumes. The factors of diversity and balance are of importance in distributing horse and man labor evenly thruout the cropping season. This means economy in the use of these two items which make up from 60-80% of the total operating expense (excluding interest on the land or rent) in producing corn belt crops. Diversity and balance are also of importance because they help to avoid some of the risk necessarily involved in any type of farming in which one crop makes up a large part of the crop receipts. That is, the introduction of the legume, and the necessary change in the rotation accompanying it, helps to insure a constant income in the farming business." -- W. F. Handschin

"More Legumes as Means of Fighting Chinch-Bugs in 1921. It has been said with much truth that farming is the greatest gambling game in the world, for when everything is considered there are many factors of crop production over which even the most careful, far-sighted, and painstaking farmer has absolutely no control. He must, each season, take chances on too much or too little rain at certain times of the year; too hot or too cold a season; early or late frost; attacks of insects and fungi; and several other factors which may destroy his crop and about which he can tell nothing when planning the acreage of each crop. Sometimes nature is kind enough to warn us in advance that some of these factors may be more than usually important during a certain year, and this is just what she has done for the season of 1921. We know that in nearly half of the state chinch-bugs are hidden away in their winter quarters in such numbers that they will cause enormous destruction to all grass crops if the coming May and June prove moderately warm and dry. We know, too, that chinch-bugs will not harm any crops belonging to the legume family. Cowpeas, soybeans, alfalfa, red, alsike and sweet clover, in fact any legume which we can grow, is entirely immune from injury by this tremendously

destructive little insect. On the other hand, we know that every crop belonging to the grass family, which includes all our small grains and corn, will be seriously damaged thruout the south half of the state if these insects are as abundant next season as now seems highly probable. Several of the legume crops have proved fully as profitable as the grains in this section of the state. Knowing the situation as we do, it is highly important that the largest possible acreage of legumes be grown next year. By doing this farmers will not only be sure of having a crop which the bugs will not damage next season, but as the chinch-bugs will not feed and consequently cannot breed and multiply on the legume crops, they will be adopting one of the best methods known for reducing the number of the bugs in the season of 1922." - W. P. Flint

"What Feeds Shall we Buy? In most cases only those feeds which will supply the protein lacking in home-grown feeds should be purchased. The question then arises - What shall we feed with our corn, barley, and oats? Usually one, or combinations of the following feeds should be used: cottonseed meal, linseed oil meal, gluten or bran.

A Comparison of the Economy of Different Protein Feeds.

	In 100 Lbs.		Price per Ton Dollars	Cost per Lb.	
	Digestible Protein	Total Dig. Nutrients		Digest. Protein	Total Dig. Nutrients
	Lbs.	Lbs.		Cents	Cents
Linseed oil meal	30.2	77.9	54.00	8.94	3.46
Gluten Feed	21.6	80.7	45.00	10.41	2.78
Bran	12.5	60.9	34.00	13.60	2.79
Cotton Seed Meal	37.0	78.2	47.00	6.35	3.00

When silage and legume hays are fed, cottonseed meal fits in very nicely in the grain ration, as silage has a laxative effect and cottonseed meal has a binding effect. Under conditions where such feeds as timothy hay and corn stover are fed linseed oil meal will work in best, due to its laxative qualities." - C. S. Rhode.

"Value of Skim-Milk and Tankage for Pigs. One pound of tankage has about the same feeding value for pigs as 10 to 12 pounds of skim milk or buttermilk when each is used in the proper proportions. Stated in another way, 100 pounds of skim-milk has a feeding value of about 8 to 10 pounds of tankage. There are several guides that may be used in estimating the value of each feed. One is that a pound of tankage should be purchased for about $\frac{1}{3}$ the price of live hogs per pound. Another is that 100 pounds of skim-milk should be purchased and delivered for about 40% of the price of a bushel of corn. It is also sometimes said that $4 \frac{1}{2}$ pounds of skim-milk are equivalent in feeding value to 1 pound of corn. Rather than not use any protein supplement to corn, one could afford to pay more than above stated for either feed." - J. B. Rice.

W. F. Handschin was highly honored by being elected President of the American Farm Economic Association at their recent annual meeting in Washington, D. C. Professor Handschin has just returned from this conference and reports a splendid program. The features of the meeting revolved about the discussion of the question of "readjustment of farming to meet present economic conditions". Some emphasis was placed on marketing and credits.

Professor Handschin also attended the annual meeting of the American Economic Association at Atlantic City, New Jersey.

"Sure! Everybody's going" to the annual meeting of the Illinois Agricultural Association at Hotel LaSalle in Chicago, January 13 and 14.

"Meet you at the Big Adviser's Round Up" - You mean the annual meeting of the Illinois Association of Farm Advisers? Yep. The dates are January 18, 19 and 20 and the corral is in old University Hall Chapel.

"Illinois Percheron Breeders" are to have a good program at their annual meeting, Urbana, January 20, 1921. Among the speakers will be, W. C. Coffey, C. J. Raboin, Dan Augstin, John Ashton, A. L. Robinson Jr., and W. S. Corsa. There will be a morning session at 9:30 and an afternoon session, both in the Livestock Pavilion of the University of Illinois."

"The Graduate Veterinarians" second annual meeting will be held under the auspices of the University, January 26, 27, and 28, in the Animal Pathology Building. A splendid program has been arranged for the three day's meet."

Get Acquainted: Association of Commerce of Decatur entertained farmers of Macon County at the Y. M. C. A. for a "Get Acquainted" meeting. Cry babies and tic tacs were handed out. Sandwiches, cob pipes and tobacco, coffee and sweet cider served by business men themselves together with all the noise, got everybody in a good humor regardless of price of corn. Mr. Adkins addressed the meeting and stated he remembered when corn sold for 18¢ per bushel. Everybody went home feeling fine. V. Vaniman.

"Out of the Mud". At the last Executive Board Meeting a permanent Good Roads Committee was appointed which met December 13 and outlined a plan of procedure for getting Marshall-Putnam counties out of the 'mud'. A great deal of interest is being taken in this matter. We realize the entangling dangers that accompany the road question. It is likely that the Farmer's Institute in Marshall County will be made over into a Good Roads convention, for at least one of two days. - Fuller, Marshall-Putnam County.

"J. D. Weaver, County Agent, Worland, Wyoming, has 10,000 pounds of Grimm alfalfa seed for sale at \$.50 per pound, f. o. b. Worland, sacked."

"Shall we teach farmers to cull sheep?", someone has asked the Messenger. Professor W. C. Coffey answers as follows:- 'We presume the proposed sheep culling demonstrations to be along the line of demonstrating the type of fleece the farmer should attempt to grow. We find that a very large percentage of the Illinois-grown wools are 1/4-blood or low 1/4-blood combing. We think that we should grow more 3/8-blood combing, because such a wool is more valuable and will bring more per pound. Then too, we find that our farmers know practically nothing about the type of fleece and the points of selection which will guarantee a decent weight of fleece.

Mr. Crawford, being well acquainted with mutton type, is also unusually well qualified to talk to our farmers about the kind of wool to grow, because he spent the entire summer in the National Wool Storage Company's warehouse in Chicago. He would not of course make his demonstration upon fleece qualities alone, but in the demonstration he would combine desirable fleece qualities with desirable mutton qualities."

"Agriculture is the fundamental source of national prosperity." - J.J. M.

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No. 2

LEGUMES ON EVERY FARM

Limestone . "A study of the relation of limestone to legumes must necessarily involve plant processes. In all plants, calcium and nitrogen are essential. For Legumes, bear a close relationship. As the nitrogen increases, the calcium also increases. The calcium-nitrogen ration in plants of comparatively high nitrogen content is about twice as much as that for plants of comparatively low nitrogen content. Thus, legumes require about twice as much calcium for a given nitrogen content as do the members of the grass family.

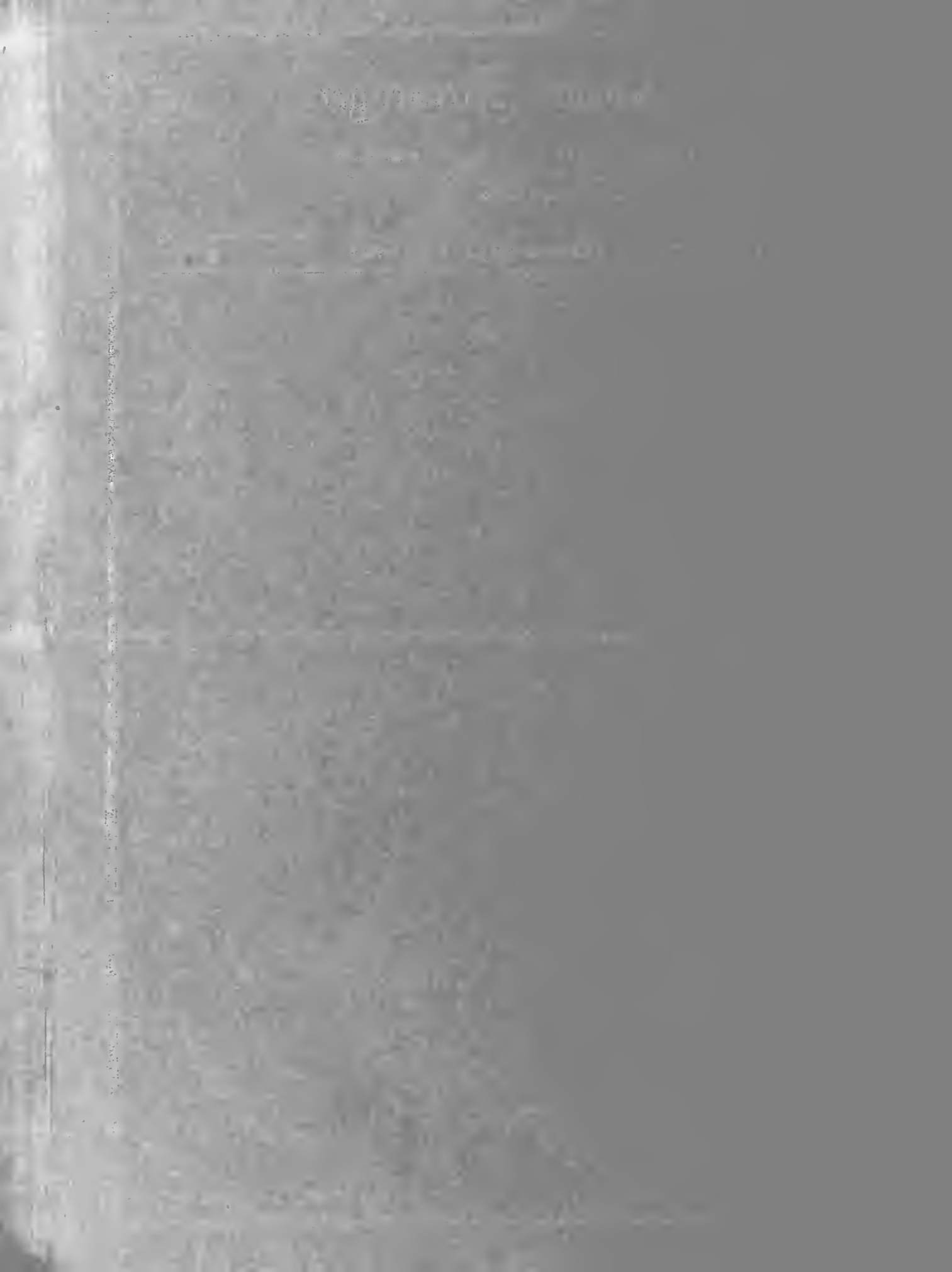
Both protein-formation and protein-decomposition involve reactions in which considerable amounts of acids may be formed. Thus, in high protein plants like legumes, the higher amount of calcium found may be essential to neutralize and precipitate such acids, as illustrated by crystals of calcium oxalate found in many plants.

Some calcium may also be needed for plant food-to become a part of the plant structures.

Soil materials consist largely of a combination of acids and bases. Drainage waters dissolve out the base, chiefly calcium, more rapidly than the acids. Cultivation increases this loss. Many crops also remove the bases more rapidly than the acids. A ton of alfalfa hay takes calcium from the soil, equivalent to 100 pounds of limestone; red clover to about 75 pounds. On our common upland soils, such natural processes eventually bring about a condition in which there is an excess of active acids over bases. This condition is known as soil acidity. The available supply of calcium and other bases becomes too low to meet the need of legumes, and for the favorable physical, chemical and biological processes of soils.

Acid soils still contain some calcium. Whether plants can get it depends upon the resultant of three factors, the calcium content, the rate of growth and the feeding power. The greater the feeding power the better able they are to get it. The first two factors operate in the opposite direction. Legumes like sweet clover and alfalfa, cannot get sufficient calcium under such conditions. They grow poorly if at all. The common clovers fare a little better, but not well enough for practical purposes. Cowpeas, soybeans, velvet beans and others fare still better and often-times grow well on acid soils. In general, however, the best results with legumes can be obtained only when there is an excess of bases, over acids in the immediate soil environment. For a large number of legumes this is absolutely essential. This condition can be brought about by the liberal use of limestone. Thus, in the very nature of things, limestone and legumes on our common upland soils are inseparable." - F. C. Bauer.

ez sez: "Limestone-to precipitate acids-add plant food-replace losses-grow legumes."



Peoria County evolves a New Program of Work for 1921. The following outline gives the major and minor projects. Limited space prevents our printing it in detail but the detailed program can be secured from Adviser Hedgcock.

MAJOR PROJECTS.

- I. Legumes on Every Farm.
- II. Corn Diseases and Seed Certification.
- III. Better Pure Bred and Market Stock.

MINOR PROJECTS.

- I. Increased Dairy Production.
- II. Poultry Culling and Management.
- III. Boys and Girls Pig Clubs.
- IV. Orchard Pruning and Spraying.
- V. Market Garden Problems.
- VI. Farm Arrangement and Methods.
- VII. Marketing.
- VIII. Promotion of Good Roads Movement.

Peoria County's plan is for the advisers, after consultation with the Executive Committee, to work out a suggestive general program which they and the Extension Service deem will meet the coming year's requirements. At a meeting of the Board of Directors this tentative program is carefully considered and finally adopted with such modifications as the Board of Directors think desirable. Later a program is virtually worked out at each community meeting from suggestions of Farm Bureau members, the adviser merely leading the men thru suggestion, to express their own ideas of what the farm bureau should do in their communities and in the county. This plan of developing a program, worked successfully last year and will be followed again in 1921.

Result of Poultry Culling. "The Missouri State Experiment Station has concluded a twelve months hen laying contest to check up on the culling work done by County Advisers. Briefly, this work was reported in the American Poultry Journal as follows:

"Forty hens were selected by county agents and flock owners from four farm flocks from different parts of the state, representing twenty profitable and twenty unprofitable individuals. These hens were all healthy and vigorous and of the same age, but nothing was known of their breeding or past records. During the last year these hens have been fed and housed under ideal conditions and an accurate trapnest record kept of each individual. According to these records, it is evident that in the majority of cases these hens were selected by application of the pelvic bone measurement, disregarding the several other points that should have been considered.

In each instance, those selected as unprofitable laid a few eggs less than those selected as profitable. As a whole, those selected as unprofitable laid 2,043 eggs during the contest, against 2,528 for those selected as profitable, the difference being only 485 eggs, which proves conclusively, as shown by the records, that there were culls selected as profitable hens, and vice versa. The fact is, some of the poorest producing individuals were selected as profitable hens, and the highest producer among the forty hens was classed as a cull.

As a result of this contest, the fact has been brought out that poultry raisers are not efficiently applying the important principles in culling their flocks, which are vigor, condition of molt, body depth, quality of pelvic bones, breast bone, body and abdomen, body spread and pigmentation test." - W. H. Smith.

Curing Pork on the Farm. "After the hog is dressed hang it in a cool place over night. Do not let it freeze. Saw it down the center of the back bone, remove the head and feet, and cut up each side into ham, shoulder, belly, loin, spare ribs, and fat back. The loin is eaten fresh as pork chops or roasts, or it may be canned. The tenderloin is often stripped out and fried down in lard. Spare ribs are eaten fresh. The fat back (i.e. the fat along the back) together with the leaf fat and other fat trimmings are made into lard. Lean trimmings and sometimes the shoulder are made into sausage. Hams, shoulders, and bellies for curing should be trimmed smoothly, rubbed thoroly with salt, and left to stand over night in a cool but not freezing temperature.

A standard recipe for sugar curing is 10 lbs. of salt, 2 lbs. of sugar, 2 oz. of salt peter, and $4\frac{1}{2}$ gallon of water for 100 lbs. of meat. Allow the pickle to boil and then skim off the skum. Pack the meat in a large stone jar or hard wood barrel and pour in the pickle after it is cool. Weight down the meat so that it is entirely covered.

Bacon from medium size hogs should remain in the pickle about 4 weeks, while medium size shoulders and hams should remain 5 to 7 weeks and 6 to 8 weeks respectively. Overhaul and repack the meat at the end of the first and again at the end of the second week, using the same brine. If the brine sours or becomes ropey, remove the meat, scrub it thoroly in warm water, and repack in a clean barrel with fresh brine. A cool cellar, above the freezing temperature is the best place for curing. After curing, remove the meat and allow it to soak for several hours in warm water, and thoroly scrub it and string for the smoke house. Hang it in the smoke house and allow it to dry over night.

Smoke over a cool fire of hard wood, such as hickory or maple, or corn cobs, smothered with ashes, preferably hard wood ashes. Avoid wood like pine which will give it a resinous flavor. The meat should be hung so that none of the pieces touch and far enough from the fire - 6 to 8 feet - so that it will not get too warm. Bacon should smoke 24 to 36 hours and hams and shoulders 60 to 90 hours. It is better to extend the smoking period over several days rather than to keep a continuous smoke for the required length of time. Fresh sausage in casings may be smoked for several hours to improve its palatability. It will also keep several weeks longer after smoking." - Sleeter Bull.

New Advisers Employed. Calhoun County has employed as county adviser, Mr. J. H. Allison, graduate of Iowa State College and formerly county agent at Council Bluffs, Iowa. Mr. Allison expects to begin work about February 1.

C. M. McWilliams has been employed by the Randolph County Farm Bureau and expects to take up the work there by January 15 or sooner. Mr. McWilliams is a graduate of the University of Missouri and was county agent in Cape Girardeau County, Missouri for about 6 years. For the last three years he has been farming in Union County.

H. J. Rucker who will finish a three year contract on February 1, 1921, as adviser in Effingham County has accepted the position of Assistant Adviser in Morgan County, commencing February 15.

E. B. Heaton, who has been Farm Adviser in DuPage County since May 1, 1913, resigned December 31 to accept a position in connection with the organization work of the American Farm Bureau Federation.

The Madison County Farm Bureau has employed H. U. Landon as assistant adviser in that county. Mr. Landon is a graduate of the University of Illinois and has been farming since leaving the University and has been secretary of the Farm Bureau in Jersey County. He expects to begin work about January 15.

Adams County has recently employed A. B. Leeper to serve as business agent for the Farm Bureau. He is employed at present on a part time basis but will devote as much time as necessary as the work increases.

The Extension Messenger

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A series of brief notes from the weekly reports of the Farm
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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. IV

January 19, 1921

No. 3

LEGUMES ON EVERY FARM

Our . . . "Red Clover is the most important legume hay crop growing in this
Common . . . country but its acreage is decreasing in many sections. Soils which
Hay . . . once grew red clover are failing because of so called 'Clover Sick-
Clovers . . . ness'. Ground limestone is a most important remedy. For treated
..... cornbelt soils, red clover is second to none and there is much senti-
ment connected with the growing of this crop in Illinois. It has been grown al-
most ever since there was a 'corn belt' and for a long time it will stand at the
head of the list of legume crops in Illinois, chiefly because of its high feed
value and because it can be employed so well in our rotations.

Alfalfa is regarded as a most important legume hay crop. It is our third
most important forage crop, being exceeded only by timothy and red clover. Pro-
bably more has been said and written about alfalfa than any other single legume.
For the following reasons this crop is a leader: (1) It has long life; (2) it
is nutritive; (3) it is palatable; (4) it produces high yields; (5) it is drought
resistant. Alfalfa deserves more attention in Illinois than it is now receiving,
and without doubt many acres will be newly seeded to this crop in 1921.

Alsike Clover. While we sing the praises of alfalfa and red clover, we must
remember that year by year alsike clover is winning a home in Illinois, especially
in Northern counties and on soils too wet for red clover. 'Unlike most clovers,
it will thrive even where the soil is water logged'. On the crop field at DeKalb,
better results are being obtained from alsike than from red clover." - W. L. Burlison

Mex sez - "You bet, Red Clover's the good old crop but I calculate I'll
put the back 4 acre lot in alfalfa this year. They say you don't have t' feed
the shotes much if they run in alfalfa madder."

When making farm visits we aim to find out if the men are interested in any
special line of work, and in better than 90 percent of the visits find that the
men are quite anxious to get a field of alfalfa started. Pushing the project-
"A Field of Alfalfa on Every Farm" will be part of our 1921 program. - Hedcock,
Peoria County.

Plans to Feed Hog Market. "One of the progressive young farmers of Vermilion
County is planning the hog producing end of his business so that he will have
three crops of pigs, one each, in early spring, mid summer and fall. This man
also practices the field feeding of corn and soybeans." - Bilsborrow

Keep the calves growing; it takes less feed per hundred pounds gain when
the calves are young.

Do not Sacrifice Sheep Flocks. Better Times Ahead, says Coffey. "This is not the time to sacrifice healthy flocks of sheep on the open market. Conditions exist which warrant us in believing that within the next two or three years farm flocks will be more profitable than ever before. True, our wool market has been in a state of collapse for several months, but the time cannot be far away when the prices asked for woollen clothes will be so reasonable that people will buy. The large surplus of wool that accumulated during the war in Australasia and the Argentine because ships were not available to transport it, will gradually be absorbed. And the European countries that formerly took large quantities of wool will slowly come back to their pre-war rate of consumption. Prices may not be high for several years, but knowing that we produce only one-half as much wool as we consume, we are confident of the return of satisfactory prices.

Everything considered, prices during recent months reflect a strong demand for lamb in this country. Were this not the case, the market would have been completely demoralized by the unprecedented competition furnished by enormous importations of frozen lamb from New Zealand. The importations of 1920 amounted to one third of what we normally produce in a year. We had to suffer this competition, firstly because a large surplus collected in New Zealand during the war and secondly, because the countries that usually consume it were unable to buy. The year's experience has demonstrated that the imported lamb carcass is not as popular as the home grown product, and if it should have to come in under a duty it would likely seek a market elsewhere. In fact, it is thought that the importations this year will be much less than last year.

But why the bright future for farm flocks? Our western sheepmen have suffered from both bad growing and bad marketing conditions. Even the help thru legislation or thru any other means comes to them soon, production in that great region is sure to be reduced. Our cities want American grown lamb; their appetite for this product is growing. The West will be unable to supply as much as in former years. The Middle West will have an opportunity to make up the deficit, but she cannot if she lets her flocks go on the open market now. Hold on to them." W. C. Coffey.

"Pork Sausage. To make a high grade sausage, the meat should contain not over one-fourth fat. While the trimmings are usually used for sausage, many trim out a few shoulders for this purpose. A good formula for sausage is as follows: 4 lbs. pork, 5 teaspoonfuls salt, 6 teaspoonfuls sage (if its flavor is liked), 2 teaspoonfuls white pepper, 1 teaspoonful ground cloves, 1 teaspoonful sugar, 1 teaspoonful baking soda, 1/2 cup water. Grind the trimmings. Spread out the ground meat and sprinkle the seasoning on it. Then run thru the grinder again which makes a smoother product. Mix and knead the sausage thoroly with the hands, adding the water. It may be made into pats for cooking or it may be stuffed in casings of muslin. If casings are used, it will probably be more satisfactory to buy some prepared hog casings from a butcher. Sausage may be preserved for a long time by frying it down in lard. Sausage in casings may be smoked for several hours to aid in its preservation."

"Dry Cured Pork. Many prefer to dry cure their pork rather than to cure it in a pickle. A good formula for curing pork without the use of a pickle is as follows: for 100 lbs. of meat use 5 lbs. of salt, 2 lbs. sugar (brown or granulated), 2 oz. saltpeter and pepper to suit the taste. If desired, molasses may be substituted for the sugar. The seasoning is mixed thoroly and 1/3 of it is rubbed into the meat. The meat is then packed in a tight box or barrel or laid upon a table in a cool, moist place. After three days, rub another third of the

seasoning mixture into the meat and repack. After three more days rub the remainder of the mixture into the meat and again repack. Twelve or fifteen days after the last rubbing, the meat is washed, dried and smoked. This recipe is not as sure a means of preserving the meat as the brine method. However, if cured in a cool, moist basement it should be successful and imparts a milder cure and a better flavor to the meat than the brine method." - Sleeter Bull.

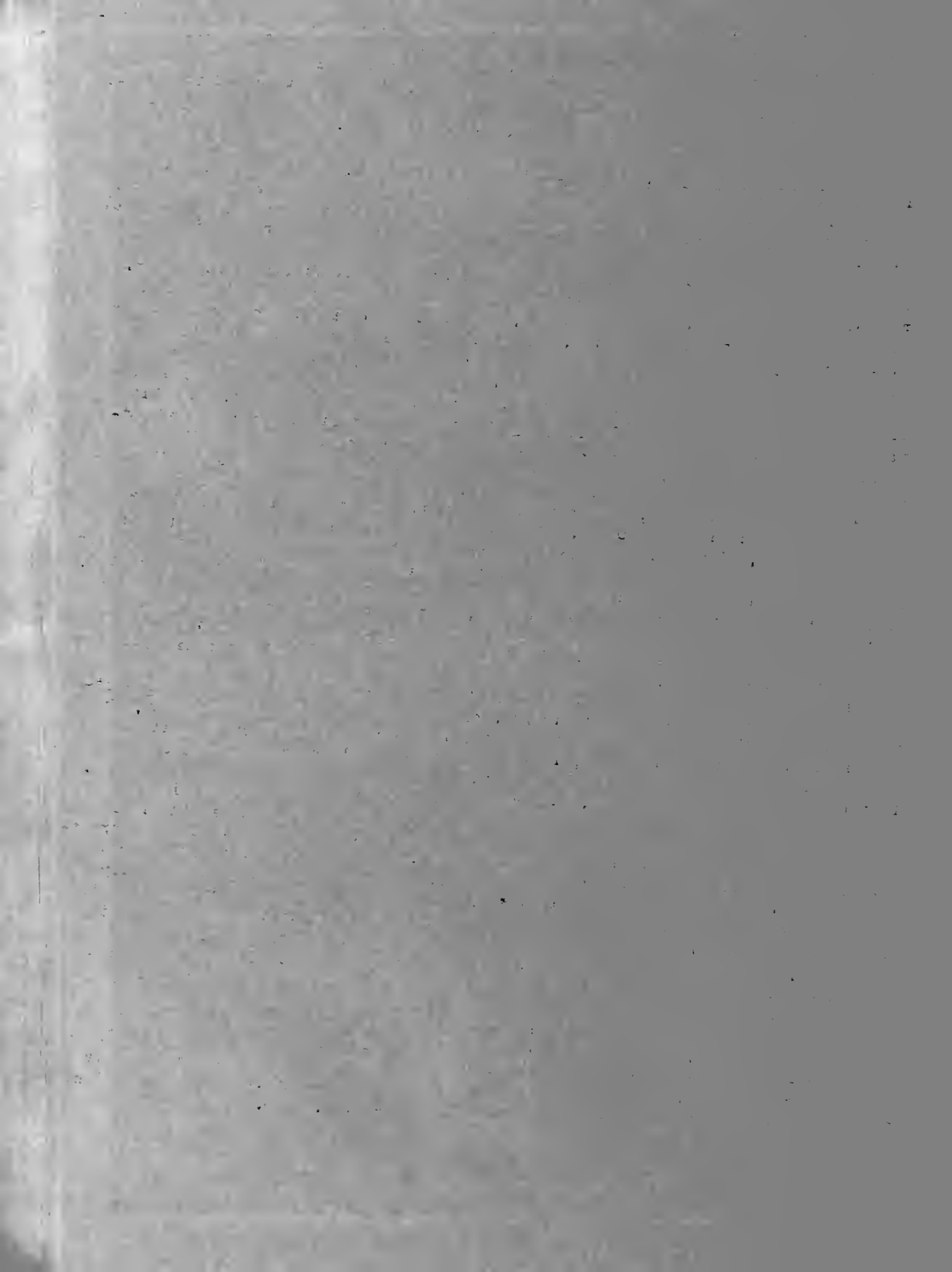
A New Treatment for Milk Fever. "Recently in treating cases of milk fever in the University herd we have been using oxygen instead of air and have found it superior. At this season of the year one may expect milk fever to attack some of the older cows, especially those which are normally high producers and in good flesh.

The symptoms of milk fever are usually fairly easy to distinguish. An attack almost always occurs within 48 hours after the animal calves, tho in some rare instances it occurs before calving, and occasionally it will occur a week or even a month or more after calving. The affected animal usually shows signs of uneasiness, has a rather fixed stare out of the eyes, and shows a weakness in the hind parts. These symptoms quickly give place to almost complete paralysis and the animal is unable to rise to its feet tho it may try to do so. At this time the animal frequently tho not always takes a characteristic position of putting the head around on the side, the nose near the rear flank. THESE SYMPTOMS SHOULD NOT BE OVERLOOKED, ESPECIALLY IF THE ANIMAL HAS CALVED RECENTLY. WITHOUT PROPER TREATMENT THE ANIMAL WILL USUALLY DIE.

Previous to this time, the most successful treatment for milk fever has been the pumping of air into the udder. The oxygen treatment is superior to air for several reasons. Oxygen is a sterile product and therefore reduces the chances for the infection of the udder. Furthermore, oxygen is slowly absorbed by the tissues, and we do not find oxygen collecting under the skin and loosening the same as does air. Again the oxygen treatment is simpler, as the oxygen comes in small metal cylinders ready for use and all of the additional equipment necessary is a small piece of hose and a milking tube. The latter should be carefully sterilized by placing in boiling water.

In applying treatment for milk fever the end of the teat should be disinfected with a solution of tincture of iodine, or other equally good disinfectant, then the small tube should be pushed into the opening of the teat and oxygen allowed to flow in until the udder is tight, indicating considerable pressure within. The tube should then be removed and the teat tied to prevent the escape of the oxygen. In tying the teat a rather soft, flat cord or tape should be used as it is less likely to cause the teat to become sore as a result of the lack of circulation. Each teat should be filled with oxygen in the same way. If the animal being treated is lying on her side, it is usually best to fill the teats nearest the ground first, as they are much easier to reach than if those above are filled. Usually the animal will be able to get up in from 2 to 4 hours if taken in time and treated as above. In cases where the cows do not get up in 4 hours it is best to inflate the udder a second time. In case of doubt as to whether the trouble is really milk fever, take no chances if the animal has calved recently. The oxygen treatment if carefully and properly applied will do no harm and it might save a very valuable cow.

The small oxygen cylinders referred to above may be secured from the Linde Air Products Company, East Chicago, Indiana, or the Lennox Chemical Company, Cleveland, Ohio. The cylinder costs about \$7. when new and can be refilled repeatedly at a cost of about \$1.50 for each filling. Each cylinder contains 40 cubic feet of oxygen and will treat 5 to 8 cows for milk fever." - W. W. Yapp.



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No. 4

LEGUMES ON EVERY FARM

Sweet . "Experiments at this station indicate that from $1\frac{1}{2}$ to 2 acres of the
Clover . best blue grass pasture on the University farm are required to carry a
For . cow with suckling calf thru the grazing season. Obviously, we cannot
Pasture . afford to eliminate from our cropping system, $1\frac{1}{2}$ to 2 acres of \$300
..... or \$400 land to graze an ordinary grade beef cow and her calf. If
cattle-breeding on high-priced land is to prosper, the summer maintenance of the
cow herd must depend upon the utilization of a legume pasture which has a value in
the crop rotation in addition to its pasture value.

The first experimental work at this station on the use of sweet clover as a
cattle pasture was done during the summer of 1916. Seven cows with 7 calves were
turned on 7 acres of sweet clover on May 20. Half of this field was mowed for
hay on June 1. It had made too rank a growth for good hay and the mowing killed
practically all of the clover. However, these 7 acres, with the addition of 980
pounds of hay per cow, carried the cows and their calves for a total of 147 days.
The best mixed pasture on the University farm that season yielded a pasturage of
98 days per acre for cow and calf. The same season 9 pure-bred two-year-old
heifers on 8.05 acres of sweet clover, that was seeded that spring, secured 128
days' pasturage per acre. During the season of 1918, 9 acres of sweet clover,
seeded in oats the preceding spring, yielded 136.2 days' pasturage per acre. This
is calculated on the basis of mature animals, calves not counted. The same season
our Demaree mixture, which had been seeded in oats the preceding spring, gave 95
days' pasturage per acre, and our best mixed pasture, which was largely blue grass,
yielded 110 days' pasturage per acre.

This past season, 8 acres of second year's growth of sweet clover, pastured
with 13 yearling heifers, yielded 217.1 days' pasturage per acre. Other results
secured at this station do not differ materially from those cited. The greatest
difficulty we have experienced in pasturing sweet clover seeded in oats the pre-
vious season was to keep ahead of it in the spring and make it hold out in the
fall. While the Animal Husbandry Department has never been fortunate enough to
have a good stand in stubble ready to turn on to when the regular pasture failed,
results of observation lead us to believe that under the right system of manage-
ment we may depend upon the sweet clover aftermath in oats stubble to supplement
our second year's growth during the fall. Likewise, observation of results se-
cured by practical farmers, as well as the effects secured by clipping on the
agronomy plots, lead us to believe that clipping high at the right stage of growth
may safely be employed for holding back growth in the spring, and that such clip-
ping will materially lengthen the period of growth in the fall. The sum total of
the experimental evidence and of results secured by practical breeders, indicate
that sweet clover, when properly handled, may be depended upon to give at least
as much pasturage per acre as our best blue grass pasture." - H. P. Rusk.

"One Way to Get Higher Prices for Butterfat. Farmers often complain of receiving lower prices for fat than the butter market warrants. In many cases the fault is not the creameryman's, but the dairyman's. The remedy lies in producing better grade cream from which high scoring butter can be made. The wide spread between high grade and low grade butter is indicated by the following table which gives the average wholesale prices on the Chicago market for the past year.

Wholesale Butter Prices (In Cents)

1920	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg.
92 score	.63	.62	.65	.64	.57	.55	.55	.55	.57	.57	.60	.51	.58.5
88 score	.57	.56	.61	.59	.53	.50	.49	.48	.48	.46	.46	.38	.50.9
Spread	6	6	5	5	4	5	6	7	9	11	14	13	7.6

Some creameries may make low grade butter from the best cream. No creamery can make the highest grade butter from poor cream. When there is a difference of 14 cents a pound between 92 and 88 score butter as there was in November, it should be apparent to every farmer that he cannot afford to deliver cream that is old, yeasty or dirty." - H. A. Ross, Associate in Dairy Economics, University of Illinois.

Adams County Shipping Association Results. "The Annual Meeting of our Shippers' Association was held Saturday afternoon, January 15. This association has accomplished some very good results in the past year. During the past year the association has sold \$1,200,067.18 worth of business, shipping 38,434 head of hogs, 3094 head of cattle, and 3091 head of sheep, at a total cost of approximately 61.6¢ per hundred. S. L. Rishel, of the I. A. A., Carl Kennedy, Associate Editor of the Wallace Farmer, and two representatives of the Agricultural Department of the state of Kansas were present and delivered short addresses. Several changes were made in the constitution and by-laws. Inquiries are coming to us daily from other counties and states for information about our organization." - Gougler, Adams County.

Cooperative Shipping Pays. "Five local Shippers' Associations were organized in two weeks time within Memard County. The first shipment netted the shippers about \$200 over local price." - Hughes, Memard County.

The series of community meetings are well under way. We find it very profitable to hold soil demonstrations in the forenoon and give the results of the service survey in the afternoon, covering the territory where the meeting is held. We use local talent in so far as it is possible. A summary of the townships thus far show a low acreage of legumes, not over 7% of the tilled land. Three-fourths of the farmers indicate that they will use limestone if the landlord will buy it and if it can be secured locally. The value of the community meetings cannot be over-estimated, especially with a large membership where it is impossible for the adviser to keep in close personal touch with the members." - Fuller, Marshall-Putnam County.

The big job of the Farm Bureau for this winter is publicity. We are holding from one to two big meetings in each township at which time we secure the services of a State speaker. We have organized a Farm Bureau quartet of which the Adviser and Assistant Adviser are members. I am enclosing copy of some parodies that we have successfully used; this parody business has unlimited possibilities. We believe that our big job this winter is to furnish information to the individual members on what is being accomplished and what can be accomplished if they will stand by their organization." - Edgerton, Rock Island County.

Will Standardize Grades of Melons and Tomatoes. "A series of five meetings were held at the principal shipping points in the county - Balcom, Dongola, Anna, Coblen, and Alto Pass. These meetings were well attended and were called for the purpose of having each local shipping point take some definite steps to improve the grade and package of vegetable products principally. The meetings showed that in most places the growers were determined to make some improvement this year so that Union County products would get a better name on the market.

At Balcom, 20 growers decided to grow only three varieties of melons, to have the packages inspected by their manager and divided into first and second grade with rejection of some packages authorized if not up to grade. Balcom growers seemed to realize the necessity for turning out a better product as they at one time enjoyed quite a reputation on their melons which was lost thru sending out some poor stuff. At Coblen, the growers decided to call another meeting at which an attempt will be made to have as many growers as possible decide on three varieties of tomatoes for this season and probably take some further steps in regard to grades and packages." - Toerschuk, Union County.

Approve of Utility Show. "I was very much interested in the Utility Corn Show held at Galesburg this week. Judging from our knowledge of types of corn which have been giving the best returns on the basis of dry shelled corn, the method of judging used in Galesburg is a decided step in advance over the old method of judging. This conclusion was very greatly emphasized in our estimation when we visited the Iowa State Corn Show at Ames on Thursday and Friday of the same week. The Iowa Corn Growers' Association has been conducting a field growing test of corn from 128 men during the past year." - Mosher, Woodford County.

Pool Soybeans Thru New Organization. "The Soybean Growers met and formed a permanent organization, electing H. C. Praetor, President; E. L. Anderson, Secretary; and A. B. Leeper, Treasurer and sales agent. They completed arrangements for pooling something over 1000 bushels of soybeans and raised a fund of \$150. to be used for advertising purposes. They have already published 5000 copies of a booklet on the subject of Soybeans, copy of which is available for mailing." - Gougler, Adams County.

New Advisers. We welcome back to our ranks, E. W. Rusk who was Adviser in Adams County, Illinois, for more than four years, leaving there to take up the management of a large estate in Missouri in September 1919. On January 15, 1921, Mr. Rusk began work as Adviser in Macoupin County, Illinois.

Frank M. Bane, we also welcome back to Illinois. He succeeds J. H. Miner as Adviser in Henderson County and took up the work there on January 20. We mentioned Mr. Bane in our December 15 issue.

Elmer A. Bierbaum, formerly instructor in Horticulture, U. of I. has taken up his position as assistant adviser in Union County. He began his new work early in January.

A. W. Johnson, formerly of Wooster, Ohio, has been employed as assistant adviser in Ogle County. He began January 5 and has been placed in charge of livestock and club work chiefly.

Will Feel Mr. Chinch Bug. "We are taking a lot of orders for White Democrat seed corn, early seed oats, cow peas and soy beans. This makes me feel as tho success was coming to our campaign against the chinch bugs in the use of crops which the chinch bugs do not like." - Tate, Monroe County.

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No. 5

Seeding . "Sweet clover is going to be much more widely seeded in Illinois
Sweet . this year than ever before. This condition, of course, is very en-
Clover . couraging. There are, however, a few more or less general facts re-
..... garding adaptation and seeding which should be kept in mind. The
crop is adapted to all non-acid soils suitable for other cultivated crops.
Fertile, sweet, corn-belt soils are naturally best for sweet clover but the
crop will do remarkably well on sands and on those soils containing very limited
amounts of humus. Liberal applications of limestone, sufficient to correct the
acidity and thore inoculation are prerequisite to the best success on all soils.

Cultural methods for sweet clover are not universally understood because
the crop is comparatively new on Illinois farms. This fact has led to consider-
able variation in seeding practices and, consequently, occasional failures.
Naturally no uniform hard and fast rule can be promulgated. Seasonal conditions
and crop uses must influence somewhat.

The most satisfactory time to seed is apparently the same as for red clover.
When seeded on a winter grain, wheat or rye, February seeding on the snow or
frozen ground is best. Seeded with a spring grain the sweet clover should be
seeded at the same time as the grain. On very rich soils where the sweet clover
is likely to grow exceedingly rank and interfere at harvest it may be advisable
to seed the sweet clover two weeks after the grain is seeded. In case the swqet
clover is seeded at the same time as the spring grain it should be seeded separate-
ly and in no case mixed with the grain.

Sweet clover is quite hardy, in its proper environment, and will usually stand
the severe conditions to which it is subjected when the grain is removed. Where
the crop is being grown for the first time or where conditions are not the most
favorable the question of the kind of nurse crop might be considered. Barley
is perhaps least injurious, wheat second and oats worst. In southern Illinois
when it is necessary to use oats as it usually is, it is advisable to use a
short strawed, early maturing oats and seed as early as possible.

The amount of seed to use will depend upon the quality and the kind, whether
hulled or unhulled, scarified or non-scarified. Only clean seed should be con-
sidered. Eight or ten pounds of inoculated, hulled and scarified seed per acre
on fertile sweet soils is sufficient. Twelve to 15 pounds of non scarified seed
on the wheat in February should give a good stand. As the season advances it
becomes more advisable to use scarified seed. Freezes and thaws during February
and March tend to crack the impervious seed coat.

Sweet clover makes an excellent component of any pasture mixture and should
be used wherever a leguminous pasture is wanted. The following mixtures use
sweet clover as the basis: Sweet clover 4 pounds, red clover 3, alsike 1, and
timothy 2; sweet clover 4, alfalfa 4, timothy 4, and alsike clover 4." - J. C.
Hackleman.

"Legumes for Brood Sows.- The use of alfalfa hay as a part of the ration for brood sows is advised by some of our leading hog breeders. Their argument in support of this practice is that the hay gives bulkiness to the ration, and it is relished by the animals and causes them to take more exercise in getting their feed.

The Nebraska Experiment Station has conducted a series of experiments along this line, which indicate that a ration of corn and alfalfa hay can be used successfully in wintering brood sows. An average of four feeding tests showed that 9.9 bushels of corn and 86 pounds of alfalfa hay were required to keep a sow weighing 387 pounds thru a winter period of 121 days. The average daily gain in weight was .78 pounds, or a total gain of 95 pounds was made during the winter. The alfalfa hay was fed in racks. Where a ration of one half ground corn and one half chopped alfalfa was fed to similar sows, the results were not as satisfactory, on account of the increased cost, as where a ration of corn with alfalfa hay was used." - W. H. Smith.

"Legumes in Horticulture.- Legumes are becoming more important in Illinois horticulture. There are three chief reasons: First, the greater importance of nitrogen as compared with other elements has been known for a relatively short time in fruit production. Second, manures are becoming so scarce as to be negligible. Third, the cost of commercial nitrogen is increasing.

Experiments and observations in Illinois show that cow peas, sweet clover, red clover, and hairy vetch are successful legumes for apple orchards in about the order named. Cow peas and hairy vetch may be used in peach orchards. Hairy vetch is the only legume of recognized importance in truck growing.

Liming orchards is of no value in the production of either tree or fruit. Experiments have shown that limestone is valuable only in growing legumes and, therefore, indirectly beneficial. One must, therefore, compare carefully the cost of limestone with the probable value of the legume which may be produced if maximum returns are sought. This will necessitate a good working knowledge of the soil and its possibilities since it is probably true that in some localities orchards may be grown and fruit produced more economically with commercial nitrogen.

Because of its tolerance toward acid soils and shade the cow pea has been used in southern Illinois more extensively than other legumes and with considerable success. The use of sweet clover is extending slowly especially in the hilly section of the extreme south and the river bluffs of western Illinois, where it is not practical to practice annual cultivation. Young orchards like nothing better than annual, clean cultivation, so that cow peas which may be sown in mid-summer will doubtless continue to be the favorite in our prairie orchards." - W. S. Brock.

"The Legume and Silage Partnership.- There is no combination of feeds that comes as near answering all the requirements of a good dairy ration as corn silage and legume hay. They supply nutrients in about the proportion required by the dairy cow, they are bulky, are palatable, have a good physical effect on the animal, and are usually cheap feeds.

One year at the Illinois Experiment Station 9 cows were fed on silage and alfalfa hay, with no grain, and averaged for the year 8343.4 lbs. of milk and 284 lbs. of butterfat. Undoubtedly more milk and more butterfat could have been produced at a profit if grain had been added to the ration. However, the results demonstrate the great value of corn silage and legume hay for dairy cattle.

Every dairyman in Illinois can have these feeds for his cattle and they can be grown on his farm." - C. S. Rhoads.

"Protection Afforded Wheat by Heavy Stand of Clover. - Chinch-bugs are very seldom abundant in wheat in which there is a heavy stand of clover. The same results can be obtained by growing a heavy stand of timothy or any other crop which can be sown in wheat in the spring, but timothy has the disadvantage that the bugs will feed upon it. The reason that the bugs do not infest wheat where a heavy stand of legumes is growing is entirely due to the mechanical effect of the plants. A thick stand of any crop in the wheat means shade and dampness at the surface of the ground. This is unfavorable to the growth of the young bugs. Old bugs will not gather in numbers in such fields to deposit their eggs. It will be a decided advantage to have a heavy stand of clover in all wheat fields in the chinch-bug area this coming year, as such a stand will not only mean the starting of a crop which will not be injured by chinch-bugs, but the protection afforded wheat will in most cases mean a higher yield by lessening chinch-bug damage." - W. P. Flint.

"Feeder Pigs. - J. J. Mueller of the Minnesota Pig & Cattle Co., Union Stock Yards, St. Paul, Minn. writes that he would be pleased to get in touch with Illinois feeders wanting feeder pigs. His company handled some 70,000 head during the year 1920.

Aside from the above, it might be stated that the prospects point toward as cheap hogs in the next few weeks as we will see this spring. If any one is considering a profitable means of marketing cheap corn, now is the time to buy feeder pigs." - J. B. Rice.

"Over 150 farmers gathered at the Farm Bureau Sale Barn to hear W. J. Carmichael, Secretary of the National Swine Growers' Association, in a judging demonstration. Three classes of hogs were provided, each representing a different breed and the farmers were shown the 'why and wherefore' of the selection of breeding hogs." - Price, Kendall County.

Tenant and Landlord Conferences. Ninety tenants responded to a call for a meeting last Tuesday at Danville. On the following day 45 landlords answered a similar call.

The object of each meeting was to bring out a full discussion of the problems, difficulties and needs of each group. Both meetings were outstanding from the standpoint of constructive suggestions offered, the spirit of cooperation and desire to promote a better understanding and more harmonious relationship between landlord and tenant. Both meetings recognized that the interests of both parties were mutual and that the greatest profits could come to both only by working together, and thru the development of a system of leasing that will result in a more permanent and profitable type of agriculture.

Three members were appointed at each meeting to serve on a joint committee. This committee will make a complete study of the land leasing problem as related to Vermilion County. The committee will also prepare a program for a joint meeting to be held in February at which time the report of the committee embodying its recommendations for a plan, program and policy for land leasing in the county will be presented." - Lumbrick-Checkley.

St. Clair County Employs Assistant. - Mr. O. V. Morgan has been employed by the St. Clair County Farm Bureau as assistant adviser in that county. Mr. Morgan graduated from the College of Agriculture of the University of Indiana in 1919. Since graduation he has been engaged in garden work, State Fair livestock exhibits, teaching manual training in Kokomo Industrial School, besides having served a brief period in the navy. Mr. Morgan will have charge of the junior club work in that county.

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No. 6

Sweet Clover the Premier Soil Builder

"Sweet clover as a soil builder is unsurpassed by any other crop. It possesses certain distinct characteristics which make it especially adapted for use as a green manure. The most important of these characteristics that should receive general recognition are included here.

1. Adaptability to a wide variation of climatic and soil conditions provided the soil is not acid and inoculation is assured.
2. Hardiness to cold and drought and resistance to diseases and weeds.
3. Production of a large tonnage per acre at a time when it can best be utilized for soil enrichment. For example: its rapid growth in the spring of the second year and during the first year.
4. Rapid decomposition in the green condition.
5. Deep-rooting habit which enables it to assist in rendering impervious sub-soils more porous and to feed at greater depths.
6. Ability to obtain plant food from insoluble minerals more readily than other crops.

In soils where the spring growth of sweet clover (of the second year) was plowed under for the corn crop,*the available nitrogen (nitrate nitrogen) content was measured. In every case the nitrate content was more than doubled in the four or five weeks after the sweet clover was plowed under.

Samples of the spring growth of sweet clover tops were analyzed for nitrogen and total dry matter. The nitrogen found in the tops expressed on an acre basis varied from 98 to 196 pounds, depending on the location of the field and the height in inches of the growth. This fact should be noted carefully as the nitrogen in the roots and that in the fall growth of the first year are not included in these figures. The importance of sweet clover in adding nitrogen to the soil is indicated by the fact that a plot which accumulated only 80 pounds of nitrate nitrogen (including that in the corn crop and that remaining in the soil) supported a growth of sweet clover, the tops of which alone contained 196 pounds of nitrogen per acre.

One legume in a four or five year rotation, as ordinarily practiced, will not maintain the nitrogen content of the soil. Where sweet clover is seeded in small grains and plowed under as a green manure the following spring, it assists greatly in keeping up the available soil nitrogen, as well as increasing the total nitrogen content of the soil. Therefore, its use for this purpose must be carefully considered in planning every crop rotation." - A. L. Whiting.

hez sez - "If one crop of red clover in four years won't keep up the nitrogen element in my soil, I slip in a little sweet clover seed with my oats or wheat and plow under the green growth next spring."

* Illinois Exp. Station Results 1917, 1918, 1919, and Exp. Fields
Woodford, Champaign, Jasper and Crawford Counties.

Save the Pigs. "Large losses of pigs at farrowing time and during the early period of their development is all too common on Illinois farms. A survey made by the Department of Animal Husbandry, University of Illinois, showed that there was a loss before weaning time of 24.95% of the pigs farrowed on 192 farms in Illinois in the spring of 1918. A similar survey of several hog farms in one county of Indiana was recently reported by the Indiana Station showing that 44% of all the pigs farrowed died before weaning time. The three best farms in the survey saved 77% of their pigs while the three poorest records showed only 44% saved.

These losses can be partially eliminated thru proper feeding of the sows before farrowing and by careful handling of their litters. Feed the sows a bulky ration consisting of 1 to 2 lbs. of corn daily for each 100 lbs. of live weight. Supplement this with 1/2 lb. of middlings, 1/2 lb. of ground alfalfa or bran, and 1/2 lb. of tankage for each sow regardless of weight. Alfalfa hay may be used in place of the ground alfalfa. Give the sows plenty of fresh water and exercise before turning in. Clean the farrowing pen thoroughly and disinfect with a solution containing 1 lb. of Lewis Lye to 40 gallons of water. A small amount of fine straw for bedding is preferable. Build a guard rail 8 inches above the floor and 8 inches from the sides of the farrowing pen. Protect the pigs from drafts and provide means for getting them all the sunshine possible." - W. H. Smith.

Don't Feed Too Much Tankage. A beginner has as much tendency to feed too much tankage as to feed too little. He does not realize the concentrated make-up of 60% tankage. Better weigh it so you know how much 1/2 lb. really is, and thus feed it correctly.

Tankage for Poultry. "We are ordering much more tankage for our farmers this winter than ever before. A good deal of this tankage is being used to feed chickens. Most of our Farm Bureau members have learned that tankage is about the best thing they can use to produce eggs during the winter, and all those who have been doing good feeding, feel that they have made more money on their chickens this winter than most any other part of their farm operation. This, I think, accounts for the many orders for tankage which we received." - Tate, Monroe County.

Make the Old Machinery Do. "The directors decided to set the week of February 21 to 26 as Farm Machinery Repair and Exchange Week, in DeWitt County. The object is to make the old implements do the work another year, without buying new ones at prices which are excessively high, as compared with the reduced prices of farm crops." - Robbins

"Eliminate the Gambling by the use of limestone" was the essence of statements made by one of the prominent farmers of Stephenson County, who is now starting on the second round of limestone over his farm. Lime has practically insured the growing of clover and alfalfa on this farm every year. It has done so by eliminating one of the many factors which limit crop production and infringe upon successful farm management." - Bilsborrow

All Elevators will handle Limestone & Phosphate. "Our efforts to get Farmers' Elevators to handle limestone and phosphate for their patrons are beginning to show results and I think it will not be long until all such elevators are keeping this material on hand." - Snyder, Ogle County.

Have you Grain in Storage? - Better watch it to prevent injury from insects. There are 25 or 30 species of insects commonly found infesting grains and seeds in Illinois. The University of Illinois has published a circular (Extension Circular No. 40 - "Control of Insects Injurious to Stored Grain and Seeds" - by W. P.

A Real Egg Record.- "We notice that George Baumeister is eating fresh eggs these days and boasting of about two dozen a week from 13 pullets. We know of one little flock in Paris composed of four pullets and a hen that shelled out 29 eggs this week for the Farm Adviser's family. The record ran like this: Sunday 3, Monday 4, Tuesday 5, Wednesday 4, Thursday 5, Friday 3, Saturday 5. Farm Bureau members are still calling us to cull their poultry before they let the chicken man have a number of them and we give them that service whenever possible, attempting to show them how it should be done in October, and also picking out sick, inferior and otherwise defective fowls, and we feel that much is to be done in improving flocks by proper culling at almost all times of the year, keeping in mind that for a month or so after October 1st, we are liable to find a heavy layer at a disadvantage." - Gernert, Edgar County.

Making wool Blankets out of Pooled Wool.- "We have already placed orders for 3 dozen double wool blankets to be made up from our wool pool. Interest in this matter is increasing and we doubtless will sell many more blankets before the time limit expires." - Phillips, Greene County.

"Thus far the Farm Bureau has taken orders for 53 double blankets, 3 single blankets, 53 wool bats and 8 auto robes. The farmers like the idea." - Price, Kendall Co.

Similar reports are reaching us from other counties, showing the interest farmers are taking in this means of helping to use a surplus crop to good advantage. Auto robes and wool bats are made as well as blankets.- Ye Editor.

Slides Help Local Meetings. - "Our local meetings are being well attended and seem to be appreciated. We show a set of slides on some one of the important agricultural enterprises and a slide of the township soil map. The men are able to locate their own farm and see just what soil type or types they have on their farm. We point out the location of the school house and the farms of two or three well known men in the community." - Baumeister, Stephenson County.

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All Day Meetings. "This year we are planning all-day community meetings. Those that have been held have been very successful. The women have been as much interested as the men, and have entered heartily into the preparations for the dinner. They have also manifested a keen interest in the programs. We have had as many as 75 ladies present at one of our meetings, and at another, at least 60 were present. We expect to continue the plan of the all-day meetings." - Bracker, Knox County.

Improve the Corn and Interest Members at Same Time. "We have in the office about 35 samples of seed corn representing some 20 different varieties. These are being tested and we find some very poor germination records. Some 50 men were in the two days we were reading our tests and they took a very good interest in probabilities of their own corn. We have some 20 samples on test now and have advertised that we will study the results and want as many as possible to come in to talk over seed corn for next year." - Fisher, Wabash County.

Dr. Coffey at Washington Meeting.- Last week, Dr. G. N. Coffey attended a meeting of the Directors of Extension in Washington, D.C. This meeting was held at the invitation of the Secretary of Agriculture, for the purpose of studying the work of the U. S. Department of Agriculture. Dr. Coffey brought back a comprehensive report of the work discussed.

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No. 7

Sweet
Clover
Increases
Crop
Yields

"The sweet clover catch crop in wheat or oats is now being successfully used on some 30 experiment fields located in as many different counties. This catch crop is seeded in the spring and plowed under the following spring for corn. The growth plowed under varies from nothing to 3 inches high on unlimed land, and from 12 to 40 inches on limed land. The actual dry matter varies from 3/10 tons dry matter per acre to 2.8 tons, and this does not include the extension root system.

In experiment field work, straw, corn stalks, and clover or soybean chaff is applied on the same land with the sweet clover, so that increased crop yields may not be alone due to sweet clover. Limestone must also figure in experimental results, because as a rule sweet clover is a failure without an abundance of limestone. Under the above soil treatment the following increases in corn yields have prevailed in the corn belt as an average of 6 to 8 years: LaMoille experiment field, Bureau County 10 bu. per acre increase; Joliet field, Will County 6½ bu. increase; Hartsburg, Logan County, 16½ bu. increase. On southern Illinois soil under the above soil treatment the corn yields, for a 6 and 9 year period, are as follows: Raleigh, Saline County, untreated land 17½ bu. treated (limestone, crop residues and sweet clover) land 34 bu.; Toledo, Cumberland County, untreated land 18½ bu., treated land 25½ bu.; Enfield, White County, untreated land 19½ bu., treated land 34½ bu. The above mentioned soil treatment also increased the yields of other crops in the rotation." - H. J. Snider.

"The great relative importance of nitrogen in the productiveness of tree fruits is shown by several recent experiments. Productiveness is largely governed by the amount of new twig growth. This occurs early in the growing season. Such growth should be moderate in degree, if too vigorous or too weak, the tree will be unproductive.

The use of nitrogenous organic matter in the right amount, taken together with the right pruning, will secure fruitfulness. If legumes are to be grown for this purpose, limestone, and often rock phosphate, should be used. Such additions are to be made according to the soil type and the legume to be grown, not from the standpoint of the orchard. The grey silt loam and yellow grey silt loam areas, for example, will need three to five tons of limestone and one ton of rock phosphate as an initial application." - W. A. Ruth, Dept. of Horticulture.

Encourage Meetings. - "We have been having a series of meetings to encourage the growing of more legumes and the raising of more colts. We hope to have several township meetings during the winter conducted by the farmers themselves. If they can learn to get together and discuss their problems it will be a great thing for them." - Oathout, Champaign County.

Pumpkin Idea Good One. We were more than pleased with the success of our annual meeting. More than 500 people attended. Four hundred and fifty tickets were sold approximately a week before the date of the meeting. The meeting was held in a garage and every one was served and the dinner over in 40 minutes. Talks were given by Z. M. Holmes, V. Vaniman, and A. W. McNeil of Chandlerville. The I. A. A. cartoons were displayed and Pal Edgerton's corn and pumpkin stunt added much to the meeting. We bought the pumpkins following the banquet at Campaign. We are now thru with them and if any one wants to buy them, they are for sale." - Isaacs, Mason County.

Selection of Seed Corn.- "In order to help the farmers get a better understanding of the selection of seed corn with reference to disease free characteristics, we have taken to each community meeting a rag doll tester and about 10 ears of corn. The corn which was used in the test was selected for the most part from samples which were shown in the Utility Corn Show. Ten kernels were taken from each ear and were placed in rows on the germinator, which had the same number as the ear. There was a 100% germination in each case, but it was easy to see that there was a great difference in the character of the sprouts and the character of the root development, as well as other characteristics that indicate disease. We believe that it will be much easier for the farmers to make a physical selection of their corn than it would have been if this demonstration had not been put on." - Bracker, Knox County.

Low In Germination. We have been testing corn for members and so far the tests have not been satisfactory. We believe there is a lot of corn in this section that will not germinate to any great extent." - Hunt, Macoupin County.

"During this week nearly 8000 pounds of seed ordered from the DeKalb Agricultural Association was brought into the county thru the Farmers' Elevator Companies. Of course, the seed is of unusually good quality and the Farm Bureau feels particularly well pleased with the amount that has been ordered by Kendall County farmers. Such a start as this ought to be enough to make an impression on all parts of the county, and if the DeKalb seed is good enough for DeKalb farmers it ought to do for us here." - Price, Kendall County.

"Will Try out Patrol System in LaSalle. - At a meeting of the township commissioners called by the County Highway Engineer, 36 of the 37 commissioners were present. The principal purpose of the meeting was to discuss patrol maintenance of highways as it could be carried on by the township commissioners under present conditions. The meeting gave a strong vote of approval to this method of road maintenance." - Brooks, LaSalle County.

"Tell members what has been done.- We have written an extract covering the main work of our annual report of the county, an extract from articles giving the main accomplishments of the American Farm Bureau Federation and also of the Illinois Agricultural Association. This, compiled in a circular, has been mailed to each of our members to give them an idea of the actual accomplishments of the three organizations in 1920." - Longmire, Grundy County.

"One of our good farmers says it pays to use Potash on Alkali soil. Last spring he was advised by the farm bureau to use potash on his alkali corn land. This is his report. The corn weighed off of this field produced 1000 bushels more than the same field last year." - Edgerton, Rock Island County.

Sheep Culling. "The owner of the flock that was culled in East Galena Township said that he thought this work was very valuable to any flock owner. Few farmers can cull their sheep with regard to the character of the fleece which the sheep carries. Personally I believe that this would be a good demonstration to develop further with flock owners." - Burns, JoDaviess County.

Directors Meet Quarterly. "The quarterly meeting of the Township Director was held on Tuesday, with 27 officers and directors present, the only ones missing being one who failed to get the notice and one who was in California. The meeting was called at ten o'clock and the time from then until noon was taken up by the directors, each one giving a short talk on the work the Farm Bureau could best do during the coming year as he saw the needs in his community. Each one responded and this proved to be the best part of the day's program.

After dinner the work for the coming year was outlined, making the campaign for the eradication of quack grass, Canada whistle and horse nettles the main project. The goal set was to entirely eradicate these three weeds in Bureau County by the end of 1923. We have the cooperation of the Board of Supervisors on this project and expect to wage a real war on these pests, first plotting the entire county, locating the different patches and following this with the eradication work and as the patches are entirely destroyed showing the progress on our township and county maps.

Several other projects were also outlined including the providing of storage of phosphate and limestone at different stations of the County in connection with our new cooperative supply company and the completion of a system of distribution of all farm commodities handled by this company so that all farmers in the county get equal service." - Wilson, Bureau County.

"A Farmers' Week Short Course was held in McDonough County the first week in February in cooperation with the Western Illinois State Normal School and the University. The attendance and interest was very good. Those in attendance seemed to be interested especially in the more scientific or technical phases of agriculture. Quite a number attended all of the week's sessions and many were there two or three days." - Doneghue, McDonough County.

"The Illinois Agricultural Association cooperated with the local Farm Bureau in promoting the McHenry County Farmers Cooperative Association in the county. Approximately \$5000. worth of stock was sold during the first 4 and 1/2 days of the week, making a total of \$62,000. worth sold to date. A vast amount of good was accomplished during the week. The men from the Illinois Agricultural Association, visited about 100 farmers in the county and explained the work of the county association. The men visited have an entirely different view of the situation than before and are more anxious to support their organizations. This association has transacted over \$60,000. worth of business during the past four months." - Gafke, McHenry County.

New Offices. - Both Henry and Warren County Farm Bureaus have new office space. Each is now located in a splendid ground floor room, large enough to permit of excellent office management for adviser and assistant. Each county has a new seed association with cleaning mill and seed storage space housed under same roof with the Farm Bureau.

"It is agriculture alone, that fixes men in stationary dwellings in villages, towns, and cities and enables the work of civilization, in all its branches, to go on." - E. Everett.

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<u>Legume</u>	"Legume pasture mixtures are coming to be more appreciated in beef cattle production, and their use has occasioned the plowing up of many old weedy rundown permanent pastures that were of value mainly as exercise lots. The fear of failure to secure a stand, however, has caused many farmers to be reluctant to rely upon legumes as their main source of pasturage even tho they do regard them as important supplemental forage crops.
<u>Pasture</u>	
<u>Mixtures</u>	

Red clover, because of its continuous growth thruout the summer and fall, should form the basis of most of these mixtures. Some mammoth clover should be included because it tends to produce an abundance of forage in early and middle summer. Alsike clover may also be used. It is particularly adapted to the wet, poorly-drained soils, and it makes a much closer turf than does red clover, and withstands tramping better. Lespedeza or Japan clover may be used in the southern one-third of the state in the case of pastures that are to be more or less permanent. Sweet clover will strengthen most pasture mixtures because of its tendency to come on early in the spring, withstand the drouth, and hold over until late in the fall.

The following table is suggestive of possible combinations of strictly legume pasture mixture for use in beef raising:

	Red Clover	Sweet Clover	Mammoth Clover	Alsike
Northern part of state	4#	4#	2#	2# per acre
Central part of state	4#	5#	2#	2# per acre
Southern part of state	2#	6#	2#	2# per acre

A mixture known as the Demaree mixture has been used on several farms thruout the state with satisfactory results. This mixture is made up of 4# Sweet Clover, 4# Alsike Clover, 4# Alfalfa, and 4# Timothy. At the University of Illinois in the summer of 1918, this mixture seeded in oats the previous spring provided 95 pasture days per acre for beef cows." - R. R. Snapp.

Salaries Exempt From Income Tax. - The part of the salary of farm advisers which is paid from University Smith-Lever or State Department of Agriculture funds is exempt from the federal income tax. The part paid from Farm Bureau funds is not exempt. - G. N. Coffey.

"At the Annual Meeting a spirit of 'larger service' seemed to prevade the entire proceedings. Twenty-seven out of a possible 30 of the township governors were present. Every township of the county was represented at the meeting, most of them with five or more delegates." - Center, McLean County.

"The Livestock Survey of this county is being tabulated by the office secretary. Some very interesting facts have been brought out. On 943 farms surveyed only 222 were using registered sires. 398 were using grade sires. Taking the county as a whole the survey showed one sire in use for each 20 cows of breeding age." - Kline, Boone County.

Shipping Associations Do Valuable Work.- "I attended a township meeting at Gilman for the purpose of explaining work of Farm Bureau, I.A.A., and A.F.B.F. We also organized a livestock shipping association. The organization of this shipping association is the thirteenth in the county. We believe the service rendered the communities in this way of as much value as anything we have done. Our first shipping association was perfected January 23, 1920; the average time for the organization of eleven associations (up to the time of organizing the last two, which are not included) was $4\frac{1}{2}$ months. \$250,000.00 of business has been done, and over 900 members have been served." - Wise, Iroquois County.

"A six-foot limestone ledge has been discovered in the extreme northeast part of this county. The owner of the land has ordered a small crusher and will grind agricultural limestone this spring and summer. This find will be a great boon to the farmers in that locality, since some of them live 12 miles or more from the nearest railroad station. These farmers realize that they must use limestone or quit. Some have hauled limestone 12 miles and felt that they were well repaid for their labor. We expect to see this crusher rushed to the limit this year." - Dwyer, Franklin County.

"A Demonstration of the corn diseases, root, stalk and ear rot is being given in the office every Saturday afternoon. Germinated seed is used in these demonstrations. These meetings have been well attended and promise to prove of great value to the farmers of the county. The meetings will be held each Saturday afternoon until about planting time if the interest continues." - Gougler, Adams Co.

"Our program of township meetings was started this week. Three meetings were held with an average attendance of more than 65 men which can be considered a large attendance as the roads have been almost impassable for automobile travel. The meetings are being held for the purpose of informing our members of the work of the state and national farm bureau organizations, and of asking the members to assist the officers and farm advisers in framing the farm bureau program for the year. We are attempting to furnish one speaker from outside of the county, and so far these meetings are going in fine shape. This is the best idea we have ever tried for getting the 'message' across to the average member." - Lloyd, Hancock County.

Nine Percent Clover. - "Have just finished a series of meetings over the county. At these meetings a survey has been taken of the amount of clover to be left this summer and it has been found to be 14 acres to the farm or about 9 percent of the area.

We also took a record of the colts expected and found 243 colts to 521 farms. There was about one weanling colt to four farms, one yearling (coming two) to each $2\frac{1}{2}$ farms and one two-year old (coming three) to each two farms. That is to say there will be one colt to break for each two farms where formerly there were one to three or four on every farm." - Oathout, Champaign County.

The Story of the Soybean is an attractive 12-page circular issued by C. H. Oathout, Farm Adviser, Champaign County. The bulletin is attractively illustrated.

"Bulletin 340 of the Ohio Experiment Station contains a report on four experiments in using forage crops in fattening lambs. The objects of the experiments may be summarized as a comparison of bluegrass pasture with rape pasture and with a succession of rye, clover, and rape; the economy of feeding corn on pasture; comparison of pasture and dry lot; and a comparison of a full feed and one-half feed of corn to lambs on rape pasture.

The more definite results of these four experiments follows. Compared with bluegrass, rape gave 2.73% greater average daily gain in Experiment I. Rye, clover, and rape compared with bluegrass produced 19.79% and 33.06% greater average daily gain in Experiments II and III respectively. Rape is a valuable forage crop for fattening lambs. This is shown by the fact that during the time it was pastured, an acre of rape produced as much gain as 5.04, 9.25, and 8.19 acres of bluegrass in Experiments I, II, and III respectively. Even if the bluegrass is given credit for the gain produced during the entire time it was pastured, an acre of rape was found to be equal to more than 3 acres of bluegrass. In Experiment I an acre of rape carried at the rate of 16.3 lambs for 131 days and produced at the rate of 241.8 pounds gain. Corn-fed lambs on pasture made larger daily gains and had a higher market finish at the close, than lambs receiving no corn, and the increase was usually greater when the corn was fed to lambs on bluegrass than when fed to lambs on rape or rye, clover, and rape. The economy of this practice will depend on the price of corn and market price of lambs. In the first two experiments, the lambs in the dry lots made the largest average daily gain of any of the lots and the cost of feed per 100 pounds of gain compared quite favorably with the gains made on rape, the cheapest pasture.

Shropshire lambs fed one-half feed of corn on rape pasture gained 32.3% more and full-fed lambs gained 41.1% more than lambs that were fed no corn on rape pasture." - W. G. Kammlade.

"The first Corn and Alfalfa Show in the county at Jonesboro was well attended in spite of very bad roads and weather. Interest was fine, especially in Mr. Hackleman's clear explanation of root rot and the new type of corn. Union County has lots of good corn this year, some yields of 100 bu. per acre being made. Tests on diseased and sound corn will be run this year on one or two farms. There is also a lot of fine alfalfa hay for sale in the county." - Doerschuk, Union Co.

Democrat Corn Leads. - "Randolph County's special project at a district meeting was reporting on the drouth and chinch bug resistance of 'Democrat' Corn. Last year's work showed it to lead 12 other varieties from two to sixteen bushels per acre. This result is borne out by the experience of several hundred farmers. This work will be continued in cooperation with the state and in addition some work on corn root-rot will be added, also an effort made to standardize this variety of corn." - McWilliams, Randolph County.

Give Farmers' Experiences. - "We are putting on a 'Grow More Legume' campaign. Each week every newspaper in the two counties contains experiences of several farmers as to the value of clovers. Our slogan is to have every acre of small grain seeded with clovers." - Fuller, Marshall-Putnam County.

The School Lunch by Mary Paek, Specialist in Child Feeding, is the latest bulletin in the Extension Series. This 24-page bulletin gives practical and specific ideas concerning the selection of food, method of preparation, hot dishes for rural schools and other factors.

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What Makes

Legume

Seeds

Germinate

"Seeds need OXYGEN for respiration while in storage, but need far more oxygen during the active process of germination. Many samples are drowned in the attempt to start growth by use of excessive moisture. While it is true that the seed often takes several times its weight in water at the beginning of germination and can stand a large supply at this point, yet at no time should oxygen be shut out entirely by too much moisture. This will help to explain why seeds sometimes rot on the germinator and in water logged soils.

For most legume seeds like the clovers a TEMPERATURE of about 70° F. should give good germination. Soybeans and cowpeas need a little higher temperature for best results - say from 75 to 80° F. Within limits, the higher temperature will hasten the germination.

The only other condition necessary for germination is WATER. Legume seeds in general are peculiar in that many of them have a hard seed coat which will not readily permit the passage of water. Red clover, alsike clover, soybeans, and cowpeas all have on the average less than 10% hard seeds. White clover and alfalfa rank a little higher with from 10 to 15%. For hard seeds, sweet clover stands in a class by itself, the average being about 50%.

Hard seeds cannot germinate for lack of moisture. Anything that will render the seed coat permeable to water will increase the germination. Early seeding will increase the growth of hard seeds due to the action of frost. Machine hulling increases the germination over hand hulling by cracking the outer hull. Fanning and screening will also scratch the seed coat to some extent. By running sweet clover seed which germinated only 40%, thru a machine called the scarifier, the germination was increased to 85%; twice thru increased it to 95%. It pays to scarify all sweet clover seed that contains a high percent of hard seeds." - John Pieper.

"The Scarifier was invented by Professor Hughes of Iowa. It was designed to rupture the seed coat by blowing the seeds against a sandpaper surface. The machine is manufactured by P. E. Jensen of Nevada, Iowa, and costs \$100. for the small size and up to \$250. for larger sizes, depending upon the capacity. Attempts are being made by the Crop Extension Division to interest an Illinois firm in the manufacture of this machine at a lower price. Blue prints of the Ames Hulling and Scarifying Machine may be had by writing to Iowa Agricultural College, at Ames, Iowa. Several seed firms in Illinois have consented to scarify seed at a cost of from 50¢ to \$1.00 per bushel. This cost, together with the transportation charges both ways, makes it doubtful of recommendation unless there is 20% or more of hard seeds in the sample." - John Pieper.

"The greatest satisfaction in life is to do good work". - Hubbard.

"Spraying for Scale. It is important, at this time of year, when we are planning spring spraying demonstrations for scale control, that we know the difference between the three scales most commonly found on fruit trees in this state.

The San Jose scale is by far the most destructive. A badly infested tree appears much as if it were sprinkled with water and then dusted lightly with wood ashes. The individual scales are rounded, with a raised cone or nipple-like elevation in the center, and are sooty gray in color. Under a hand lens they have much the appearance of little mountains, or more truly, minute volcanoes. The raised cone in the center is about the same color as the rest of the scale. This insect passes the winter as a partly grown yellowish insect underneath the waxy scale.

The next most injurious scale which is common in this state is the oyster-shell. This scale is brown, crinkly in appearance, and in fact is almost exactly like half of a miniature oyster shell. There are two kinds of this scale, one occurring on certain shade trees, particularly ash, poplar, and lilac; the other on apple. This scale is seldom abundant enough to be destructive south of Peoria and Galesburg.

The third of these scales is the scurfy, which is grayish white, flattened, lying close to the bark of the tree, and somewhat triangular in outline with a rounded base. If this scale is carefully raised with the point of a pin, a number of very minute, brilliant red, eggs will be seen. This is the least injurious scale of the three.

The San Jose scale can best be controlled by spraying during the coming six weeks, using either the commercial liquid lime sulfur, (testing 33° Baume), adding one gallon to eight gallons of water; or the dry lime sulfur at a strength of at least 15 pounds to 50 gallons of water. The oyster shell and scurfy scales, both of which pass the winter in the egg stage, are more difficult to control. Fairly satisfactory control may be had by spraying with the same strength lime sulfur as used for the San Jose scale," - W. P. Flint.

"The 'grow more legume' campaign is taking well with Richland County farmers. It certainly is encouraging to see how freely they are leaving redtop out of their cropping system. A very large acreage of legumes will be grown this year." - Piper, Richland County.

"Our farmers are planting a great deal more sweet clover this year than they ever did before. It seems as though nearly every farm bureau member is going to plant some." - Tate, Monroe County.

"Sweet Clover Hay in Bundles. - Sweet Clover cut for hay with a binder and bound in small bundles is showing up fine in the mow. The leaves are all there. The bundles were shocked in the field to cure." - Price, Kendall Co.

Plow under stalks early. - "Very good work was done as early as Monday, February 14, plowing under corn stalks, without discing them. Experience here has shown that stalks plowed under so early begin rotting promptly in the spring, and do not interfere with corn cultivation. Some spring wheat was sowed on February 17." - Robbins, DeWitt County.

New State Club Leader. - Mr. James H. Baldwin, formerly of the State Office, has come back into the work to take the place made vacant by the resignation of Dr. J. H. Greene. Mr. Baldwin's appointment as State Leader in Junior Extension took effect on February 1st. His many friends will welcome him back.

Come on with your egg records, Boys! "In regard to egg records, I want to say that Monroe County has some records that are not bad. Mr. C. T. Hufford, our assistant adviser, has six pullets which have averaged 26 eggs a week since the first of November, and they laid 32 eggs each week for the last two weeks." - Tate, Monroe County.

If you were a farmer in Stark County or Knox County, Illinois, and you did not happen to be at home when the adviser called to make a farm visit, you would find a card at your door, bearing the name of the Farm Bureau - and down in the lower corner in smaller letters, the name of the adviser. Do you leave your card? If not, why not? It may sound "high falutin" at first thought but it is only good business principle it seems to us. Adviser Brown of Stark County says, "I expect to leave one whenever I make a farm call and find the farmer away from home". Bracker, Marchant and Arnett, of Knox County, tell us they expect to use their farm bureau cards when they find the farmer away from home, but they will make further use of them by writing down on the back of such a card any notation or recommendation they wish to leave with a farmer when they do find him home. How do you like the idea? - Atwood.

Branch Office days successful. "The last four weeks, I have been spending Saturday afternoon at points away from Robinson. These branch office visits have proved very successful thus far. Most of the time at these branch offices has been taken up recently with discussion of seed corn situation. Many of our farmers are beginning to appreciate the seriousness of diseased corn." - Logan, Crawford County.

Iowa 103 Oats for Sale. "We have a considerable quantity of Iowa 103 Seed Oats which were shipped in from reliable sources last year. Our men are holding these at 65¢ per bushel in the bin. We also have a number of our farmers who have the Red Texas that have been North a year or two. These are also offered at 65¢." - Kendall, Morgan County.

Alfalfa Hay.- "A good supply of No. 1, No. 2, and "standard alfalfa hay for sale and shipment" says Chas. E. Cassel, County Agent, Garden City, Kansas. "The hay will be inspected when loaded by the county agent. It will sell from \$13.50 to \$16.00 a ton, (depending on the quality) F.O.B. cars Garden City, Kansas. If you are interested write Mr. Cassel direct.

LaSalle County Farm Bureau has employed Mr. W. W. McLaughlin as assistant in livestock work in that county. Mr. McLaughlin is a graduate of the University of Illinois. He is already at work.

Macoupin County Farm Bureau has decided to employ Mr. G. E. Metzger as associate farm adviser in that county. Mr. Metzger was for several years county agent in Indiana and is at present agriculturist for a bank at Elkhart, Indiana. Mr. Metzger expects to take up his work in Macoupin County about March 10.

We seemed to have overlooked stating that Mr. E. A. Carncross, formerly assistant farm adviser in McHenry County, has been employed by the DuPage County Agricultural Improvement Association, to succeed Mr. Heaton as Farm Adviser in that county. Mr. Carncross took up his work in DuPage County on February 1.

"Trifles make perfection, but perfection is not a trifle."

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No. 10

Inoculation

of

Legumes

"The purpose of inoculating legumes is to insure the legume crop a supply of atmospheric nitrogen whenever it is needed. Few soils furnish the legumes all the nitrogen they can utilize to profit without inoculation. Alfalfa and sweet clover sometime fail on soil that grows satisfactorily corn, oats, and wheat crops, because of a nitrogen shortage due to lack of inoculation.

Alfalfa and sweet clover bacteria, which are identical for inoculation, and cowpea bacteria, are often present along the roadsides where sweet clover and partridge peas are growing, but absent from the adjacent cultivated fields because of bad soil conditions.

Inoculation is cheaply and successfully performed if soil is selected from a field where the legume in question has grown and produced nodules. Dig the soil to a depth of six inches. Avoid taking it from fields showing diseased plants. Mix a mud with water if soil is of heavy type and smear it over seed. Allow seed to dry and plant soon. The quantity of soil should be at least two quarts per bushel of seed and the more soil used per fixed amount of water, the more bacteria will be added.

Soil for inoculation should be stored in a cool place. It should not be dried by artificial heat. In warm storage, the nitrate content becomes so high that the nodule bacteria are reduced in efficiency. Seed coated with infected soil is safely left on top of snow or soil surface in early spring. Nodule bacteria endure in field soils according to the presence or absence of lime, phosphorus, and the occasional growing of the legume in question. The inoculation of legumes means richer crops and larger yields." - A. L. Whiting.

Freight rates and alfalfa hay. - With an increase in freight rates of approximately 35 percent on August 26, 1920, shipments of alfalfa hay to Illinois from Idaho, Montana, Colorado, and other distant western points were almost completely cut off, and as a result railroads were forced to grant temporary reduced rates to terminal markets. Even with this reduction, it costs about \$13. per ton to ship alfalfa hay from these points to Chicago and this special rate expires April 30, 1921. Altho the burden of high freight rates falls first upon the producer, the consumer must ultimately bear a share of the expense by paying higher prices for hay.

A year ago when oats were selling at 90¢ in Chicago, and corn at \$1.50, it may have been more profitable for dairymen to grow these feeds and to buy alfalfa hay at \$37., but now the price of oats has declined 49 percent and corn 57 percent. Alfalfa hay, however, retarded by high freight rates has declined only 35 percent. As a result, many dairymen who have been buying alfalfa hay are going to find its production profitable, even if they have to buy some corn and oats." - F. A. Ross.

You Tell Us. - If you like the legume series or if you don't. How are we to know if you just keep still? Are these items too technical or not technical enough? Can you clip them bodily for use in your Farm Bureau News sheet? What other phases of the subject do you wish discussed? We are winding up for the rest of the year. Write "Ye Ed - Extension Messenger."

Sweet Clover for Pigs. - "During the first year sweet clover will furnish as much pasture for pigs as any crop that can be grown. Pigs do not eat it as readily to begin with as alfalfa or clover. When sown at oat-sowing time it is ready to pasture before the first of June and will furnish good feed all summer. In growing pigs experimentally, the results on sweet clover are nearly as good the first year as on alfalfa or clover.

The second year, however, it is not as good a pasture crop, because it grows away from the hogs so rapidly. It can be pastured during its second year as early as in April sometime, tending many pigs on it, but by June it has grown away from them and is good for little other than shade for the rest of the summer.

When cattle are turned into the field, pigs are able to make greater use of it since the growth is nearer the ground. Sweet clover has been used with some success by discing the seed into a poor sod of bluegrass early in the spring. Sweet clover is inferior to alfalfa, clover, or rape, as a hog pasture where they can all be grown." - John B. Rice.

"Specimens for Veterinary Diagnosis, U. of T. - Last year over 4000 specimens were submitted to the Laboratory of Animal Pathology of the University for diagnosis. The material received for examination to date this year has exhausted the funds for this work, but is being maintained temporarily on a pay basis, (fee sent with specimen).

A bacteriological examination of affected animals or tissues of affected animals can be accepted by parcel post or express prepaid when accompanied with \$1. to cover the expense of the material used. If the examination costs more the sender will be advised. Tests for hog cholera virus will be made for \$5. or \$7. Directions for collecting and shipping specimens will be sent to veterinarians upon request. The history of each outbreak, together with the post mortem findings and provisional diagnosis of the veterinarian, are requested with each sample." - Dr. Robert Graham, Animal Pathology Division.

"Cooperation between Farm Advisers and Smith-Hughes Teachers. A number of Smith-Hughes teachers in the state are having pupils keep farm accounts on their home farms. Several of the teachers have expressed a willingness to extend the work of supervising farm accounting among the farmers in their communities. Mr. Colvin believes in encouraging this kind of work. Naturally some teachers may hesitate to start this kind of work unless their cooperation is invited by the Farm Advisers. Have you invited the cooperation of the Smith-Hughes teachers in your county?" - E. Rauchenstein.

Heller New Adviser Cook County. - Mr. L. L. Heller has been employed to succeed Mr. Durst as Farm Adviser in Cook County. He was brought up on a dairy, truck and general farm near Marietta, Ohio, graduated from Ohio State University, spent four years with Bureau of Animal Industry, U. S. Department of Agriculture, and 16 months in the army, and has been assistant secretary of the National Wool Grower's Association since January 1919. Mr. Heller took up work March 7 in Cook County.

Farmers want Legumes. "We are placing some orders for sweet clover, and a good many men are asking for information about soy beans. We are making an effort to promote the growing of beans in corn, both for silage and for hogging down." - Madden, Sangamon County.

Timber Soils have Twice the Clover. - "Community meetings have shown approximately 75% of the total farm bureau membership in attendance. It is interesting to note from the surveys that the timber soils (yellow-gray silt loam) had more than double the clover acreage of the prairie soils." - Fuller, Marshall-Putnam Co.

Good Community Meetings. - "A number of community meetings have been held recently. We are indeed pleased with the interest shown in these meetings, in most places there being more people present than could be accommodated comfortably. Besides a talk by some representative of the Illinois Agricultural Association, there were discussions on the good road proposition, marketing of milk and general farm topics. Corn diseases were studied in actual germination tests. Rag doll germinations were compared with original ears of corn showing disease and disease free conditions. Good eats has been one of the important features of these meetings." - Edgerton, Rock Island County.

"What do you want the Farm Bureau to do for your Community?" This question was answered by the farmers of Pulaski County. Soil Improvement was the one big thing wanted by at least 90% of the members. Dairying and fruit growing vied with good roads for second place. Improved marketing was insisted on by some." - Eastman, Pulaski County.

Just Now. - In a recent weekly report, Mr. Bliss reports briefly under the heading - "The principal matters now occupying my attention". We like the idea. Such a statement once a month or perhaps even oftener, would keep us much better informed regarding the work and enables us to render better service to the adviser. Who will be the next one to try it? - G. N. Coffey.

"The wage scale varies widely. - Probably the majority of men will be hired at about \$40. with some as low as \$35. and a few at \$60. Most of these, however, were hired last fall. There is no scarcity of farm labor at the present time." - Madden, Sangamon County.

Why a County Program? - "I believe it is a good policy for every Farm Bureau to have a 'program of work' and to state that program in the monthly letter. This program should give the policies of the bureau and the chief things it hopes to accomplish within the coming year. I have stated something of a program in our letter and a great many members have expressed their faith in it, and the good that will be done if we can accomplish some of the things it stands for. We, as county agents, can be very busy for a year and not have much done when we view our work from the standpoint of a constructive program if we do not have a well planned outline to follow." - Eyman, Jersey County.

A Big Single Order. - "One of our big farmers is an enthusiast for sweet clover. We recently ordered for him, 77 bushels of white blossom biennial scarified sweet clover seed. This is the largest single order for sweet clover we have ever placed." - Kendall, Morgan Co.

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Senator Arthur Capper of Kansas advises - "Preserve - Conserve".



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No. 11

Legumes Need
Phosphates.
A few of the
"whys"

"The majority of Illinois soils are deficient in both phosphorus and nitrogen. The nitrogen deficiency does not apply to legumes because of their ability to utilize that in the atmosphere. This makes phosphorus the limiting element for legume growth where the lime requirement has been satisfied.

Legumes are valuable as soil improvers because of their ability by means of associated bacteria to fix atmospheric nitrogen. A large healthy, well fed legume plant will fix more nitrogen than one, the growth of which is retarded by deficiencies in plant food elements other than nitrogen, simply because more nitrogen is needed to provide for the extra growth. Hence, an abundant phosphate supply may be directly responsible for obtaining larger quantities of nitrogen.

A legume green manure increases the available phosphorus in the soil for subsequent crops not only by the solvent action upon mineral phosphates of compounds produced during its decay, but also by feeding upon the mineral phosphate itself, thus converting the phosphorus of the minerals into organic forms in its own tissues. In returning such green manures to the soil the organic phosphorus is quickly oxidized into suitable condition for plant use. Plenty of phosphate for the legume green manure means more available phosphorus for the next crop.

Legumes as a group contain nearly twice as much phosphorus as non-legumes. This may explain in part their demand for abundant supplies of this element. Most legumes require also large amounts of calcium. Truog, of the Wisconsin Experiment Station, has conducted studies which indicate a rather close relationship between the demand of plants for calcium and for phosphorus. It is possible that the high calcium content of legumes is in part responsible for their ability to get phosphorus from relatively insoluble mineral phosphates such as phosphate rock." E. E. Deturk.

"Cow Peas as a Green Manure Cover Crop for Southern Illinois Orchards. A good green manure cover crop for southern Illinois orchards should possess the following qualifications: It must be adapted to the climate. It must be planted, according to circumstances, from the twentieth of June to the first of August and must, therefore, make its principal growth during the hot weather of mid-summer and early fall. It must be capable of germination in relatively hot weather and often in comparatively dry soil.

Among the different cover crops which are available as combinations of green manure and cover crop, none are ideal, but cow peas come more nearly being satisfactory than any other thus far tested for southern Illinois orchards. This crop is well adapted to the climate. It makes a profuse and rapid growth during hot weather. Its broad leaves shade the ground quickly when the plants are young and later it makes a mat of growth that covers the ground very completely. It is not ideal for the prevention of soil washing because the plant, of course, is killed with the first severe frost but the stems and roots aid considerably in



holding the soil where the orchards are not located on too steep slopes.

In experiments in a large commercial apple orchard at Neoga, Illinois, where the trees were 12 years old at the beginning of the experiment and are now 19 years old, and large enough to require from one-half to two-thirds of all the ground area, a cover crop of cow peas has been as effective in increasing production as applications of stable manure and sodium nitrate. In peach orchards, however, cover crops of cow peas have been detrimental to tree growth and production unless the ground was fertilized with potassium or nitrogen, or combinations of potassium and nitrogen in the form of stable manure or commercial fertilizers.

Cow peas should be sown in apple orchards following early season cultivations from the twentieth of June to the first of July, and in peach orchards, if used at all, from the fifteenth to the twentieth of July, as the peach makes more growth late in the season than the apple, and requires, therefore, later cultivation. The amount to be sown per acre is one bushel." - B. S. Pickett.

Vermilion
Landlords
and
Tenants
Blaze New
Trail

"The most advanced step taken by any farm organization in developing landlord-tenant relations in the direction of permanent agriculture, is the way I would label the project of the Vermilion County Farm Bureau. The 12 points in the recommendations adopted at Danville on March 10 open the way for results that should be of great value. They project action on the following lines:

- | | |
|---|---|
| 1. Co-operative farm business planning | 8. Roughages to be fed and returned to the land |
| 2. Co-operative fertilizing | 9. Extension of legume area to 20 or 25% of cultivated area |
| 3. Longer tenures and less shifting | 10. Adoption of Illinois system of permanent agriculture |
| 4. Less bidding of one tenant for a farm 'built up' by another | 11. Permanent bureau committee on land tenure |
| 5. Promotion of livestock farming by stock-share leasing. | 12. A landlord-tenant demonstration farm tour this summer |
| 6. Adequate building equipment for tenant's home and type of farming. | |
| 7. Better care of premises by tenants | |

Some of these objects can be attained by bureau action in the near future. Others will respond only to most persistent hammering over a period of years.

The methods employed in the Vermilion County activities are worth widespread study. The most suggestive of these methods are:

1. The first meetings were twins, one for tenants and the other for landlords the next morning. Expression was unembarrassed and cross fire impossible.
2. The joint committee was supplied with the kernels of suggestions taken down by stenographers at the separate meetings. This committee of three landlords and three tenants had about six weeks in which to perfect its report.
3. The report of the joint committee was referred to a special meeting of the bureau for adoption. Adoption was unanimous, according to a rule that prevailed thruout.
4. All discussion was kept impersonal, and on a high constructive plane. The interests of both groups over a long period of time were made the bull's eye of the project.

The conference differed from others I have attended in that it was not a 'flash in the pan' affair, the subject was not exhausted, but on the contrary, first steps have been taken, and the foundation laid for progress in the future. The country can well afford to watch Vermilion County as it follows up this excellent work." - C. L. Stewart, Office of Farm Management, U.S.D.A.

"What a Livestock Organization Can Do." - At the recent annual meeting of the McLean County Swine Breeders Association the secretary reported that during the past year their organization had held one local swine show and six combination swine sales. Approximately 200 entries were listed in the swine show classes. In the six sales 259 head of pure bred hogs were sold which brought a total of \$19,799.00, or an average of \$76.50 per head. Two of these sales were Durocs, two Hampshires and one each of Poland Chinas and Chester Whites. Considering the fact that two of these sales were boar sales held last fall and that the expense of selling was small, the prices received for these animals were very satisfactory.

The program decided upon for the coming year includes another show of breeding animals and also a barrow show. Brood sow and boar sales will also be held and more attention will be given to pig club work. Meetings of this sort to discuss the work accomplished and to outline a future program of work should be held by every livestock breeders association." - W. H. Smith.

Kendall County Program of Work Committee recommends the following ~~new~~ projects

1. Soil improvement campaign with attention to (a) greater acreage of legumes; (b) storage and use of limestone and phosphate.
2. Road improvement.
3. Study of tenancy problem in county.
4. Organization of livestock shipping associations.

The following projects now under way will be continued: 1. Buying agency, particularly to obtain high class seeds. 2. Mutual Fire and Tornado Insurance. 3. Corn Root Rot Demonstrations.

Reaching the Members. "As our tabular report shows we are holding a number of meetings. These meetings are of two types, evening and all-day meetings. At the evening meetings we have tried to bring in an outside speaker and always try to take the Farm Bureau Quartet, necessarily subject matter of these meetings has to deal largely with publicity concerning County, State, and National Farm Bureau work; it is a sort of morale builder and general all around pep session, and in every case we have been able to follow the night meetings with an all-day meeting. The plan carried out so far has been a big community dinner with the afternoon turned over to round table discussion, question box, etc. We believe we are accomplishing a great deal in this publicity work." - Edgerton, Rock Island County.

Good Meetings. - There seems to be an increasing interest in our meetings at the rural school houses. We had at least one hundred present at a meeting in one of our one-room school houses." - G. F. Baumeister, Stephenson Co.

"Corn-shelling bees were held at Bushnell, March 3, and at Adair, March 5. A carload of corn for European Relief will be shipped from each of these points and it is probably that two more carloads will be shipped from the county." - R. C. Doneghue, McDonough Co.

Do any of your members want alfalfa hay? - "The Finney County Farm Bureau, Garden City, Kansas, can furnish 50 cars of No. 1 excellent leafy alfalfa hay, 125 cars of standard and 200 cars of No. 2 alfalfa hay, prices for the best about \$12. a ton, F.O.B. Garden City. Freight rates are only 47½ per hundred to Chicago and similar eastern points." - Chas. E. Cassel, County Agent.

J. Frank Ziegler, who has been Assistant Adviser in Macon County for the past year, has resigned that position to take charge of the "Warner Farms" in DeWitt County. Mr. Ziegler will live in Clinton, Illinois.

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Plowing Under Large Amounts of Green Crops

"Crops planted after large amounts of green crops have been plowed under are sometimes injured. The four conditions recognized as causing injury are given below.

1. If the green crop is allowed to grow too long, it may rob the succeeding crop of moisture.

2. Large amounts of green materials or dry materials when not properly compacted after plowing under are liable to prevent the crop from obtaining sufficient moisture from the layers of the soil.

3. Certain crops undergo an acid fermentation, which, altho temporary, persists sufficiently long to seriously injure the crop growth. Rye quite frequently undergoes this kind of a fermentation. Green legumes, when plowed under in large amounts, may undergo this kind of decomposition.

4. Plowing under green and dry crops may cause an excessive ammonia accumulation which, like the acid fermentation, is temporary, but again, it also persists sufficiently long to be a most serious cause of injury to germinating seedlings.

How may these causes of injury be avoided? The most important consideration in this respect is to plow the material under as early as possible. A period of seven to ten days should elapse between plowing under green materials and the time of planting. Disking the green crop makes possible the preparation of a better seed bed. Where a green crop has been allowed to grow too long, clipping before plowing will retard the rate of decomposition. Green sweet clover should be plowed under when not over 12 to 16 inches high if a crop is to be planted in 7 to 14 days thereafter." - A. L. Whiting.

"Securing a Stand of Alfalfa on Blow Sand. - The following method has been used successfully in Henderson County in securing a stand of alfalfa on blow sand. First about 4 tons of limestone per acre is applied; this is sufficient for 4 to 6 years. Second, two successive green crops of soybeans are turned under; this is to supply the much needed organic matter. Third, early in the spring of the third year about 2 pecks of winter rye is drilled in, and when this rye is about 4 inches high about 20 pounds of alfalfa seed is drilled in. The rye prevents injury to the alfalfa by blowing sand. The rye must be clipped later in the season. On sand of this type the greatest difficulty is to get a stand. After a stand is secured it will remain indefinitely. Some stands there have been in existence 10 to 12 years and still giving good results." - H.G.M. Jacobson

"The Kendall County Clover-Seed Growers' Association was formed at a meeting last evening. This organization states in its constitution the following: 'The object of this association shall be to procure for seeding, to produce, and to market a superior grade of clover seed.' The men particularly interested are those interested in producing alsike clover seed, and they are confined mostly to one township." - Price, Kendall County.

"Spray Schedule for the Farm Orchard. Not all farmers will find it convenient to apply the full number of sprays recommended for commercial orchards. Exclusive of the dormant spray, the maximum number of sprays for southern section is eight; the minimum is three, viz., the calyx spray, to be applied when two-thirds of the petals have fallen, using lime sulfur, one gallon of liquid or four pounds of dry and one pound of arsenate of lead powder in 50 gallons of water; the three weeks spray to be applied three weeks after the calyx spray, using exactly the same materials and quantities; the ten weeks spray should be applied approximately ten weeks after the calyx spray using only lime and powdered arsenate of lead. One pound of arsenate of lead must be combined with two pounds burnt lime, but if burnt lime cannot be secured, use four pounds of hydrated lime.

The maximum number of sprays recommended for the central and northern sections is six; the minimum is three, as indicated under the southern section.

Dry powdered arsenate of lead should be purchased in the largest size containers possible to reduce the price. It does not deteriorate upon exposure to air and may therefore be distributed in small paper parcels. The price should not exceed 20¢ per pound in 200# drums and not greater than 30¢ in 25# packages.

Dry lime sulfur should be bought in containers which will not be broken except by the user. The price in 100# cans varies from $9\frac{1}{2}$ to $10\frac{1}{2}$ cents in less than car lots. Both arsenate of lead and dry lime sulfur can be purchased from:

Sherwin-Williams Co., Cleveland, St. Louis, Chicago.

Martin Senour Co., Chicago.

The Glidden Co., Chicago.

Vonnegut Hdw. Co., Indianapolis.

Meyer Bros. Drug Co., St. Louis.

Dow Chemical Co., Midland, Mich.

Arsenate of lead can be purchased from any chemical company, e.g., Grasselli, Corona, Rex, Devoe, Reynolds, etc." - W. S. Brock.

Movie Films at Farm Meetings. - "During the Farmers' Institute we used seven reels of motion pictures, furnished by the Department of Agriculture, which proved very valuable in explaining the Farm Bureau and Home Bureau work. The scenarios tactfully presented Farm Bureau propaganda along with human interest plots. The film, "The Happier Way" showed how the school boy in arithmetic problem figured the miles his mother walked in carrying in water during a year's time. With the assistance of the Home Adviser and the Farm Adviser this culminated in a modern water system being installed in the home. The two reels "A Matter of Form" showed the method of conducting a sewing school under the leadership of the Home Adviser, which aroused the interest of the whole community, even to the most stubborn. The films in question were staged in Bozeman, Montana, under actual Farm Bureau conditions that will be applicable anywhere. Any one interested should correspond with F. W. Perkins, Assistant in Charge of Motion Pictures, Department of Agriculture, Washington, D. C. where a more detailed explanation of the films can be secured." - Fuller, Marshall-Putnam Co.

A Boy's Ag Short Course. - "We are planning a 6 day shortcourse for boys between 12 and 18 years of age to be given during the spring vacation March 21-26. Each school district will be allowed to send two delegates if they choose to do so. The Y.M.C.A. is cooperating by furnishing sleeping quarters and feeding the boys. we expect to concentrate the work on three or four subjects. A charge of \$10. will cover all expense. We expect at least 100 boys at this school and believe we can give them some worthwhile ideas." - G. F. Baumeister, Stephenson Co.



We want YOU to speak up too. - H. B. Piper writes us, "I would like to see a nice article in the Extension Messenger at an early date on feeding baby chicks." This was assigned to W. H. Smith, Departmental Adviser in Animal Husbandry, and he recommends the following item, so here goes, Piper. Now let's hear from some other advisers. - Ya Ed.

How to Handle Chicken Babies. - "Chicks should receive their first feed when about 60 hours old. This may be a soft feed, something that will not tax any digestive organs. I have used with success the following mash: Eight parts flaked hominy, 4 parts rolled oats, 1 part each of bran and middlings. This is mixed with boiling sweet milk and fed three times a day for the first four weeks. A good commercial chick-growing mash may also be fed with success.

Be careful not to overfeed. The heaviest feed should be given at night so the chicks can go to sleep with full crops to last them thru the night. After the chicks are given free range they should have cracked corn or a mixture of cracked corn and wheat, which can be fed by hand or from an automatic feeder. As they learn to operate these feeders they are fed less mash, and the hominy and middlings are omitted and the rolled oats increased. For chicks three months old and older I use a large quantity of sprouted oats as a soft feed." - Chas. A. Simmonds, American Poultry Journal.

A Scrub Bull Funeral. - "One of the most impressive and inspiring funerals ever held in Waupaca County occurred on Wednesday, July 28, when the Bear Creek Cow Testing Association commemorated the passing of the scrub bull in its vicinity. Twenty-two automobiles followed the likeness of such a bull from Bear Creek to Chain-O-Lakes where it was dumped overboard with due ceremony. The cow tester and five other young men acted as pall bearers, while 'Chub' Reissler, a prominent Holstein breeder, officiated as undertaker. The casket was lowered with beautiful bouquets of 'bull thistles' presented by members of the Association. Remarks of tribute were made by Tom O'Connor, in view of the deceased having so long resisted the inevitable coming of the pure bred sire. The procession was interrupted by stops at farms where registered bulls shold places of profound respect and high esteem. It was a long hot trip, and the place on the County Agent's Ford where the speedometer should be, registered around 125 miles. The members of the Association have voted in favor of capital punishment are already looking for a victim for next year's excursion." - James H. Dance, County Agent, Waupaca Co. Wis.

Fifty-five out of a possible 86 blanks regarding the district conferences were returned. The southern district took first place with 16, and the southwestern followed closely with 15. The other three had 8 each. Who said southern Illinois was slow? - G. N. C.

Jefferson County Secures Advisers- Mr. Boriram Abney has been employed by the Jefferson County Farm Bureau as Farm Adviser in that county. He began work March 15. Mr. Abney is a graduate of the University of Illinois. He was brought up on a farm in Saline County and has spent most of his time since graduation operating a farm in that county. He did some work as an official tester for the dairy department of the University of Illinois, and was for a little more than a year employed on a large livestock farm in Lee County.

E. G. Thiem has been employed as assistant adviser in Whiteside County, and will take up his work there about June 15. Mr. Thiem is now a Senior in the College of Agriculture, University of Illinois, and will graduate in June of this year.



The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. IV

March 30, 1921.

No. 13

Find YOUR Place
in the PROGRAM of the
FARM BUREAU

Here's a slogan. Will it stimulate action? Let's try it! G.N.C.

Legumes, A Source of Soil Organic Matter

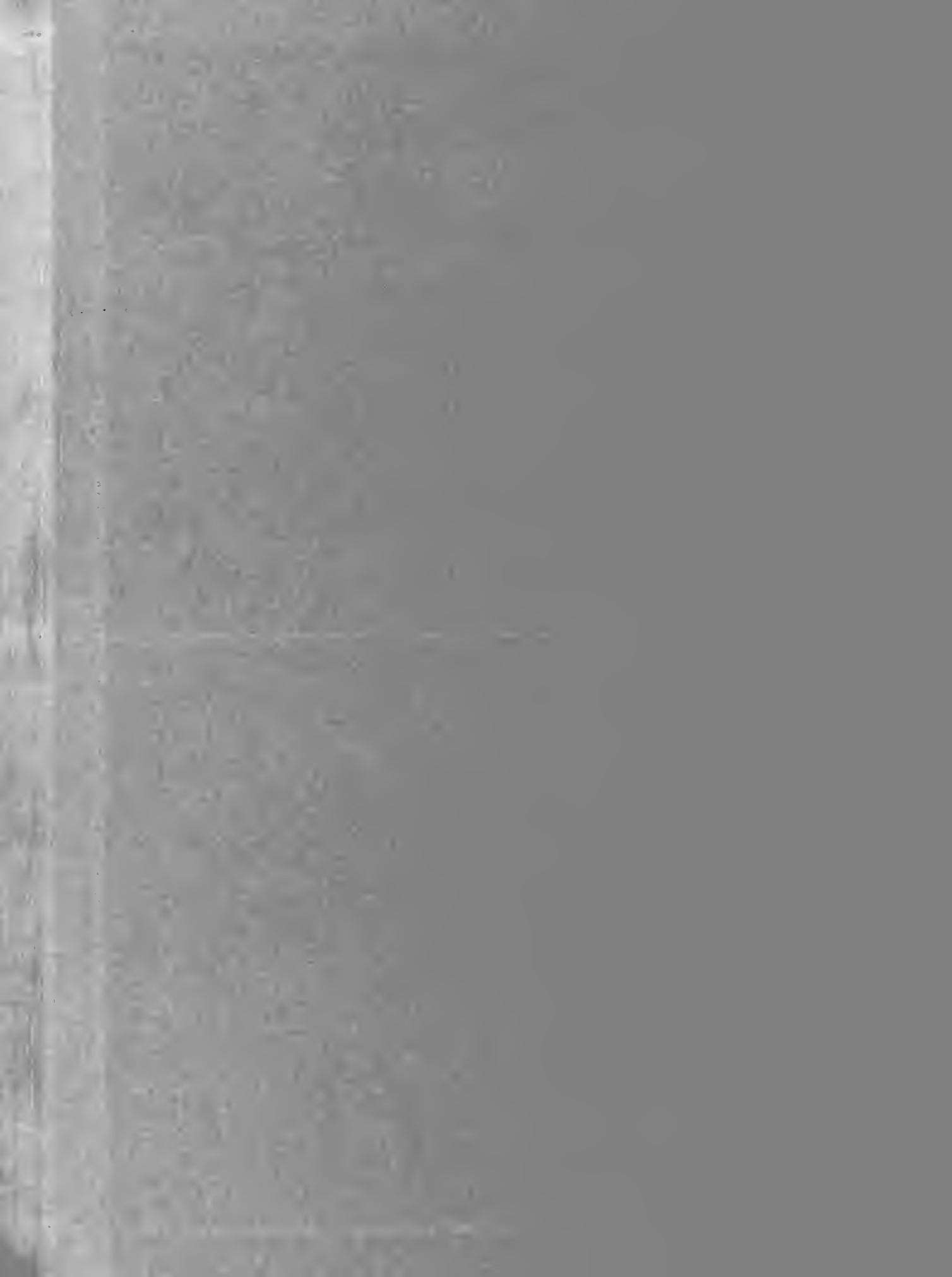
"It is generally recognized that the best way to add organic matter and nitrogen to the soil is to turn under legumes. The necessity of returning a part or all of the top growth of the legumes in the regular rotation is not universally admitted; however, in view of the fact that our soils appear to be gradually becoming

more difficult to work, due to the gradual depletion of their organic-matter content, it would seem to be the wise course to take advantage of every practical source of organic matter.

A heavy spring growth of clover can be turned under for corn with but little danger of insufficient decomposition prior to planting. Green legumes decay very rapidly and thus the danger of an unfavorable physical effect is quickly removed, and at the same time the essential nutrients which are locked up in the tissues of the legume are made available for the young corn plants. When a sweet clover seed crop is removed, leaving a heavy growth of well-matured stems and branches, late fall plowing is probably preferable as it gives a longer time in the spring for the more resistant material to decay.

Just what the ultimate physical effect of turning leguminous green manures, or failing to do so, will be, cannot be stated with very much assurance. The Minnesota Station found at the end of a 22-year period, a plot which had grown corn continuously contained 3.39 percent of organic matter in the surface 12 inches, while an adjacent plot which had produced 5 crops of clover together with the grain crops, and had received 25 tons of manure per acre, contained 4.76 percent of organic matter, a difference of 1.37 percent. This work and also certain other work indicates that a very material and fairly rapid increase in the organic matter content of soils can be brought about by returning a reasonable amount of top growth, or its equivalent, in addition to that returned by the roots when a good rotation is practiced." - R. S. Smith, Prof. of Soil Physics, U. of I.

Furnishing the Boys a Sow to Start With. - "We have made arrangements with the Fair Association whereby they are placing with one boy in each township, a sow which he will care for, raise the litter and show at the Fair. The Association chooses three pigs from the litter as its pay for the sow, the remainder then being the property of the boy. We expect this to create a lot of interest in pig club work and in the Fair. We have no difficulty in placing the sows as we have more applications than we can take care of." - Snyder, Ogle Co.



Vets Want to Cooperate with Farm Bureau. "The Veterinary Organization of this and adjoining counties held a meeting at Carlinville which they invited the advisers and Executive Committee of the Macoupin County Farm Bureau to attend. It seemed from a discussion which followed that the veterinarians are making an honest effort to be of greater assistance to the farmers. They are planning to take up some special work along the eradication of poultry diseases, and enlisted the support of the Farm Bureau officers and advisers in this work." - Rusk, Macoupin Co.

Baby Bees Come Day. - "The calves for the Baby Beef Club were distributed March 19. Thirty boys and girls have begun the contest from 'Calville to Beef-town' with a determination to win. Twelve Shorthorn, nine Hereford, and nine Aberdeen Angus calves are entered in this feeding contest. A committee of three breeders, one from each of the above named breeds, located the calves of their respective breed, for those members who asked for help. These breeders were very anxious that the members expressing a preference for their respective breed should begin the contest with good raw materials in order that they could make a creditable showing of the breed at the fall shows. The result of this interest is: excellent qualified calves with true breed type have been distributed at reasonable prices. The boys and girls are delighted with the calves secured for them. Feeds are cheap, and the prospects for a successful beginning in Calf Club work is bright." Bunn, Lebanon County.

Gift Corn is Still Rolling in Illinois Counties. - "Two carloads already shipped and three more being made up". Livingston Co. "Gift corn will likely total 6 carloads. Warsaw Community alone contributes 2 loads and money to buy a third. Ash Grove Community with 90 members gave 1500 bushels of corn and \$60." Henry Co. - "The week March 14-19 was Farmers' Gift Corn Week. Reports indicate that almost three carloads were donated." - Hancock Co. - "Over 3500 bushels of gift corn have been loaded into cars and there are prospects of more." - Knox Co. "Two cars of gift corn loaded this week. The local private elevator handled the corn, a local shellerman donated the sheller and the ladies of the community served free lunch to all who assisted with the corn." - Iroquois Co.

Injurious Insects. - The State of Illinois has reprinted the Eighteenth and Twenty-first reports of the Illinois State Entomologist, which, taken together, constitute a monograph of insects injurious to Indian Corn. They contain 425 pages of text, exclusive of tables of contents and indexes, and are illustrated by 334 black and white figures and eight colored plates. Applications from those who have not received the first editions of these reports (printed in 1895 and 1905 respectively) should be addressed to S. A. Forbes, Chief, Natural History Survey, Urbana, Illinois.

Making the Old Machinery Go Round. - "Oux Farm Implement Repair and Exchange week, February 21 to 24, resulted in supplying most of the members with second hand machinery sufficient to handle this year's work. Most of them declare that they will not need to buy anything new this year." - Robbins, DeWitt Co.

"Here are two men who want some honest to goodness hard work on a farm in the middle west, according to Mr. W. A. Lloyd, U.S.D.A. One is W. E. Cox, Ballston, Va. He is 25 years old, has had 5 years experience in general farming, mostly truck farming and has a general knowledge of tractors. The other is Eugene C. Bouton, age 23, of Ballston, Va., who has had about 8 years' experience in general

farm work. Both of these young men were in the Signal Corps in France for more than a year, and one was wounded in the service, but not physically incapacitated for labor. They both say wages are not a matter of primary consideration. Write these men direct if you can help them." - G. N. Coffey

Trend in Commodity Prices (Continued). A review of wholesale price movements in 1920 shows that the year was remarkable for the extremely high levels reached in the early months and the violent declines that followed in late summer and fall.

From January to May the trend in most commodity prices was steadily upward, the general level in the latter month being the peak for all commodities. In this month they were 14% above the level prevailing at the close of 1919 and 172% above the 1913 level. A slight reaction took place in June followed later by radical declines that brought the December level down to a point approximately 30% below that of May and only 85% above the prewar level.

When certain commodities are considered May to December, 1920, the violent declines experienced are even more striking. Whereas farm products as a whole dropped 41.5% from the May level, corn dropped 60%, oats 56.6%, cotton 63.4%, sugar 64%, wool 54.5%, chrome calf shoe leather 54%, print cloth 64.2%, wheat 38.4%, top hogs 44%, feeder cattle 25% and fat cattle 15%.

Other radical decreases were furnace coke 65.6% from August to December, Bessemer pig iron 26.8% from September to December, steel billets 30.4% from July to December, and pig tin 45.6% from April to December.

In like manner, after spring or summer, building brick decreased 32%, Douglas fir lumber 56%, red cedar shingles 54.7%, linseed oil 55.1%, and turpentine 69.3% (U.S. Bureau of Labor Statistics.)

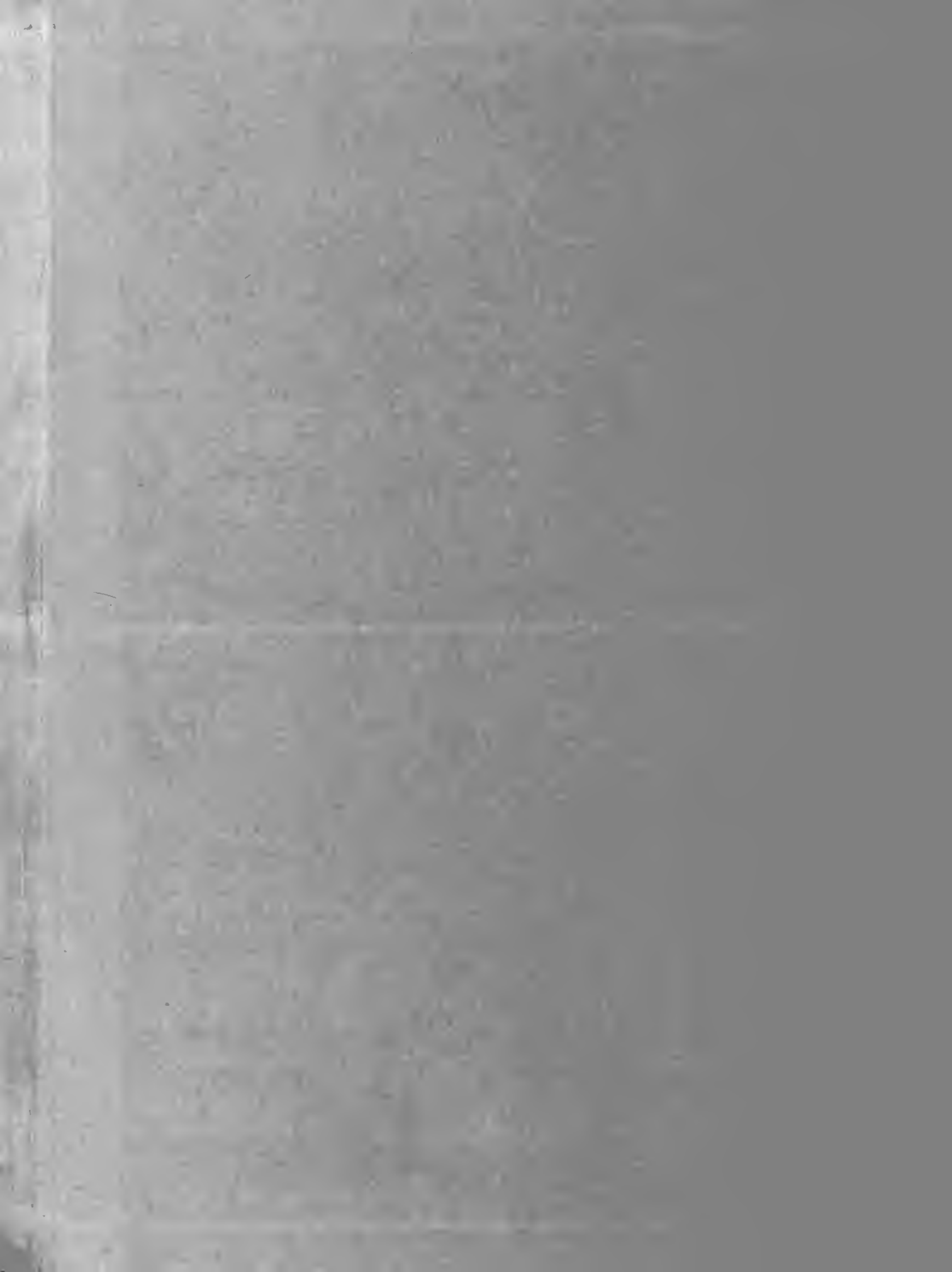
The following index numbers are supplementary to those appearing in this publication previously. Data in the various groups of commodities are available only up thru January 1921. The figures for the separate farm products have been calculated up to and thru the first week of March.

These figures show that wheat has stood the market declines much better relatively than have the other common farm products, whereas wheat is still 80% above the prewar level, corn is only 7%, oats 17%, top hogs 5%, feeder cattle 9%, and fat cattle 29% above the 1913 level.

INDEX NUMBERS OF WHOLESALE PRICES

From Oct. 1920 to March 1921 by Groups of Commodities - 1913 price = 100

Yr. and Mo.	All Com. mod.	Farm Prod. ucts	Corn	Wheat	Oats	Food etc. ing	Clothes & Cloth	Metal & Metal. Produ.	Lmbr. & Bldg. Matls.	House Furn. Goods	Top Hogs	1200-Stkr. 1500# and steer Fdrs
1920												
Oct.	225	182	169	234	145	204	257	184	313	371	167	211 120
Nov.	207	165	140	211	137	185	234	170	274	369	143	201 118
Dec.	189	144	126	192	128	172	220	157	266	346	107	179 107
Ave.												
1920	243	218	235	263	215	236	302	186	308	366	165	190 130
1921												
Jan.	177	136	115	192	123	162	208	152	239	283	102	140 104
Feb.	-	-	105	178	113	-	-	-	-	-	104	117 100
Mar.	-	-	107	180	117	-	-	-	-	-	105	129 109
1st. wk.												



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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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No. 14

Feeding Test Alfalfa and Timothy Hay

"To determine the relative value of alfalfa and timothy hay as dairy feed, sixteen cows, producing on the average about 30 pounds of milk per day, were divided into two even lots. One lot was fed 10 pounds of alfalfa and the other 10 pounds of timothy hay per cow per day, the remaining portion of the ration being the same for both lots. After the first test the cows which had been fed timothy were changed to alfalfa, and those which had been fed alfalfa were changed to timothy. The records show that the cows produced about 10 percent more milk on alfalfa than on timothy hay. The difference in production was 834 pounds of milk increase in favor of each ton of alfalfa hay over a ton of timothy.

According to these results, when milk is selling for \$3.00 a hundred pounds, alfalfa hay is worth \$25.00 a ton more than timothy as feed for dairy cows. Since timothy hay will yield about $1\frac{1}{2}$ tons per acre and alfalfa over $3\frac{1}{2}$ tons, we see something of the increased earning power of an acre of alfalfa over an acre of timothy.

Besides the greater return in milk, the condition of the cows counts for much. At the end of each period the cows fed alfalfa hay were in much better condition than those fed timothy. The timothy, altho of good quality, was not palatable, and the cows receiving it lost in flesh and were in poor condition generally. Where cows are fed timothy hay for an entire winter, the ration must be supplemented with high-priced protein feeds, or the cows will be in an unthrifty condition in the spring. On the other hand, cows fed alfalfa are nearly always sleek and thrifty." - W. J. Fraser, Prof. of Dairy Farming, U. of I.

Use of Fertilizers Slumps. - "The application of limestone and phosphato has practically dwindled to nothing on account of the high prices of same and the increased freight rates and low value of Farm Products. However, large quantities of clover seed has been sown, probably a larger acreage than has been sown any year the last decade, due to the fact that we have had enormous surpluses on hand which cost the farmers \$3 and \$4 for threshing and which they feel they would rather sow than sell for \$10 a bushel. Quite a bit of this cloverseed was sown early and is upnow.

Interest in sweet clover and soy beans is increasing. A fair amount of sweet clover seed has been ordered and planted, one man in the southern part of the county planting 130 acres. We are at the present time putting on a campaign for the use of more soybeans planted with the corn and believe that it will result in a large acreage this year." - Kercher, Pike County.

"Our four fields of alfalfa have come thru the winter in fine shape. Many of the farmers living near these fields are very enthusiastic about alfalfa and are planning to 'try a patch' this fall." - McGhee, Johnson Co.

Commercial Mixed Feeds for Pigs. - "The feeding tests at the Iowa Station (1918-20) would indicate that most of the commercial mixed feeds are less valuable, pound for pound than corn, when fed according to the directions of the respective manufacturing concerns.

In 32 lots of 5 pigs each, where 16 different mixed feeds were used, the average feeding value of the feeds was \$21.96 per ton when the corn and tankage in the check lots was charged at \$.70 per bushel (\$25 per ton) and \$60 per ton, respectively. The check lots receiving corn and tankage averaged 1.36 pounds gain daily per pig, whereas the mixed feed lots averaged 1.22 pounds. The former lots required 379 pounds of corn and 38 pounds of tankage to produce 100 pounds of gain. The latter lots required 176 pounds of corn, 270 pounds of mixed feeds, and 5.5 pounds of tankage to produce the same amount of gain. In 10 lots, the mixed feeds were worth more than \$25 per ton, in 6 lots more than \$30, and in 1 lot more than the value of oilmeal. Oilmeal is more expensive than tankage, skim-milk or pasture as a protein supplement.

However, only a few of these feeds meet the requirement of the question of a good supplement for corn since they are so low in protein. It is only the occasional one that has more than 20 percent protein and a good many have about the same amount as middlings. Many of these feeds contain as much crude fiber as bran or oats which are objected to on account of their bulk. True it is, that at times it is better to use some of them than feed corn alone, but why not use instead some of our well known supplements which are not only cheaper but higher in protein as well." - John B. Rice, Associate in An. Husb., U. of I.

Eight Cents a Hundredweight. - "The Stronghurst Shipping Association held a meeting at the Farm Bureau Office. Considerable dissatisfaction was expressed over the fact that the present shipper had been receiving 10 cents per cwt. commission. The officers threshed the matter out pretty thoroly and finally made arrangements with the same shipper to handle the work for eight cents for the coming year." - F. M. Bane, Henderson Co.

Now we Have Ninety. - "The 90th Farm Bureau in Illinois was organized March 29. Cumberland County claims the honor. Geo. Holsapple is President and Fred McCandlish of Toledo is Secretary." - Spitler.

Let Local Interests Handle Buying. - "It is the intention of the farm bureau to do all of the commercial part of its work thru local associations. Most of our seed this year has been handled thru a local dealer. The dealer handles the kind and grade of seed recommended by the farm adviser, and sells at a 10% profit. The buyer knows the kind of seed, its cost and the dealer's commission. We have found this very satisfactory." - McGhee, Johnson Co.

Spell it with an 'E'. - "The word 'adviser' is so frequently misspelled by farm advisers, by I. A. A. employees, and by other people connected with farm bureau work, that I am wondering if a line or two in the Messenger calling attention to the correct spelling of the word might not be worth while." - Brown, Stark County.

Several years ago at the U. of I. a committee carefully investigated the merits of the two spellings and a decision was reached that in Illinois at least, the spelling should be adviser - "e" instead of "o".

The Clover Seed Pool has handled about 1600 bushels of clover seed which is now practically all sold. This seed was all run over our new cleaner with the exception of one lot. The time of the Advisers has been almost completely taken up in the past 60 days in handling the seed project. We have secured for about 50 members from 50¢ to a \$1. more for their seed than they would ordinarily have received. We have cleaned up and distributed the clover seed for approximately 300 farmers in the county, and we have also tested their seed to do away with the noxious weeds. This service was given to each of these farmers, which alone will pay the entire cost of the project and added to this there is an increased interest for better seeds, a more wholesome fear of noxious weeds and realization of the great loss encountered each year from the use of poor seed. We think the clover seed pool has paid well." - Wells, Warren County.

Potash Shale in Illinois will furnish a source of potassium needed in peaty lands and possibly on many other long-cropped soils. Read the new 28 page bulletin No. 233, which is just coming off the press of the U. of I. Experiment Station, if you want to know the details of what, where, when, and how. Address the Agr. Exp. Station, Urbana, Ill.

Circular 212 - "A Spray Schedule for all fruits has just been revised and each adviser should have copies. Address Agri. Exp. Station.

Effingham County now has a new adviser. J. L. Gardner, who has been manager of the "Walnut Grove Farm" near Virginia, Ills. for the past 8 years, took up his duties as Farm Adviser in Effingham on April 1. Mr. Gardner graduated from the University of Illinois in 1911 and has been in work of actual farm operation since that time. He takes the position vacated by H. J. Rucker.

It seems we have forgotten to mention H. W. Day, who began work as assistant adviser in Cook County on January 1 of this year. Mr. Day was for 2 years instructor in olericulture at the University of Illinois where he graduated in 1917. He is permanently located at the branch office of the Cook County Farm Bureau at Blue Island, Illinois.

New Home Bureau Advisers.- Miss Helen Schouten, graduate of Iowa State College, who has been teaching Home Economics in Denison High School is now Home Adviser in Lerzer County.

Miss Anna Olsen has succeeded Miss Edna Truman as Home Adviser in Kankakee County. Miss Olsen is a graduate of the University of Chicago and has been a Home Adviser in Iowa since 1917.

Miss Emma DeWitt a graduate of the University of Illinois, is now Home Adviser in Vermilion County. She comes to us from North Dakota, where she was County Home Demonstration Agent for three years.

Miss Zelma Monroe, a graduate of Wellesly College and Illinois Wesleyan, is now Home Adviser in LaSalle County. For the past year and a half Miss Monroe has been Home Demonstration Agent in Niagara County, New York.

Colos County organized a Home Bureau on January 15 with 373 members at a membership fee of \$5. a year. This is the first Illinois County to begin a Home Bureau on a \$5. fee. It will no doubt be a regular custom in the near future, as several old counties are reorganizing on that basis, because they have found it an absolute necessity for good work.

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No. 15

Summer Legumes

Where Clover Fails

"It has long been the policy of the Experiment Station to substitute soybeans for clover, when the clover fails to show a satisfactory stand in the spring. This practice has been very successful in maintaining a legume crop in the rotation where otherwise there would be none. Medium Yellow soybeans are usually seeded as a clover substitute, as this variety will mature sufficiently early so that the beans may be removed from the land in time to seed fall wheat. If hay is needed, this plan gives a fair crop of soybean hay. On four experiment fields located in the corn belt as a two year average, untreated land has yielded about $1\frac{1}{2}$ tons of hay, while land receiving complete treatment (organic matter-limestone-rock-phosphate) yielded 2 tons of hay. In southern Illinois the untreated land yields about $\frac{3}{4}$ tons of hay while the treated land yields $1\frac{1}{2}$ tons hay per acre. The soybean seed yields are of more value than are the hay yields. On the four experiment fields in the cornbelt untreated land averages 15 bushels beans per acre, while the treated land averages 20 bushels per acre. In southern Illinois the untreated land averaged about 4 bushels per acre, while the treated land averaged $12\frac{1}{2}$ bushels beans per acre. In the south part of the state cowpeas have been used as a substitute for clover. This crop is fairly satisfactory and does well on unlimed soils, but on limed land, soybeans are far superior to the cowpea." - H. J. Snider, in charge of Exp. Fields, U. of I.

"Greatest Loss in Apple Crop due to the Codling-Moth. - The very mild weather of the past winter has been extremely favorable to the overwintering larvae of the codling-moth. More than the usual number of these worms have survived and will produce moths this spring. This is important to every one in the state who owns an orchard, whether large or small, and if these worms are not controlled, it will be impossible to harvest a crop of good fruit. Remember, the most important spray for the codling-moth is the one given at the time two-thirds of the petals have fallen. Do not, under any consideration, omit this spray this season. Use 1 lb. arsenate of lead, 2 lbs. fresh lime, $1\frac{3}{4}$ gals. commercial lime sulfur or $3\frac{1}{2}$ lbs. dry lime sulfur, 50 gals. water." - W. P. Flint, Entomologist, U. of I.

"Freeze Created Much Damage in Illinois. - Most of the Farm Bureau reports this week have carried a story of damage to fruit or crops or both as a result of the recent frosts, freezes, and inclement weather. In some sections, practically all the fruit is gone, while in others it is believed some apples are still alive. In many counties the oats was "nipped" but is coming on again. However, some farmers resowed oats without waiting to see if the injured crop would recover. Wheat, alfalfa, sweet clover and old red clover show "burned" leaves and tops. New seedings of red clover were generally killed and had to be reseeded. It is fortunate that a large supply of red clover seed was at hand." -- Ye Ed.

"Leguminous Clover Crop in the Small Fruit Plantation." - The use of cover crops, especially legumes, is comparatively rare in the small fruit plantation. This may be due to the short life of the plantation and the difficulties involved in managing a cover crop.

There are several reasons peculiar to small fruit culture, however, for the more general adaption of cover cropping. Small fruits demand for best returns, a moderately fertile soil of considerable moisture holding capacity. The moisture must be available fairly near the surface because of the comparatively shallow root systems of the small fruits. Again, the ripening season of the small fruits comes during the hot summer months. A liberal amount of the common plant food elements, nitrogen, phosphorus, and potassium, usually provided for by the addition of chemical fertilizers and stable manure, is needed close by and really available. A soil well filled with humus, therefore, is the first requisite. If the humus content comes about from a leguminous cover crop, previously turned under, several purposes are served with the same operation.

Unless the plantation is situated on a slope, clean tillage should ordinarily be practiced from the time the ground is first workable in spring until about the first of July, each season. A crop of cow peas may then be sown and harrowed in with the last cultivation. The cow peas are allowed to make as much growth as may be in fall, then worked under the following spring. In more northern sections, vetch or clover may be used. These crops must be worked in at the first opportunity in spring before they establish themselves and partake of the nature of weeds." - A. S. Colby, Asst. Prof. of Pomology, U. of I.

Weevil gets Clover. - "The weevil, together with the recent freeze, killed many fields of clover in the county. Where the clover was pastured close last fall it stands a much better show. Practically all the clover is dead in fields where there was any growth or trash remaining thru the winter. - About the only reason we can see for this is that the weevil was harbored wherever there was any growth remaining. Perhaps 50% of last spring's seeding of clover is killed." - Eyman, Jersey Co.

A Corn Root Rot Test in Each Township. - "The main work of the past week has been the assembling of 12 100 ear lots of corn to be used in a root rot demonstration, one to each township. The plan of our root rot work is as follows:

- (1) Let the farmer plant 20 rows out of his own bulk seed.
- (2) Next to this plant the disease free corn out of his 100 ears that are being tested.
- (3) Then one round with the planter of very badly diseased corn.
- (4) Next to this about eight rows of Funk's 176-A Strain.

This fall we intend to call Township meetings at these fields and let the farmers themselves harvest and weigh 100 hills out of 1-2-3- and 4. At the same time a seed corn picking demonstration will be given.

As we see it, these demonstrations ought to bring out the following points:

First, a comparison of (1) and (2) will show the farmer that planting disease free seed out of his own corn is much superior to his regular seed corn.

Second, a comparison of the yield of (3) against the yields of (2) and (4) will show what sort of a toll Root Rot is taking." - Edgerton, Rock Island Co.

Know the Other Fellow. - "One hundred farmers and members of the Community Commercial Club of Albion rubbed elbows at a banquet held in Albion April 5. We believe that in an agricultural community like this such functions will bring the business man of the city and farmer together where each may become more familiar with the other fellow's problems." - J. C. Spitler.



Do You Know Take-All When You See It? Because a small patch of 'Take-All' has been identified in one wheat field 6 miles northwest of Lincoln in Logan County and because it is again present among the susceptible varieties of wheat in the experimental plots in Madison County where a varietal test is being conducted, Mr. George H. Dungan has deemed it advisable to call the attention of all advisers to the appearance and symptoms of both Flag Smut and Take-All. Accordingly, a poster and a description showing and describing these diseases is being sent to all county advisers. Mr. Dungan is in charge of plant disease work at the University and he is also cooperating with the U. S. D. A. in helping to control these wheat diseases in their incipient stages. He says the immune and resistant varieties of wheat present the best methods of control. Turkey Red, Red Wave and Red May are immune and Fultz, Fulcaster and Winter Fife are resistant, while other common varieties seem to be more or less susceptible.

"Shall We Plant Soy Beans in the Corn Field for Hogging Down?"-Pigs to be used for hogging down crops can be carried thru the summer on good pasture without any protein supplement. These 80 to 125 pound pigs can then be turned into the field planted to corn and soy beans and carried to a marketable weight without the use of a large amount of high priced, high protein feeds. It is in this role that soy beans have been most popular in the corn belt.

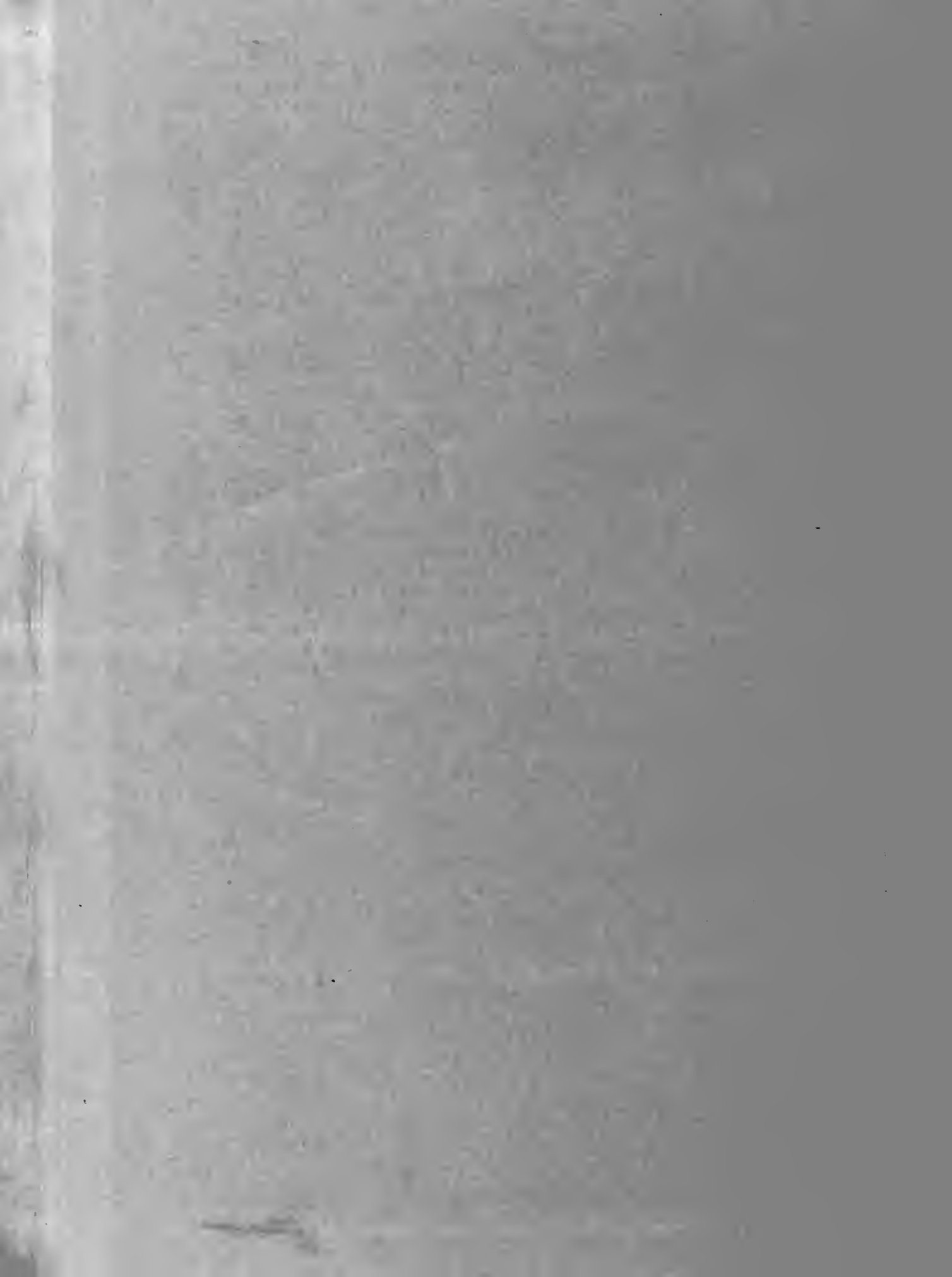
Soy beans either drilled or checked in the corn, generally reduce the corn yield to about the extent of the yield of soy beans. The exact amount that the corn yield is reduced varies with the season. (This statement is based on data furnished by the Department of Agronomy). To illustrate: If your corn yield is 50 bushels per acre when corn alone is grown, you could expect 44 to 45 bushels of corn in case you had a yield of 5 bushels of beans to the acre. The advantages gained in feeding value is the difference between 5 to 7 bushels of soy beans and an equal number of bushels of corn. Soy beans have a feeding value of 70% more than corn, when soy beans are used as a protein supplement.

Planted in the corn, soybeans help to balance the hog ration but do not completely replace the tankage. For best results, a small amount of tankage should be fed in addition to the beans. An acre of corn in which a good stand of rape has been secured, is approximately equivalent in feeding value to an acre of corn and soybeans planted together. Corn and soybeans in the field do not give as satisfactory results as corn in the field with tankage in addition, both from standpoint of rapidity and economy of gains.

The feeding value of soy beans is of course not the only consideration which will determine whether or not they are to be grown." - R. J. Laible, Asst. in Hog Production, U. of I.

'Ware the Tree Agent. - "Fruit tree agents are apparently numerous in the state at this time. Some of them are honest and represent reliable nurseries, but because of the tremendous losses incurred in the past by planting stock purchased from 'peddlers', it is a much better practice to order direct from a reliable nursery. Many of these agents are salesmen par-excellence as evidenced by the fact that they often fool even some old horticulturists who should know better. Let none be deluded by beautiful pictures and extravagant claims." - W. S. Brock, Dept. Specialist in Horticulture, U. of I.

Scarcity of Horse Sires. - "Farmers are taking an interest this year in raising more horses, but they discover that scaracely any good sires are available. Reports indicate that this condition is general thruout the state. Probably horse breeding will increase very slowly on this account and so the men who are fortunate enough to raise good horses at the present time may expect good prices." Robbins, DeWitt Co.



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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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April 20, 1921.

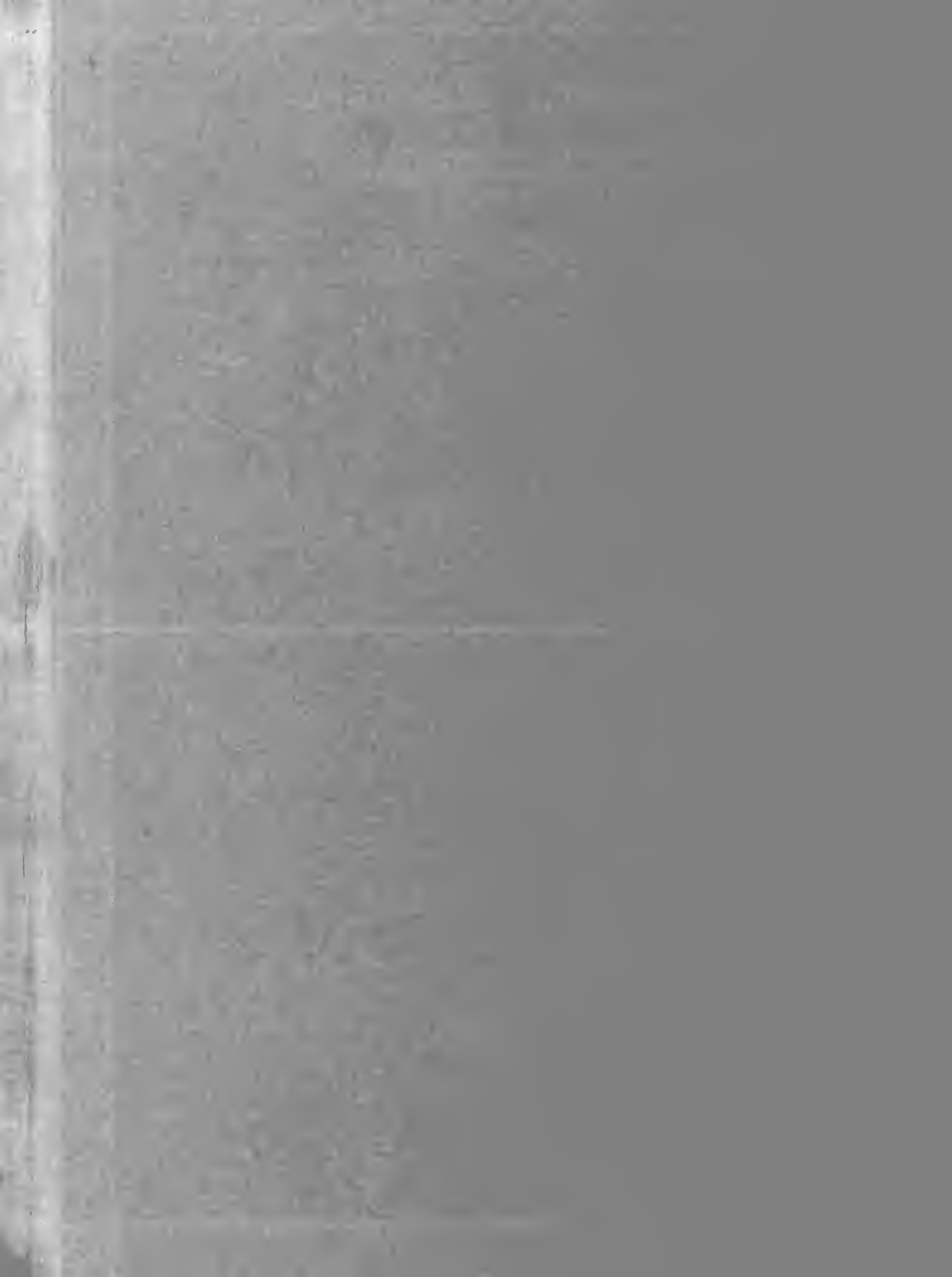
No. 16

Snow! The 17th of April with trees in leaf, gardens up, and lawns ready for the second visit of the lawn mower! Can you believe it? Oh, what a gorgeous color scheme! "Ain't nature beautiful?"

What is the Damage? A study of the injury done to Illinois fruits by the freezes of March 28, 29, and April 10 and 11 is quite accurately summarized as follows: "The commercial crop of peaches and pears is a total failure. The commercial crop of apples for the state will not exceed 15 percent, (90% or more of the commercial apple crop being produced south of a line drawn thru Urbana). Plums and cherries are a total loss, while, except for the extreme southern portion, grapes are probably not seriously injured. The early apples in the Ozark section are reported from 80 to 95 percent killed. Late apples in the same section are a trifle better. Both early and late apples in Clay, Richland, and Marion counties are nearly a total loss. The reports from the western Illinois section, comprising the Illinois and Mississippi River section, are contradictory, but would seem to indicate that there might be as much as 20 percent of a crop. It is certain that in one or two places within this area there is less than 5% of a crop, so that it will require a few more days to determine the exact extent of the loss. The northern third of the state does not produce a large commercial crop of apples, but the damage to fruit generally was much greater in the western part, in Adams and adjacent counties, than in the central and eastern sections. Tree fruits generally in northern Illinois are reported safe. As this is being written the damage done by the freeze of April 17 and 18 cannot be determined accurately, but early examination and reports from four sections indicate that the damage is slight." - W. S. Brock, Extension Specialist in Horticulture, U. of I.

<u>Uses</u> <u>of the</u> <u>Soybean</u>	"Few crops have the possibility of wider utilization than soybeans. They are little used in this country as human food, but in the orient they constitute an important part of the diet - second only to rice with which because of their high protein content, they make an excellent combination. The substitution of soybean oil for about one-fourth of the linseed oil in paint and varnishes is becoming quite common in this country. Further, employment of soy oil in the manufacture of soaps, lard and butter substitutes, explosives, linoleum, and vegetable oils has made necessary the importation of approximately three hundred million pounds of soybean oil each year from China and Japan. In addition to the oil many thousands of bushels of beans are received annually from these countries. The United States produced in 1919 only about 1/100 as many seed beans as was represented by her importations of soy oil.
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In Illinois the principal uses of soybeans are as forage for livestock, soil improvement, and a seed crop. As hay soybeans are commonly considered equivalent to alfalfa and slightly superior to red clover. When used as pasture they are



commonly grown with corn for hogging or sheeping down. They have been used to some extent as silage. Best results have been obtained when they were mixed with corn in the proportion of one part of beans to two or three parts of corn. Soybeans have not always given satisfactory results as a soiling crop, altho some experienced men recommend them for this purpose. The use of the threshed beans as a concentrate in livestock feeding has great possibilities. The cake, after the oil has been expressed, is as valuable as the whole bean for this purpose. The oil from one bushel of beans is worth more than \$1. according to the oil values of 1919." - George H. Dungan, Assoc. in Crop Prod. U. of I.

Beg Pardon. In the last issue of the Messenger a mistake occurred in Mr. Flint's formula for codling moth spray. Instead of $1\frac{3}{4}$ gal. commercial lime sulfur it should read $1\frac{1}{4}$ gal.

Ask "Sid" How He Gets Others to Work. Shelling corn from Demonstration plots for instance. His recipe sounds something like this. "Have a pair of O'alls in the closet so 'Rastus', the janitor will be tempted. Then accuse the poor _____ but promise to keep him out of jail if he will man a corn sheller! - You tell 'em corn, you're the kernel!

"Value of Soybeans as a Hog Feed. On the basis of results obtained by the Ohio, Purdue, Kentucky, and Illinois experiment stations, in tests involving more than 200 pigs, we conclude that ground soy beans have a feeding value of \$46. per ton when 60% protein tankage sells at \$70. per ton, or, soybeans have a feeding value of \$1.38 per bushel when corn sells at \$.75 per bushel. When compared to oil meal, soybeans are worth \$46.00 per ton when oil meal sells for \$40. per ton. On the percentage basis soybeans have a feeding value of about 70% more than corn, 14% more than linseed oil meal and 65% of the feeding value of tankage. Soybeans must be ground if their full value is to be realized.

Even tho the quality of the protein contained in soy beans is excellent from the nutritive standpoint, we find that soybeans are unpalatable and hogs will not eat enough of them to balance their ration when corn and soybeans are self fed. A small amount of tankage should be fed with soybeans to secure the best results. Soybeans, when fed with corn, produce less rapid gains than tankage but produce more rapid gains than linseed oil meal." - R. J. Laible, Asst. in Hog Production. U. of I.

"Mixed Feed Prices. The Iowa feeding trials with mixed feeds for hogs have given us a good basis for determining the value of some of our common brands of commercial feeds. Compared to the check lots of corn and tankage (corn \$.70 per bu., tankage \$60 per ton) nine of the better feeds have a feeding value of \$25.75 per ton. These same feeds having an average of 17% protein, have been quoted this month at an average price of \$42. per ton. Are mixed feeds worth the price at these figures?" - R. J. Laible.

Order Lime in Groups. - "Two cars of limestone totaling 85 tons were divided among 10 of our members, each of whom will use it in getting a start with alfalfa or sweet clover. We are giving special attention to this method of introducing limestone this year. With limestone prices so high, compared with farm crops, it is difficult to get many men to take a car-load the first time they undertake to try limestone." - Robbins, DeWitt Co.



Potato Troubles to be Solved. "At a joint meeting of the Farm Bureau and the Truck Grower's Association at Blue Island, April 2, the calendar of work was discussed and plans made for two complete potato growing and spraying demonstrations for the coming season in Worth Township. Members present stated it would be worth hundreds of thousands of dollars, if some means of controlling potato diseases and insects could be devised that would make profitable potato growing possible in Cook County." - L. L. Heller, Cook Co.

"The last order of certified northern grown seed potatoes have arrived, making a total of 370 bushels. Studies to date indicate an increase in yield of 15 to 20 bushels an acre from the use of certified potatoes as compared with ordinary potatoes. Some accurate figures will be compiled on this subject from the trials this year. These potatoes have been distributed to 77 farmers." - Tillman, St. Clair County.

Movie Film Taken of Gift Corn. - "The Illinois Agricultural Association made arrangements with the Venard Studio of Peoria to take moving pictures of the Gift Corn shelling demonstration at Princeville, Ill. Arrangements were made with the School Board for the school band pupils to march in parade formation from the school house to the sheller. Enroute to the sheller each school child was given an armful of corn. This corn was dropped into the sheller by the children. Pictures were taken of the loading of the corn, of the corn being dumped into the elevator and of the car with the signs on it. These signs were 24 feet long and 3 feet wide and bore the following legend: 'Gift Corn for Starving Europe and China from Princeville, Peoria County, Illinois.' A total of 1423 bushels of corn were donated in that section of the county." - Hedgecock, Peoria Co.

"The gift corn project disclosed some interesting features, other than that the farmers of Marshall-Putnam counties gave the equivalent of 5,550 bushels of corn. One township with whom we held a committee meeting gathered over 1200 bushels. A carefully planned organization was formulated and 53 farmers gave donations in this one township. The other townships were handled by the township directors. This all goes to show that to obtain results personal solicitation and contact is essential. The newspaper support is a great help with any undertaking of the Farm Bureau. The newspapers are publishing the list of donors in their near-by townships. The largest single donation was 200 bushels." Fuller, Marshall-Putnam Co.

"A soybean variety test whas been arranged on the farm of A. G. Schoeneman, Hilyard Township. About a dozen different varieties of soybeans will be planted side by side so that we may have occasion to compare character of the beans and their adaptability to soil and climatic conditions in this particular section of the county. We are desirous of finding the best beans to use with corn for ensilage or hogging off purposes." - Rusk, Macoupin Co.

Tazewell Threshermen set prices. - "At a recent meeting, representatives of the Tazewell County Farm Bureau and the Tazewell County Threshermen's Association failed to get together on threshing prices for the coming season. The Threshermen's Association presented a schedule of prices as follows: 3¢ for oats, 6¢ for wheat, 8¢ for rye and 4¢ for barley. The consensus of opinion at farm community meetings was to the effect that 2½¢ for oats and 5¢ for wheat would be more fair as a readjustment schedule. It is hoped that an agreement may be reached at a later meeting." - Starr, Tazewell Co.



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No. 17

Soybean
Varieties
Characteristics
of

"Soybeans will be seeded on more acres in Illinois during this season than ever before. This increase will be somewhat more generally distributed than formerly. Previous increases were quite largely confined to "The Corn Belt". This year will see soybeans used throughout southern Illinois and many farmers along the Wisconsin line are beginning to get their seed, many of them for their first crop.

While the soybean is perfectly capable of giving a good account of itself under all these conditions the choice of a variety, especially the first year, will determine in large measure whether the grower will be a soybean advocate or not. There are scores of varieties and types of soybeans, but we need mention only a few of the more important ones. The following varieties are all quite common and are widely grown in Illinois. An additional list of less common but nevertheless important varieties will appear next week.

Early Varieties

Ito San, also known as Medium Early Yellow, is the most common and perhaps one of the best early varieties. This variety has short erect bushy plants which mature in 100 days. The lower seed pods often touch the ground making harvesting without loss of seed difficult. This variety is adapted to northern Illinois, also to central Illinois, where late planting is necessary or where an early maturing bean is wanted for hogging off with early corn. The Ito San is too short and too woody for a good hay bean.

The A. K. is a widely grown medium early maturing bean which has made an excellent yield of seed and works well where a bean is wanted to produce an early seed crop. This variety works well where a bean is wanted to produce a seed crop and yet mature in time to seed wheat. The Ito San was too early for this purpose in the central portion of the state and the Mongol was too late. The A. K. seems to hold its seed better than the Ito San, therefore, is better as a pasturing bean. It is fair as a hay bean, its stems only medium size and it produces an average amount of foliage.

Medium Maturity.

The Mongol is the most widely grown and perhaps one of the best all purpose beans available. This variety is essentially the same as, and is undoubtedly a strain of, the Medium Yellow. Another variety or strain probably from the same original variety is the Hollybrook. These strains are all yellow seeded, bushy, erect, medium sized plants which bear the pods well up off the ground and hold the seeds well. These varieties are excellent for all purposes in central and southern Illinois and good for hay and silage in the north sections.

The Ebony, also called Black Beauty, is perhaps the most commonly grown black seeded bean in the state. This variety has erect, stout bushy plants that bear abundant leaves, many branches and have only medium sized stems. The yield of seed is fair but usually not quite as much as Mongol. This is an excellent bean

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for hay and for pasture, especially where it is to be pastured off with sheep in the corn.

The Peking, another black seeded sort, is more commonly grown in Illinois under the name Sable. It is also sometimes called Royal. This has much the same maturity as the Ebony, but grows taller and more slender. Plants have a slight tendency to twine. This variety is a fair yielder of seed, but its best use is as a hay, silage, and pasture bean.

Ohio 9035 is a selection produced at the Ohio Experiment Station which has proven quite valuable in Illinois. The seeds vary from an olive to a cinnamon brown and are rather large and quite uniform. This bean generally matures from two to five days before the Mongol, producing as a rule, slightly less seed. This variety is erect, bushy, medium leafy and has rather coarse woody stems. The seed is borne well up off the ground, thus facilitating harvesting for seed. It is perhaps best adapted for seed, silage, or pasturage." (To be concluded next issue) - J. C. Hackleman, Dept. Specialist in Crops, U. of I.

"Best Time to Clip Clover for Seed, Yield, and Feed.- Whether the yield of clover seed is large or small depends very largely upon the abundance or scarcity of certain species of insects. Clover blossoms are almost entirely dependent upon insects for fertilization. In some seasons the greater part of the seed is destroyed by other classes of insects which feed upon it. The best yields of clover seed are secured only when the plants come in bloom at such a time that large numbers of the pollinating insects are present in the field to fertilize the blossoms, and the seed will mature when the insects which destroy it are not numerous.

There is a good deal of conflicting data with regard to the best time for cutting or clipping the first crop of clover so that a maximum yield of seed will be produced in the second crop. During the past two seasons work has been carried on at the University farm by the Agronomy Department and Natural History Survey cooperating to get more data on this point. The results of the two year's work have shown that if only a single six-inch clipping is to be given, this should be done when about 10% to 15% of the clover heads are showing pink. Experimental work conducted elsewhere, and the results of farmers' tests, show that sometimes at least a double clipping is preferable to a single clipping. If this is done, the first clipping should be made about two weeks before the clover heads show the pink, and again about three weeks later.

If the clover is grown only for a hay crop, the best yields of hay, and likewise the best quality for feeding, may be obtained by cutting when the clover is just past full bloom, the first heads beginning to turn brown. Earlier cutting tends to reduce the yield of hay somewhat. It is also more difficult to make a good quality of hay from these earlier cuttings because of the soft sappy condition of the plants. Where a seed crop is considered essential, however, some sacrifice on quantity of hay can probably be made with profit." - W. P. Flint, Chief Field Entomologist, and J. C. Hackleman, Crop Specialist, U. of I.

Give 'em the Gas! - "One feature of the work this week was a demonstration in gassing woodchucks with a hose attached to the automobile exhaust. Out of about twenty holes which were gassed, the owner reports that none of the woodchucks appeared. The number present in the field before the operation leaves no doubt as to the efficiency of the work." - Price, Kendall Co.

Echoes from Centralia Conference. "We were very much pleased with the practical turn of the District Conference at Centralia. We were especially pleased with the feature of having the Executive Committee members attend. The secretary of the Madison County Farm Bureau was given a broader vision of his work and a suggestion of what the other farm bureaus are doing and has come back with more enthusiasm for the Farm Bureau than he has had for some time. The only suggestion that we can make would be that the specialist be given full time to discuss his project rather than just go over it in a hurried manner as it has been done." - Raut, Madison County

"I attended the conference at Centralia with six executive committeemen. The committeemen all believed that it was a profitable meeting for them, and I am sure it was a good meeting for the advisers. The executive committeemen were so enthusiastic about it, they voted to attend all the sectional meetings in this district. Of course, it is not so hard for our committeemen to attend as it is for some other sections of the district." - Blackburn, Marion Co.

"The Centralia Conference was one of the few very best conferences I have ever attended. It seems to have got down to business on a very well selected program better than ever before." - Piper, Richland County.

"As an echo of the Centralia meeting, or perhaps more correctly an effect, will say that I feel greatly benefitted and I am sure that Mr. Lingenfelter, our president can report the same." - Wheeler, Lawrence Co.

"Our conference at Centralia this week seemed to me to be better than usual. The advisers seem to get closer together in discussing their problems." - McGhee, Johnson Co.

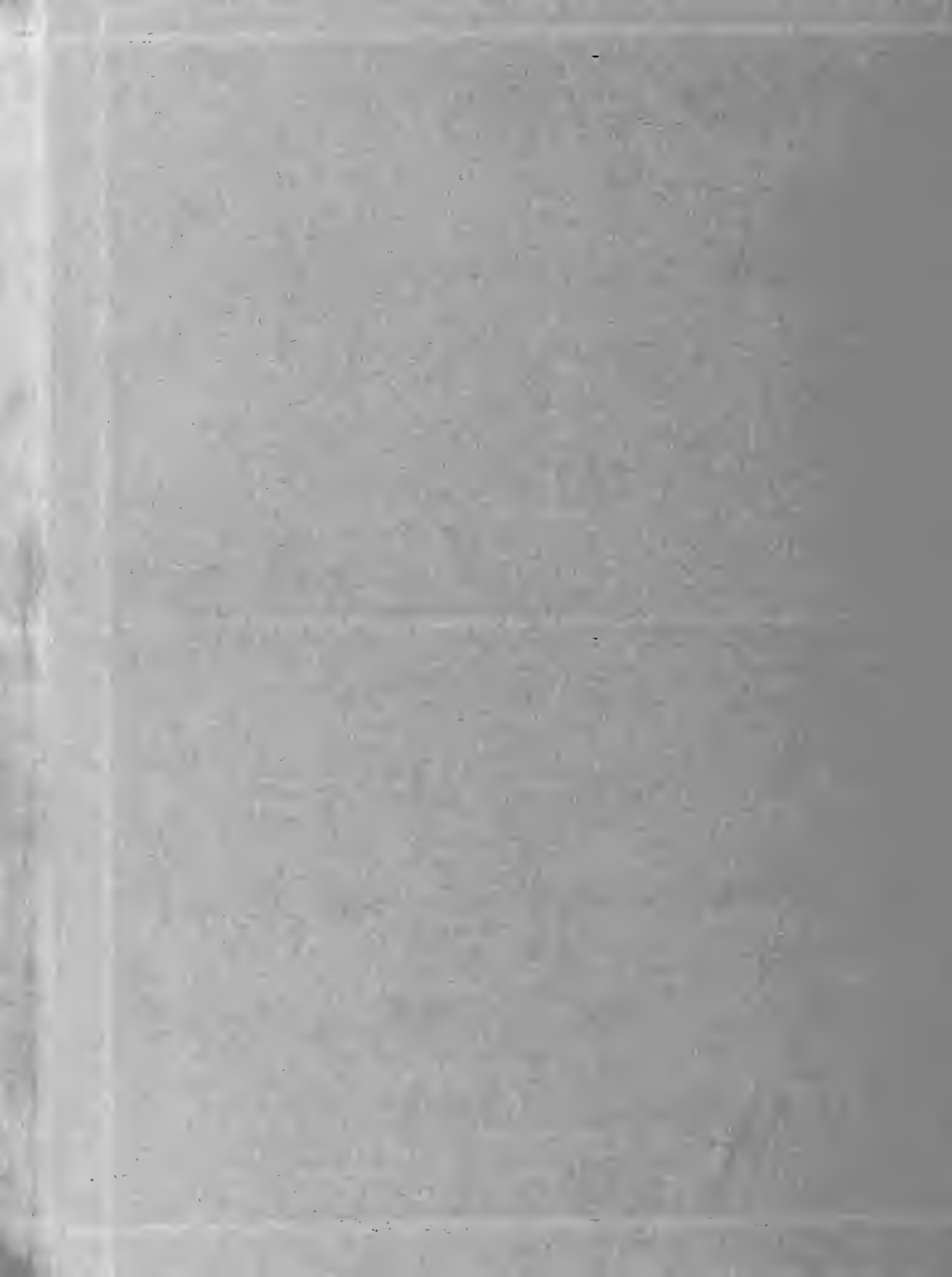
Reports from the other conferences are just coming in. - "The idea of having Farm Bureau officers attend the district conference is a very good one, it seems to me. I am very sorry that none of our executive committee were present. I would suggest a letter from your office to at least the president and secretary of the different executive committees, telling them of the interesting meeting we had at this time, and also of the unanimous vote of those present at this meeting to hold a similar meeting in the fall." - Dickenson, Cass Co.

"Potato Production Studies" - Should the farmer increase or decrease the acreage of potatoes because of the large production last year? An extended study of this subject has been made and the results compiled. Any adviser interested may get a copy from H.C.M. Case, Farm Economist, In Charge Farm Management Demonstrations, State Relations Service, Washington, D.C.

"Ten Soybean Demonstrations" have been arranged for the various parts of the county. About 8 or 10 varieties will be included in each demonstration. We wish to get the farmers familiar with the leading varieties, and to study the adaptability to this locality of the varieties grown in other sections of the state." - Richards, Kane Co.

Plenty of Men. - "We have had plenty of good hired men coming in at \$30 to \$35 a month for single men and \$35 to \$40 for good married men. Our people are only hiring the best ones." - Robbins, DeWitt Co.

Will Test the Democrat. "Twenty-five or thirty of our farmers have ordered Democrat seed corn. We will have practically every community in the county trying out this variety this spring. If the bugs are numerous we will be able to give this corn a first class test in this latitude." - E. M. Phillips, Greene Co.



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No. 18

Clipping

Sweet

Clover

"The experience of the Crop Production Division with clipping sweet clover dates back to 1915. That year the first considerable area was grown. The clover was cut June 1, at which time it was tall and rank. Flower buds were beginning to show, but none were yet in bloom. No special attempt was made to cut the clover high. The clover was practically all killed. Where the stand was thin and the stems branched and somewhat recumbent some of the plants survived.

In 1916, the clover was again cut on June 1. This time special shoes were attached to the mower whereby the sickle-bar was raised about eight inches from the ground. Again the clover was practically killed. A second crop was cut for seed, but the crop was so scant that it was considered useless to thrash it.

In 1917, a detailed study was made of the best height and time at which to cut sweet clover. The clover was cut first on May 23, at the heights of six, eight and ten inches. Approximately one-half of the six inch stubble, one-third of the eight inch stubble and one-fifth of the ten inch stubble was killed. The second cutting was made on May 26, at a height of ten inches. One-fourth of the clover was killed. The third cutting was made May 29, at the height of ten inches and one-third of the clover was killed. The last cutting was made June 7, at the height of ten and fourteen inches. Practically all the clover was killed.

The first cutting in 1918 was made on May 23. The clover was cut at the heights of six, eight, and ten inches. On May 27 and 29, and on June 3 and 7 other cuttings were made at the height of ten inches. The clover was practically all killed in all instances except where the stand was thin and stems recumbent.

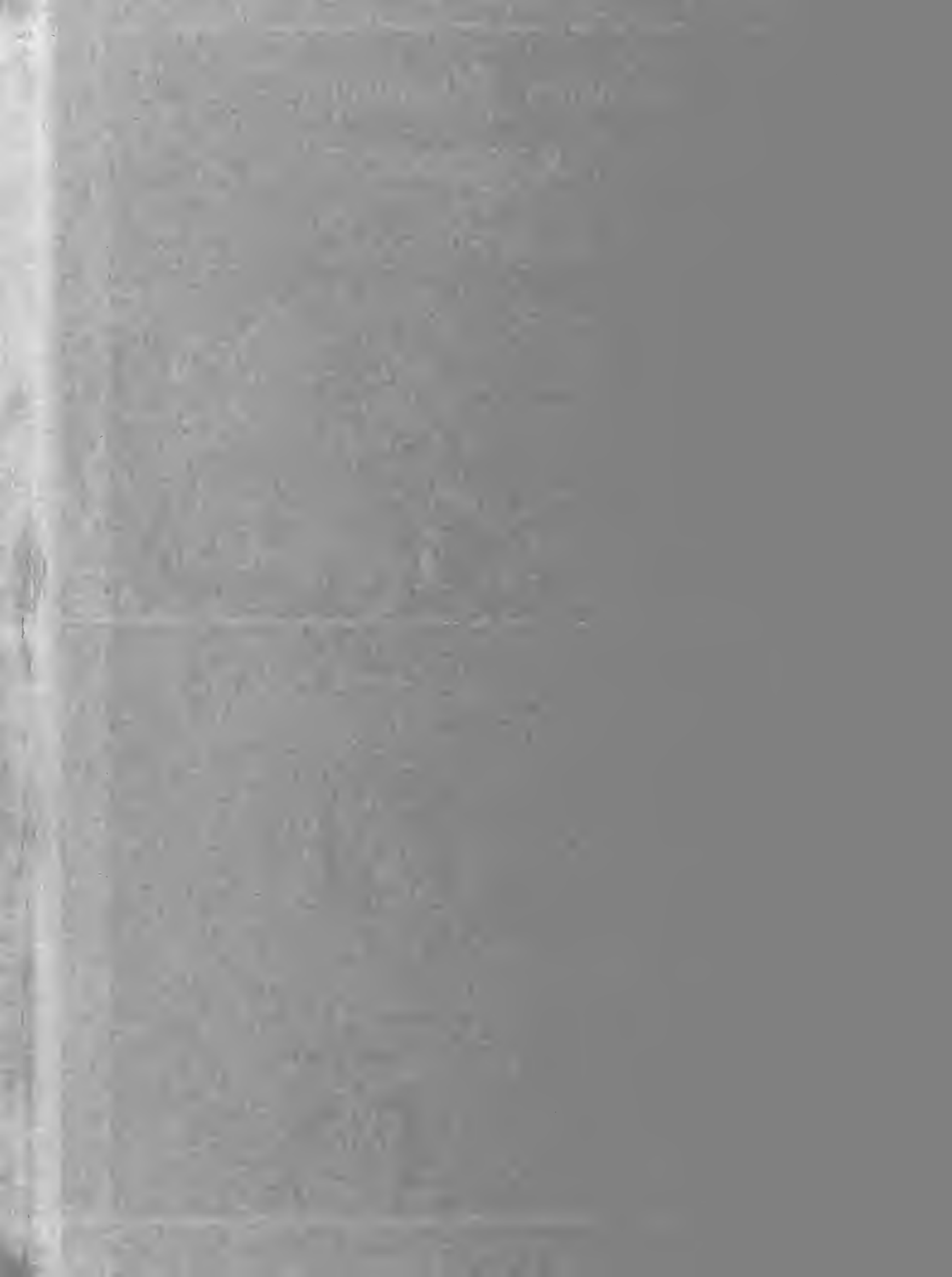
The same experiment was repeated in 1919 with practically the same results.

In 1920, the date of cutting was regulated by the height and maturity of the clover. The first cuttings were made six, eight, and ten inches high when the clover was eighteen to twenty-four inches in height. The second cutting was made ten inches high when the clover had reached the height of twenty-four to thirty inches. The third cutting was made when the first blossoms were appearing. This last cutting practically killed the clover. The clover cut at the earlier stages of maturity survived and made very good second growth.

Sweet clover is grown in the rotation at Fairfield. It is usually cut for hay about June 1, at which time the first blossoms are appearing. It is always completely killed." - R. W. Stark, Asst. in Crop Production, U. of I.

Soybean Varieties. (continued from last week)

"The list of varieties mentioned last week included most of the older, more commonly grown ones. There are new varieties and selections coming before us each year which may or may not prove of value. It does not seem advisable to try out a new variety merely because it is highly advertised nor because it does well in some distant section of the country.



The following named varieties are somewhat uncommon in Illinois, altho most of them have been grown by a few farmers in an experimental way in a number of counties in the state.

Early Varieties.

The Manchu, a promising new yellow seeded variety, matures in about the same time as the Ito San. This variety is adapted to northern Illinois as a seed producer. The Manchu is also a very promising early maturing bean for central Illinois. This variety may prove superior to some of our other Early and Medium Early beans in central Illinois where a seed bean is needed. It makes greater growth of forage, sets the pods somewhat higher from the ground and is usually considered superior to the Ito San as a hay bean.

The Wisconsin Black is an early producing black seeded bean which is especially good in Wisconsin, Minnesota, and Michigan, as a seed producer. This variety is good to grow in northern Illinois as a seed bean, also as a bean to hog down with extra early corn such as Northwestern Dent and Golden Glow. This variety makes a fair growth of forage, holds its leaves fairly well and carries the seed pods high enough off of the ground to facilitate harvesting the seed crop.

The Black Eyebrow is another early maturing variety which is good for both seed and forage. This variety has much the same maturity as the Manchu, perhaps not so early as the Wisconsin Black. The Black Eyebrow is perhaps best used for forage, hay or pasture in the northern section of the state. The seed is black with a brown saddle and black seed scar. This variety would be satisfactory in the central section of Illinois with a very early corn for hogging down.

Medium Late Varieties.

The Haberlandt is perhaps the best known medium late variety in the state. It is adapted as a seed producer to southern Illinois but in favorable seasons matures a seed crop at Urbana. This variety is quite bushy and has a rather coarse stem. The seed is yellow with a deep brown seed scar. This variety may be used as pasture in central and northern Illinois and is fairly good to grow with corn for the silo.

The Wilson, also the Wilson Five, which is a selection, is an excellent hay, pasture and silage bean especially in the southern half of the state. This variety will mature a crop at Urbana frequently but is too late to be considered entirely satisfactory. The Wilson is a black seeded bean which has a very fine stem, abundance of leaf and has a distinct tendency to twirl or vine at the top. This variety, especially selection five, is a good seed producer as well as a good hay and silage bean.

The Virginia is another fine stemmed, abundant leafed sort which has a tendency to twine. This variety has been proving quite satisfactory in southern Illinois as a good quality hay bean. The Virginia has a rather small, somewhat flattened brown seed with a brown seed scar. This variety is perhaps best for hay, pasture and silage. It has a distinct tendency to twine as was mentioned for the Wilson. This variety is gaining favor very rapidly in southern Illinois. Another point regarding the performance of this bean is the fact that it seems to hold its leaves unusually well and its seed exceptionally well also." -- J. C. Hackleman, Dept. Specialist in Crops, U. of I.

Want Soy Beans? - "The Edgar County Seed Association, Paris, Illinois, has a splendid stock of Edgar County grown soy beans, of following varieties: Early Brown, Medium Yellow, Mongol, Hollywood, and A. K., price \$4.00 a bushel. Inoculated soil free - write the association if you are interested." - Edgar Co. Seed Association.



District Conferences - "Many of the advisers have commented very favorably in their weekly reports upon the recent district conference. A number have said they thought these conferences were the most helpful they had ever attended. All but six of the advisers and most of the assistants as well, as many executive committeemen attended. The presence of the Executive Committeemen added very materially to the success of the meetings and they expressed themselves unanimously in favor of attending future conferences." - G. N. Coffey, State Leader.

Experiment Field Day Great. - The high point of the week's work was the Field Day at Unionville. In spite of the busy season 35 farmers and farmer's wives from Pulaski County jumped into their Fords, stepped on the gas, and arrived at Unionville Soil Experiment Field in plenty of time to hear Dr. Bauer's good talk on Soil Fertility. The other talks were also enjoyed and the plots carefully inspected. Our farmers were much impressed by the results shown by the various treatments including that of the sweet clover and lime treatments. The absence of the sweet clover on the unlimed plot immediately adjacent to the fine stand on the limed plot was a lesson not soon to be forgotten. These field days will mean much to our farmers. We will work up a larger bunch for the next one, though considering the long tiresome ride of 60 miles over the hills, it was not bad." - Eastman, Pulaski Co.

"Over 200 farmers from Johnson, Pulaski, Massac and Pope counties attended the Experiment Field meeting at Unionville in Massac County, April 19. The value of soil treatment was well demonstrated. The difference between treated and untreated soils was shown to be the difference between complete failure and success. I heard some of the farmers remark that Dr. Bauer made one of the best talks on soil fertility that they ever heard." - McGhee, Johnson Co.

"Fifty farmers braved the rain and mud to meet at the Ewing Experiment Field on Friday afternoon. We had a good meeting in spite of adverse weather. The hard good meeting in Mt. Vernon attracted quite a number of our farmers too." - deWerff, Franklin Co.

Another New County Beginning Work. - O. M. McGhee has resigned as farm adviser in Johnson County and is taking up a similar position in Massac Co. His new address is Metropolis, Illinois.

Mr. J. C. McCall, a graduate of the Oklahoma Agricultural College will succeed Mr. McGhee as Farm Adviser in Johnson County. His address will be Vienna, Ill.

Mr. W. E. Watkins resigned April 15 from his position as Farm Adviser in Lake County. Watkins began work March 1, 1917, and leaves the county to engage in farming in northern Michigan.

Ag Students Want Farm Jobs. There are a number of students in the College of Agriculture, U. of I. who want to work on farms this summer. Some have had considerable farm experience; others want to get farm experience. They will be ready to go to work about June 1. Can you help get the boys and the jobs together? Write directly to W. H. Young, College of Agriculture, for specific information.

"The Farmers' Automobile Insurance Association started operation on April 1 with 325 applications." - Starr, Tazewell Co.



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No. 19.

Curing Alfalfa Hay The Practical Way

"When we first learned about alfalfa as a hay crop, we were told how to produce a hay of excellent quality that would keep its green color and hold the leaves, by putting it in neat cocks and covering each with a canvas cover, weighted at the corners.

Since that earlier day, many farmers have included alfalfa in their regular cropping system. This has necessitated a more practical way of curing the hay. The canvas cover way is too slow.

One of the most practical ways is to mow the hay down in the afternoon or on a cloudy day. This permits of wilting without burning. By the middle of the next forenoon usually, the hay can be raked into windrows with the side-delivery rake. This permits the air to circulate thru the wilted hay and further cure it without burning and excessive bleaching.

In a few hours, these windrows will be sufficiently wilted and cured to permit loading. In fact, the loading often begins before raking is finished. The regular hay loader can then be used and with a force of men and three rack wagons the hay can be taken up in a steady stream, hauled to the barn and mowed away. There will be no loss of time in superfluous handling and little loss of leaves or color. A ten acre field of 20 loads can be cleaned up in a day except for the mowing.

This applies more particularly to late July and August cuttings. The earlier cuttings often require three to four days in curing, and modifications must be made accordingly. For instance, the hay may be turned over in the windrow once or twice with the side delivery to insure an even curing. One soon learns to judge the necessary treatment." - C. A. Atwood, Asst. State Leader, U. of I.

Latest News on Seed Certification. - "The Farm Crops Committee of the Farm Advisers met at the University Wednesday, May 4, to complete the final plans for the seed certification work, preparatory to launching the movement at the time of the Advisers' Conference in June.

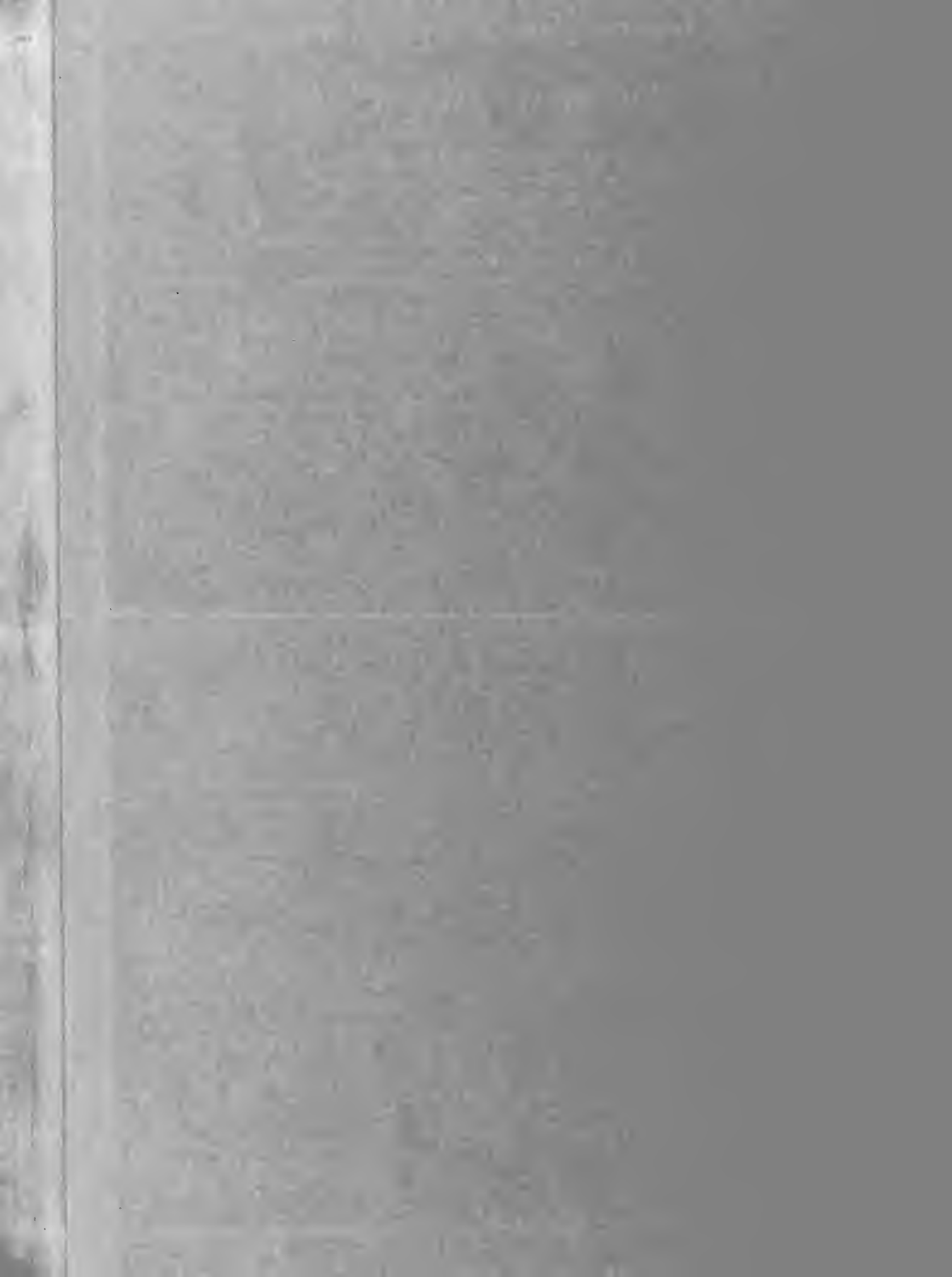
Several things of special importance grew out of this meeting. A number of these points have provoked questions from the advisers since the initial plans of certification were mailed out.

The most noteworthy points brought out at this last meeting of the Committee were:

First: Final date for receiving applications for small grain certification is set forward to June 1.

Second: No minimum number of applicants required per county in order to secure this service. It was emphasized, however, that special effort should be made to secure more than one before asking for this service.

Third: All applications must come thru farm bureau office in order that they may be certified as farm bureau members. Application forms are now ready and will be sent to any farm bureau interested. Other forms which are to be used are approved and ready in case an adviser wants a set.



Fourth: Wheat, Oats, Corn, and Soybeans are the crops to be certified.

Fifth: The varieties of small grains which were approved for certification are:

Wheat: Turkey, Kanred, Turkey 10-110, and Fulcaster.

Oats: Iowa 103, Iowar, and Silvermine

Sixth: The committee desires to emphasize the fact that pure seed 'showing breeding and type due to a number of years of selection' may be certified under the 'approved' classification. This enables any good farmer who has pure seed grain of the approved varieties to have his field inspected for certification." - J. C. Hackleman, Ext. Specialist in Crops, U. of I.

"Poultry Losses in Illinois Approximated \$3,000,000 in 1920. - Experienced and successful poultry keepers are experiencing some serious losses in various localities in the state. It appears that the perplexing problems of poultry pathology require the services of trained veterinarians. Avian tuberculosis, cholera, white diarrhea, roup and a variety of parasitic infestations have been repeatedly reported. Last year 28% of the poultry specimens submitted to the Laboratory of Animal Pathology proved to be tubercular in character. The meat of tubercular chickens is unwholesome; the eggs may be contaminated with tubercle bacillus, while the potential danger of spreading the disease to other animals on the farm cannot be disregarded. Tubercular chickens may indicate the presence of tubercular cattle or swine. Poultry diseases are discussed in Farmers' Bulletin 957, U. S. Department of Agriculture, Washington, D.C." - Dr. Robert Graham, Prof. of Animal Pathology, U. of I.

"Avian Botulism Type A, is responsible for One Type of So-Called Limberneck in Chickens in Illinois. As a result of certain bacteriological studies in sporadic outbreaks of so-called Limberneck in poultry, the relation of one type of this disease to B. botulinus type A has apparently been established. A limited number of reprints of a technical nature are available for distribution. Address requests to Laboratory of Animal Pathology, Champaign-Urbana, Illinois." - Dr. Robert Graham.

Hessian Fly not Serious. - "The peculiar weather conditions of the spring have, on the whole, been very unfavorable to the development of the spring brood of the Hessian fly. The sudden changes from warm to cold periods experienced during the early part of April prevented this brood of the fly depositing its annual number of eggs in the wheat.

Examinations made during the past three weeks, and reports of conditions in adjoining states, show that the spring brood of the fly will cause much less damage than usual; in fact, that it will not be abundant enough to be noticeable in most localities." - W. P. Flint, Chief Field Entomologist, U. of I.

His Conscience Hurts - Does Yours? At the district meeting in Aurora I came home with the conscience stricken feeling that I should have been more careful in getting in my weekly report. I will now make a strenuous attempt to see that these reports get to you each week." - Farm Adviser _____ County.

"Hats off to you for fessin' up. It surely does help a lot to get reports in Monday's mail and find them filled out. We hope all of you will tell us some of the good things you are doing. Make your report read like a letter. A blank front page is like a blank check - it don't get us anything." - G. N. Coffey.

"Hot Weather Live Stock Shipping Instructions, Especially Hogs. - Due to the hot weather, the usual losses to live stock, especially hogs, are enormous. By following these suggestions as nearly as possible, all or at least a part of the damage can be eliminated:

- (1) Haul or drive your hogs to the shipping station in ample time to allow them to become rested and cool before loading.
- (2) When ordering a car for loading hogs, insist upon a clean one bedded with sand, clay, or earth.
- (3) Wet thoroughly the bedding and interior of car before loading.
- (4) Give only a small feed of grain before shipping. Heavy feed means more body heat generated.
- (5) Load not more than one hour before the train is to depart.
- (6) Load slowly and carefully. Avoid excitement and do not beat or bruise the animals.
- (7) Load not to exceed 14,000 lbs. fat hogs and 16,000 stock hogs in a standard 36-ft car during war weather.
- (8) Have water applied to the bedding in the car at available points immediately after the train stops.
- (9) Use ice on floor of car whenever possible, three blocks to a car.
- (10) Report inattention or neglect promptly to the Superintendent of the Division on which your shipment originates.
- (11) Never throw water directly upon the hogs after they become heated. Instead, run it on the floor of car under the hogs." - W. H. Smith,

Ext. Specialist in Animal Husbandry, U. of I.

"The Rotary Club of Mt. Carmel entertained some fifty farmers at a banquet last week and from the first gong that announced dinner to the last word some four hours later, it was one big whirlwind of fun and good talks. Each rotarian was assigned special farmers to entertain. Songs and exhibition dancing by daughters and sons of Rotarians were features. John Dyer of Vincennes made the address of the evening - a real live wire talk of straight facts about the present agricultural situation. The event was a grand success." - Fisher, Wabash Co.

A trip to Springfield was made by farmer delegations from about 60 counties to urge their respective legislators to support the Senate Bills 283 and 284, favoring grain marketing control. Quite an impression was created by this support.

Mr. C. E. Wheelock, who was adviser in Jersey County nearly two years, leaving the work there to take up farming Feb. 1, 1920, is coming back to join the ranks. He has just accepted the position as Farm Adviser in Lake County and will begin work in about two weeks.

Rock Phosphate in Sacks. - Fulton County Farm Bureau believes it pays to ship in part of its rock phosphate in sacks. This permits more farmers to buy small amounts of this fertilizer and try it for themselves. The sacks are of heavy cotton duck, like cement sacks and hold 70 lbs. of phosphate. Each sack is marked with the name of the Fulton County Farm Bureau and can be used many times.

Summer Visits to University and Crop Fields. - "If you are planning to have a party from your county visit the University before July 15, kindly communicate promptly with W. H. Young, College of Agriculture. Already 21 counties have signed up to be here during June. We should know now if you are coming." - W. H. Young.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. IV

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No. 20

LEGUMES

for the

SILLO

"There may be times, under certain conditions, that it is advisable to make silage from legumes. When conditions are such that legumes may be satisfactorily cured into hay there is nothing to be gained from putting them in the silo. If good silage is to be made from legumes, in addition to observing the common rules for making silage, it is necessary to have a dry matter content of approximately 40 percent. This may be obtained by allowing the crops to reach the proper maturity or by allowing some moisture to evaporate.

About the proper time to put legumes into the silo is as follows: soy bean plants should show signs of maturity. The pods should begin to turn yellow. One-half the clover blossoms should be brown. Sweet clover may be cut in the first bloom and allowed to lie in the field four to six hours before putting it into the silo or it may be allowed to reach a more mature stage. Alfalfa can seldom be allowed to reach the proper maturity and it will, therefore, be necessary to allow the crop to dry out some after being cut.

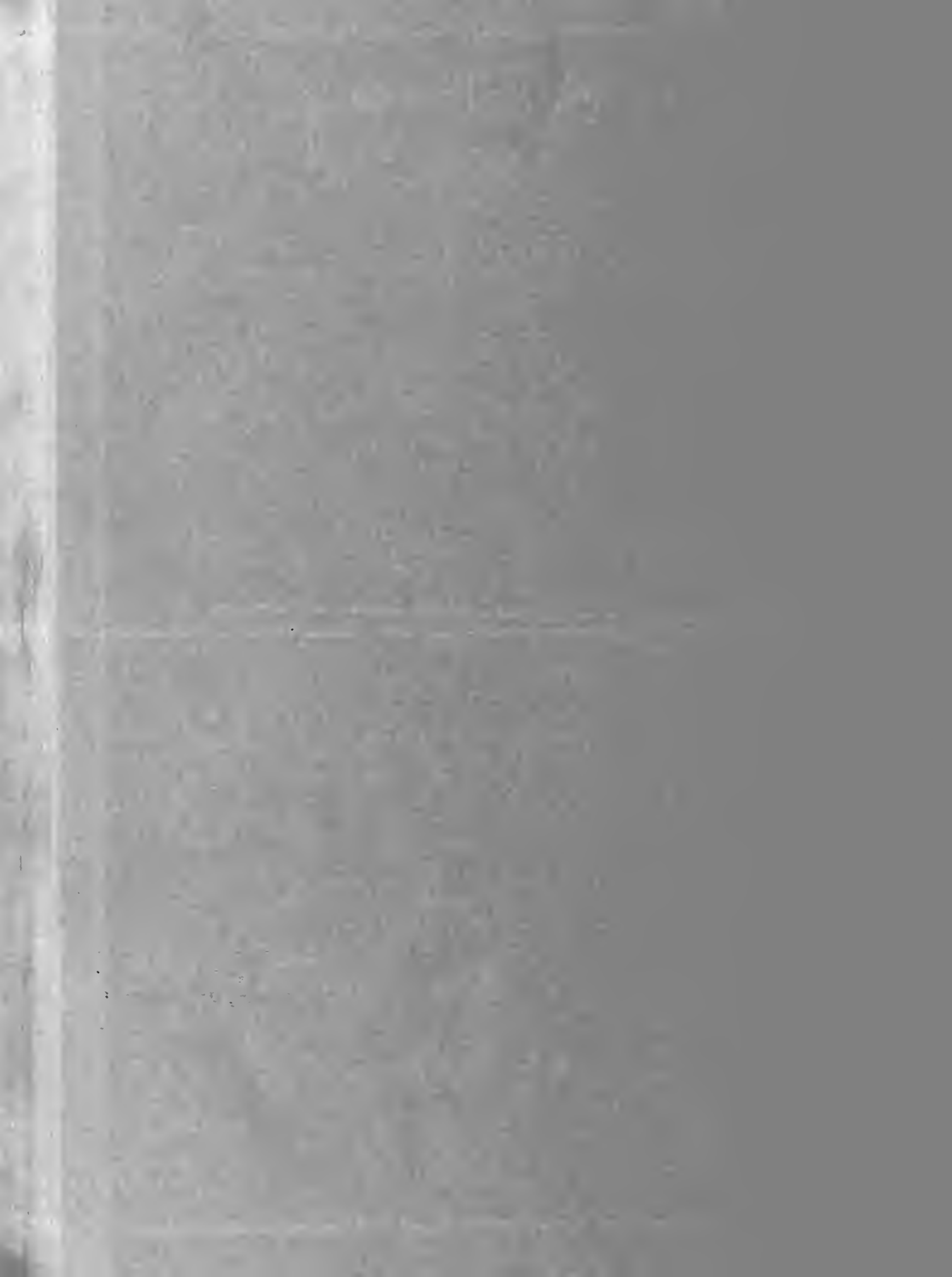
Under ordinary conditions it is advisable to cure legumes into hay." - C. S. Rhode, Extension Specialist in Dairy Husbandry, U. of I.

"Sunflowers for Silage.- From all indications the chinch bugs will be worse this year than last. The dairymen in the chinch bug infested areas stand a good chance to be with empty silos this coming winter if they depend on corn to fill them. Under southern Illinois conditions the sunflower, when properly managed, makes a good silage and where good sunflower silage has been properly fed, satisfactory results have been obtained. Would it not be a good plan for the dairymen to plan to fill their silos with sunflowers as a safeguard against the bugs?" C. S. Rhode.

"Chinch bugs have been flying the past week. There are very few sections where there are not enough bugs to take practically all the corn if the season is favorable to bugs, and dry weather. The wheat is very rank and if we have moist weather at the right time it would help in making conditions favorable for disease to bugs. Not anything like as great an acreage of corn will be put out this year as last." - Eyman, Jersey Co.

"The publicity given 'Democrat' corn in regard to its chinch bug and drouth resisting qualities has resulted in practically all of the available supply of seed being distributed to chinch bug infested districts." - McWilliams, Randolph Co.

A Show Window at all Odds. "Our office is on the second floor and we do not have a show window. We have borrowed space in the show window of the City National Bank to exhibit samples of corn which we expect to use on the chinch bug plots. We have also prepared an exhibit explaining corn root rot." - Thomas, Jackson Co.



"Beardstown Melon Grower's Association" completed their organization Friday, May 6, with a membership of more than a hundred. The melon growers' region was divided into three communities and seven directors elected representing each community. These directors have power to hire a manager, and conduct the business of the association for the first year. One of the principal things to be done will be the grading of melons according to size, and establishing a reputation for graded melons on the market. If fruit is short in your locality this fall, get in touch with the Beardstown Melon Growers' Association for a car of choice watermelons." - Dickenson, Cass Co.

"Will Try Hubam Clover on Sand." - "In cooperation with E. G. Lewis of Media, we are carrying on an experiment with Hubam Clover on the sand land in the west part of the county. We have a small plot which was put in this past week using lime, acid phosphate, and lime and acid phosphate with a check on each plot. We are hoping that the results will be satisfactory because the farmers on the sand land surely need some legume that will stick." - Bane, Henderson Co.

"Soy Bean Campaign." "During the past three months we have been urging the farmers to plant soy beans for ensilage, hogging off, pasture and seed purposes. We have during the past six weeks assisted farmers in securing more than 500 bushels of soy bean seed to be used mostly with corn for silage or hogging down purposes. We are now extending our campaign in an effort to get a large acreage of soy beans to be used for seed and soil fertility purposes." - Metzger, Macoupin County.

"Soybean Day." The orders for soybeans were divided amongst the soybean growers in the county, with instructions to bring the orders properly labeled to a store room arranged by the Farm Bureau. The purchasers were all notified that they could get their soybeans on Saturday by coming to the farm bureau office. By having a special day for this distribution, it not only creates considerable interest, but tends to clean up the seed business at one fell swoop." - Kendall, Morgan County.

"Four thousand acres of cowpeas" will be sown in Jersey County this year. There will be in the neighborhood of seven hundred acres of soy beans planted. This is far more peas than we ever have planted before and not more than 150 acres of beans were ever grown here before. "More Legumes" is our motto. We are pushing hard our campaign for 10 acres of alfalfa on every farm." - Eymann, Jersey Co.

"Knox County farmers" are taking unusual interest in the matter of good seed corn this spring. A number of the older farmers in the county have remarked that they never knew of the time when so much interest was manifested." Bracker, Knox Co.

"Thrashing Prices" in DeWitt County are being agreed upon between threshermen and farmers at 2 and $2\frac{1}{2}$ ¢ for oats and 5¢ for wheat." - Robbins, DeWitt Co.

"Two and one-half cents" for oats and five cents for wheat was the final compromised thrashing price agreed upon in Douglas County. The threshermen wanted three and six cents and the farmer two and four." - Garrett, Douglas Co.

"Telegrams!" By all means, send University telegrams to Champaign, not Urbana, if you wish us to get them promptly." - Signed, Everybody at U. of I.



Be an Oppie, not a Pessi. "In spite of business discouragement and unfavorable weather, nearly every farm bureau member I have seen recently is determined to succeed this year by economy of operation and careful management. It is wonderful to see the high appreciation these men express of the Farm Bureau, even at a time when pessimism and discouragement are to be expected." - Robbins, DeWitt County.

Likes Handbook. "We are indeed very proud of our handbook. Really, I believe it is as good as if I had done it myself. I don't know where I could criticize it. It certainly is a valuable asset to the work in this county. The office assistant has already issued an ultimatum that it shall not leave the office." - Piper, Richland County.

"The Limestone Demonstration Meeting" which was held at the Griggsville-Perry plant was a great success. F. A. Gougler, Farm Adviser, Quincy, Illinois, with several carloads of farmers, A. E. Davidson, Farm Adviser in Brown County with a good big delegation, and G. E. Gentle from Schuyler County with two carloads of farmers were present, in addition to H. H. Armstrong of the State Association and R. F. McFaddin, Assistant Editor of the Prairie Farmer. Our plant at this point is in full operation and is capable of turning out about 35 to 40 tons on a nine hour run. Everything was in full operation on the day of the demonstration and between three and four hundred tons of limestone was on the ground, and available for inspection." - Kercher, Pike Co.

"T.B. Free" - Maintains Milk Price. - Local city dairymen, as a means of retaining the retail price of milk, have tested their herds for tuberculosis and are advertising milk from tuberculosis free herds. The idea has taken well with the city trade." - H. B. Piper, Richland County.

Local Shipping Associations Unite. "A meeting of the six shipping associations was held recently and a county association formed. The sinking funds were merged. There will be no county manager. The local shippers will receive ten cents per cwt. This is not too much for a man to put in some time and render efficient service." - Hughes, Menard Co.

"Moving pictures" are forming a part of each evening program and are responsible for an increased attendance at night meetings. We're not turning over farm bureau meetings into cinema shows, but the movies bring 'em out and then we have a chance to talk limestone, phosphate, legumes and cow testing." - Heller, Cook Co.

Two more counties organize. - "Gallatin and Pope counties held permanent organization meetings on May 13 and 14. Both of these counties put on joint membership campaigns with the I. A. A. Only eight counties in Illinois are now without farm bureau organizations." - J. C. Spittler

Edgar County Employs Enos Waters as Farm Adviser. - Mr. Waters graduated from the U. of I. in 1914, then farmed for several years near Carlinville. The past three years he has been teaching agriculture at Blackburn College, had charge of the college farm and also continued general management of his own farm near Carlinville. Mr. Waters expects to take up the work in Edgar County by July 1, or sooner if possible.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. IV

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No. 21

Sweet Clover Hay

-Time to Cut-

Yield

Quality

"There are two seasons of the year during which, under favorable conditions, sweet clover may be cut for hay. The first is in the autumn of the same year the seed was sown and the second is in the following spring. This latter period is when perhaps most sweet clover in Illinois is cut for hay. The clover should be cut when from 24 to 30 inches high and before the buds appear. If allowed to go longer, the stems become so coarse and woody that stock will waste a considerable portion of it.

If it is desired subsequently to obtain a seed crop, it is necessary to cut the hay as high as possible, otherwise the clover will be killed. For this purpose special shoes should be attached to the sickle-bar, whereby the clover may be cut 8 to 10 inches above the ground. With a good stand, a yield of from $1\frac{1}{4}$ tons of air-dry hay may be expected. The average yield on the Agronomy plots at Urbana during the last five years amounted to $1\frac{1}{4}$ tons per acre. At Fairfield, where a shorter stubble was left the yield was $1\frac{1}{3}$ tons per acre.

On rich soils, it is sometimes possible to secure an excellent crop of hay the first season. This is particularly true when abundant rains occur after the removal of the small grain crop with which the clover was sown. Cut at this season of the year, the stems are fine and there is large proportion of leaves. It is considered advisable to delay this cutting until after the crown buds have been formed. There seems to be no necessity for leaving a high stubble. On the Agronomy plots at Urbana, yields of from $1\frac{1}{2}$ tons to over 2 tons per acre of excellent hay have been obtained.

Sweet Clover hay, especially that cut in the spring is difficult to cure. At that season, the latter part of May or the first part of June, rains are of frequent occurrence. Moreover, the stems are so large and succulent that they cure slowly. The leaves, however, dry quickly and shatter easily when handled. In order to prevent the loss of leaves, some authorities recommend raking the hay when only partially cured. It is then put into tall narrow shocks where it is allowed to stand 8 or 10 days to complete the curing process. It has been the experience of the Crops Division that sweet clover shocks are liable to take water seriously, resulting in the ruin of the hay. Better results have been obtained by allowing the hay to cure in the swath. It is then raked into the windrow while still damp with the dew and when sufficiently dry loaded directly onto the wagon with as little handling as possible.

It has frequently been stated that stock will not eat sweet clover hay. Experience has shown that after they acquire the taste for it, all kinds of stock relish it and thrive. Numerous chemical analyses have shown that in composition it compares favorably with alfalfa, while feeding experiments have demonstrated it to be nearly as valuable.



A partial analysis of sweet clover hay cut on the Agronomy plots Oct. 6, 1920 showed that it contained 18.5 percent of protein. A sample taken one month later from a portion of the field remaining uncut contained 4 percent less. The difference may perhaps be explained by the dropping of a portion of the leaves, by leaching due to October rains and by translocation of the various constituents of the plant to the roots preparatory to the winter." - Robert W. Stark, Ass't. in Crop Production, U. of I.

"Control of Cucumber Beetle. Ohio Experiment Station has done extensive work in the control of the little black and yellow striped insect which attacks cucumbers, squashes, melons and pumpkins. Ohio finds the best remedy is a mixture of one part powdered calcium arsenate and twenty parts by weight of gypsum or land plaster dusted upon the plants, so as to thoroly coat the surface of the leaves. Plants should be kept coated as long as beetles are abundant. Illinois soil and climatic conditions may slightly vary the results of this treatment." - W. P. Flint, Entomologist, U. of I.

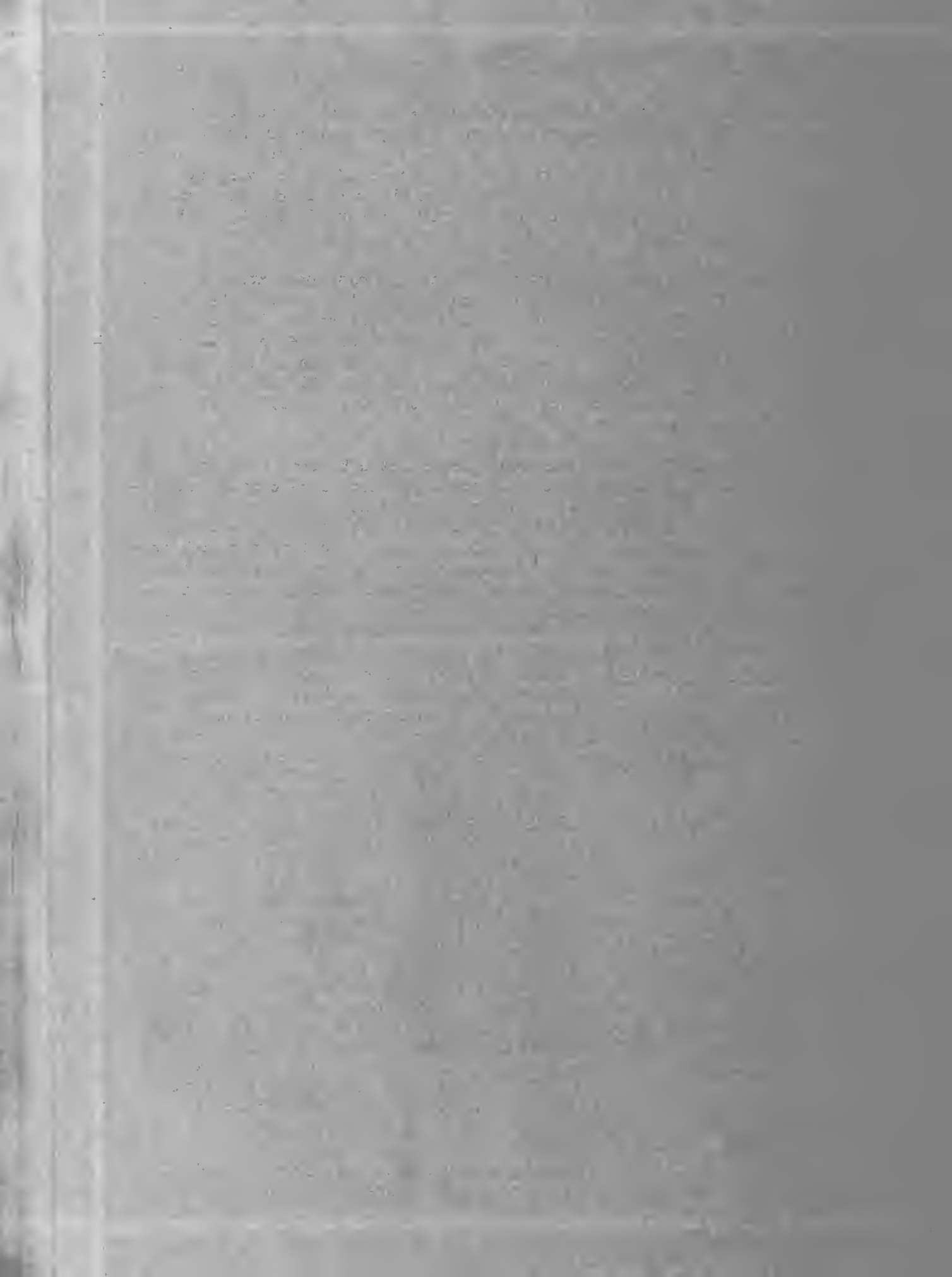
Every fruit grower in the state has been circularized by the Mason Drug and Chemical Company of Hancock, Maryland, setting forth the merits of certain insecticides such as Borercide, Insectifuge, and others. We do not know anything about this company but we do know it is not advisable to recommend any insecticide or fungicide until it has been proven worthy. The same circular offers paradichlorobenzene which is being tested out experimentally by nearly every experiment station, but none have yet recommended its use. Fruit growers will be happier if they allow the Experiment Station to test out these and similar compounds before ordering." - W. S. Brock.

To Control Potato Leaf Hopper. - "Arrangements have been completed for spraying demonstrations for control of the potato leaf hopper that has reduced Cook County's potato crop from 1,000,000 bushels to unimportant quantities. High power sprayers that will develop 250 lbs. pressure and produce a fine mist will be used. The common sprayers used for biting insects are unavailing." - Heller, Cook Co.

Robbins Emphasizes Local Demonstrations. - Believing that there is immeasurable value in local demonstrations, Adviser E. T. Robbins of DeWitt County has arranged for demonstrations as follows: Soybean Test of a dozen leading varieties, Potato Demonstrations on 10 farms in 10 townships with certified Michigan Seed, Oats Demonstration of an acre each of Iowa 103, Iowar and New Victory varieties, and a Chinch Bug Meeting and Demonstration in the center of chinch bug territory. Many other advisers are following a somewhat similar plan.

Nitrogen in the nitrate form must be available in considerable amounts for large crops, especially corn. That sweet clover is premier in the production of nitrate nitrogen for the corn crop is clearly shown in Illinois Exp. Station's new Bulletin No. 233, about to come off the press. The bulletin is written by A. L. Whiting and T. E. Richmond of the Illinois Station, after extensive experiments on five soil fields. This Bulletin will be distributed direct to our entire mailing list of 33,000 residents of Illinois. Advisers can get office copies on request.

Soybeans For Sale. - "E. E. Glick, Morrisonville, Ill. has 1350 bu. A. K. and 150 bu. Early Brown Soybeans for sale @ \$3.25 to \$3.50 depending upon amount." - J. C. Hackleman.



"It ain't the farms or memberships
Or funds that they can pay,
But close cooperation
That helps to win the day.

"It ain't the individual
Or the Bureau as a whole,
But the everlasting team work
Of every blocmin' soul."
--G.N.C. - With apology to Kipling.

"Bar the Chinch Bug" will be the slogan in the chinch bug area at harvest time. "Preparedness" is the slogan now, for now is the time to lay in a supply of the materials needed to erect barriers. Later on you may have to buck against a shortage or worry over detained transportation.

"Seed Corn in this section of the state does not seem to be as good as it should be considering the weather conditions of last fall. We are having a great demand for seed corn. The fact is that I don't know a seed house in the northern part of the state that has any seed corn left in stock." - Roberts, DeKalb Co.

A Novel Idea has been worked out by JoDavie County for their envelopes. Down in the lower left hand corner of each envelop is printed the following:

Adopt a System on Your Farm

Plan: A Crop Rotation

1921: Apply Limestone

1922: Grow Legumes

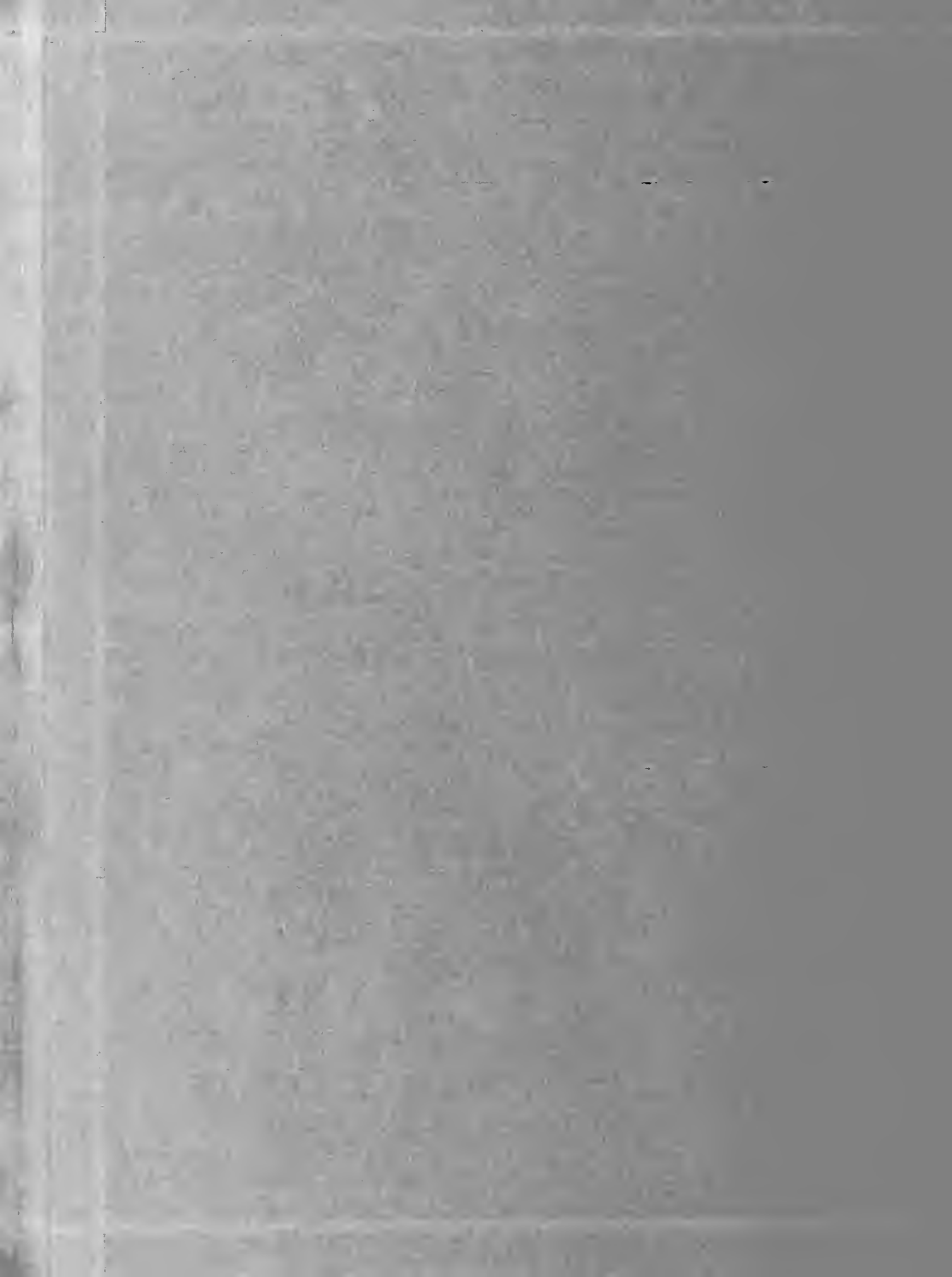
1923: Use Phosphate.

Getting Them Out is the Idea.- "Who says you can't get a well attended farmers meeting in the busy work season. We have had an evening meeting every evening for the past 12 days. Our smallest attendance has been 20, the largest 150, averaging for the 12 meetings $58\frac{3}{4}$. Small trouble to get them out when we use the movie machine. You can present any subject desired if you get them out, see?" - Center, McLean Co.

Cumberland County has employed Mr. Chas. B. Price as Farm Adviser, and he will probably take up his new work on July 1, with office at Toledo, Illinois. Mr. Price was reared on a farm in Johnson County, was graduated in Agriculture at the U. of I., and has been teaching Agriculture since graduation. He is leaving a position as Smith-Hughes teacher at Blue Island, Illinois.

Montgomery Resigns.- John T. Montgomery has resigned his position as Farm Adviser in Henry County. John didn't tell us what he is going to do, so we can't announce it. We are very sorry to lose Mr. Montgomery from Henry County, as he has been one of the leaders in his section of the state and his big, optimistic smile has cheered us up many a time. We wish him unlimited success in his new work.

Of Course You Read Dean Davenport's article on "Banks and Profiteering" in the May 7 issue of The Country Gentleman. If perchance you did not see it, better hunt it up yet. It is a splendid discussion on the financial and loan situation from both the viewpoint of the farmer and the banker.



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No. 22

Nitrate
Production
for
Sweet Clover

"When plowed under green for corn, Sweet Clover offers the most promising indications that the problem of supplying a cheap source of available nitrogen (nitrate), for farm crops can be solved. Bulletin 233 of the Illinois Agricultural Experiment Station just issued sets forth the merits of sweet clover in its ability to conserve the nitrate of the soil, to add nitrogen to the soil, and by its rapid decomposition, when plowed under, to produce nitrate in ample amounts and at the proper time for the corn crop.

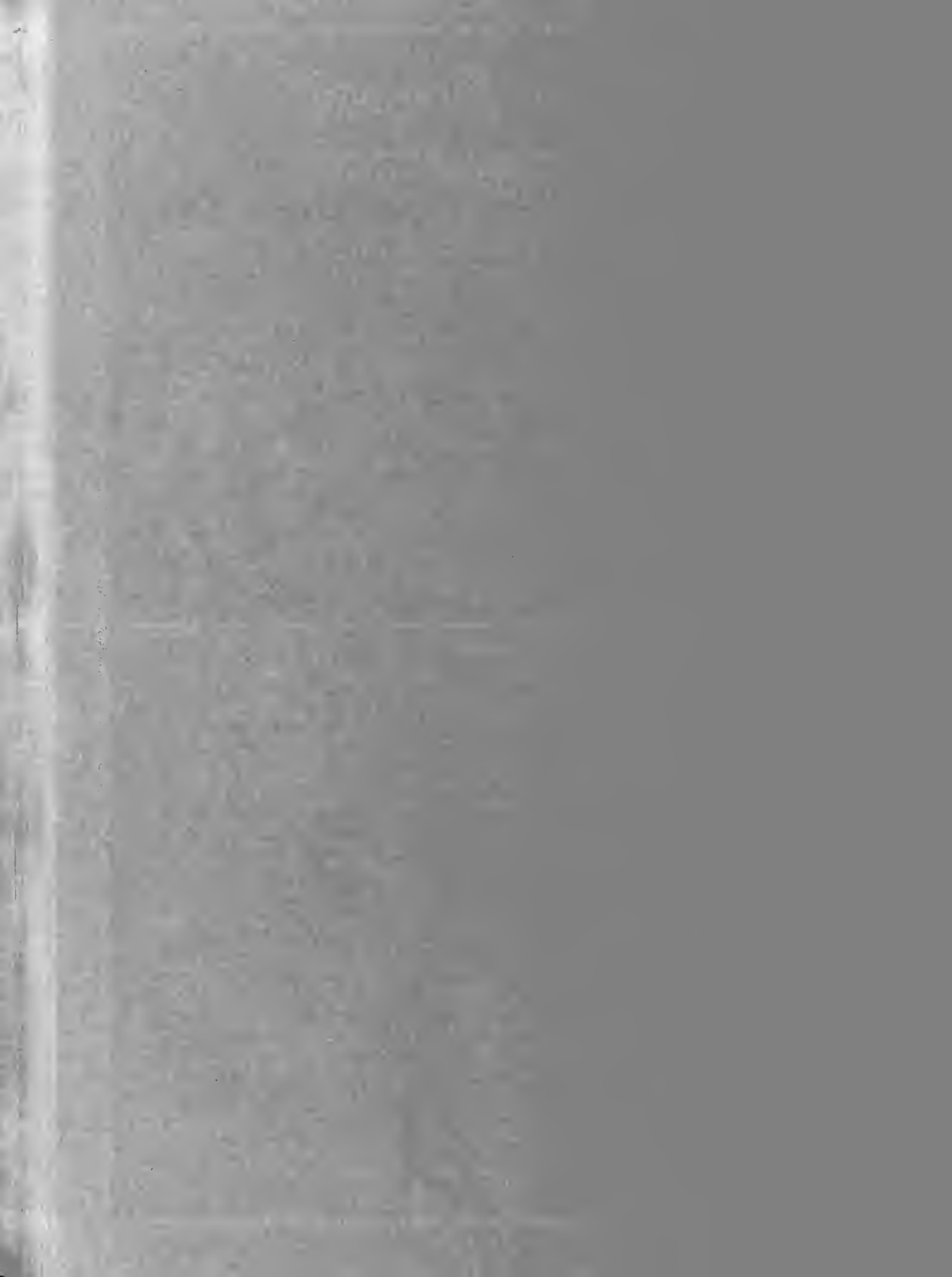
Results obtained from fields in northern, central, and southern Illinois, and representing the brown silt loam and the gray silt loam on tight clay, where sweet clover seeded in wheat has been plowed under in the spring of the second year for corn, are presented showing the influence of this practice on the nitrate content of the soil.

Corn occupied all the plots concerned in the study. The large nitrate requirement of this crop made it desirable to study the effect of the sweet clover treatment in its presence. It was found that the plots on which sweet clover was growing in the spring contained more nitrate than untreated soil or manured soil, and that within three or four weeks after the sweet clover was plowed under, the nitrate content of the soil was in most cases doubled and continued to increase in spite of the fact that the corn crop was utilizing considerable nitrate on these plots. The critical period in the growth of corn usually occurs between June 25 and July 15, when the greatest demand for nitrate occurs. It is shown by the study that sweet clover may be relied upon to furnish sufficient nitrate nitrogen for the corn crop, and that it properly meets the critical feeding period above mentioned. The results were as outstanding on gray silt loam as on the brown silt loam.

The height, green weight, dry weight and nitrogen content of the sweet clover at about the time it was plowed for corn are also reported in connection with these studies. From the data on the nitrate content of the soil and the nitrogen content of the sweet clover tops, it is clear that a material addition of nitrogen was made to the soil, from the air, thru the growing of the clover.

The information contained in this bulletin deals directly with a vital factor in crop production and proves the value of green sweet clover as a cheap source of available nitrogen for corn. It emphasizes the importance of this crop in well planned systems of soil improvement." - Dr. A. L. Whiting, Prof. of Soil Biology, U. of I.

Luck Democrat and Champion White Pearl Corn has been planted in Montgomery County as a test in chinch bug control. Adviser Snyder says the demand was greater than the Farm Bureau was able to meet. Some sunflowers for silage will also be grown by a number of farmers.



"Tipburn in Potatoes due to Potato Leaf Hopper. The big striped Colorado potato bug is not the only insect we have to fight on our potato vines. During the last few years it has been found that the little green leaf hoppers are capable of causing nearly as much damage. These little, light green, extremely active insects, only about one eighth of an inch long by one third as wide, generally make their appearance on potato vines in central Illinois about June first, and two weeks later in the northern part of the state. They lay great numbers of eggs, and in about 10 days the young hoppers hatch and begin sucking the plant juice. In a short time the tips of the leaves turn brown and dry up, the whole plant soon being effected in the same manner.

These insects can be controlled by spraying the plants thoroly with Bordeaux mixture covering both the upper and under sides of the leaves. Apply the first spray when the leafhoppers are first found on the potato leaves. Give at least two later sprayings at ten day or two week intervals.

One cannot hope for a maximum yield of potatoes unless these insects are controlled." - W. P. Flint, Entomologist, Illinois Natural History Survey, U. of I.

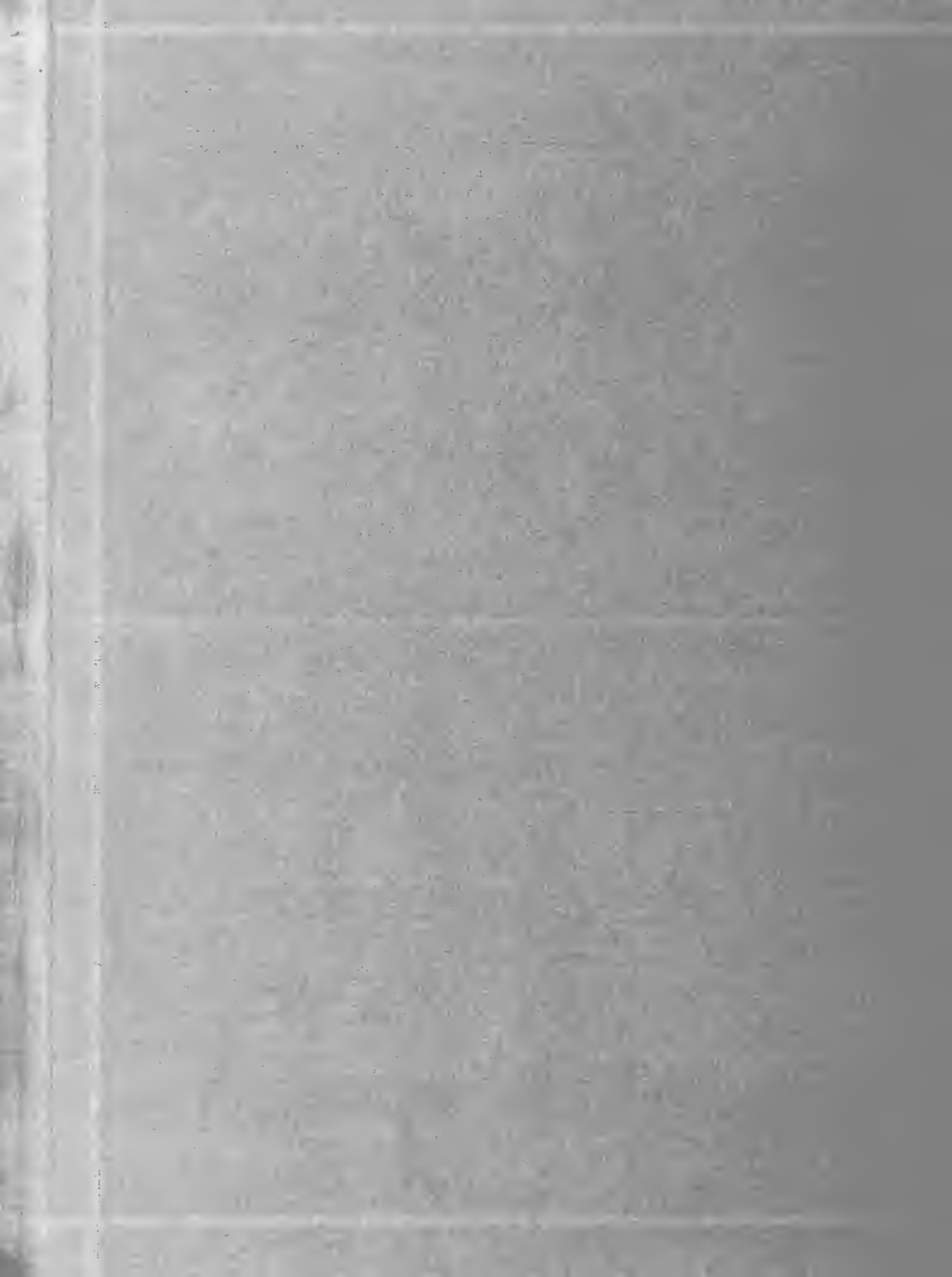
"Nitro-Bacter Soil Vaccine! What next? First we find "Nitro Bacter Liquid Fertilizer" much in evidence and now it is a "soil vaccine"! A representative of the "National Nitro-Bacter Corporation" dropped in the other day and under quiz admitted-'You can get it in any barn yard'.

So we thought. \$1.00 a quart is a pretty stiff price to pay for rainwater and barnyard manure." - A. L. Whiting.

That Persistent "Settin' Hen". "A new method of breaking up broody hens has come to my attention. It works 100% in only a short time. The hens are placed in a small coop which is suspended by a wire or chain from post or beam in the open. The success of this method depends upon there being a gentlo breeze which causes the coop to swing back and forth. The hens soon get dizzy from the motion and their broodiness soon vanishes. Twenty-four hours usually effects a cure." - Bolting, Shelby Co.

The Canada Thistle on the Run. "The first two days of the week were spent with Mr. E. W. Harrison of the Seed Inspection Department of the State Department of Agriculture in going over the County and visiting the supervisors and Canada Thistle commissioners. We found a very great interest in the Canada Thistle, Quack Grass, and Horse Nettle eradication campaign which we are putting on in co-operation with the County Board of Supervisors. A blank form is to be filled out by the Canada Thistle Commissioners for every farm in his township and signed by the owner or tenant. These blanks were put up in loose leaf note book form and sent out to the supervisors who gave them to the commissioners. We were happily surprised to find every Thistle Commissioner who was on the job last year very enthusiastic about this plan of locating different patches of thistles and the other weeds as well. Mr. Harrison says that Bureau County leads all other counties in the state in the interest shown in eradication of Canada thistles and in the reports which our commissioners have made to his department." - Wilson, Bureau Co.

"The common leaf rust is affecting the wheat to a great extent in the overflow sections of the Illinois river bottom. This area is also suffering serious damage from fly."- Eyman, Jersey Co.



After the Leaf Hopper. "A considerable portion of the week past has been spent in getting ready for potato spraying demonstrations. A high pressure machine is necessary for controlling this leaf hopper pest and it is proving a problem to procure a high pressure machine at a moderate price." - Heller, Cook Co.

Sheep Shearing. "Part of the time this week has been spent in arrangement for a sheep shearing pool. An experienced man with a power machine was secured and about 1,000 sheep have been listed in the pool." - Logan, Crawford Co.

"The Chinch Bug demonstration at Ospur on May 19, drew together a crowd of 225 farmers. There were about 75 automobiles. Every township in the county was represented. Mr. W. P. Flint was here and gave an actual demonstration on one side of a field of infested wheat, showing just how to make barriers of all the different kinds which are practical to use in fighting chinch bugs at harvest time. Everybody was much interested. There was such a big crowd an hour before the time set for the demonstration that we started at that time and continued the discussion and explanation for two hours. One man said that if chinch bugs get into the corn this year, it will not be the fault of the Farm Bureau." - Robbins, DeWitt Co.

"The new brood of chinch bugs began to hatch this week. Many of our farmers who wouldn't burn last winter are getting worried now. Great interest was manifested in chinchbug barriers at Friday's demonstration. One hundred farmers from various parts of the county attended the field meeting at Ewing yesterday afternoon. That was an excellent turnout for such a busy time. The Illinois System of Soil Improvement to promote efficient production was the keynote of Dr. Bauer's address. The need of chinchbug barriers and methods of construction were ably demonstrated by Mr. Chandler." - deWerff, Franklin Co.

Bugs Like Oats Too. "Chinch bugs are showing numerously in the oats. Apparently many have moved to the oats in the last week, because wheat is getting so tall. Men who would not sow wheat last year because of chinch bugs now regret that they did not follow my advice, and sow more wheat and less oats. Many patches in some of the oat fields will be killed by the bugs." - Robbins, DeWitt Co.

"The corrugated roller is being used on practically every corn field in Morgan County. The ground has not worked very well this spring and this seems to be about the only tool that our farmers can use at present. The men who have formerly used this tool say that it is decidedly profitable to roll corn.

More Wool This Year.- "Interest is being shown in the wool pool, especially as to when the money will be received for last year's pool and also as to 1921 wool pool. I believe our farmers are going to pool their wool to a greater extent than last year, when they sent in about three times as much as the year previous." - Griffith, Lee County.

The corn root rot plot put in in cooperation with the Crops Division was planted on Monday. We have it near a prominent road where just the fact of seeing folks planting corn by hand and hoe drew considerable curiosity and inquiry. We are making use of that as an advertising feature to get folks to watch what happens later." - Brooks, LaSalle Co.



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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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No. 23

Alfalfa

Cultivation

"Alfalfa hay making is now upon us. If you wish to maintain your stand and the quality of your hay, get busy as soon as the hay is removed from the land and cultivate the soil thoroughly.

Cultivation prevents a certain amount of evaporation, but more important still, it destroys the grass and weeds that quickly spring up in an alfalfa field after the hay is cut.

A number of implements may be used for the purpose. Formerly the disk harrow was generally recommended. It is now realized that it possesses a certain disadvantage in that the disks split the alfalfa crowns thereby permitting infection and otherwise injuring the vigor of the plants. However, when used carefully, cultivation with the disk is preferable to no cultivation at all.

The spring tooth harrow and the alfalfa cultivator are better adapted for the purpose since they thoroughly stir the surface of the soil without injury to the alfalfa plants.

The alfalfa cultivator consists of a series of spike toothed wheels which operate much after the manner of the rotary hoe.

An experiment has been begun on the Experiment Station farm at Urbana, to demonstrate the value of the spring toothed harrow and the alfalfa cultivator compared with no cultivation. Insufficient data has been collected as yet to permit making a statement of the results obtained." - Robert W. Stark, Asst. in Crop Production, U. of I.

"The Corn Root Rot Experiment Field in Cass Co. was planted May 23. Ten days after planting, I took a small number of farmers to the field to see if they could notice the difference in disease free corn in this early stage of growth. I found that they were able to point out each row of diseased corn, because of the marked difference of growth. The disease-free corn was larger and showed much more rapid growth." - Dickenson, Cass Co.

Farmers Banquet Bankers. - "The feature of this week's work was a dinner Thursday evening, June 2, at which time forty farmers had as their guests forty bankers and the Farmers' Grain Marketing Program was explained by Mr. Robert N. Clarke, Chairman of the Grain Marketing Committee of the I. A. A. The president of one of the Danville banks in commenting on the meeting stated that Mr. Clarke's explanation was the most logical and forceful presentation of the subject that he had ever heard. He stated that in his opinion the marketing plan was absolutely sound and that he was for it. Our idea in having the bankers to hear this talk was to get them acquainted with the plan so that they could give an intelligent opinion of it when asked to do so by their patrons. Everyone present was well pleased with the meeting and I believe we did some good." - Lumbrick, Vermilion Co.

Sweet Clover Supreme for Pasture. "Thirty-one head of cows and six brood sows on fourteen acres of sweet clover pasture. That is a record of our treasurer, Ves Weiler. Mr. Weiler informs me that he has always planned to have thirty acres of common grass pasture for nine cows and his brood sows. On this basis, he is getting as much pasture from 14 acres of sweet clover as he would have gotten from 90 acres of grass pasture. The best part of the story is the fact that the sweet clover is growing away from his stock. In my estimation, until this time the 14 acres would have stood three head per acre. This is likely to continue. On this basis, the 14 acres is making as much pasture as 125 acres of grass.

Palmer Farms at Noble pastured 125 hogs, all ages, all year on 5 acres of sweet clover. The sweet clover has grown away from them. They have had three to five cows pasturing on this lot during the past month and still the sweet clover continues to grow faster than they eat it. In both instances the cattle and hogs eat it well and are in fine condition." - Piper, Richland Co.

Sweet Clover Hay Fine. "May 25 I got a fine sample of sweet clover hay out of the barn of C. W. Green, who is having his first experience with the crop and is handling it splendidly. We have a large area of black clay loam land on which sweet clover does well without limestone or inoculation." - Robbins, DeWitt Co.

Boys Excel as Hog Raisers. "We are very much pleased with the way the pig club work is coming on this year. In visiting the various swine breeders, the directors at our various breed associations found and often remarked that the boys who are entered in the Litter Club project are taking better care of their pigs than the regular breeders, and that some of the winners in the futurity shows this fall are likely to be club boys. A good number of the boys and girls are starting in with the single pig project June 1. Mr. Johnston has been attending club meetings in different parts of the county and reports very good interest among the boys and girls enrolled." - Mosher, Woodford Co.

Fourteen registered Jersey heifers shipped in from Tennessee were given out to the Boys' and Girls' Jersey Calf Club yesterday. This was the first calf club of its kind ever organized in this county. Never before in the history of this county has that number of purebred dairy cattle been shipped in at one time. The interest in this project is very keen. The demand for calves exceeded the supply which shows that Franklin County is waking up to the possibility of improving its livestock." - dewerff, Franklin Co.

"Use More Milk Campaign. A campaign to increase the consumption of milk, particularly among the rural people, was put on thru the schools of the county. A first, second and third prize was offered to the winners of each township. All pupils in the 5th, 6th, and 7th and 8th grades were asked to write an essay on "The Food Value of Milk". A colored chart was sent to each school in the county showing the comparative food value of milk along with eggs, chicken, beef, etc." - Kline, Boone Co.

"The Shipping Association has shipped 6 loads of livestock this week and 10 last week. They have had a load of hogs top the market each week. This association is one of the best things the Farm Bureau has organized and the farmers in all parts of the county are well pleased." - Snyder, Montgomery Co.

"Iowa #103 Oats were rapidly heading out on June 1. Chinch bugs will kill some of our late oats, so we expect the Iowa 103's to make a great record this season." - Robbins, DeWitt Co.



Movie Projector a Success. "We are strong for the Moving Picture Machine. We haven't had any trouble getting the crowd. Grandfather likes the pictures, father and mother like them and the children think they are great. The community meetings have been postponed now until later in the season when our folks are not quite so busy and the weather isn't so warm. Taking the meetings as a whole, we feel they have been well worth while." - Edgerton, Rock Island Co.

Eats and Pictures Get Results. "After an all day soil meeting in Lyons township, Wednesday, May 25, a night meeting was held in the loft of the dairy barn at the Bobson farm. This being the home of one of the largest accredited herds in Cook County it was appropriate to show film on the eradication of tuberculosis. A crowd of 150 men and women, many of them from DuPage County, came in thirty machines. They were interested in the program and enjoyed the light refreshments that followed. The relaxation on the part of the crowd that attended this semi-holiday made the meeting more interesting and successful than where the men hurry out of the fields or dairy barn to bolt their supper meal and make off to the meeting place. It's easier to make a favorable impression and drive home your point when the crowd is feeling fine and good pictures and refreshments never fail to mellow up a man." - Heller, Cook Co.

Dairymen in Knox to Study Situation. "The dairymen of this county have taken things in their own hands, and with the help of the farm bureau, will make a milk marketing survey in the county. They have located four or five wide-awake men in each township who will make a full report of the territory assigned to them. When complete these reports will show every milk producer in the county, the number of gallons of milk produced per day, and the amounts marketed as whole milk, sweet cream or sour cream, daily. If conditions warrant organizing a Milk Producers' Association or a selling organization, they will look forward for assistance from the Illinois Agricultural Association Marketing Department." - Bracker, Knox Co.

Pear Blight Serious. "Mr. Brock spent one day with me looking over some orchards and we find some of the pear orchards are becoming very much injured with body blight. In fact, we recommended that one man pull up his six year pear orchard and plant to something like blight resistant apples. Evidently the ground on which he has these was too rich for Keefer pears and it caused too much growth." - Blackburn, Marion Co.

Twine Prices vary from 14 to 18¢. One of our dealers has contracted twine to farm bureau members at 14¢ at the car and to non-members 15¢. This is for standard Deering Cricket-Proof twine. The Farm Bureau is trying to leave the twine business in the hands of dealers, and is advising farmers to buy where they can make the best buy." - Robbins, DeWitt Co.

Two New Counties Begin Work. White County has employed Mr. E. W. Creighton as farm adviser, with headquarters at Carmi. Since graduating from the University of Illinois, Mr. Creighton has been operating a large farm near Fairfield, Illinois, and is chairman of the temporary organization that has secured nearly enough members to organize a Farm Bureau in Wayne County. The White Co. work will begin on or before June 15.

W. E. Hart who has been Farm Adviser in Williamson County since June 1, 1918, has moved to Clay County where he took up the Farm Bureau duties on June 1, with headquarters at Louisville.

1. The first part of the paper discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the success of any business and for the protection of the interests of all parties involved.

2. The second part of the paper deals with the various methods of accounting and the importance of choosing the most appropriate system for a particular business. It discusses the advantages and disadvantages of different accounting methods and provides guidance on how to select the best one.

3. The third part of the paper focuses on the importance of maintaining accurate records of all assets and liabilities. It discusses the various methods of valuing assets and liabilities and provides guidance on how to maintain accurate records of them.

4. The fourth part of the paper discusses the importance of maintaining accurate records of all income and expenses. It discusses the various methods of calculating income and expenses and provides guidance on how to maintain accurate records of them.

5. The fifth part of the paper discusses the importance of maintaining accurate records of all taxes. It discusses the various methods of calculating taxes and provides guidance on how to maintain accurate records of them.

6. The sixth part of the paper discusses the importance of maintaining accurate records of all legal matters. It discusses the various methods of handling legal matters and provides guidance on how to maintain accurate records of them.

7. The seventh part of the paper discusses the importance of maintaining accurate records of all other matters. It discusses the various methods of handling other matters and provides guidance on how to maintain accurate records of them.

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No. 24

Soybean

Cultivation

"Only a limited amount of information is available on the cultivation of soybeans, but all authorities seem to agree that it is best to provide some sort of tillage. The method of cultivation depends somewhat on the method of planting. When the soybean crop is planted in rows 3 to 3½ feet apart, it can be cultivated with a two-horse shovel or blade cultivator. It should be cultivated two to four times, depending on the season and the condition of the land, and the cultivation should be shallow and level. A level surface makes for convenience in harvesting.

If the rows are closer together than three feet, a one-horse implement may be used. If the crop has been drilled or sown broadcast, the rotary hoe is the best implement to use, although a weeder or even a harrow may be utilized with some degree of satisfaction if done in the middle of the day when the plants are tough. A rotary hoe is especially good to break a surface crust which may form after a heavy rain. Such a crust must be broken, or the beans will 'break their necks' trying to get through.

Like cowpeas, soybeans should never be cultivated when there is dew or rain on the leaves or plants because affecting diseases (especially the 'wilt') which are stirred up from the soil, spread so much worse when the plants are wet."
C. A. Atwood, Asst. State Leader.

"Spray Schedule for Second Brood Codling Moth.- Spraying for second brood codling moth should be completed from Centralia south by July 1; Jerseyville and Effingham south to Centralia by July 5; Quincy and Urbana south to Jerseyville and Effingham by July 8; Princeton south to Quincy and Urbana by July 12; from Princeton north by July 17.

First brood worms are more abundant than usual in most sections, and this spray should not be omitted.

In all districts where bitter rot is not expected, one pound of dry (or two pounds of paste) lead arsenate should be combined with two pounds of freshly slaked lump lime in each fifty gallons of spray. If lump lime cannot be secured, substitute four pounds of hydrated lime. In orchards in southern Illinois where bitter rot has been prevalent, susceptible varieties should be sprayed with 3-4-50 Bordeaux combined with the lead arsenate. This should be repeated at intervals of ten days until four applications have been made. Do not use lime sulfur at this season." - W. S. Brock, Departmental Adviser, Dept. of Hort.
and W. F. Flint, Entomologist, Natural History Survey.

Bank Collections a Success. - "We have turned in our second year membership checks and for the most part they are turning out very well. We divided the checks according to the banks on which they were drawn and presented them personally. In this way they are either paid or left at the banks until the person has funds sufficient to pay them. Of course some have died and some have moved away and changed their banking business and this can be checked up also. It is very satisfactory to handle the business this way." - Kercher, Pike Co.



"Grasshoppers. Young grasshoppers have been hatching for the last two weeks, and are now large enough so they can be readily seen if present in numbers to cause serious damage later. Look for them in clover, timothy, alfalfa, and along the roadsides. They may already have invaded soybean fields, and if so, should be poisoned at once, as it is difficult to kill in such fields later in the season. Remember, seventeen grasshoppers per square yard when nearly full grown will eat a ton of hay per day per forty acre field. Circular 5, of the Natural History Survey, which treats of methods of combating grasshoppers, has just been revised and is ready for distribution." - W. P. Flint, Entomologist, Natural History Survey.

County Swine Class at State Fair.- "County swine breeders associations have an unusual opportunity of carrying out an important cooperative piece of work by making a collection exhibit at the Illinois State Fair this year.

Present indications point to the fact that Illinois will have an exceptionally strong show of hogs this year and that one of the important features will be the county exhibits. These exhibits include ten animals of any age owned and exhibited by two or more members of a county organization. One of the purposes of this class is to encourage the small breeders who do not have a full herd and therefore, no exhibitor can own more than six animals in the county entries.

Breeders who are planning to exhibit at the fairs and come from counties that do not have county organizations can enter their exhibits as representing the Farm Bureau, or better still, they should form a county association at once. No better reason for forming an association is necessary.

The liberal premiums offered in this class in addition to the regular and other special premiums offered in the swine division should bring out an unusually large number of entries. Let each breeder in the state see to it that his county is represented in the special class. The following is the list of premiums offered in the county class:

	1st	2nd	3rd	4th
Duroc-Jersey, 10 animals	\$40	\$30	\$20	\$10
Poland China, 10 animals	40	30	20	10
Berkshires, 10 animals	40	30	20	10
Chester Whites, 10 animals	40	30	20	10
Hampshires, 10 animals	40	30	20	10
Spotted Polands, 10 animals	40	30	20	10
Tamworth, 10 animals	40	30	20	10

--W. H. Smith, Extension Specialist, Animal Husbandry, U. of I., and Supt of Swine, Illinois State Fair.

Editor's Note: If there are any questions in regard to the exhibiting of livestock, (any class) at the State Fair, Mr. Smith will be glad to furnish the information. Write him direct.

"Let Gravity Help. "One of our farmers living about 10 miles from a railroad station installed last year a local limestone crusher which he has operated with considerable success. He has recently hit upon a very good plan of reducing the labor connected with grinding the limestone to a minimum. The rock is quarried and broken into pieces of the right size at the top of a hill. The crusher is installed about half way down the side of this incline. A platform of suitable size and strength is built beside this machine to receive the rocks as they are delivered from the quarry thru a chute by gravitation. The crushed rock from the machine is delivered in a pile near the base of the hill so that loading into a wagon is very convenient." - Phillips, Greene Co.



A New Stadium is planned for the University of Illinois, which, when completed will be the largest athletic plant of its kind in America and will cost more than \$2,000,000. It will eclipse in size the Yale Bowl and the Harvard Stadium, and will seat 75,000 spectators. Such an amphitheatre is a necessity to relieve the meager and crowded athletic facilities at the State University. For several years spectators have been turned away from big football games, but the climax was reached last fall when nearly 20,000 applications were refused tickets for the championship game with Ohio State University. The Stadium should be completed for use during the season of 1924.

The Stadium idea was conceived by George Huff, veteran director of athletics, when it became evident that Illinois could no longer hold a top place among western colleges without providing ample accommodations for the monster crowds. All other conference schools have large fields. By looking ahead to the time when inter-sectional games will be the rule rather than the exception, Illinois authorities feel that a mammoth concrete Stadium will properly fit this vital need.

Yale's great Bowl was originally built to seat 61,000 persons, Harvard's Stadium 45,000, and Ohio State's new Stadium 63,000, so the new home of Illinois teams will be the largest in America.

"It is no idle guess to prophesy that 75,000 persons will witness our games in the future," says G. Huff, "for the interest and growth in athletics have advanced beyond all expectations. And with the hard roads program being rapidly pushed, we must have the Stadium to accommodate the people of our state." - K. W. Clark, Student Chairman, Stadium Publicity Committee, U. of I.

First Counties Visit University Experiment Station. - With more than 150 farm folks from Montgomery and Christian Counties, Advisers Snyder and Kelley opened the visiting season at the University Farm and Experiment Station. The entire day, Thursday, June 9, was spent in visiting the Morrow and Davenport plots, the South Farm, the Dairy Cattle, Swine, Beef Cattle, Horses and Sheep, Animal Pathology and Genetics Departments. Dr. Bauer, Dr. Yapp, Dr. Burlison and Professor Coffey, assisted by heads of the division, explained the experimental work and results.

Now is the time to see the soils and crop work, particularly as the month of June finds them at their best stages for observation. Future visiting dates by counties are scheduled as follows:

June 16- Kendall (AM)	June 24- Macon and Whiteside (PM)
June 17- Kendall (PM)	June 25- Will and Whiteside (AM)
Also Farm advisers' meeting June 16-17.	June 27- McLean and Henry
June 20- Coles	June 28- Marshall-Putnam and Clark
June 21- Peoria (PM), Douglas and Moore	June 29- Moultrie and Bureau
Estate tenants	June 30- Iroquois and Woodford
June 22- Peoria (AM), Dewitt and Morgan	
June 23- Grundy and Vermilion	

--C. A. Atwood, Asst. State Leader.

Mr. H. F. Crosby has been employed as Assistant Farm Adviser and Club Leader in Edgar County. Mr. Crosby is a graduate of the U. of I. and has been teaching agriculture in the Paris High School the past three years. He will begin his new work as soon as his teaching duties are completed.

Lime Order Large in Massac. - "We have contracted for 120 cars of limestone at \$2.20 per ton delivered, and if the freight rate decreases we will get the benefit of the drop." - McGhee, Massac Co.



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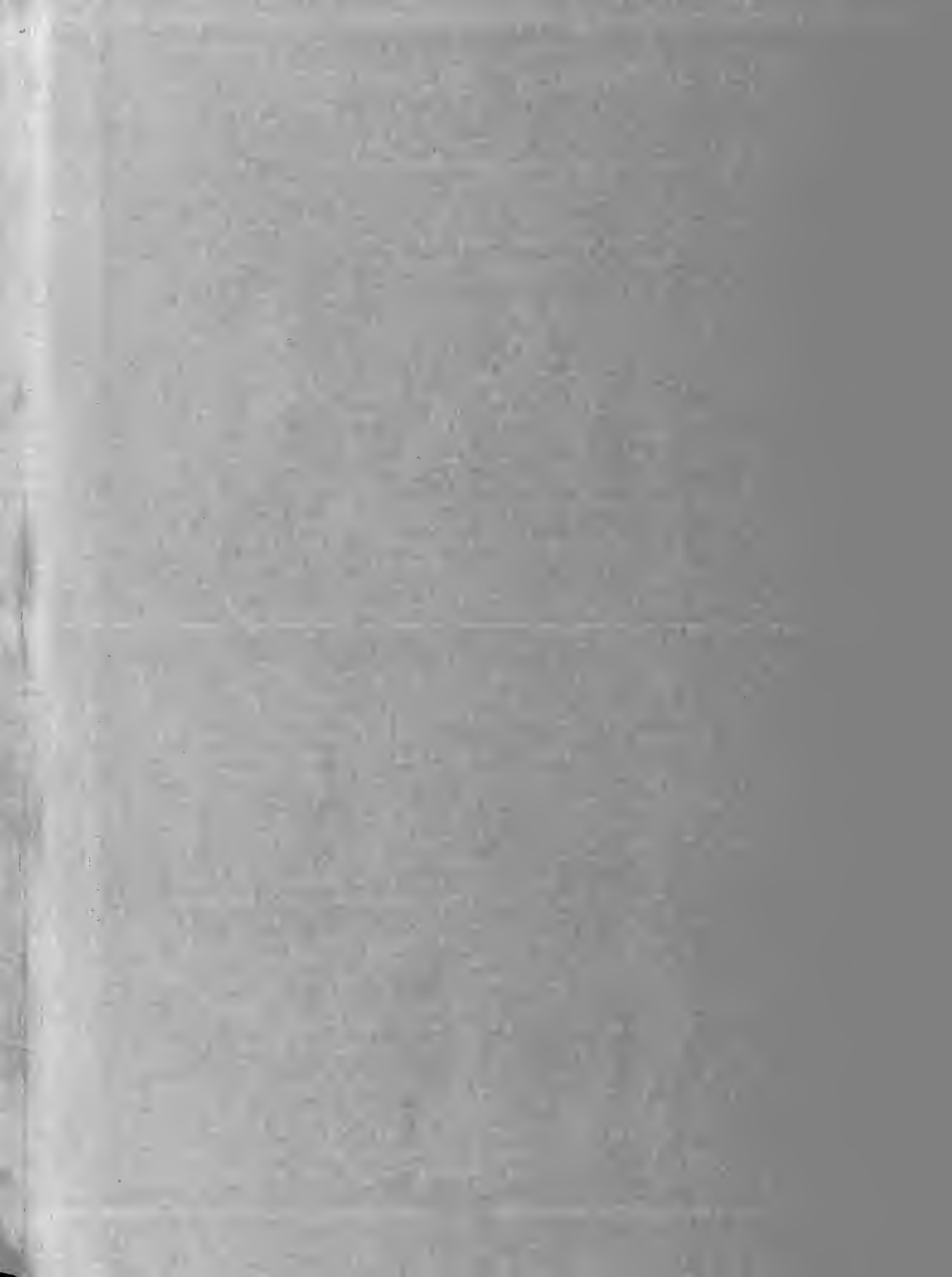
"Hairy Vetch in Connection with Vegetable Growing. - Hairy vetch (*vicia villosa*) may be sown as a catch crop immediately following the harvesting of any vegetables that mature early enough to enable the land to be cleared by Sept. 1st; or it may be sown at the last cultivation in late tomatoes, late sweet corn, or similar crops. It bears tramping well and is not injured during the harvesting of the tomatoes or sweet corn. If the land is to be used for early planting the next spring, the cover crop of vetch should be plowed under later in the fall so as not to delay the preparation of the seed bed. If a late planted crop is to be grown the next spring, the vetch should be allowed to remain through the winter and to make considerable growth in the spring before it is plowed under. A vetch cover crop makes the land more friable and easily worked, an important item in vegetable production. It also stimulates the growth of the succeeding vegetable crop. Surprising results with early cabbage have been obtained by planting the cabbage on land where vetch had been sown in the tomato crop the preceding year and plowed under late in the fall."- J. W. Lloyd, Chief in Olericulture, U. of I.

Legumes The corn crop produces an enormous amount of digestible nutrients
to per acre, but this is not fully utilized unless fed in connection with
Balance some other feed to properly balance the ration. The cheapest and most
Corn practical feeds to balance corn in the ration are legumes. For this
 purpose, an acre of alfalfa is worth practically ten acres of timothy.

On good land, corn, used for silage, and alfalfa will each produce from two to four times as much digestible nutrients per acre as any of the crops commonly raised on the farm, and about five times as much as blue grass pasture. In addition to this, they form a palatable and well-balanced ration and considering the yield do not take an excessive amount of labor.

An average yield per acre of 5½ tons of air-dry alfalfa hay and 11.66 tons of corn silage were obtained for six years on the twenty acre Dairy Demonstration. After shrinkage, this furnished a dairy cow with a ration of 16 pounds of hay per day for 420 days and 40 pounds of corn silage for 460 days. Ten cows fed for one year on corn silage and alfalfa hay with the addition of only a small amount of green soiling crops for a short time during the summer, but without grain, produced an average of 8231 pounds of milk and 285 pounds of fat. The good production of these cows on a ration without grain, and their sleek condition at the end of the year speaks wonders for the economy and efficiency of these feeds in combination.

The cheapest and best feeds for cows are usually corn silage and alfalfa hay, and cows should be fed to the limit of their capacity on these feeds before adding grain. Where this is done, they will usually consume enough of these feeds to produce about 20 pounds of milk per day which is more than the average production of the cows in Illinois. However, when cows are capable



of producing more than this, grain should be added, according to the milk flow." W. J. Fraser, Prof. of Dairy Farming, University of Illinois.

Pig Club Gets Parkers. Thirty-five pure bred Poland-China sow pigs were distributed today at Murphysboro to the members of the pig club recently organized by the Jackson County Poland-China Breeder's Association. It was a very fine uniform lot of pigs and they were distributed with evident satisfaction to all." - Thomas, Jackson Co.

Want Picnic at Dixon. - "An effort is being made to have the Illinois Association vote their picnic to be held at Lowell Park, near Dixon. Conditions are ideal at the park for a big crowd, and with the cooperation of Whiteside and Ogle Counties, and perhaps also Stephenson, Carroll, and JoDaviess Counties, the picnic could be made a grand success. These counties are all willing to cooperate and especially the three counties nearest to Lowell Park." - Griffith, Lee County.

Conflicting Reports. - "A number of farmers planted some of Funk's seed corn which was germinated for vigor and freedom from disease. It has been interesting to hear the reports of the farmers. Some have stated that this corn, planted in the same field, came up ahead of corn secured from other sources and was more vigorous in its growth. A few of the farmers have reported that they could see practically no difference, and two have thought their own corn was doing better. There is no question but that the fields planted with this corn will be carefully watched this summer, and the husking season will be awaited with more than usual interest." - Bracker, Knox Co.

Set Prices for Harvest. At the regular meeting of the Executive Committee the following wages were suggested as being reasonable:- For corn plowing, \$1.50 to \$2.00 per day with board; for harvesting, \$3.00 per day with board. They also suggested $2\frac{1}{2}\%$ and 5% as a fair basis for threshing. It might be well to mention that we have two threshermen on our Executive Committee." - Bane, Henderson County.

Spraying Demonstration. - The third spray was applied to the Obie Hill orchard where we have a spraying demonstration. The crop does not look so well after the June drop. Many of the trees which had a good crop two weeks ago now have only a few scattering fruits. These, however, look fairly well. There has been considerable injury by the apple curculio, which does not seem to have been controlled by the ordinary applications of spray material. In my round over the county, I find that the curculio has done considerable damage in practically every orchard where fruit is to be found this season.

Since the June drop, I am satisfied that the apple crop in Calhoun County will not exceed 5% . My judgment would be nearer 3% of a crop." - Allison, Calhoun County.

Hopkins' Farm Shows Results. - "Had a trip to Hopkins' Farm and Odin Experiment Station. Due to the busy season for the farmers very few of them were out. Those attending, however, were very much interested. The results on Dr. Hopkins' farm certainly are convincing that it pays to use Dr. Hopkins' system of permanent fertility." - Blackburn, Marion County.



Clay County Starts Strong. - "The work is starting off nicely, with a number of community get-acquainted meetings being held and more scheduled. Good interest in the work is manifest, and I feel reasonably sure of fine co-operation." - Hart, Clay County.

Received a Car-Load of Creosote for fighting chinch bugs and have ordered a second car. Bugs are already in some corn and much damage is done." - Smith, Macon Co.

Form "Co-Op" Elevator. - "I assisted at the organization meeting of the stockholders of the Elburn Co-operative Company on the 8th. The company completed its organization at this meeting by adopting a set of by-laws and the election of a board of directors. This company is the result of the re-organization of a straight stock company to form a co-operative elevator company. The change was made readily as the stockholders of the old company were favorable to the change and the farmers subscribed readily for stock in the new company." - Richards, Kane County.

"Grind Up Fences for Fertilizer. - Jo Daviess County Farmers find that rock fences are worth more spread over the field as a limestone dust than they are as division lines. So they are lining up crushers along side the old-time rock fence and presto - it is helping grow a crop of clover or alfalfa - regular pay dust we'd say." - J. D. Bilsborrow, Asst. State Leader.

"Tenancy Project Makes Progress. - One of the recommendations of the joint landlord-tenant committee in Vermilion County last winter was for a landlord-tenant farm tour this summer.

Last Tuesday at a meeting of this committee tentative plans for such a tour were outlined. The object of the tour will be to bring out the points included in the recommendations submitted by the committee in their previous report. Farms will be selected to demonstrate the following points:

1. Crop rotation and growing of legumes.
2. Co-operation in use of fertilizers.
3. Farms where livestock is jointly owned by landlord and tenant.
4. Farms that are well equipped with buildings and fences.

Every farm selected for the tour will be a tenant farm. Emphasis will be placed upon the fact that the recommendations of the Committee and the practices upon the farms visited are practical and profitable to both tenant, landlord, and land and that they can be put into operation with good results on other farms.

Members of the Committee endorsed the plan and contributed many valuable suggestions. A similar tour is planned for Kendall County." - Bilsborrow, Asst. State Leader.

Many Demonstrations. - "The Farm Bureau is fostering a number of demonstrations in the county, such as testing out 13 different varieties of corn for chinch bug resistance, testing diseased corn against disease-free, comparing the growth and yields of six varieties of oats, twelve varieties of soy beans and two varieties of cow peas, and comparison of Michigan grown late seed potatoes against our ordinary potatoes grown in this county." - Rusk, Macoupin Co.



The Extension Messenger

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UNIVERSITY OF ILLINOIS - URBANA, ILLINOIS

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No. 26

The Alfalfa Seed Bed Important

"Experience has shown that a good seed bed is a most important factor in obtaining a good stand of alfalfa. When alfalfa is to be sown in August or the first of September, ground which has previously grown wheat, oats, or barley, makes the best kind of seed bed. The soil should be plowed soon after the grain crop is removed. It is best to plow shallow about five inches deep. Our experiences has been that cultivation, just enough to keep down the weeds is sufficient. This means usually, two double diskings and two times over with the spike-toothed harrow, once after each disking. It is best to cultivate alfalfa before the crop is seeded, for then the weeds can be destroyed with less expense than after the crop is up. Rolling has been frequently practiced but rainfall sometimes does the rolling. In walking over a good alfalfa seed bed you will be reminded of the feeling experienced in walking over a high priced, thick floor rug." - Dr. W. L. Burlison, U. of I.

"The use of Vetch as a soil crop advocated by the Cook County Farm Bureau last fall, has proven very successful. In order to call farmers' attention to the possibilities of this legume, a noon-day field meeting was tried in Elk Grove township. Holding a meeting at this time was something of an experiment but members could not attend an evening meeting held before dark, because of its conflicting with milking time. Thirty-five members in 15 machines came to this proposed one-half hour meeting, which in reality lasted one and one-half hours, and was successful from every standpoint." - Heller, Cook Co.

"Ensilage from Weeds. - Such a caption to a newspaper story, or as a slogan for a demonstration tour would have been an innovation a few seasons ago. Friday afternoon it was shown to be a profitable practice, during the sweet clover demonstration tour held in this county.

A trip was arranged to the farm of Geo. Nimmo where seet clover silage has been a regular thing for seven seasons. It is seldom that a tour excites as many questions and results in such enthusiasm as did this one. New uses for a formerly 'Despised Weed' were learned and the result of continued practice of the Illinois System of Permanent Fertility forcefully illustrated. The system has some new converts as a result of this tour. Our advice to other advisers is: 'Go thou and do likewise', it's worth while." - Center, McLean County.

"They Like Movies. - Have been using motion picture machine in a number of meetings lately and find it very effective in getting people to attend. Also, it is a valuable method of teaching lessons." - Oathout, Champaign County.



"Big Farmers' Day at Newton. - On June 24 there was assembled at Newton, Illinois, (Jasper County) one of the largest gatherings of farmers ever brought together to study the results of soil treatment and the growing of better crops in southern Illinois. Twelve hundred farmers from about 20 counties, some coming from a distance of 150 miles, gathered at the experiment station field in the morning to study the results of soil treatment, both from the crops growing on the field and from numerous exhibits which were arranged for their study. On this field, wheat was to be seen in which there were only two or three small shocks to the acre. Striking results on corn and sweet clover were also observed. The exhibits arranged on the field told the story of soil improvement in southern Illinois on the Newton Experiment Field and on Dr. Hopkins' Poor Land Farm. Many important and valuable lessons in soil improvement and the growing of better crops were plainly shown by the field and the exhibits. After lunch the visitors assembled at the Fair-Grounds where they listened to an excellent address on grain marketing problems by R. N. Clarke, a director of the U. S. Grain Growers' Inc. Following Mr. Clarke a number of 12-minute talks on the agricultural problems and possibilities of southern Illinois were given by the departmental advisers or their substitutes. Those taking part in this program were W. P. Flint, W. H. Smith, B. S. Pickett, T. R. Lovett, and F. C. Bauer.

On the whole, this first Farmers' Day at Newton was very successful. There were plenty of things for the farmers to see and they gave their undivided attention to the program. Undoubtedly this type of meeting is a valuable means of getting into closer touch with the farmers of the state." - F. C. Bauer, Extension Specialist in Soils, U. of I.

"Cultivating Soys a Novel Way. - A Bond County farmer has a very novel way of cultivating soybeans. He double rows the beans with a 36 inch planter, thus making the rows 18 inches apart. He then takes off the hind sweeps of a surface cultivator, widens the wheels to cover three rows and cultivates one row at a time. He has raised soybeans very successfully for several years." - Tarble,

"Visited the Corn Root Rot Plot in our tour and Mr. Grunewald explained the number of rows of disease and disease-free corn and the manner in which they were planted and asked the crowd to see if they could distinguish between the two. The men had no difficulty in selecting the 'sick' corn. We are planning to have some other meeting on this plot and the results look like they were showing up pretty well." - Wells, Warren Co.

"The diseased corn planted on the Corn Root Rot Demonstration Plot is showing up decidedly as expected." - Price, Kendall County.

You Should See for Yourself. "The corn demonstration plot at Thorp's Crossing, shows great differences between the diseased and healthy corn. Rows from Scott Griffin's prize winning ears are especially strong and vigorous, more than twice as large as corn from some other ears." - Robbins, DeWitt Co.

"The demonstration plots are showing up very good. In one case the Illinois 10-110 appears to be, at least, 10 bushels per acre superior to common winter wheat. The corn root rot demonstrations are causing a great deal of comment. An auto tour is planned to include one of these demonstrations." -



"Kanred Wheat is looking good and will apparently be a superior yielder. Some of the Michigan Red Rock wheat is less promising and is rusting more than Turkey Red or Kanred wheat. The Illinois No. 1 bearded spring wheat is showing up good.

In comparison with other oats the Iowar is ahead of our commonly used Silvermine, Big Four and other oats in heading. It is about five to seven days later in heading than the Iowa 303 oats. Several of our men will cut and thresh two or more varieties, (including Iowar), separately, which will give us yield data. At present the Iowar oats are showing up very favorably." - Longmire, Grundy Co.

"County Dairy Herds at the State Fair. - From all indications there will be ten or more county dairy herds at the State Fair this fall. Herds have been selected in Effingham, Monroe, Lawrence, Peoria, and Tazewell counties. Several other counties are in line.

This county herd classification will enable many small breeders to exhibit at the State Fair. One of the first requirements in making a good showing is to select the herd early." - C. S. Rhode, Ext. Specialist, Dairy Husbandry, U. of I.

"In the Lime-Light. - The pure-bred sire campaign put on by Mr. Watkins in Lake County last year furnishes the basis for the leading article in the June 18 issue of the Country Gentleman. This is an excellent illustration of the advertising value of a Farm Bureau concentrating on a project so that people will know of the good work which it is doing." - G. N. Coffey.

"The sheep shearing pool is proving satisfactory. The individualshearers are charging 25¢ and not furnishing any help, while the shearing pool man is doing the work for 20¢ per head and furnishing one man." - Fuller, Marshall-Putnam County.

Will Visit All Members. - "A marked increase in the number of requests for farm visits has been noticeable during the last two weeks. I am starting out to visit each member who has not been previously visited and hope to get around to all of them before the end of the year." - Brown, Stark Co.

Will Organize Selling Organization. - "Farmers in the Mississippi bottoms at McClure where there is a very large acreage of alfalfa have decided to organize a selling organization, somewhat similar to the fruit and vegetable growers. This will result in three year contracts with the alfalfa growers, a competent manager and inspector who will determine the grades of hay, and each grower will stand back of his hay, agreeing to the decision of the inspector. In this way disputes on the quality of hay will be easily adjusted, as the responsibility will be upon the grower backed by his contract. These farmers also have 200 acres of early potatoes which they intend to market thru the same association. This will take in all of the bottoms that are devoted to alfalfa growing. Progress along these lines is encouraging." - Doerschuk, Union Co.

Branch Office Days a Success. - "We find considerable interest developing in our branch office days. While the men have all been busy, we have not had large numbers come, but at the same time sufficient numbers have come to these offices to make us feel justified in continuing these meetings." - Raut, Madison County.

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Alfalfa

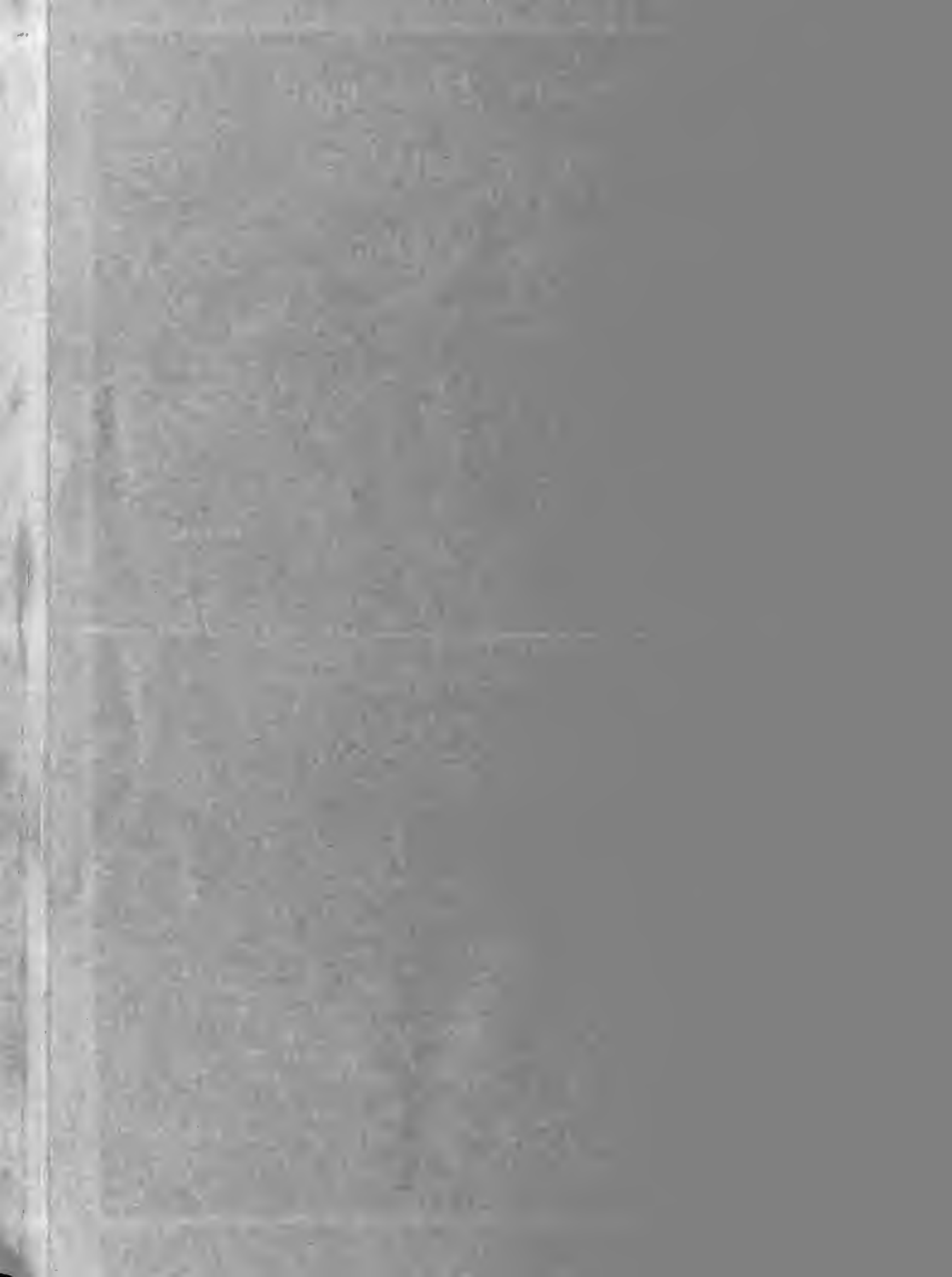
"Thoroughly matured alfalfa seed is a deep, golden yellow. When the seed possesses a slightly greenish tinge it is frequently immature and possesses hard seed coats. Most of this seed, however, will grow.

Seed

Black or brownish shriveled alfalfa seed is poor in germination. It is seed which is dead and should be rejected. Use only new seed with a high germination test, not less than 85% and free from weed seeds, especially noxious kinds. Of a thousand samples examined the following table indicates the species of weed seeds present and their habits of growth.

Species	Habit of Growth	% of Samp. in which Each Occurred	Species	Habit of Growth	% of Samp. in which Each Occurred
Green foxtail	Annual	27.0	Lady's Finger	Annual	4.0
Yellow Foxtail	Annual	29.0	Paspalum	Perennial	1.9
Plantain	Perennial or biennial	24.0	Canada Thistle	Perennial	1.6
Crab grass	Annual	18.0	Spur Thistle	Biennial	1.4
Lambs Quarter	Annual	16.0	Red Clover	Perennial	.9
Figweed	Annual	19.5	Trefoil	Annual	.9
Old Witch grass	Annual	11.0	Rayed Knapweed	Perennial	.9
Russian Thistle	Annual	7.0	Dodder	Annual	.4
Roquette	Annual	5.0	Yellow Toad Flax	Perennial	.4
Dock	Perennial	5.3	Pepper grass	Annual	.4
Barnyard grass	Annual	4.3	Sheep Sorrel	Annual or Perennial	.4
Wild carrot	Biennial	3.6	Self-heal	Perennial	.4
Low Lallow	Annual or biennial	3.9	Rugel's Plantain	Perennial	.4
White Clover	Perennial	2.4	Italian Rye	Annual or Perennial	.4
Dotted Smartweed	Annual or Perennial	2.4	Red Top	Perennial	.4
			Oxeye Daisy	Perennial	.4

Seeding Alfalfa. - "Numerous experiments have been conducted and many observations are on record dealing with the time of seeding alfalfa. Results of these tests and observations stand for the most part in favor of fall seeding. Some of our best results are reported from seeds planted during the last ten days of July and the first ten days in August. Later seeding in central and northern Illinois than August is risky. On the DeKalb field good results have been obtained by seeding in the spring from April 20 to May 20 with a light companion crop of barley on oats. Recommendations as to the amount per acre vary from 8 to 30 pounds. This station has had satisfactory results by using 15 pounds of high grade alfalfa seed per acre." - W. L. Burlison, Head, Dept. of Agronomy, U. of I.



"Will the Chinch-Bug Eat Legumes? - Look in the fields and see!" Now is a good time to call attention to the value of legumes as a chinch-bug resistant crop. Where narrow strips of legumes were planted between the wheat or oats and corn, they have not, of course, afforded any real protection as a barrier, but the resistance of this crop to the bugs can never be better shown than at this time. The legumes stand uninjured, where millions of chinch-bugs have gone thru them, while adjoining fields of corn have been completely destroyed." - Flint, Entomologist Natural History Survey.

Creosote Holds 'Em. - "Chinch bugs have been moving pretty rapidly in some parts of the county the past week. The Farm Bureau has helped all farmers who were bothered with bugs and desired our help. Creosote lines were made in a number of fields with excellent results.

This is the first year that any effort has been made to control chinch bugs. All farmers who tried creosote are well satisfied with their results." - Husted, Scott County.

Farmers' Elevators Handle Creosote. - "Most of the time for the past two weeks has been spent in our campaign against chinch-bugs. During this time and the week previous we held demonstrations in every locality in the county to show farmers how to prepare chinch-bug barriers. The attendance was good at these meetings and the farmers seem to wake up to the need of being prepared to fight the bugs. We prevailed upon the Farmers' Elevator at Bethany to get in a car of creosote to use in fighting the chinch-bugs and we also got the O. J. Gauger Lumber Co. to get a car of creosote at Sullivan." - Higgins, Moultrie Co.

"O! what Villians." - We spent several days working with the farmers in chinch bug control. Where creosote tar was used in time the bugs were kept back from the corn. The supply of creosote tar is not sufficient to go around. The bugs will soon begin to fly and nothing more can be done. Numerous showers have helped the corn but the wheat and oats have suffered greatly from the bugs. Already we have to encounter the argument that it will be necessary to quit growing wheat to control chinch bugs. Many of our farmers are planting soy beans where the bugs have killed the oats. I believe it takes a general calamity like this to make our farmers realize that it is necessary to fight bugs in their winter quarters and also to grow crops that bugs do not feed upon." - Belting, Shelby Co.

"The Newton Field Meeting yesterday was the best fieldmeeting that it has ever been my pleasure to attend. The visitors were well taken care of. There were enough field men to escort the visitors over the field in small groups. Fourteen counties were represented making a total attendance of some over a thousand. This county was represented by nearly one hundred. The success of the meeting may largely be attributed to Dr. Bauer, who showed keen wisdom in handling it. One of our local editors who was in attendance remarked that there were a hundred people who wanted to leave but would not for fear they would miss something Dr. Bauer said." - Piper, Richland County.

Disease-Free Corn in the Lead. - "Mr. Shaw spent one day with Jimmie Holbert's man in checking over and measuring the corn upon the corn root plots. By measuring they found that there was a great deal of difference between the disease-free and diseased corn. The diseased corn was making a splendid growth and showed a full stand." - Hedgcock, Peoria County.

A Place to Play. - Illinois' new \$2,000,000 Stadium, the largest recreational plant of its kind in America, should be ready for the football season of 1924. At least, that is the hope of the authorities.

The contract for the architectural designs will be awarded within the next ten days, and acceptance of final and definite plans for the structure should be made by August 1, according to Robert Zuppke, famous football coach, and member of the Stadium architectural committee. Present designs are only tentative and may not resemble the completed amphitheatre. Construction work on the Stadium will start not later than next spring, following the raising of \$1,500,000 which is expected to be pledged from alumni and people of the state in the campaign this fall and winter.

A beautiful model of the Stadium, a replica of the horse-shoe bowl as it will look when completed, will be exhibited at the State Fair in Springfield in August. Arrangements have been concluded with Hon. B. M. Davison, Director of Agriculture.

The Stadium will probably be built on a 100-acre tract of land bordering the Illinois Central tracks, First Street and Armory Avenue.

"Good Corn Prospects in Clinton County After All." - Most of the wheat is cut and corn is at present showing better prospect for a crop than it ever has shown here at this time of the year during the past three years. The number of chinch bugs seems to be greatly reduced. If the parasite works on the second brood in proportion in the way that it worked on the first, the chinch bugs should not prevent a good corn crop this year." - Rehling, Clinton County.

"Clovers Put New Life in Soil." - We have a number of remarkable demonstrations on wheat this year where sweet clover and red clover put new life into a soil that has never amounted to anything since it was first cultivated." - Rehling, Clinton County.

"Tuberculosis Must Go - The movie helps." Good attendances are the rule at our movies demonstrations. The pictures are enjoyed by the members and their families. We are showing the T. B. films "Out of the Shadows" with a view of educating the farmers to a point where we will be safe in putting on a county veterinarian. A Rock Grove member had two sick cows. Lump jaw appeared to be the trouble but we suspected T. B. They were brought in by the rendering works and both proved tubercular - one a generalized case. Inquired of the family doctor and found that two of the children have the disease. This is enough to put us on to a T. B. clean up campaign." - Baumeister, Stephenson County.

Weed Control Project. - "If you did not get a copy of the weed control project presented at the June conference by Mr. Albert C. Wilson, Chief Seed Analyst, you can secure it by writing to him at Springfield, or to the Extension Service." - G.N.C.

Superfluous! - It is not necessary to accompany your weekly report with a letter of submissal. Rather, spend that energy in giving us a good item about some phase of your week's work. Surely, just type said item on the narrative side of report sheet. Send it promptly each Saturday morning to 1210 Springfield Ave., Urbana.

Can You Splice 'Em? - "The splicing of broken hay ropes is a service offered by the local bureau that is being appreciated by farmers. Three ropes have been spliced during the past week." - Brown, Stark County.



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No. 28

Harvesting

Sweet
Clover
Seed

"Since all of the plants in a sweet clover field do not ripen at the same time it is often quite confusing to determine just the proper time to harvest sweet clover seed. The grower must use his own best judgment and cut it when the entire field seems to have the most ripe seed. Unripe seed will not ripen in the shock.

Several mechanisms for the picking of sweet clover seed have been tried out, but so far the bulk of the seed is harvested with the grain binder. This is a very difficult task especially when the plants are six to eight feet high. The binder must be set as high as possible. The canvass must be well tacked to the slate, particularly the elevator canvasses. I have found it advisable to cover the edge of the upper elevator with an extra piece of canvass lapped about three inches on both sides at the ends of the slats. This prevents the sweet clover stems from wrapping around the slat ends.

The divider of a binder does not work very satisfactorily in sweet clover, because it often fails to part the tangled stalks. You may experience some difficulty in getting the first stalks to pass up the elevator. When once started, however, the stalks in the elevator will tend to pull other stalks on the platform along.

A box a foot wide and six inches deep should be placed at the point where the platform canvass goes down and starts its return. A similar box should be placed so it will catch the seed that falls through where the lower elevator returns. Remove the bundle carrier and in its stead place a canvass hammock seven feet long and two feet wide. Several wires, run from the lower edge of the deck to the outside support of the hammock, will make the bundle clear this hammock when being discharged. The best seed will be gathered in these three containers. In putting on these containers keep in mind the number of times they must be emptied. On a dry day these boxes may be filled in driving a distance of one-fourth mile.

It is advisable to spread the seed under a shed or on a barn floor for drying before bulking. The bundles may be shocked or left in the windrow until dry. Then they should be threshed as soon as possible, for two rains will beat off nearly all the seed." - Oscar H. Bremser, Farmer near Columbia, Illinois.

Editor's Note. - "We have asked Mr. Spitler to tell us something about Mr. Bremser. Here is what he says - "A few years ago Mr. Bremser purchased a worn out farm near Columbia, Illinois, and by the use of limestone and legumes, particularly sweet clover, has built the place up to where it is profitable. He has worked on a machine for the harvesting of sweet clover and hopes to have it perfected in the near future. He is a member of the Executive Committee of the Monroe County Farm Bureau."

Bea Pardon: - An error appeared in last week's messenger, page 2. Item should have read "the disease-free corn was making a splendid growth".



"Standard Fruit Packages. - A speaker at the June conference alluded to the standard apple box as containing less than one bushel. Illinois fruit growers do not use the box for packing apples but in justice to the trade it should be stated that the box which all of the box-apple producing regions are using measures $10\frac{1}{2} \times 11\frac{1}{2} \times 18$ inches inside measurements, the product of these dimensions being 2173.55 cubic inches or 23.13 cubic inches in excess of the U. S. bushel. This does not take into account the 'bulge' which is present in all well packed containers. The dimensions of the bushel basket, which is extensively used in the middle west, are established by the Federal Government and contain one bushel when packed level. The dimensions of the standard apple barrel are also established by law as follows: Length of stave, $28\frac{1}{2}$ inches, diameter of head, $17\frac{1}{8}$ inches, circumference at bulge, 64 inches. Such a barrel holds three bushels. When used for inter-state shipment, the contents of both the bushel basket and three-bushel barrel must be plainly marked on the outside of the container." - W. S. Brock, Extension Specialist in Horticulture, U. of I.

"An Apple Grading Law. - Illinois Senate Bill No. 72 establishing grades for apples grown and packed in Illinois goes into effect September 1. The full text of this law is being mailed to each adviser. In effect the law requires that each barrel or basket containing apples offered for sale shall bear on the outside three things:

1. The name and address of the grower,
2. The minimum size of the smallest fruit in the package,
3. The correct name of the variety.

The other requirement is that the apples used in facing the package shall be representative of the contents." - Brock.

"Pruning Brambles. - The canes of raspberry, blackberry, and dewberry, which have borne fruit should be removed, if possible, at once. The troublesome disease known as anthracnose is present on nearly all such canes and their removal will aid materially in controlling not only anthracnose, but certain other diseases and insects.

"Orange Rust a disease which causes the leaves of brambles to curl and turn a brilliant yellow is quite common especially in old plantations. Rotation of crops, digging out and burning are the only means of control." - Brock.

Little Things County. Field Demonstrations. - "Many advisers conduct demonstration tours at this season of the year but only a few have reported holding short field meetings. Perhaps we have not made use sufficiently of these small gatherings. Busy farmers might be willing to spend 30 minutes to an hour at a demonstration on a nearby farm who would not take an entire day off, much of which would be spent in 'eating dust'. Who will be the next to try holding some of these short field demonstrations and report the results to us?" - G.N.C.

Grasshoppers continue to do serious damage to young clover. Poisoning work is not proving as effective as it should. Only in places where the 'hoppers' were concentrated in small patches at the finish of clover cutting has poison shown its real effectiveness." - Tillman, St. Clair County.

The Grain & Hay Show Premium list is ready for distribution. A \$10,000 premium list is offered by The Chicago Board of Trade for grain, hay, and small seeds to be shown Nov. 26 to Dec. 3 at the International Live Stock Exposition. Write B. H. Heide, Union Stock Yards, Chicago, Illinois, for copy of premium list.



Wheat threshing is in full blast. "The few days of hot weather we had, just when the wheat was filling out, has caused a poor grade of wheat. Most of the wheat that has been sold only tests from 53 to 57 pounds. The price for the new wheat ranges from 90¢ to \$1.05 per bushel. There are a few farmers who are getting 20 to 25 bushels per acre, but most of them are going way below that." - Tate, Monroe County.

Wheat Poor. - "Threshing is quite general over the county now. Wheat is very poor as to quality, but oats are as a rule of better quality than was expected. The Iowa 103's are again showing up much better than other varieties". - Thoms, Jackson County.

Threshing is the order of the day with few calls for farm visits. Wheat yielding anywhere from 14 to 25 bushels mostly about 17 or 18 bushels. Much straw, but poorly filled." - Wheeler, Lawrence County.

Threshing has begun in most parts of the county. Many yields are disappointing running around 12 bushels." - Eymann, Jersey County.

Wheat threshing is well under way now. The machines have been running for almost a week. So far the average has only been about 10 bushels per acre. The price is worse than the yield. The farmers who are selling are only getting \$1.00 per bushel for No. 2 wheat." - McGhee, Massac County.

Threshing began this week. Wheat yields are a bit disappointing running from 12 to 15 bushels." - deWerff, Franklin County.

Farmers Appreciate Service. - The chinch bugs have been doing considerable damage in the south two-thirds of Piatt County. Combined with the bugs the hot weather is going to cut the yield of oats from one-third to one-half. We have given up all other work to help out with the chinch bug situation. Many farmers are appreciating for the first time how the farm bureau can give them service." - Watson, Piatt County.

Wool Moves in Spite of Last Year's Record. - A carload of wool was loaded June 27 at Kaneville consigned by our sheep raisers to the Illinois Wool Pool. There was a total of 16,432 pounds consigned in this car by 56 of our farmers. This amount was 2,073 pounds more than was shipped from the same point last year. The balance of the wool to be pooled will be shipped by express. The above is evidence that the wool pool is gaining ground in this county regardless of the delay in selling last year's clip." - Richards, Kane County.

Two caponizing demonstrations were given this week, with two more scheduled for next week. Considerable interest is shown in this work. Several had become interested in this work, thru a demonstration by Prof. Gilbert at the Farmers' Institute; some had purchased sets, but they lacked the final nerve and personal encouragement necessary to go ahead with the work." - Hart, Clay County.

Grind Own Limestone. - We had a Limestone Pulverizing Demonstration at Harry Rick's Thursday afternoon. Most of the farmers are very enthusiastic over grinding the local limestone which tests 108% calcium carbonate equivalent." - Craig, Whiteside County.

You Will Want to Go. - "Plans are already under way to make the I. A. A. annual picnic at Dixon, Illinois, the best farmers' picnic ever held in America. The date is September 3." - Griffith, Lee County.

The first of these is the fact that the
 system is not a simple one. It is a
 complex one, and it is not possible to
 describe it in a few words.

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Handling

Sweet
Clover
Seed
Crop

"The largest amount of matured sweet clover seed is obtained by cutting the crop when one-half to two-thirds of the seeds are ripe. Harvesting at this stage of maturity, should be done when the morning dew is on or when the weather is damp, to reduce the loss from shattering. Just as much seed may be secured by harvesting when one-fourth to one-third of the seeds are ripe but the quality of the seed will not be so good in that it will show less plumpness and maturity. The color will be a little better than with the ripper seed.

Farmers depending on the hullings or straw for feed prefer to cut the seed a little green, probably when one-fourth to one-third of the seeds are ripe. At this stage the plants are not so woody and it is not so difficult to get them through the binder and the thrasher.

An ordinary grain binder is used in harvesting and the crop should be cut just as high as possible to get all the branches containing seed. Where a high stubble can be left grain saving boxes can be placed that will catch considerable of the seed that shatters, especially ripe seed. The seed, leaves, bugs, and trash that are caught in the grain saving boxes must be spread out and stirred frequently to prevent spoiling of the seed. A grain saver (galvanized box) about 14 inches wide, 9 inches deep and 4 feet long may be attached in the open space to the right of the bull wheel just below the packers. Frequently two galvanized iron sheets are bent and attached in such a manner as to direct the shattering grain to this grain saver. One sheet is attached so as to catch the shattering grain from the rollers where the clover goes over to the binder deck. The other is attached about two or three inches below the lower edge of the binder deck to catch the shattering seed as the bundles are kicked off. This seed is also directed into the grain saving box.

Our most successful seed producers prefer to shock sweet clover in round shocks of eight bundles and cap. The cap causes the shocks to dry out somewhat slower and prevents unnecessary shattering caused by crickets and grasshoppers. It is best to leave the sweet clover shock thru at least a week of drying weather before hulling. If cut ripe a thrasher is usually necessary before putting the seed thru a huller, however, the less matured stems of clover with considerable size can be put thru the large sized huller successfully, such as the Birdsell No. 9.

After the sweet clover is harvested and fully dried out it should be threshed, as every disturbance causes shattering of seed. Put canvasses on basket racks and have the men haul medium sized loads to the huller or thrasher. This eliminates the waste of seed that is ordinarily kicked and beaten out by the men loading. Every hulling also reduces the amount of weathering that taints the color of the seed." - F. E. Longacre, Grundy County.



Alfalfa is one crop about which there is no complaint at the present time. In the opinion of a number of our average farmers every man ought to have at least five acres of alfalfa on his farm." - Kendall, Morgan County.

More Alfalfa. - The price on limestone and the decreased buying power of our farmers is interfering seriously with our campaign to sow alfalfa this fall. We expect to make this campaign a part of our permanent program until we get one-eighth of our tillable land to alfalfa." - Eymann, Jersey County.

Sudan grass and sweet clover are showing up as dependable crops for pasture, especially in parts of the county that have been unusually dry. Sudan grass has been cut for the first hay crop and indications are that the total of two or three cuttings will amount up to a good yield of feed. Sweet clover pasture is maintaining its reputation with many of our farmers. It is producing more pasture than any other clover or grass that they have." - Longmire, Grundy Co.

Over the Hills. - "On our agricultural tour following the Raleigh field meeting one of the most interesting things seen was a five-acre piece of sweet clover on the farm of one of our members, Mr. Earl Weaver. A stony hillside was limed at the rate of $3\frac{1}{2}$ tons per acre in the spring of 1920 and seeded to sweet clover. This year from early spring until the present it has furnished excellent pasturage for seven cows and their calves and from 40 to 60 head of hogs all the time. Considering the amount of pasturage furnished, Mr. Weaver says this poor hillside has been worth as much to him as any land which he owns." - Whitchurch, Saline County.

Sweet Clover has made a splendid start where it was sown with oats or wheat, this spring on black clay loam soil. Many men declare that they will sow it next spring on such locations." - Robbins, DeWitt County.

Pasture mixtures have proven successful. One of our farmers seeded the Demaroe mixture a year ago and it is decidedly satisfactory. Another tried a slightly different mixture with equal satisfactory results. I am inclined to believe that we shall find a big increase in the use of these pasture mixtures as time goes on." - Kendall, Morgan County.

War on T. B. - "Our Executive Board has decided to cooperate with the Bureau of A. I. in the employment of a County Veterinarian for the eradication of tuberculosis in Stephenson County. A committee has been appointed to work out the details. A large proposition of the purebred men are already testing but our grade men will test if they have the opportunity. With nearly 50,000 head of cattle in the county we think this an important project to carry out." - Baumeister, Stephenson County.

Going for a Perfect Score. - "I have been making farm visits and have visited almost half of the members. I am going to continue until I have visited every member. As much as possible, I am working the county by precincts, taking the member of the executive committee from that precinct or one of the bankers with me." - McGhee, Massac County.

Alfalfa Hay. - George H. Moyer, County Agent, Madison, Nebraska, reports 300 tons of alfalfa hay for sale.

THE
JOURNAL OF THE
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VOL. 100, PART 1, 1970

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Eleven Essentials of a National Marketing Program are given by Dr. George Livingston, Chief U. S. Bureau of Markets.

1. Establishment of National Standards for farm products.
2. To be effective, national standards must be enforced.
3. Prompt, accurate, and disinterested market information.
4. Development of foreign markets for surpluses.
5. Efficient methods of harvesting, storing, refrigerating, transporting, and handling products.
6. Farmers cooperative marketing organizations are a permanent economic institution but their development must be based upon sound economic laws.
7. Information on cost of marketing and studies of marketing methods must furnish a basis for public information and education as well as point the way to improvement.
8. Agriculture must be placed upon the same basis as other industries in our tariff laws.
9. A definite agricultural financial policy, including the mobilization of the financial resources of the farm, providing of short term credits, and development of warehousing facilities.
10. Adequate and thorough consideration of agricultural development in the formation of future transportation policies.
11. Potential monopolies of all kinds producing, handling, or manufacturing farm products or farm supplies, should be subject to reasonable federal or state regulation and supervision in order to insure a square deal to both buyer and seller." -

Army Wagons for Farm Use. - The Farm Bureau unloaded last week 10 slightly used army escort wagons for the use of farmers. These wagons cost freight and all, \$41.18, and considering their condition as to wear were an excellent buy. A number of these wagons will be used for hauling milk thus being on the road every day. As they have wide tires and fit in automobile tracks, Bond County roads will be preserved to no small extent by their introduction." - Tarble, Bond County.

Our Hubam Sweet Clover is doing fine in most cases. Several small plantings are showing buds nearly ready to blossom. In a demonstration where Hubam was seeded with early oats the Hubam is nearly as tall as the oats and nearly as fully developed as in plots where it was seeded in gardens separately and cultivated. One man who has forty acres planted in rows has just finished having it wooded and it is looking fine." - F. E. Longacre, Grundy Co.

Corn Disease Plot. - Looked over the fourteenth corn disease plot, located in Hanover community. The corn averaged about shoulder high last week. The corn on the diseased plot was from eight to ten inches less in height." - Burns, Jo Daviess County.

"Will Eradicate Flag Smut. - All of our farmers in the flag smut region are pleased with the decision of the State not to put on a restriction quarantine which would compel them to discontinue raising wheat. We believe that our men will cooperate with us very nicely in the control of this disease. We are taking steps at the present time to locate the recommended resistant varieties and also to make an estimate of the amount of seed required in the territory. We hope to be able to get this disease eradicated from our county before it has a chance to do any serious damage or to become permanently established." - Raut, Madison County.



The Extension Messenger

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State Leader's Office.

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. IV

July 27, 1921.

No. 30

Rejuvenating

Alfalfa

Meadows

"Only a limited amount of information is available concerning rejuvenating alfalfa fields. However, data and experience of growers seems to indicate that while considerable success is had in reseeding spots or patches, it is not often that a stand which is thin all over the field can be thickened by reseeding without plowing it up. 'If sown in the fall, reseed early the following spring, and if sown in the spring, reseed in the fall', is the advice of those who venture an opinion.

Old alfalfa has a tendency to smother out any young plants that may start. Some have tried keeping old plants clipped, in order to give young plants a start. This has not been found very successful. Corn growers' advice in regard to thickening a poor stand of corn by replanting by hand, will invariably be to plant it over again. The same advice can generally be followed with profit in regard to trying to thicken a stand of alfalfa.

Is your thin stand due to lack of drainage, need of lime or inoculation; or because of a faulty seed-bed or temporarily unfavorable weather or soil conditions; or is it the treatment you have given the plant after you have a good stand? It is not possible to formulate a rigid set of rules, but since alfalfa is such a valuable plant why take any chances? It is best to control all factors.

It is generally conceded that late cutting reduces the vigor of the plants and that growth the following spring will be less vigorous. A safe rule to follow is that alfalfa should have from 4 to 8 inches of growth before the first killing frost. Close or short mowing of the first cutting of a young field kills a lot of alfalfa. In short, a close study by every alfalfa grower of all the factors that are likely to lessen the vigor of the plant will be worth while,, for then it will probably not be necessary for him to worry about rejuvenating his alfalfa. His first stand will be a good one." - V. Verman, Asst. State Leader.

Change of Poultry School Date. - "Because Farm Bureaus usually hold office day on Saturday, the poultry school for county advisers to be held in the Live Stock Pavilion at the University has been changed to Monday, August 8, commencing at nine o'clock A. M. The purpose of this meeting is to give information along the lines of poultry culling, poultry diseases, and poultry management. All county advisers are invited to attend this school and may feel free to bring others from their counties who will assist in their poultry work." - W. H. Smith

The detailed program follows--

9 A. M.	Purpose of School	W. H. Smith
9:15	Fundamentals in Poultry Culling	Frank L. Platt
10-12	Judging Fowls for Egg Production	Farm Advisers
1 P. M.	Poultry Disease Problems	Dr. Robert Graham, U. of I.
1:45	Practice Judging	
3 P. M.	Caponizing Demonstration.	Chas. H. Wheatcraft, U. of I.



"Performance of Varieties of Winter Wheat and Rye at Fairfield. This has been a very satisfactory season for the production of wheat on the Crops Experiment Field at Fairfield, Wayne County, Illinois. The yields produced this year demonstrate very conclusively the possibilities of wheat growing on the common prairie gray silt loam type of soil of southern Illinois.

The following is a list of the varieties of winter wheat and rye tested and their yields:

Fulcaster	32.9	Turkey Hybrid 509	27.2
Marvelous	31.8	Harvest Queen	27.2
Miracle	30.8	Mediterranean	26.9
Trumbull	30.5	Rudy	26.2
Jersey Fultz	29.8	Red Cross	26.2
Portage	29.2	Early Red Clawson	26.2
Poole	29.1	Dawson's Golden Chaff 9-225	18.2
Economy	28.5	Big Harvest Fultz	17.7
Gladden	28.0		
Illini Chief	27.8	Common Black Rye	31.1
Gypsy	27.4	Wisconsin Red Rye	23.6
Nigger	27.3	Rosen Rye	18.1
Harvest King	27.3	Petkus Rye	17.8

The performance of the Trumbull, Portage and Gladden varieties are of special interest because they are new wheats on this field and further because they are pure line selection made by the Ohio Station. The Trumbull is a selection from the Fultz, the Portage from the Poole and the Gladden from the Gypsy. Each are said to be superior to the original variety in yield and in certain other respects.

Rye has not proved a particularly promising crop on this field, although occasionally excellent yields have been obtained. A strain of black rye of unknown origin has constantly outyielded the named varieties of better breeding." R. W. Stark, Asst. in Crop Production, U. of I.

Will YOU Have a Stadium Seat? "Illinois' new memorial Stadium will cost \$2,000,000, of which the students in the mammoth campaign last spring have already pledged \$700,000. It is hoped to raise at least \$1,500,000 from alumni in the campaign during the football season next fall. The individual student average was \$112 which more than doubled the minimum quota which had been set by authorities before the campaign started. In addition to the enormous individual subscriptions, fraternities and sororities and other campus organizations purchased 87 memorial columns, each costing \$1,000. This subscription is by far the largest ever recorded by students in American colleges.

The minimum quota from alumni has been set at \$100, while the honor quota is \$200. The minimum donation entitles an alumnus to an option on one seat in the Stadium for ten years or two seats for five years, and as the pledge increases the number of seats increases in the same ratio. For instance, a \$200 pledge entitles the donator to two seats for ten years or four seats for five years. By this method, every person who subscribes to the Stadium fund will be assured of a seat to the largest football games of the future.

Those who buy columns are also entitled to seat options. A \$1000 column pledge entitles the donator to 20 seats for ten years or 40 seats for five years. This is an especially advantageous plan for organizations which have a number of alumni returning every season for the homecoming game. The alumni campaign next fall will likely start on October 29, the day of the Michigan football game on Illinois field, and will continue one week." - K. W. Clark, Stadium Com.

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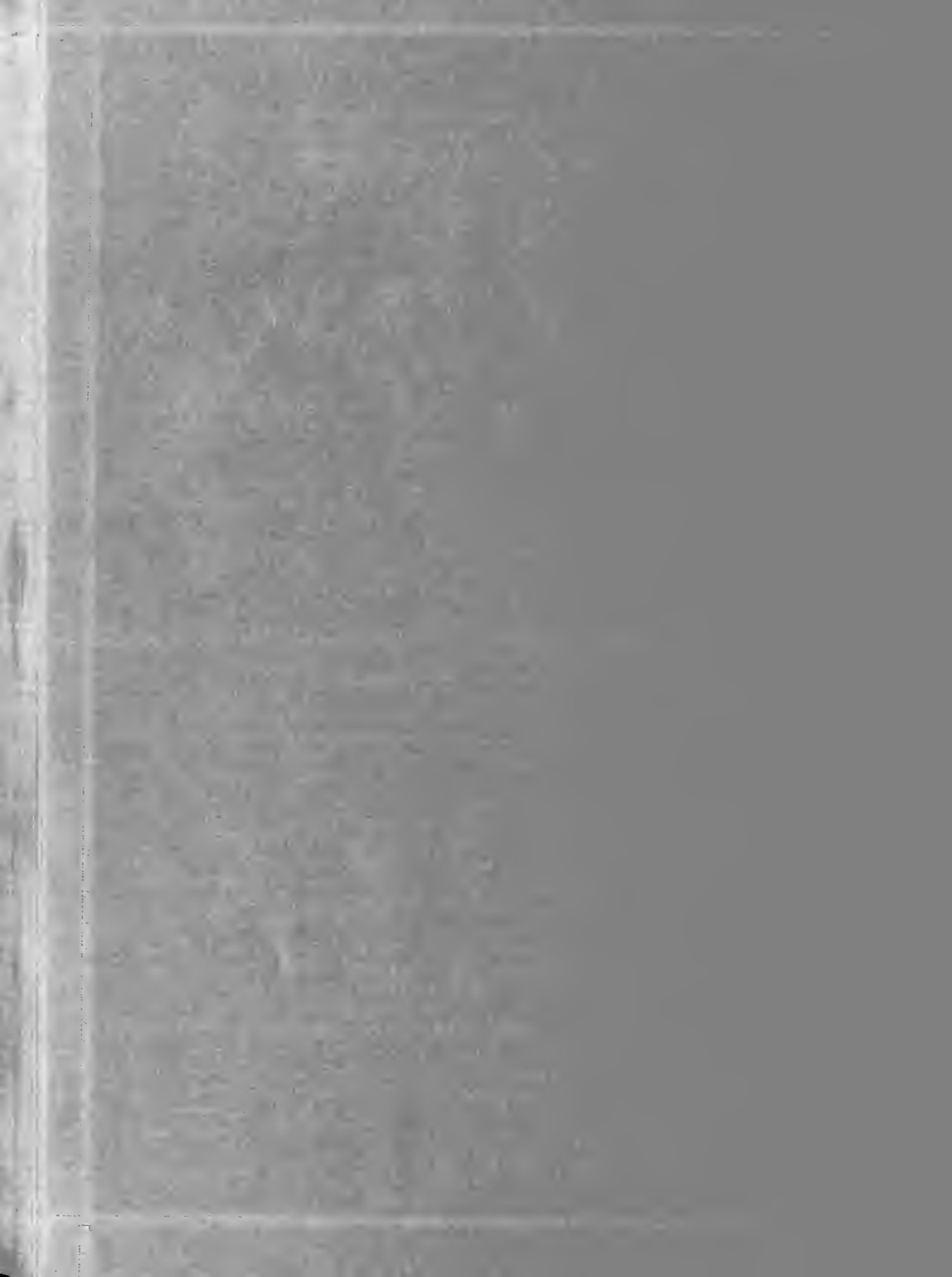
"Something new in the cooperative marketing of grain has been worked out at Cordova, Illinois. The livestock shipping association is to be combined with the grain shipping under one manager, the grain to be shipped to the market and sold on grade. Where there is a variation in the grade of grain received from different members, samples will be taken and sent in for grading, this information to be used in making final returns to the members. The manager is to receive a commission and there is to be a sinking fund. This project is a direct expression of dissatisfaction from the grain growers of this territory for the old method of marketing their grain. Equipment for handling the grain consists of a John Deere Inside Cup Elevator, a three horse power motor and a set of six-ton truck scales. To finance the proposition enough of the grain growers each loaned the directors \$20 a piece. They will be paid 7% interest on this money and the debt will be liquidated thru the sinking fund. It is the plan to buy coal and feed for the members. This is the opening wedge for a cooperative elevator a little later on when there is more money available. We are formulating a set of by-laws for this organization that will cover both the grain and livestock." - Edgerton, Rock Island County.

Marketing Service Contracts. - "Two representatives of the U. S. Grain Growers have been working in the County this week on contracts with the elevators. Their work has been very successful. In different elevator companies a few of the directors have been found which had apparently more than ordinary interest in preventing the contract from being signed. The fairness of the whole proposition when fully explained, has made the directors who are interested primarily in obtaining the best possible marketing service, take a very firm stand in favor of the U. S. Grain Growers when it became apparent that others were not fair-minded in considering honest information." - Brooks, LaSalle Co.

The T. B. Cow Must Go. - "Edgar County is making wonderful progress in T. B. eradication and it is our present plan to start area work in the near future since conditions seem to be ripe for making a clean up campaign before many months." - Waters, Edgar County.

"Will View the Irish Spud. - A Potato Inspection Tour has been arranged for the upper Wisconsin potato growing area. The trip will be made by auto August 1-6, covering eight northern Wisconsin counties. It will provide the best of opportunities to inspect Wisconsin potato fields and seed stock under home conditions. Professor J. G. Milward, Professor of Horticulture, University of Wisconsin, and Secretary of the Wisconsin Potato Growers' Assn. extends a special invitation to representatives of Farm Bureaus in Illinois to make this trip. Cars will leave Oconto on August 1 and auto accommodations will be provided for those who register in advance. Send your reservations at once to J. G. Milward, Secy. Madison Wisconsin." - W. F. Handschin.

"Gallatin County Employs Adviser . - Mr. C. W. Simpson, a graduate of the Michigan Agricultural College has been employed by the Gallatin County Farm Bureau as farm adviser. He expects to start work September 1 or possibly earlier. Mr. Simpson was brought up on a farm near Kalamazoo Michigan, and operated a farm for four years after graduating from college. He is at present connected with the soil investigational work of that institution. Mr. Simpson's headquarters will be Ridgway, Illinois." - G. W. Coffey.



The Extension Messenger

4 cents off brief orders from the weekly orders of the Farm
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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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No. 31

Insects That Attack Young Alfalfa in the Fall

"In Illinois alfalfa has been generally free from serious injury by insects. Sometimes the young alfalfa seeded in late summer, is eaten off by the grasshoppers. A close watch should be kept for these insects in early seeded fields, altho' there is less danger of a general outbreak over the state than has been the case for several years.

At irregular intervals newly planted alfalfa fields are completely destroyed by a worm closely resembling the army worm. The moth of this worm migrates from the southern states, the insect never passing the winter in our latitude. Information just received from several of the southern entomologists states that there is a wide-spread outbreak of this insect in the south. Close watch should be kept of alfalfa sown during July and August, to see that none of these worms are present in the fields. If they are found, the alfalfa may be protected by application of poison bran mash, same as used for the army worm; or by spraying with arsenate of lead used at the rate of one pound to twenty-five gallons of water.

Web worms, particularly the garden webworm, and corn ear worm sometimes attack alfalfa in the fall, but these are not usually numerous enough to cause any great damage." - W. P. Flint, Entomologist, Natural History Survey.

Cut Alfalfa at Correct Time. - "One standing feature of our recent auto tour was shown to the farmers in the importance of the correct time of cutting alfalfa. Alfalfa cut June 6 was but eight to ten inches high, that which was cut June 16 was nearly waist high and would yield $1\frac{1}{2}$ tons per acre. Alfalfa cut on the 20th of June evidently was hurt. The conclusion arrived at was to cut after the new shoots have made a good start and forget about the blossoms." - Fuller, Marshall-Putnam County.

"The Grimm alfalfa demonstrations compared to common is showing decided superiority in favor of the Grimm. In several instances the common has frozen out to such an extent as to permit water-grass and fox-tail to choke out the balance of the alfalfa. Along side of this, the Grimm maintains a heavier stand than ever. It is our opinion where genuine Grimm is used that it is sufficiently valuable to warrant the additional costs. Where soil treatment has been given in years past it might be doubtful that this difference exists. Apparently winter killing of alfalfa is closely allied with soil deficiencies." - Fuller, Marshall-Putnam County.

"Alfalfa on soil which has been treated with limestone is yielding over twice as much as the alfalfa grown on acid soils. The many fields which have been treated serve as excellent demonstration plots and have been the means of causing many farmers to use limestone on their acid soils." - Gafke, McHenry Co.



Sudan Grass Pasture. - Our old friend the bluegrass pasture has to retire in this modern day of feed studies. "Sudan grass makes a good summer pasture", says Mr. C. H. Oatout, Adviser in Champaign County. "Mr. W. W. Paul, dairy farmer near Champaign, seeded a 12 acre field to Sudan grass on June 1 and on the last days of June, had 23 head of cattle pasturing the 12 acres. Since the first of July he has had on it 35 cattle and six horses. A photo shows it to be waist high on July 8. It is a first class emergency pasture. During two months of the driest hottest part of the season several years ago, the Meharry farm pastured 90 head of horses, cows and calves on 36 acres of Sudan grass, drilled in with a very thin stand of sweet clover. The only thing to look out for in this kind of pasturage is forage poisoning which sometimes occurs after a drouth or freeze. If stock get sick, it should be taken off the pasture immediately and a veterinarian consulted." -

Tuberculosis Eradication Started. - Several men have signed up applications for federal testing of their cows. One man who did not believe in testing for T.B. was induced to give the test a trial. Out of 56 head, 36 reacted. He still believed the test a farce so he went to Chicago and saw the 36 head killed. He said that every animal fat and thin, plainly showed T. B. was present. We are using this case in interesting other men. This man is one of our big boosters for the testing work." - Kline, Boone County.

Test tells the Tale. - Our first cow testing association is 'taking.' At one of the first herds tested, the 'farmer's best cow' proved to be the one that was lowering the yield, her test being about two percent. Some other farmers have been surprised at the low production and are already asking the tester if they shouldnt beef some of their cows." - Heller, Cock Co.

Less Wool This Year. - "There will not be more than 50 percent as much wool pooled this year as last for two reasons. One is that farmers have not had a settlement for last year's wool at this time, and second these people have got to raise money somehow, so have sold their wool for a little or nothing. We will ship one car." - Craig, Whiteside County.

"Calf Sails" and "Pig Squeaks" are the titles of two news letters which are being sent by Mr. W. F. Bunn, Assistant Adviser and Club Leader to the members of his calf and pig clubs, respectively. We like the idea, for it surely takes the eye of the youthful stockman. Have you seen a copy? Ask Bunn.

"Five Poultry Culling Demonstrations were conducted this week. Fair attendance and much interest was manifested. As usual about 50% of the hens in the flocks culled were discarded as boarder hens." - Rusk, Macoupin Co.

"Fall Plowing Better. - We are finding a marked difference in favor of fall plowing compared to spring plowing as shown by the resistance of corn in the present drouth. Very generally corn on spring plowing is suffering, while fall plowing is still in good condition but cannot stand much more dry weather without injury." - Snyder, Ogle County.

Sweet Clover Makes Crop. - "A farmer in Alden Township has an excellent example of the value of sweet clover when plowed. The corn on the sweet clover area was 18 inches taller than on the other part of the field on June 20." - Gafke, McHerry County.



Good Results From Survey Method of Developing Program. - "The Beardstown Melon Growers' Association was organized to meet the request of a number of melon growers who are members of the Farm Bureau and who requested this service of the Farm Bureau on their service survey blanks. I have been surprised in the last few days to learn that one of the most enthusiastic directors of the Melon Growers Association criticised the Farm Bureau in precinct meetings held last February, as being something that had not done him any good. His attitude at the present time indicates that he believes in farmers' organizations and that they can accomplish things. I believe this is one good argument for the program of work and service survey plan." - Dickenson, Cass County.

Find Canada Thistle Seeds. - "Mr. Harrison, Department of Agriculture, Springfield, spent two days with the Canada Thistle Commissioners in this county. Contrary to the preface of advice sent out from Experiment Stations that Canada thistles do not mature seeds, they found large numbers of fully matured seeds. I believe that it is time to revise the stereotype information we are using from Stations with this wrong information." - Craig, Whiteside County.

"A Potato Marketing Association was organized for the Belleville district in cooperation with the fruit and vegetable marketing department of the I. A. A. St. Clair County produces a large amount of straw or mulch potatoes for which the marketing associations will attempt to secure a special market. These potatoes are recognized as having extraordinary quality." - Tillman, St. Clair Co.

Spuds for Sale. - A letter from J. J. Martin, Manager of the South Dakota Potato Growers' Cooperative Exchange, Watertown, South Dakota, says, "We will have between 2500 and 3500 cars of potatoes to market this fall. They will be put up in U. S. Standard grades, sacked or bulk. Will start shipping August 10-15. Let us know your wants."

"Combat Potato Leaf Hopper with Bordeau", is the title of a very creditable bulletin just issued by the Wisconsin Experiment Station. Bordeau will get 'em if sprayed correctly and absence of hoppers means no hopperburn and better potato crop. Write the University of Wisconsin for a copy of Bulletin #334." -

"New Motion Pictures. - Some 34 reels of motion pictures relating to various phases of Agricultural work have just been announced as ready for free distribution by the U. S. Department of Agriculture, Division of Publications. Many of these will fit in well with the movie program of the I. A. A. and Illinois Farm Bureaus. Write for a list of new motion pictures put out by the above Division under date of July 1, 1921.

Do You Know Botulinus? "Read the little 4 page reprint circular of differentiation of Type A and Type B Botulinus." Herman Swartz of the University of Illinois. This reprint is put out by the American Medical Association, 535 N. Dearborn St., Chicago, and tells of the tests applied to determine if the poisoning is of Type A or Type B." -

A Broken Arm! - No, not a Ford but a manure spreader is responsible for Adviser Fisher's left arm being broken. Since the spreader has no crank, we must admit the accident was due to a fall.

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Mr. Dungan.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

August 10, 1921.

Vol. IV.

No. 32

Soy-Beans

Take

Notice

Don't forget the event of the season to soy-beaners - the big, all-day meeting and picnic at the C. L. McHarry farm near Tolono on Thursday, Sept. 1. W. E. Riegel, President of the National Soy Bean Association, has extended an invitation to all soy bean men in the country to hear the fine program which they have secured.

The University of Illinois has secured seed from Ohio, Michigan, Indiana, Wisconsin, Kentucky, Missouri, Maryland, Minnesota and Iowa, and has plots of beans growing from these varieties. The plots will be viewed by visitors from all over the country on the morning of Sept. 1. After this they will motor to the all-day occasion at the C. L. McHarry farm. Here a 200 A. field of soy beans will be seen.

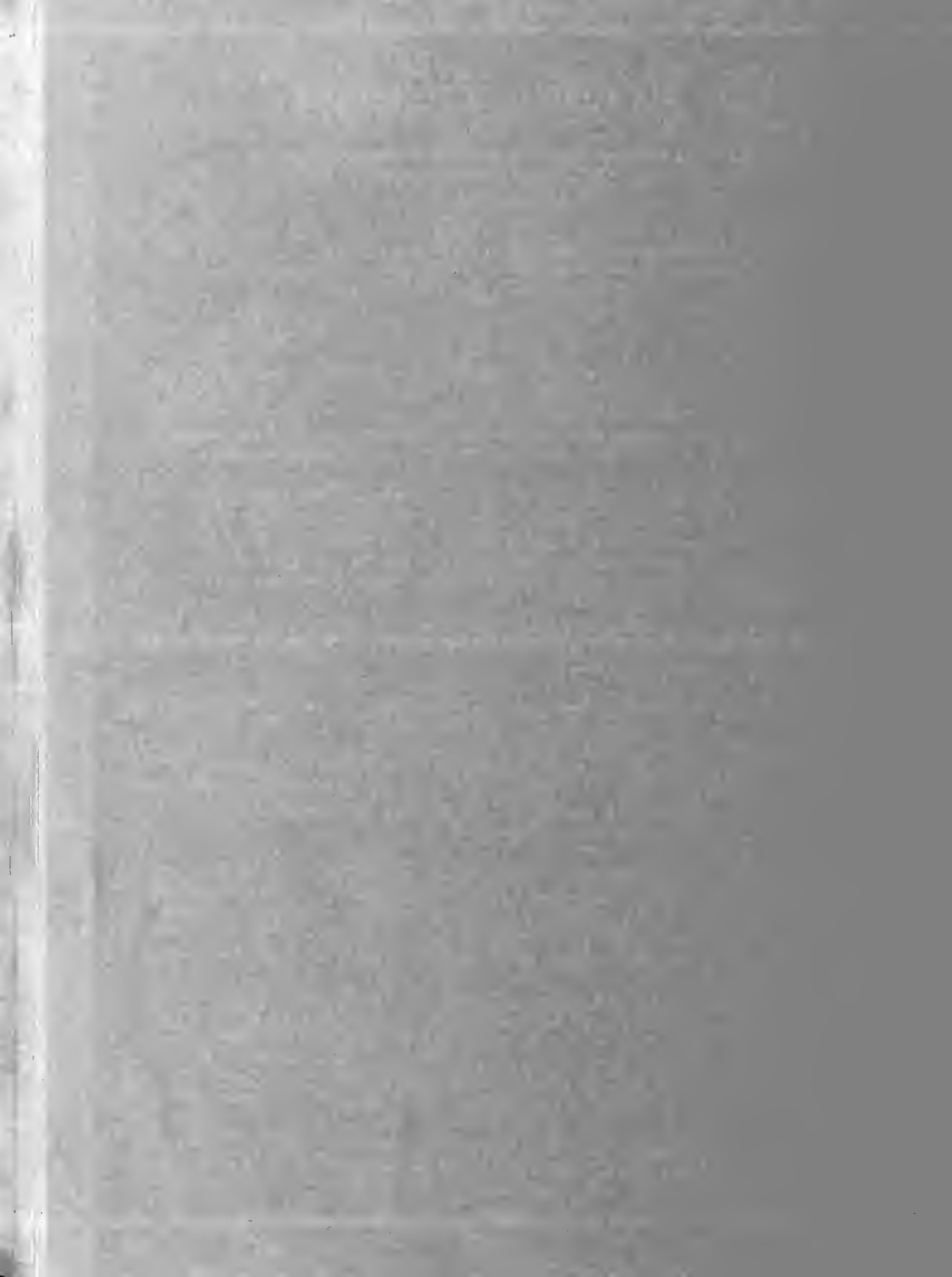
The picnic will be in the grove near Mr. Riegel's home and here also the Crittenden Home Bureau, a club of active women, will serve lunch to those who wish it. For the program is called.

A Good Idea. "A map of JoDaviess County has been made up showing a year's program of work by the use of colored tacks. This shows the location of all the different demonstrations that are being worked on this year. It includes 17 corn disease plots, 48 soil demonstrations, 57 poultry culling demonstrations, 19 orchard demonstrations, 10 potato plots, 3 sheep management meetings, 6 soy bean variety test plots, 1 oat variety test plot, 1 legume test plot, and 1 beef cattle demonstration."--Burns, JoDaviess Co.

What Yield on Dr. Hopkin Farm. "The wheat on Dr. Hopkin's farm was threshed this week and made a very good demonstration of what treatment of the ground will do on southern Illinois soil. The untreated plot grew 4 bushels to the acre, the limed plot yielded 20 bushels per acre and the one receiving lime and phosphate yielded 23½ bushels to the acre."--Blackburn, Marion Co.

Poultry Shipping Added to Business of Brown Co. Shipping Association. "A county manager has been employed for the poultry business. He will arrange for a poultry car to come thru as often as necessary. The poultry will be brought to the car on the day the car is at the station. The producer will get within one cent of the terminal market value per pound. Poultry buyers are now paying 9 to 10¢ per pound under poultry house bids."--Davidson, Brown Co.

Jersey Bull Show at Robinson. "A Jersey bull show, the first of its kind to be held in the United States, was staged at Robinson on August 4. Thirty-nine registered Jersey bulls were shown."--C. S. Rhode.



Secretary of Agriculture to Speak. "The Piatt County Farm Bureau has been cooperating with the committee in charge of the Monticello independent chatauqua in arranging a program for Farmers' Day, which is to be held on August 25 at Monticello. We have a tentative promise from Secretary of Agriculture Wallace that he will speak at our afternoon exercises on that day. From his last letter it looks very hopeful that he will be here. Representative Tincher of Kansas has also promised to be present the same afternoon. In the evening Mr. Harvey Sconce of Sidell will give his illustrated lecture on the 'Devastated Areas of France'. We are making arrangements for a big day and a big crowd."--Watson, Piatt Co.

Trend in Commodity Prices. The following table of index numbers is supplementary to those appearing in Vol. III, Nos. 45 and 47 and Vol. IV, No. 13 of the Messenger. April, May and June of 1920 marked the high point in most groups, after which there was a rapid decline which has come to be more gradual during the last three or four months.

Index Numbers of Wholesale Prices
Feb. 1921 to July 1921 (1913 price equals 100)

	All Com- mods.	Farm Pro- ducts	Corn	wheat	Oats	Food	Cloth & Cloth- ing	Letal & Met. Prods.	Lum.& Bldg. Mats.	Heavy Hogs	Steers 1110 lbs. up
1921											
Feb.	167	129	105	178	113	150	198	146	221	104	117
March	162	125	105	174	115	150	192	139	208	118	125
April	154	115	94	147	100	141	186	138	203	101	108
May	151	117	98	167	103	133	181	138	202	102	109
June	148	113	101	158	103	132	180	132	202	98	106
July			95	134	99					119	108

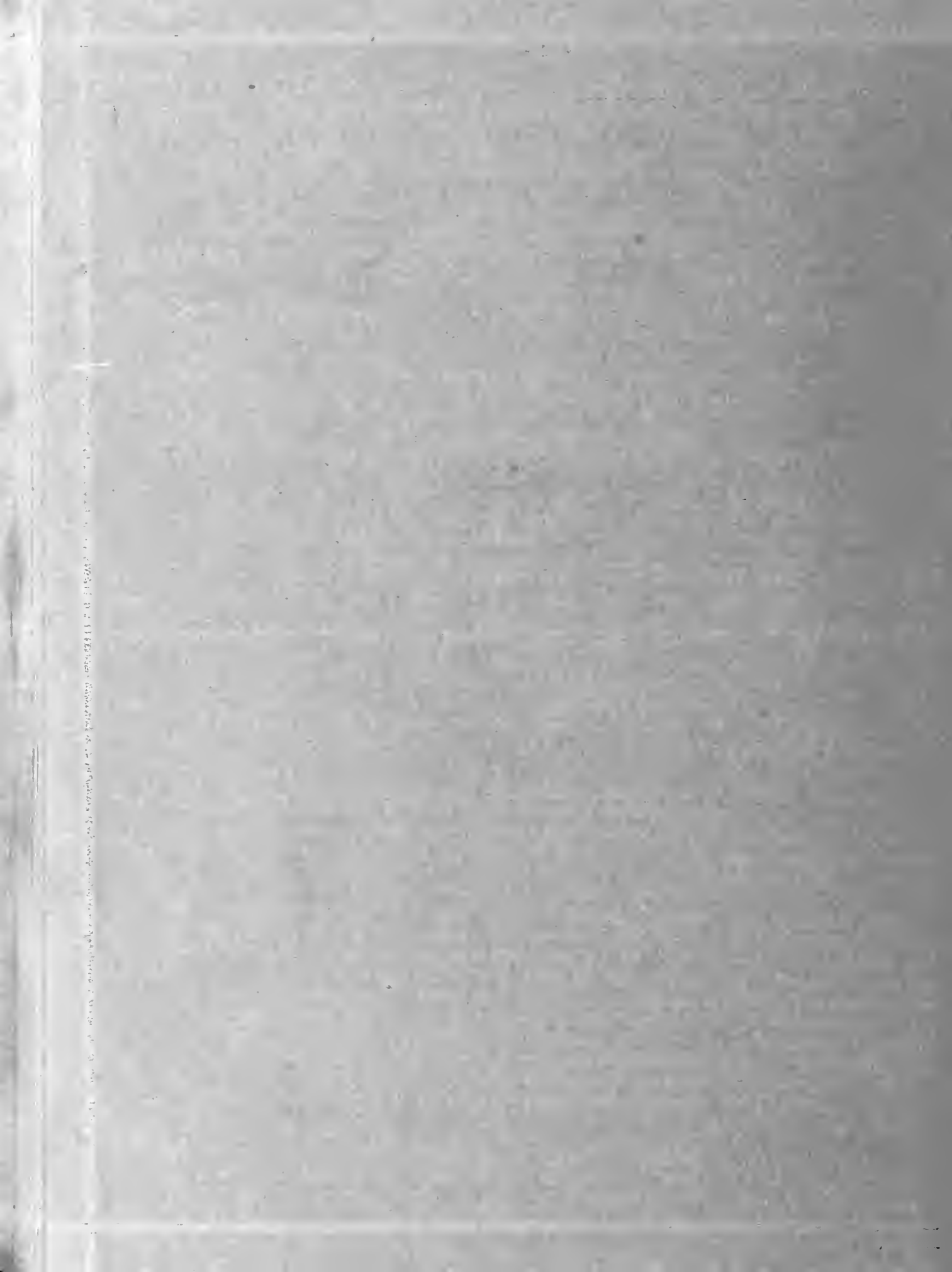
"Young alfalfa sown in oats on limed land withstood a solid month of drouth and hot winds, and is now doing well."--Robbins, Dewitt Co.

"We are pushing the sale of phosphato and limestone by arranging for groups of farmers to handle cars cooperatively and find that we are going to be able to get out a great deal of material this year on this basis, where it would be impossible to sell any at all if the farmer had to face a car load on his own account."--Waters, Edgar Co.

"We have had some wonderful pastures here from this year's seeding of sweet clover, seeding from 15 to 18 pounds, and also some wonderful results from the two year's seeding. We have men who seeded the sweet clover alone in the spring, who turned out as high as from one to two head to the acre. In these cases where they have pastured so heavily, while the pasture is very short, the cattle are doing much better than they are in the blue grass pastures where they have knawed into the ground. We have one man, Mr. John L. Keniston, who has pastured 41 head of stock on his 16 acres of clover this summer with wonderful results. Mr. Keniston said it would have taken 80 acres of the same kind of soil with blue grass on it to have kept this stock."--J. F. Hedgecock, Will Co.

Attempt to Control Canada Thistle. "A special attempt is being made to control Canada Thistle. The supervisors and the thistle commissioners have pledged their cooperation in enforcing the law to control the thistles."

--Grike, McHenry Co.



Farm Mechanics has been made a separate department and Prof. E. W. Lehmann of Missouri has been selected to head the work. Mr. Lehmann is a graduate of the University of Missouri and for the last ten years he has been doing extension work in engineering in Iowa, Texas and Missouri. He will take up his work at Illinois September 1.

Improved Seed. "One of the best pieces of work we have been able to do has been to establish improved seed wheat. The yields are running from one to ten bushels better than the common wheat. Ralph Wilson received a yield of 42½ bu. per acre from his Kanred which was grown on treated soil. Our conclusion from comparative tests between Kanred and Illinois 10-110 warrant us to say that Kanred may have a slight advantage in yields over Illinois 10-110, but it has greater tendency to lodge, which in wet seasons would cut down the yields."--Fuller, Marshall-Putnam Co.

Limestone by the train load. "We have ordered a train load of limestone this week."--McGhee, Massac Co.

Rosen Rye. "The result of the rosen rye demonstrations which were conducted in the county during the past year indicate that this variety has out-yielded the common rye by about 50%. Inasmuch as rye is rather an important crop in the sandy soils, we feel now that this may be a valuable crop for the county."--Isaacs, Mason Co.

The Turkey 10-110 wheat yielded 40 bushels per acre for J. H. Lafferty, Dewitt, and 45 bushels per acre for C. W. Thorp, Clinton. They have a big inquiry for this seed locally, as those are the best yields in the county.

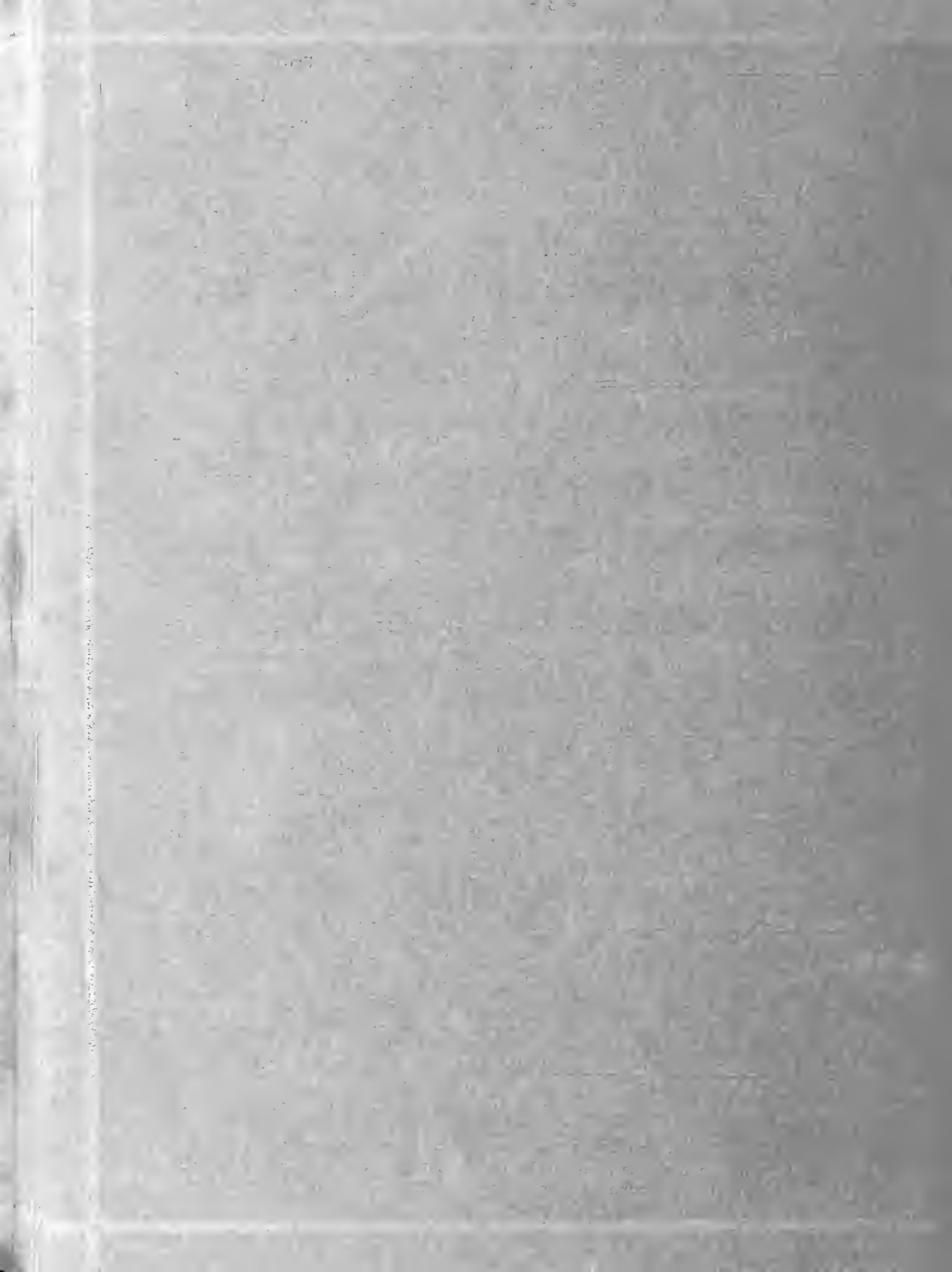
C. W. Thorp of Clinton sowed one acre strips on prairie land to different varieties of oats and secured the following yields by machine measure: Iowar, 54 bushels; Iowa 103, 51 bushels; and New Victory, 45 bushels."--Robbins, Dewitt Co.

Virginia Variety Soybeans. "It seems as if we have at last gotten hold of the variety of soybeans that will answer our purposes. This is the Virginia variety. Several stalks where the beans were planted fairly early in silage corn have been found in the past week that are over 5 ft. tall. The beans in all instances are standing the drought better than most anything that we are now growing. Where the beans were sown broadcast for hay they are now about 3 ft. tall, and will yield an abundance of very good hay. The best cow peas are about 1 ft. tall."Rehling, Clinton Co.

Three poultry culling demonstrations were held this week. The percentage of culls varied from 5% to almost 50%. The 5% was in a flock belonging to a man who had been culling for several years and who had requested a demonstration for the benefit of his neighbors. His flock was an excellent example of what culling would do. His high records for production of winter eggs was common knowledge to his neighbors."--McCall, Johnson Co.

Demonstration Work at County Fair. "The Farm Bureau is preparing a complete exhibit of demonstration work done in the county for the Cook County Fair, which has been reorganized by farm bureau members."--Heller, Cook Co.

White grubs are doing considerable damage in corn, in locations near the timber. They are bad in fields following timothy sod, clover sod, oats stubble, wheat stubble and corn stalks, although they are worst after timothy sod."--Robbins, Dewitt Co.



The Extension Magazine

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When to Clip Alfalfa

"Young alfalfa should be clipped as little as possible the first year. Clipping tends to reduce plant vigor, affecting particularly the size of the roots. If it were not for keeping down weeds, cutting the first season might well be omitted. The least injury is done when the mower bar is held high. It is necessary then to adjust the height of cutting to that intermediate point

where most injury is done to the weeds, and the least harm to the alfalfa plants.. It is never advisable to take a hay crop from first year alfalfa, except under seasonal or soil conditions resulting in an extremely luxuriant growth.

In humid climates the starting of the young shoots on old alfalfa is very commonly used as the indicator of the best time to cut. Recently conducted experiments indicate that this time of cutting results in uniform crops at each cutting, but slightly less total yield compared to that cut at the time when one-tenth of the plants are in bloom. The increased yield of the latter is due to the first crop being heavier. The second and third crops of one-tenth bloom cut alfalfa are practically the same weight as that cut when the shoots are starting. Alfalfa cut when the plants are in full bloom produces a heavy first crop, but the two subsequent crops are reduced. This may be due to seasonal conditions, to a slight injury as a result of clipping off the top of the shoots of the new crop, and to loss of leaves as a result of the leafspot disease. When leafspot is severe, it is advisable to cut before defoliation progresses to any appreciable extent."-- Geo. H. Dungan, Assoc. in Crop Production, U. of I.

Sweet Clover Thresher. "An ingenious method of threshing small quantities of sweet clover was used by one of our members last week. He has an I. H. C. manure spreader, the beater of which he ran with a Moline Tractor. The sweet clover was fed thru the apron of the spreader and the seed was effectively knocked off. A sideboard wagon-load of the unhulled seed was threshed from about two acres."--Rehling, Clinton Co.

Third Breed Codling Moth. "From observations made during the last month in central and southern Illinois, the third breed of the codling moth will not be quite so numerous this season as it has been the past two or three years. There is every evidence, however, that such a breed will appear and that worms of this breed will be hatching in Johnson, Jackson and Union county orchard areas about August 15, in the Centralia, Flora and Olney areas about the 16th to 17th and in the Calhoun, Pike and Adams County areas about the 17th to 18th. Eggs of the second breed moths will still be hatching at this time.

In orchards where there is a fair crop it seems advisable to apply a late spray on all fall and winter varieties of apples. Use dry Arsenate of Lead, 1 lb. (or 2 lbs. of paste) and 2-lbs. of fresh lime to each 50 gal. of spray. If fresh lime cannot be secured use 4 lbs. of hydrated lime."--Flint, U. of I.



Poultry Schools Successful. "The first county poultry school in Illinois was held in Stephenson County, August 3. This school was similar to the one held at the University and was attended by representatives selected by the adviser from the various townships of the county. These representatives will hold culling demonstrations in their localities and also do culling work for individual flock owners of their communities when called upon. It is hoped by this plan to serve a large part of the Farm Bureau membership and to relieve the county adviser of much of the detailed poultry work.

"The one-day poultry school held at the University on August 8 for the purpose of giving the advisers some instructions and practice in culling farm flocks had an attendance of 100, approximately 40 of whom were county advisers.

"Frank L. Platt, Editor of the American Poultry Journal of Chicago, handled the instructional work on culling farm flocks and also discussed general methods of feeding and housing poultry. A detailed report of this work will be sent to each adviser in a few days."--W. H. Smith, U. of I.

"University of Illinois' Memorial Stadium and Recreational Field, the largest plant of its kind in America, which means the world, as the stadia of Europe are much smaller, will be one of the finest expressions of architectural brilliancy of its kind in all history.

"Patterned after the rich, yet exquisitely plain, designs of the ancient Colosseum at Rome, and the stadia in which were staged the Olympic games of Greece, the Illini Memorial, too, will combine the rigidity, vigor, fearlessness of the Illiniwek tribes of the western prairies. It is to be a symbol of the athletic prowess of the west, and the last word in stadia architectural designs.

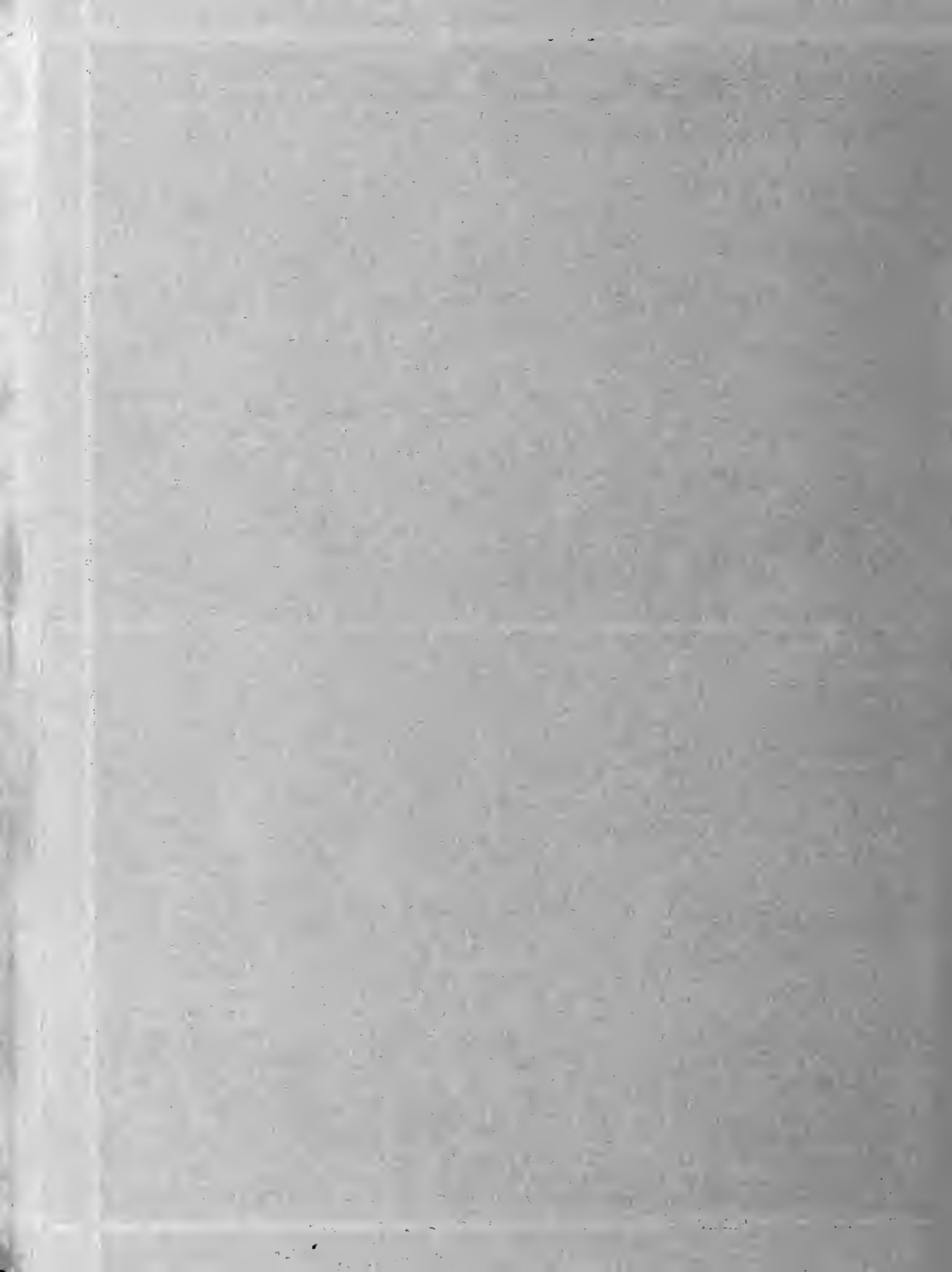
"The stadium will be horseshoe in shape, like a gigantic amphitheatre, with seats on three sides, accomodating more than 75,000 persons. Across the open end will be the Court of Honor and Greek theatre, surrounded by 183 Doric columns, each dedicated to the 183 Illini who made the supreme sacrifice in the World War.

"Under the sides of the stadium will be a mammoth basketball court, handball and volley ball courts, ample training, locker and shower quarters for the athletic teams, perhaps an indoor running track, and numerous other recreational features.

"But the Stadium will occupy only about 13 acres in the proposed recreational track of 100 acres surrounding it. This vast playground will contain 100 tennis courts, 25 baseball diamonds, 10 gridirons, numerous hockey, soccer and archery fields, and a polo field."--Sampson Raphaelson.

"Minerals for Pigs. "Recent feeding tests conducted at the Ohio and Illinois Experiment Stations show that the addition of minerals to balanced rations has little if any effect on the rapidity or economy of gains in growing pigs for markets. It has also been observed that the bones of pigs can be strengthened by the addition of minerals to the ration. Minerals may pay when pigs are being fed without pasture, tankage or milk in the ration, or when it is intended to use the pigs for breeding purposes. The mineral ingredients used in these tests were: ground limestone, air slacked lime, rock phosphate, various forms of bonemeal, slacked coal and salt.

"Up to this time investigations at Illinois have dealt with the problem of the addition of minerals to a good ration for growing market pigs. During the last two years 200 pigs in 10 lots have been used in experimentation, in addition 40 pigs are being fed this year to secure further data on this problem. Next winter and spring, gilts from this year's experimental work along this line will be used to determine the value of minerals in strengthening the bones of producing sows.



"Recent publications concerning the use of minerals in the rations of hogs are available from the Ohio Experiment Station, Wooster, Ohio."--Rice and Laible, Swine Division, U. of I.

Red Top Growers Plan Pool. "Our farmers are undertaking to pool at least a considerable part of their red top seed along with the farmers in Marion, Jefferson and Wayne Counties. This effort is not for the purpose of stimulating interest in the growing of red clover, but simply to assist our farmers in getting more nearly the proper market value for the crops which they have already produced. At the same time we are urging our farmers to start in at least a small way the liming of their land for the growing of clover."--Hart, Clay Co.

Soil Improvement Pays. "Threshing is about completed, and while returns are light, where phosphate has been used the yield on both wheat and oats has run from 10 to 20 bu. per acre more of good quality. The difference from soil treatment has made more difference in yield this year than usual."--Wise, Iroquois.

Weed Exhibit Appreciated. "Our Farm Bureau exhibit, while not as large as last year's, drew a good many visitors on Thursday and Friday. The portion that seemed to draw the most comment was the one in regard to the weed law. I secured a specimen of several of the specimens mentioned in the weed law and had them growing in boxes for exhibition. It was interesting to hear the number of farmers tell the kind of weeds they had on their farms. I inquired of a great many where they obtained their start of their obnoxious weeds and almost invariably they answered that they had obtained them in seed of some kind which they had purchased."--Gentle, Schuyler Co.

Wheat Drill Plants and Cultivates Soy Beans. "We have perfected a very effective method of planting and cultivating soy beans. The planting is done with a wheat drill by stopping up all the flukes but the first, fourth, seventh, and tenth. This makes the rows 21 inches apart. The beans are cultivated by arranging the flukes so that the first fluke is placed between the second and third, the fourth fluke between the fifth and sixth, etc. The beans can then be cultivated very rapidly and efficiently by this method. The machine and horses fit in the rows and the cultivator moves along very rapidly and easily."--Tarble, Bond Co.

Farm Tour a Success. "In our north-side drive Friday, August 12, we showed where \$10 worth of potash on peat soil produced more than \$100 worth of sweet corn. The untreated check plot was worthless while that getting about 100 to 200 lbs. of potash to the acre made excellent corn. On Art Heimseth's place, we showed where limestone doubled the yield of alfalfa and at Henry Hoppenstadt's farm we saw where our cow tester, Mr. Donald Pattison, had cut down the cost of rations thru balancing home grown feeds and had increased the milk flow in several instances as much as five pounds per cow per day thru more economical feeding of grain. Such an increase on two cows more than pays the cost of testing."--Heller, Cook Co.

Pope County Hires Adviser. Levett Kimmel has accepted a position as farm adviser in Pope Co. to begin work Sept. 1. Mr. Kimmel is farm reared, a graduate of the University of Illinois and for the past four years has been a Smith-Hughes Instructor at Chrisman, Illinois. He is a native of Lawrence County and is thoroughly familiar with Southern Illinois Problems. The permanent organization of the Bureau was held May 14 with over 400 members signed up.

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Legumes
and
Labor
Incomes

"Back in 1912, before so much was heard about growing legumes, the Dairy Department made a survey of 680 farms in Kane and McHenry Counties and one of the many significant things which appeared when the data were studied is shown by the following table:

RELATION BETWEEN THE AMOUNT OF LEGUMES GROWN AND THE FARM LABOR INCOME

Proportion of hay acreage in legumes	Percentage of total number of farms	Farm Labor Income
Over two-thirds	6	\$960
One-third to two thirds	7	816
Less than one-third	16	538
None	71	467

There was not an acre of leguminous hay grown on seventy-one percent of the farms, on which dairying was the principal enterprise and the average labor income was but \$467. The average labor income of the other groups of farms increased with the proportion of hay acreage in legumes.

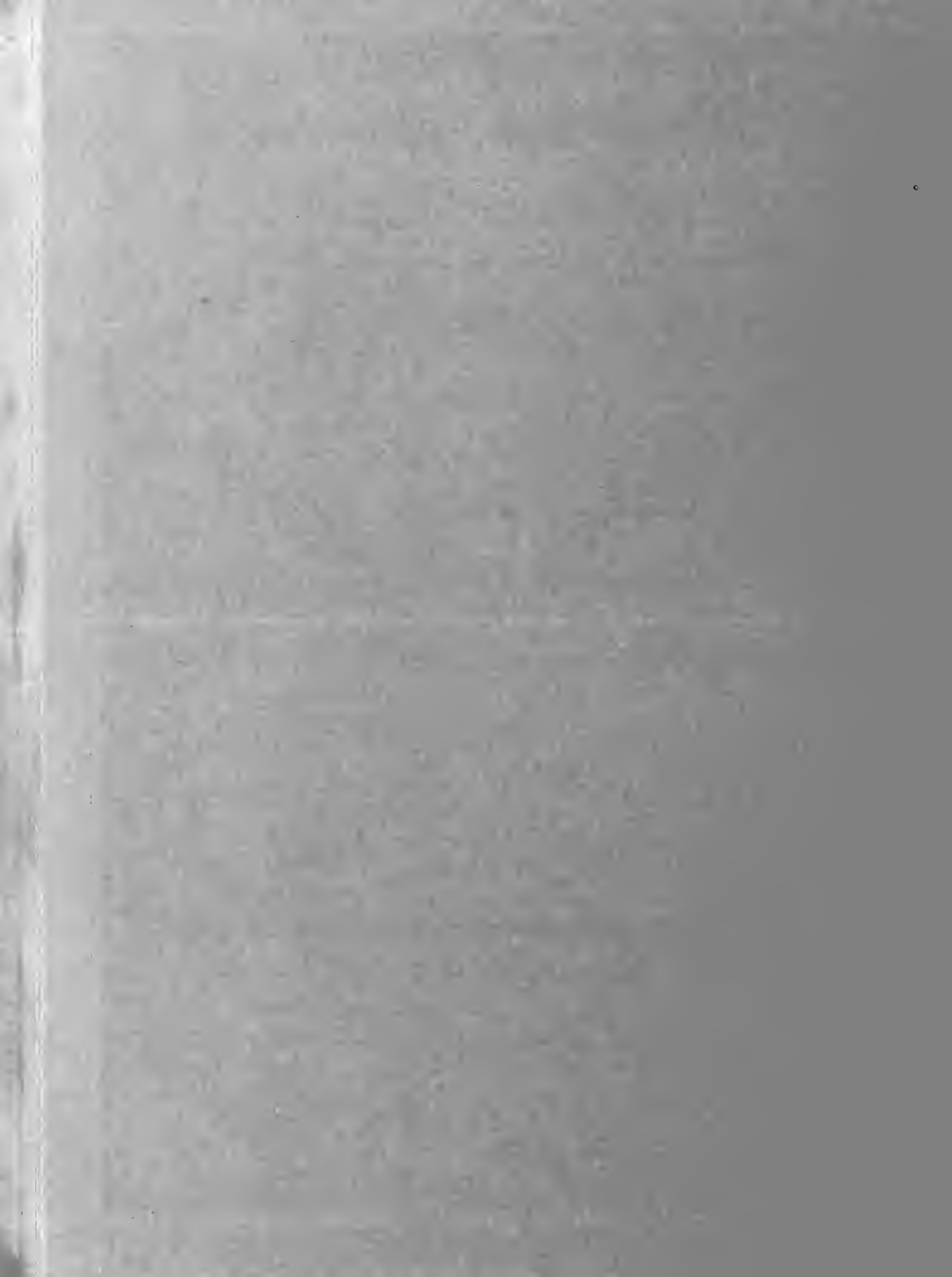
Other factors, undoubtedly, influenced the farm labor income but whether or not it is admitted that growing a larger amount of legumes tended to increase the profits, the fact remains that the better farmers who were getting the largest labor incomes grew the most clover and alfalfa.

The average yield of hay on the farms and the amount of crude protein produced per acre explains to some extent the cause of greater profits when legumes were grown.

Hay	Average yield per acre	Crude protein per acre
Timothy	1.16 tons	70 lbs.
Clover	1.50 "	228 "
Alfalfa	2.36 "	500 "

This is merely another version of the old story that home-grown legumes constitute one of the best sources of cheap protein."--H. A. Ross, Assoc. in Dairy Economics, U. of I.

"Do Not Sow Wheat Before the Fly Free Date. The Hessian Fly survey for this season will be completed this week. Results of this work will be sent to each Farm Bureau."--Flint, U. of I.



"White Corn vs. Yellow Corn for Pigs." Experiments on rats have shown that the white and yellow corn differ greatly in feeding value when supplemented by feeds which are lacking in fat soluble A, the growth producing vitamine. In order to determine if possible whether the same facts are true in swine feeding, the Illinois Station is conducting a series of experiments along these lines. The importance of the study is recognized when we consider the fact that corn is the principal feed of the corn belt hog and that many hogs are fed in dry lot where no other feed is available. Such dry lot feeding of course exists more frequently in winter than in summer.

At breeding time, in the fall of 1920, eight sows were selected and bred. Four of these were fed white corn and tankage, while the other four were fed yellow corn and tankage. Tankage was used as a protein supplement because the high temperature used in its preparation destroys the vitamine. The sows were kept on these rations through the gestation and lactation periods. At weaning time the pigs farrowed were fed the same rations as their dams and are still on these rations. The sows have been kept on the same rations and have been re-bred for a second litter.

The experiment shows that pregnant sows, suckling litters and suckling pigs seem to do as well on white corn and tankage as on yellow corn and tankage, but that young pigs after weaning do not make much growth on white corn and tankage. In experiments on rats, growth can be secured when white corn and tankage are supplemented by butter, which is high in fat soluble. However, the addition of butter to a white corn and tankage ration has not induced growth to pigs.

Pigs that failed to grow on white corn and tankage are now being fed yellow corn and tankage to determine whether this change will induce growth.

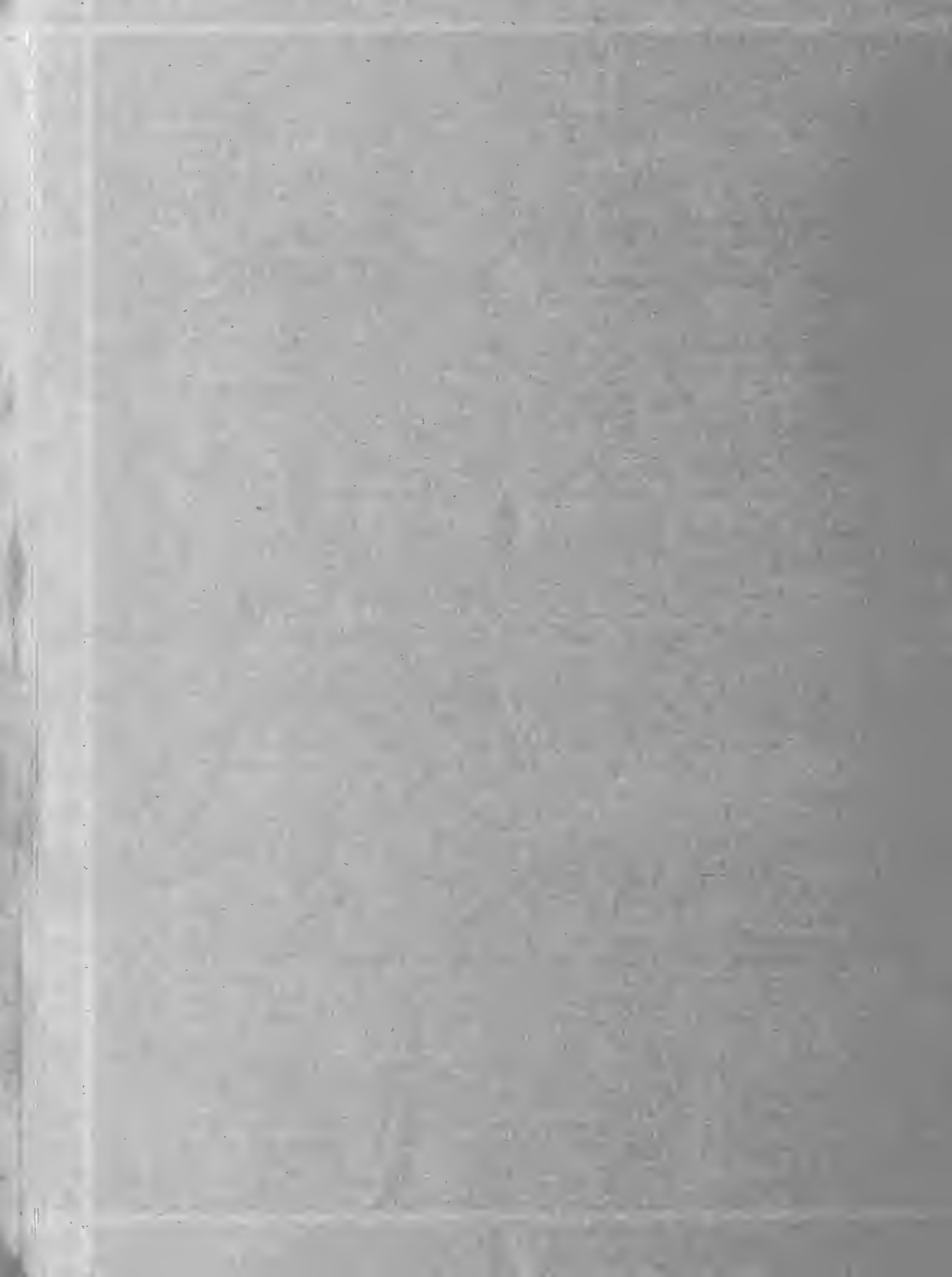
In line with our previous experiments, we expect to start a test with seventy-five pound pigs to find the feeding value of white corn for pits which have attained considerable growth under favorable conditions; in other words, we wish to determine the effect of a vitamine deficient ration on half grown pigs."--Rice, Mitchell and Laible, U. of I.

"More Evidence that Sweet Clover is Paying Proposition." I visited a farm last week where 55 head of cattle and horses had been pastured on 27 acres of sweet clover since it first came out of the ground. This was all the feed they received until August 1. They gave more milk per cow than the herd of a neighbor who was inclined to make fun of sweet clover."--Wheelock, Lake County.

"Sweet Clover Pasture has proven its value as a pasture crop this year. All the farmers who have used it report that the only mistake they made is that they failed to put on enough stock. They feel that this is a pretty good fault with the crop."--Isaacs, Mason Co.

Legume Acreage Increased. "The Farm Bureau is getting excellent results in its effort to bring about the growing of more and better legumes. On every hand alfalfa patches are being sown, wheat stubbles being clipped for the benefit of the clover and preparation made for the more extensive growing of sweet clover. Within the past month, we have ordered 48 cars of limestone and 4 cars of phosphate."--Tarble, Bond Co.

"Results from thrashing wheat and oats on phosphated ground indicates a difference on the average of 10 bu. per acre in favor of the ground on which rock phosphate has been applied. It seems that this particular year the fact that the phosphate pushed the grain on to maturity, thus avoiding the ripening during the drought, was of great importance."--Price, Kendall Co.



Massac County Gets Limestone. "We unloaded a train load of limestone this week. We used the bottom dump cars and dumped the stone on the right-of-way along the farms. There were 36 farmers present and when a car was dumped they would all help get the stone out of the way."

The special train and crew cost us \$10.00 per hour and the extra cost per car was \$5.72, which would have been much less had the stone been dry. The cars had been rained on for almost 24 hours before they were unloaded which made dumping more difficult.

All farmers who got limestone were well pleased. They said that \$5.72 was cheaper than they could shovel it out besides a saving of an average of a three mile haul of 1190 tons. Two tons make a good load for one team on level roads. It would require 595 2-ton loads to haul the 1190 tons. An average of a three-mile haul was saved or a 1785-mile haul was saved for a 2-ton load."--McGhee, Massac Co.

"We have at present twenty communities organized this county. In thirteen of these communities, community clubs or farmers clubs are holding regular monthly meetings and are cooperating with the Farm Bureau. In five of them we have an organization consisting of a chairman and secretary, and meetings are held only on the call of the officers. We are devoting a great deal of time assisting these community organizations with their meetings. The organizations are a success and we feel are assisting very materially to make the work of the Farm Bureau a success in this county. We are wondering if any other county can show any better record for community organizations at the present time."--Richards, Kane Co.

"This week I attended another meeting of one of our Farmers' Community Clubs. I am impressed more and more all the time with the importance of these local community units. Kendall County now has seven of these organizations."--Price, Kendall Co.

Picnics Draw Big Crowds. "Attendance at Farm Bureau picnics as reported from five counties during the week ranged from 3000 to 6000. Who says Farm Bureau work in Illinois is losing interest?

Soybeans Grow in Favor. DeWitt, Clark, Morgan, Edwards and Winnebago Counties report field meetings and tours in interest of soybeans. Judging by the attendance reported at these meetings, interest in growing of soybeans is increasing wherever they have been tried.

Limestone-Clover Team. "The clover in fields where limestone has been applied is thriving well, but in the fields where limestone was not applied, the clover is dead."--McGhee, Massac Co.

"Horses are needed for actual replacements. Reports from 300 experience horse users, and a thorough survey by the Horse Association of America, place the average working life of horses after reaching the age of three, at twelve years. This would make the number going out of service each year from one cause or another 1,811,087, based on the total of 1920. There is a decrease of 22% in the production of colts on farms in the last decade. In 1919 there were but 1,594,141 colts on farms including both horse and mule foals.



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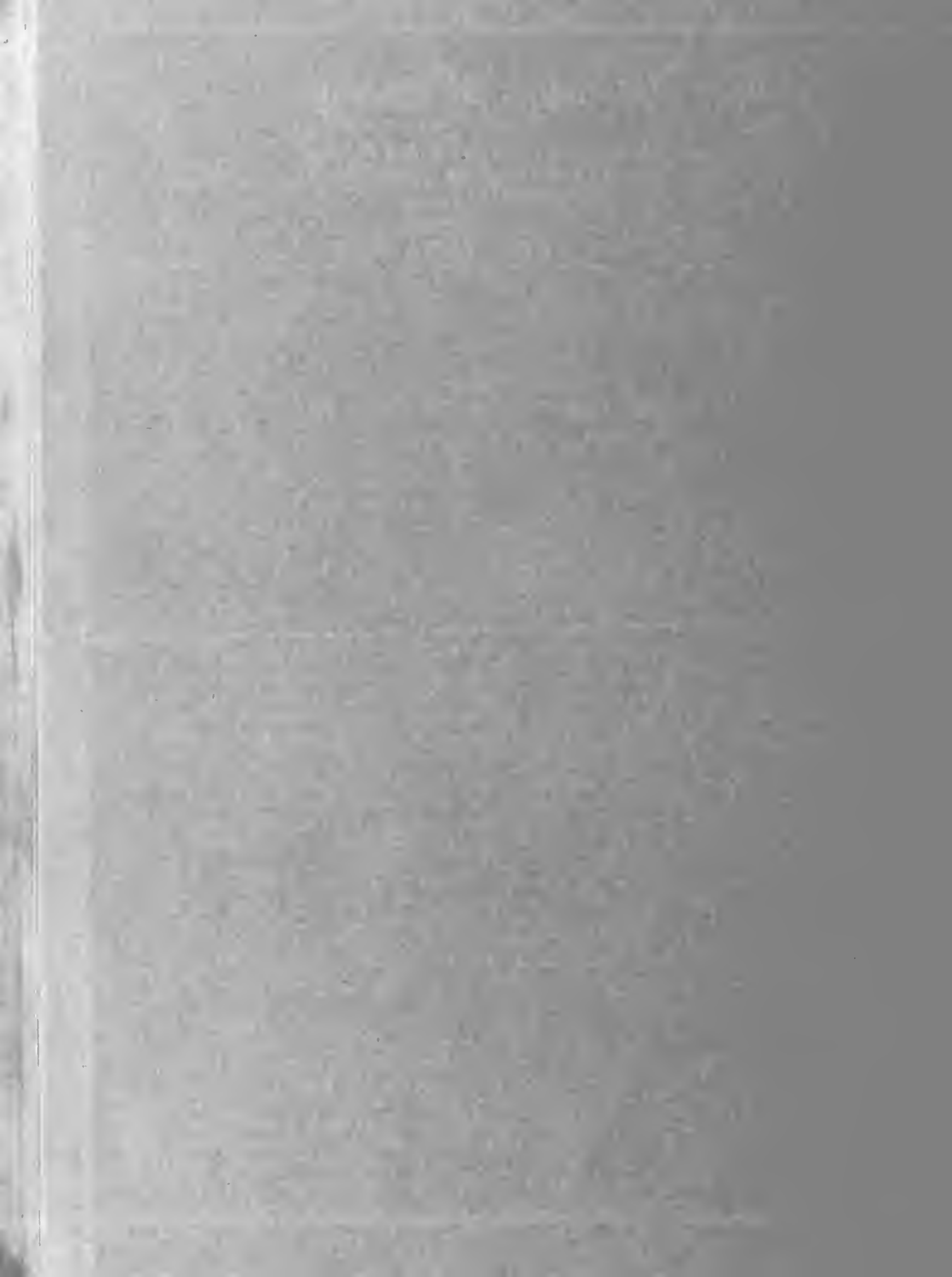
Proteins of Alfalfa and Red Clover for Milk Production

The beneficial effects of substituting alfalfa and clover hays for non-legumes in ordinary rations seem to be largely due to an increase in the quantity of protein fed, but possibly, in a smaller degree, to a better quality of proteins in the legumes. The limited data available seems to indicate that alfalfa proteins have a higher percentage of the most essential amino acids, (the basic or di-amino acids,) than many non-legume proteins. On the other hand, the latter may be even more digestible than the proteins of legumes. A considerable part of the nitrogen of growing plants is not in the form of true proteins but experiments indicate that the total nitrogen of alfalfa hay may be utilized for milk production to fully as great an extent as the nitrogen of the corn kernel.

At the Illinois and other experiment stations, it has been demonstrated that alfalfa hay may successfully replace, pound for pound, a part of the protein concentrate allowance in rations for milk production. In some cases, alfalfa hay was used to replace the entire allowance of concentrates, the ration then consisting of corn silage and alfalfa hay, but in such instances the volume of the milk was not as large as when concentrates were fed in addition. At the California station, young heifers were raised on alfalfa exclusively. Some of the heifers have completed three lactation periods on this ration, but their milk production has been about 25 percent less than that of heifers receiving mixed rations. The Dairy Division of the U. S. Department of Agriculture reports that in Indiana and Vermont surveys, legume hays decreased the amount of grain consumed per 100 pounds of milk as compared to rations in which non-legumes were used mainly or exclusively.

On account of their high protein content, legume hays are especially desirable as supplements to corn and other farm grains. The following figures indicate the percentages of digestible protein in some common hays: Alfalfa, 10.6; red clover, 7.6; red top, 4.6; timothy, 3.0. Incidentally, a very valuable feature of legumes for milk production, as contrasted with non-legumes, is the high content of minerals which the former carry."--W.B.Nevins, Dept. of Dairy Husbandry.

More Eggs After Culling. "We have completed our poultry culling demonstrations this week, a total of 21 having been conducted during the past two weeks. Reports are just beginning to come in from parties at whose places the demonstrations were held. Records were kept for seven days prior and following the demonstrations. Report from one man who had a flock of 60 hens showed a receipt of 85 eggs for the seven days preceding the demonstration. Twenty hens were culled out, leaving only 40 hens. His record for the seven days following the demonstration showed that he received 93 eggs from the 40 good layers and 1 from the 20 poor hens which had been culled out."--Allison, Livingston Co.



"Farmers' Day at West Salem. On August 12, the second all-day meeting of its kind ever held took place at West Salem where Farm Advisers from eight counties brought in delegations of their farmers to study the West Salem Soils Experiment Field and to listen to discussions of the agricultural problems of Southern Illinois. The morning was devoted to a study of the experiment field. Here 1000 farmers were divided into parties of about 100 each and guided over the field to see and study the effects of soil treatment and crop rotation on the plots and from the numerous exhibits arranged to tell the story of soil improvement in Southern Illinois. Coincident with the meeting at the field 300 farm women assembled at the City Park to listen to a discussion on the Home Bureau by Miss Van Aken.

After lunch in the City Park, 1500 people gave close attention to talks by Miss Van Aken, J. C. Hackleman, W. P. Flint, W. H. Smith, C. S. Rhode, W. S. Prock and F. C. Bauer. After the program a cow-judging demonstration was given by C. S. Rhode. In connection with this demonstration a striking exhibit was arranged to show the value of keeping good dairy cows vs poor ones. Farm Adviser Eastman of Pulaski County gave a poultry culling demonstration.

The demonstrations and the exhibits arranged for the day attracted considerable attention and proved to be a convincing method of pointing out clearly to the farmers of Southern Illinois some of the things which may be done to make farming in this section more profitable.

The two meetings of this character held thus far this season have been highly successful and are undoubtedly one of the best means of bringing the farmers and the University in closer touch with each other."--F. C. Bauer.

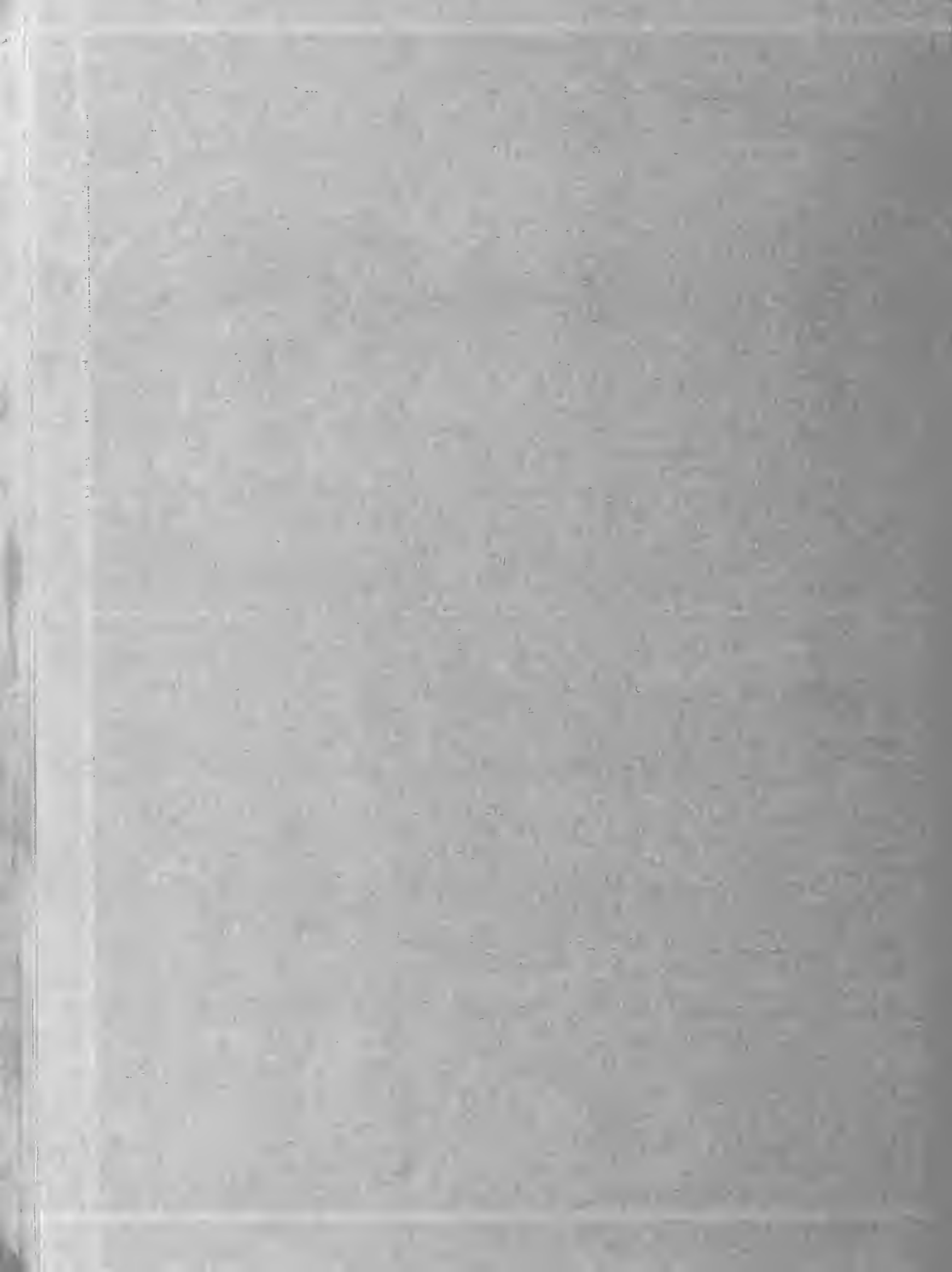
"Stadium to be Huge Memorial. University of Illinois' new Stadium and Recreational field, which, according to present plans, will be completed for the football season of 1924, will be a great memorial to soldiers of the state and University who participated in the World War.

Every Illini student who fell in the war will be commemorated with a Doric Column in the Stadium Court of Honor. In the Campanile Tower at the entrance of the new field is planned a war trophy room, containing in gold scroll on memorial tablets lining the walls the names of those of the University who made the supreme sacrifice.

The seats and boxes will be dedicated to service men. Each Stadium fund contributor will be entitled to place memorial tablets in honor of the heroes on the back of the seats. This will likewise apply to box purchasers.

Though the Illinois memorial will be dedicated both to soldiers of the state and University, it is being built entirely without state aid."--Kerneth Clark.

"Soybean Variety Demonstration. A very profitable meeting was held at one of the variety plots on yellow silt loam. Six silage and five hogging down varieties, planted May 17, were inspected August 26. A great deal of difference was noted in the maturity of the beans, yield, and amount of forage. The Wisconsin Early Black was the smallest and earliest. The Sable and Ebony were the highest growing variety. Some were more than 50 inches high. The Wilson No. 5 was the most trailing variety. A number of men took quite a notion to the A K on account of the heavy yield of beans. The Mongol probably made the greatest showing where both beans and forage are considered. The vines were from 3 to 4 feet in height, abundant, large leaves, stems heavy and quite erect. The Black Eyebrow and Ito San both showed high yielding quality. Both the Manchu and the Ohio 9035 were at some disadvantage on account of the attack of grub worms and the poor condition of the soil at seeding."--Burns, Jo Daviess Co.



Tractor Schools Success. "The second of the two tractor schools scheduled for the county was pulled off the first three days of the week. Twenty-two farmers listened attentively to the lectures given by the instructor, Mr. E. R. Elliott, of Champaign and jollied each other when working on the tractors. This tractor work was nothing if not practical, six tractors being completely overhauled, and two Ford touring cars and a Maxwell undergoing some repairs. The makes of tractors available for the school were Indian, Cleveland, International, Moline, Waterloo, Boy, Rumely, and Fordson. All of the work was done under Mr. Elliott's supervision. Some of the tractors were in rather poor shape, as any bunch of tractors would be that were picked up at random from farmers who were not mechanics. The boys, after pulling some stumps on the grounds and after giving a rising vote of thanks and hearty approval of Mr. Elliott's instruction, went home happy with a part of the tractors pulling the others which needed repair parts that could not be obtained locally."--Eastman, Pulaski Co.

Demonstration Poultry House. "During a farm visit some time ago, the adviser noticed a modern poultry house under construction. The owner had constructed a thoroughly modern, semi-monitor poultry house and had started construct the interior furnishings in the old way. Suggestions were offered which seemed to interest the owner and yet he did not feel confident enough to go ahead with the work. In order to have a thoroughly modern, up-to-date house in the community, the adviser agreed to assist with the interior structure. The greater part of Friday was spent in this work. I may say that, to my knowledge, this is the only house in the county of this type that is thoroughly up-to-date in all respects."--Allison, Calhoun Co.

Lower Freight Rate. "For some time I have been trying to secure a reclassification of feeding tankage by the railroads supplying this territory in order to have it take a lower rate. This week I received notification that my request had been approved by the Illinois rate commission to go into effect about Oct. 1. The present rate is 12 $\frac{1}{2}$ ¢ per hundred, carload lots. The new rate will be 9¢."--Keltner, Winnebago, Co.

Farm Bureau Secures Seed Wheat. "Thru the efforts of the bureau a carload No. 1 Turkey Red Seed wheat was shipped in from Kansas to the Fidelity Elevator. In the northeast part of the county the Turkey Red wheat is becoming very popular because of the yields this year and last. A great demand is being created in the southern and western portions of the county for Mediterranean Fultz wheat for seed this fall. We are having considerable difficulty getting in touch with any good seed of this variety."--Eyman, Jersey Co.

Seed Wheat Wanted. "There is an unusual interest in seed wheat this season. Home grown wheat is not of very good quality. We must import a great deal from outside sources. Everyone wants the old fashioned Turkey Red. If any of you have a supply of that, let us hear from you."--Kendall, Morgan Co.

Iowa Agent Tries Illinois Plan. Benton County has outlined a landlord-tenant project following the plan used in Vermilion County last winter. The project is being well received by both tenants and landlords and constructive results are expected.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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No. 36

Soybeans for Hay

"When harvested and cured in reasonably good shape there is no better all around hay for all classes of livestock than the soybean. Reports from local farmers indicate that horses, cattle, sheep, and even hogs all relish soybean hay. In southern Illinois and on hill land where it is difficult to hold stands of clover, the soybean is one of the safest crops for hay and it is usually more easily cured for hay than the cowpeas. Beans should be cut for hay when the seed is well formed, but not quite mature; that is, in the late dough stage. If on account of weather conditions the top leaves begin to turn yellow they should be cut without delay because the leaves will soon begin to fall and they are the most valuable part of the plant for feed. However, we have been surprised sometimes to see how much of the coarse stems the stock will eat.

The crop is usually cut with the mower. They should be left in the swath until the leaves are pretty well dried. They are then raked and put into well built cocks where they will stand a good deal of weathering. The cocks should not be made extra large and the base should be made as small as possible and still stand up. Bill Riegel, on the Meharry farm leaves his beans in the swath until he gets ready to take them to the barn or stack. When ready to put them up he rakes them when the dew is on to prevent shattering the leaves or picks them up with the hay loader.

Remember this: Beans have a very heavy stem and they will contain a large amount of water. Be sure and leave them in the swath or cock long enough to be thoroly cured before piling up in a barn. They will stand a lot of rain in the field, but if put in before thoroly dry the moisture in the stems is sure to cause moulding. When tall varieties are used for hay such as the Virginia and Sable varieties, one of the best ways to cut for hay is with the grain binder. Set them up in pairs in long shocks so that air can get to every bundle and they will dry out and cure nicely in a few days of good weather. They are more easily handled this way but on the other hand there is the extra expense of twine." - E. H. Walworth, Farm Adviser, Clark County, Illinois.

Soybean Day - a Real Gala Day. - "Between four and five hundred people attended the Corn Belt Soybean Day in Champaign County, Illinois, on September 1. There were representatives from 35 counties of Illinois, 9 counties of Indiana, 3 counties of Kentucky, and one county each of Missouri, Ohio, and Wisconsin. Dr. W. J. Morse of Washington, D.C. was also present at the meeting.

The program consisted of a soy field trip; a pep meeting in the interest of soybean culture; and an old fashioned farmers' picnic. The tour over the Agronomy South Farm permitted the visitors to see eight new soys, 13 old well established varieties, and some of the pet beans of the corn belt states. From the University the trail led to the "Embarrass Farm" southeast of Tolono. The



tour led out over the farm thru field after field of soys. It looked as if the corn belt had given way to a soybean belt. There were beans for hay, beans for seed, beans for silage, beans for soil improvement; in fact, for every purpose to which a legume crop could be put. There were 300 acres of soybeans growing alone and 100 acres growing in combination with corn. The prize soy area was a 75-acre field of Mongols on the south side of the farm. These were about three and a half feet tall, as level on top as a floor and as clear of weeds as a flower garden.

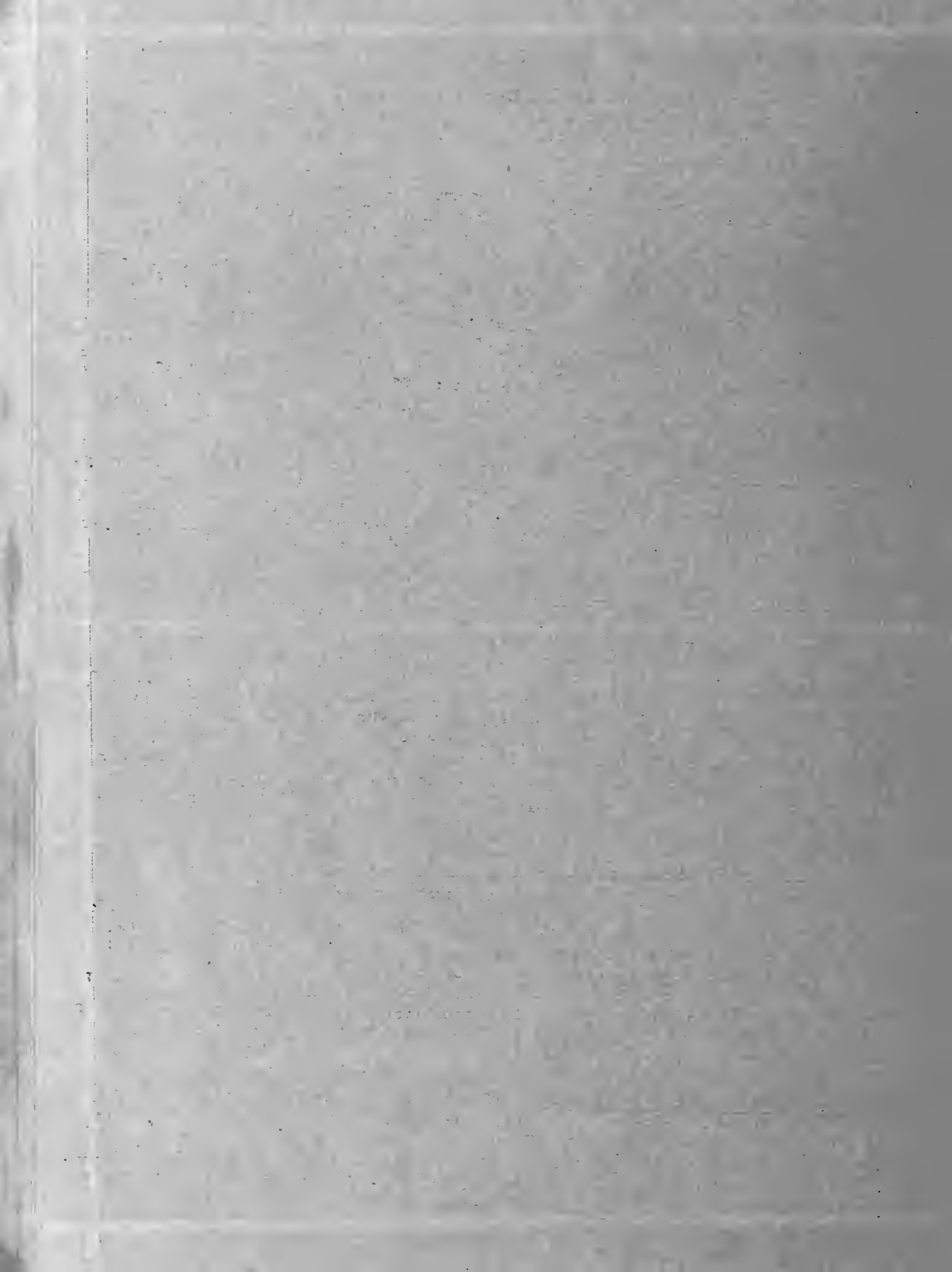
Among the things learned during the day the following facts might be mentioned: 1. In some experimental trials natural crossing in soys was found to occur 16 times in 1000. 2. Ninety-five percent of Iowa's acreage (150,000 acres) of beans is to be used for pasturage and hay. 3. Soys are high in vitamine content and equal to tankage as a supplement to corn in hog feeding. 4. Soys are edible when they are properly prepared. 5. Soys can be grown successfully by using sugar beet machinery for planting and cultivating. 6. A regular wheat separator may be successfully used to thresh soys." - Geo. Dungan, Assoc. in Crop Production, U. of I.

Soybeans Outclass Cowpeas. - "The cornbelt soybean day was certainly interesting, and instructive from every standpoint. We wish that every farmer in Clinton County might have attended. Our soybeans here in this county will make two or three times as much feed per acre, even on our poor type of soil, than cowpeas." - Rehling, Clinton County.

"Hessian Fly Conditions for 1921. - Examinations made in the larger wheat growing sections of the state show flaxseeds of the Hessian fly slightly less abundant than usual, except in a few of the midwestern counties. Here there is a moderately heavy infestation. A little more than 50% of the flaxseeds are parasitized. There is no indication of a second or supplementary fall brood. Apparently, outside the western area, the infestation will be a little less than normal and the emergence of the fly slightly before, or about normal. So far as we can see now, wheat should be sown as soon as possible after the fly-free-date as given out last year. This date is given in the Hand Book. If the weather remains unusually warm, it would be advisable to hold off seeding until a few days later than the date mentioned." - W. P. Flint, Chief Entomologist, Natural History Survey.

Miniature Demonstration Fields Unique Fair Exhibits. - "Much of our weeks time has been taken up in connection with the Cook County Fair, which the Farm Bureau is putting over. We will show Spring Valley four times a day all six days of the fair in the farm bureau booth. Will show how Day's demonstration on the treatment of onions for smut increased the yield of onion sets 1000%. This will be shown in a miniature field with the onions shown just as they grow in regular fields. Another miniature field will show how limestone increased the yield of alfalfa for Arthur Heimsoth 25%; how limestone increased the yield of sweet clover 200% and how rock phosphate increased rye yields 350%. All this will be shown from demonstrations conducted in Cook County the past year." - Heller, Cook Co.

Poultry Culling Popular Project. - "Picking out the poor layers in the farm poultry flock is a much-in-demand project this fall. Advisers find they can render a great service by teaching farm groups how to do this work themselves. Many demonstrations have been staged in all counties this fall. The two poultry schools conducted by Mr. Frank L. Platt were greatly appreciated by advisers and others." - Atwood.



Five Principles of Effective Work.

Plan	Schedule	Execute	Measure	Reward
To plan right-ly you must know:	The work must be scheduled:	The work must then be executed	The work accomplished must be measured as to	If work is accomplished effectively you should be rewarded with
1. What work is to be done.	1. Definitely.	1. Skillfully.	1. Your potentiality.	1. Success in your work.
2. How to do it.	2. In harmony with other work.	2. Accurately	2. Past Records.	2. Self development.
3. When to do it.	3. The schedule or program must be difficult to accomplish, but	3. Rapidly.	3. Past records of others in your field.	3. Happiness.
4. Where to do it.	4. Possible to accomplish.	4. Without unnecessary delay or	4. Quality.	4. Health.
5. How fast it can be done.	5. Rigidly kept.	5. Unnecessary effort.	5. Quantity.	5. Money

The five principles of effective work outlined above are not peculiar to any particular line of work, but may as easily be adapted to fit Farm Advisory work as any other. No individual or concern can hope to accomplish a constructive, progressive piece of work without taking cognizance of the fundamental principles underlying the effective accomplishment of a job.

You have probably heard that time is money, but have never realized how much money. If improvements in methods of work are followed which save only one minute per hour worked, 1.6% of your time or wage is saved. During one year, a minute per hour would mean 40 hours, or nearly one week. Five minutes per hour would mean 8.2% of time or wage saved. This would equal 200 hours or 1 month. Ten minutes per hour would mean 16.6% or 400 hours, or nearly two months.

At first sight these statistics seem startling. One month of effective work added to a year, without working any more or any harder means much in accomplishment for the Farm Adviser.

Not to be overlooked is the point that work done under efficient conditions is more easily done than work under haphazard methods and there is the additional satisfaction of greater accomplishment and progress.

If you are crowded for time or have too much to do, put the Five Principles to work for you. -

Rose D. Briem, Extension Specialist in Office Organization and Management.

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No. 37

What
is
Hacksel?

"Hacksel is the stand-by of a good many farmers in their dairy cattle feeding operations, especially those who have no silage. The name means any kind of hay or oats bundles after it is cut fine, by running through an ordinary cutting box or silage cutter. If it is clover hay it is usually known as clover hacksel, and if it is oats bundles it is usually known as oats hacksel. In most cases, however, when the farmer speaks of hacksel he means oats bundles after they have been run through a cutting box. The claims for hacksel and the reason for cutting up hay and oats given by most farmers are about as follows:

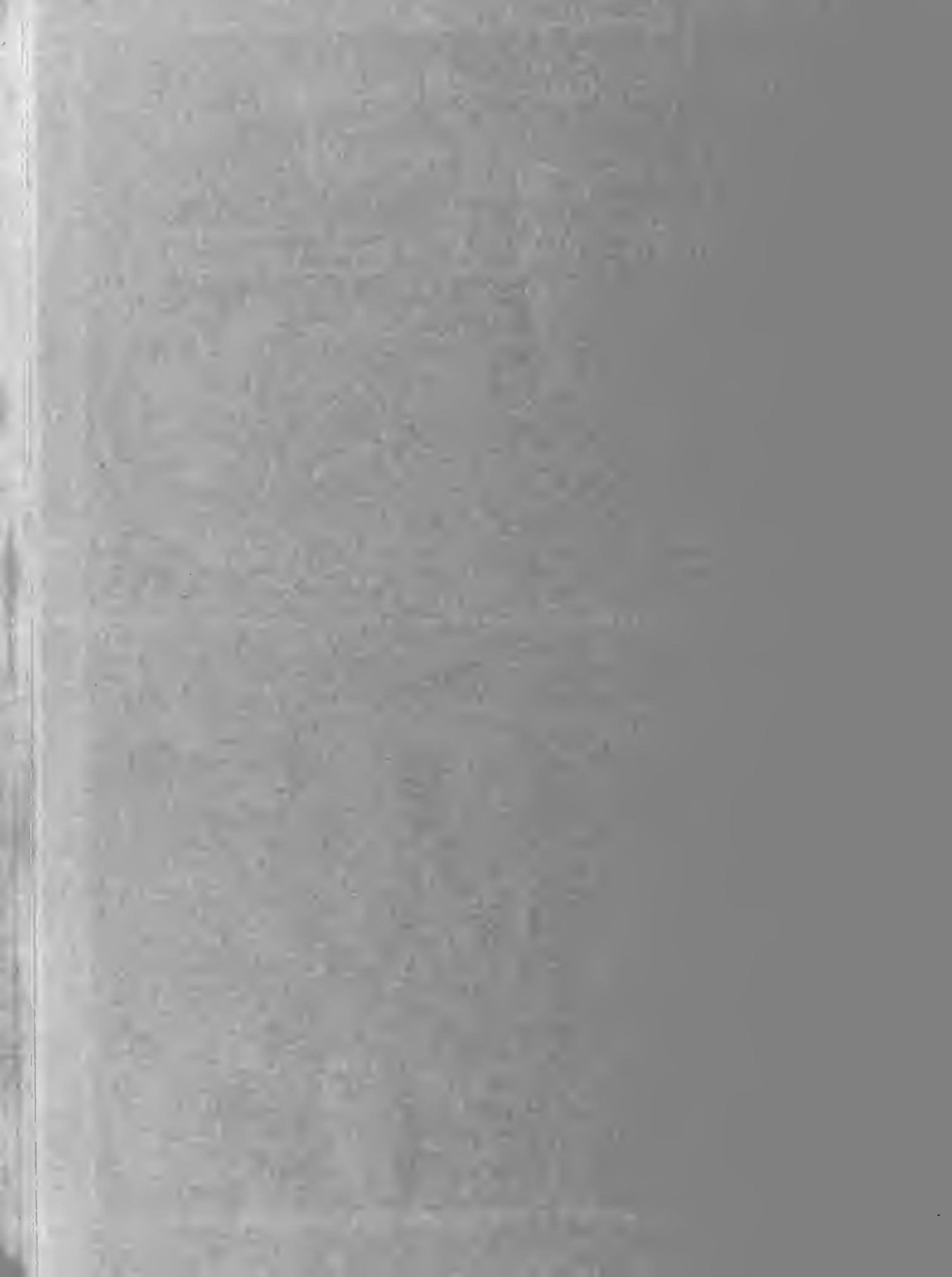
1. Economy in feeding. A good many mangers in farmers' barns are not properly built for feeding hay, causing the cattle to pull much of it out and wasting it by tramping it under their feet. This is largely eliminated by hacksel.

2. Handier feeding. Farmers claim that it is handier to throw in a few scoops of the hacksel, than to throw a few forks of hay. Often times grain is mixed with the hacksel as it is fed, and sometimes as it is cut. One of our members mixed some black strap molasses into the hacksel as it came from the cutting box. This made a very palatable mixture.

The practice of cutting hacksel is decreasing, as many farmers are getting silos. It is, however, still a favorite feed with many farmers as a roughage for horses in the summer time, and in our opinion this is the use for which it is best adapted. Instead of feeding hay to horses and mules at noon, a good many farmers feed a scoop-full of hacksel which, of course, contains some oats, with corn and other grain. It is not so bulky as hay and causes the horses to eat their grain more slowly.

We believe it is a waste of time and feed to cut oats for feeding dairy cows, because much of the oats grain passes through the animal without being digested and good dairy cows have very little use for oats straw. Also, we believe it is not necessary to cut clover and alfalfa hay, because animals will eat it just as well and get just as much out of it without its being cut, and that it is more economical and much easier in the long run to change the mangers so that cows will not waste hay, than to cut up all hay and oats used for feed."—Chas. H. Rehling, Farm Adviser, Clinton County Farm Bureau, Illinois.

Greased Pigs Make Great Fun! - "At the Farm Bureau Picnic the horseshoe pitching perhaps was the greatest sport of the day with the exception of the greased pig catch. Two greased pigs were used for this with eight men to catch them. Rules limited them to one minute to put the pig in the box after they caught him. It seems that this event created more excitement than anything else at the Picnic. Many have asked that we put on the same event again next year. There were between 1600 and 2000 cars at the Picnic. The crowd was estimated to be over 6000, while everything indicates that there were a large number present." - J. F. Hedgcock, Clinton County.



Mineral Mixtures Are Not Panaceas. - "There is an unusual interest in feeding mineral tonics to swine. Each breeder has a particular brand, blended with enthusiasm and virtues, which medicinal preparations rarely, if ever, possess. In other words we are fast approaching the point of overdoing mineral mixtures, medicated salts and other "cure-all" preparations. As a matter of fact these ingredients can never replace wholesome food, clean water and sanitary surroundings.

The complaints reaching this office strongly suggest that these materials must be fed carefully and with much discretion. Losses from so-called over-feeding of same have been frequently reported and the evidence at autopsy has often disclosed intense inflammatory changes in the stomach and intestines, while in other fatalities the gross changes in the digestive tract have not explained the cause of death.

MINERAL MIXTURES MAY CONTAIN BOTULINUS POISON

Among the contaminating, unwholesome and fatal extraneous substances encountered in a proprietary hog tonic there is a bacterial poison, indistinguishable from the poison encountered in unwholesome grains and hays. Improperly sterilized vegetables may contain the same poison and produce illness and death in humans. Many of our readers are aware of some of the recent and serious outbreaks, which have been reported in the daily press. Unexplained losses in swine, which are apparently traceable to feed, have been reported by breeders for many years and the possibility of a contamination in proprietary mineral concoctions cannot be disregarded in view of recent findings. There is nothing in the feed which will guide the owner and permit him to avoid it in the ration. A bacteriological examination, however, may reveal the presence of certain bacterial poisons. Suspicious feeds, including grains and hays, tonics and mineral mixtures should not be fed. In some instances the animals can be immunized against the toxic effect of unwholesome food, while the rations are being fed. This procedure has been practical in some herds with favorable results. Valuable animals may thus be protected." - Robert Graham, Professor of Animal Pathology, U. of I.

Trainload of Limestone Dumped on Farms to Save Haul. - "We unloaded another train load of limestone this week. The average cost for the special train and dumping was \$4.00 per car. As the limestone was dumped on two different branches of the I. C. some of the cars cost \$6.35 per car for the special train in which case a four-mile haul was saved. The farmers are well pleased with the results and want another train load either late this fall or in the spring." - McGhee, Lassic Company.

Phosphate Helps Wheat. - "A number of my men have had good results drilling phosphate rock in with the wheat just like commercial fertilizer. One man got two bushels more wheat from 257 bundles that had been treated with 300 lbs. of rock phosphate than he did from 270 bundles that had been treated with 200 lbs. bone meal and acid phosphate mixed. The field has not been limed. We have ordered two cars of rock phosphate for this community, a large part of which will be sown with wheat this fall in the manner described." - Tarble, Bond Co.

Need of Potash. - "We have some valuable demonstrations showing the value of manure on corn on some of our sandy land. The corn on manured land was fully 18 inches taller and of a dark green, thrifty color, while the unmanured rows showed effect of alkali and lack of potash." - F. E. Longmire, Grundy County.



A Farm Bureau Market in Kankakee. - "This is the second year the Association has maintained a Market. This Market is in a large building 145 feet long and 50 feet wide, and has booths in it where the farmers can bring in their products that they have to sell. The farmer is charged a nominal rental for a booth, and a man is hired who has charge of the Public Market. So far it has been very successful for the farmers to dispose of their products, and has been quite educational in that the farmers learn how to handle their material. A Committee composed of three women and four men make up the Marketing Committee. These people have charge of all complaints and financing of the Market.

Hundreds of people in Kankakee look forward to this Market every Saturday, making it possible for them to get fresh products at about 20% less than retail price. Everything grown on the farm is marketed here. Just recently they have been selling milk and have been able to sell quite a little cheaper and get more out of it themselves. The farmers have been getting about $2\frac{1}{2}$ cents a quart and through the Public Market they sold it for 8 cents a quart, and after paying for their bottles they got quite a bit more than $2\frac{1}{2}$ cents for their milk. Hundreds of quarts change hands every Saturday. The farmers bring in mostly fresh meats, vegetables, butter, eggs, and dressed chickens. This market has been the means of helping the farm-wife earn some money and get more for her products, and at the same time the consumer has been able to buy at a price that he can afford." - Collier, Kankakee County.

Splendid Series of Exhibits. - "The U. S. Grain Growers' Exhibit, similar to the one at the Illinois State Fair was shown in the Farm Bureau exhibit and attracted much attention. A representative of the U. S. Grain Growers was with the exhibit each day, and as a result many farmers have a clearer idea of the plan of the new marketing system. Other items of interest were as follows: an exhibit relative to local limestone companies, showing samples of stone, location, and pictures of deposits, types and cost of equipment; results of diseased and disease-free corn demonstrations (figures from Macon County); feeds for one year for heavy laying hens, culls and good hens in separate coops and relative number of eggs produced by each type in baskets beside coops; exhibits of orchard insects and diseases; varieties of weed plants, and varieties of soybeans, seeds, and plants. Samples of Kanred wheat from Illinois and Kansas brought forth inquiries. Results of soil treatment on blow sand at Oquawka were shown in pictures." - Lloyd, Hancock County.

Gate Signs Distributed. - "We took advantage of the County Fair to distribute a large number of the front gate membership signs." - Burns, JoDaviess County.

Painting Farm Bureau Names on Gate Signs. - Adviser Fuller reports getting this work done by a professional sign painter for 6¢ each. If you wish to know details write Mr. F. E. Fuller, Henry, Illinois.

"The County Farm Adviser came to our house one day,
He culled out all our chickens to see which ones would lay,
He talked about the keel bone, capacity and such,
He said, "Keep this hen, but that one don't amount to much,
Sell off the non-producers, keep only hens that lay,
A lazy hen doesn't earn her board, she'll never pay her way,
So now, Old Hen, get busy, and know what you're about,
Or the Farm Advisers will get you, if you don't watch out." -
Raymond Ohlhues, (5 yrs. old) Will Co. Farmer.



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Harvesting Soybeans For Seed

When the soybean nears maturity the plant drops its leaves, thus preparing for harvest. The seeds are not perfectly matured for a time after the leaves are off. This will usually require a week or more. The amount of time is governed by the ability of the plant to hold the seed. Some varieties have a tendency to lose the seed much more readily than others. These varieties should be cut sooner after the falling of the leaves than the type which holds the pods more tightly.

The method of harvesting soybeans varies considerably with the type of bean and the machinery available. The short, low-growing beans, like the Ito San (Medium Early Yellow) can seldom be cut satisfactorily with a binder if grown in rows, first, because there is usually a slight ridge made during the cultivation and the pods are lying on this ridge, making it impossible to run the platform of the binder low enough to save all the seed, and second, because open growth such as is found in rows tends to cause lower pod formation than when beans are grown solid or broadcasted.

The mower can be used fairly satisfactorily on such short growing beans. As a rule, however, there is more shattering when beans are harvested with the mower than when harvested with the binder. If cut with the mower, they should be raked up immediately with the side-delivery rake or with the ordinary hay rake and put in small bunches or shocks and allowed to remain there until dry enough to thresh. The self-rake (mower attachment) frequently used for cutting clover seed has been used with fairly satisfactory results. This machine, of course, bunches the beans and throws them aside out of the way of the team and the machine.

The grain binder is doubtless the most satisfactory machine to use where the beans are tall enough to save the seed. By using the binder, the crop can be handled in the bundles. The shock should not be large. It is advisable to make them just as small as possible and yet have them stand up. This hastens the drying out and usually makes it possible to get the threshing done when the seed is in better condition.

As a general rule, it is advisable to cut soybeans for seed in the morning when the dew is on as they will not pop out as badly when being handled as they will in the afternoon. This is especially true when using the mower or the side-delivery buncher." - J. C. Hackleman, Crops Prod. Dept., U. of I.

Correction Soy-bean Day Item. - (Messenger No. 36). "Estimates that placed the attendance at the second annual Cornbelt Soybean Day between 400 and 500 were far too low. Actual count taken during the noon hour on Soybean Day showed that there was a total of 1629 people present. Where previous item read: "Soybeans are equal to tankage in hog feeding", it was meant "for hogging down purposes, soybeans in the corn are more economical as a protein supplement than is tankage." - G. H.



"In harvesting soybeans, planted in rows, one of our farmers has found it a decided advantage to mow diagonally across the field instead of down the rows. By this plan all of the knives are kept at work and there is less clogging." - Kendall, Morgan County.

Soybean Varieties. - "Most interest at our County Fair was displayed in comparing varieties of soybeans grown by different farmers. Heavy podding was shown on Medium Yellow, Haberlandt, A. K. and Ito San while length of growth was shown in the Virginia variety." - Wheeler, Lawrence County.

"Our Virginia Soybeans and Democrat Corn have been very satisfactory in every instance that has come under my observation. Both are winning homes in the hearts of the farmers that have used them." - Tarble, Bond County.

"The Democrat corn has given a good account of itself this year. It is maturing a good crop in spite of the chinch bug. It has stood up much better than the yellow corn alongside of it where bugs were a factor." - Eymann, Jersey Co.

It Pays to Select Seed Corn Carefully. - "We held eight seed corn selection demonstrations during the week, and including the high school boys, reached about two hundred persons. A little good seed corn was found in all fields, but a very large percentage of most fields was badly damaged by diseases, corn ear worms and smut. We will continue these meetings throughout the coming week. Where positive efforts have been made last year in selecting seed, a marked improvement in this year's crop is shown. By far, the most desirable seed available this fall is from fields planted with seed carefully selected and dried last year." - Logan, Crawford County.

U. S. Grain Growers Exhibit at Fair. - "The County Fair drew large crowds. The number to be found at all times around the U. S. Grain Growers' exhibit showed very active interest which is being taken by farmers in this movement. Folks are seeking information from every possible angle, and it is plainly evident that the more information they get, whether it is from a friend or a foe of the U. S. Grain Growers, the stronger the general sentiment becomes in favor of the farmers' own organization." - Brooks, LaSalle County.

"The County Swine Show was the big event of the week. This was held in connection with Rock Creek Fair, one of the county fairs held annually. The ring was surrounded with spectators during the entire show. The feature of holding it in connection with the fairs is a good one and it may be continued next year, holding it with one of the fairs in a different part of the county." - Fahrnkopf, McLean County.

"Five culling demonstrations were held during the week. Three hundred and five hens were handled and 110 discarded as culls. The weather has been rather showery and has cut attendance, but we have maintained our schedule." - Gentle, Schuyler Co.

"Limestone - Arrangements are being made with a local company to put in a special screen so that limestone fine enough for agricultural purposes can be secured from the quarry. All of the stone that leaves the quarry now is for roads." - Kline, Boone County.

Alumni Will Boost. - "With practically \$700,000 already pledged to the U. of I. Memorial Stadium and Recreation Field from student and faculty subscriptions, the Stadium authorities are rapidly preparing for the mammoth state and nationwide drive among alumni during the football season. The drive this fall will probably start October 29, the day of the football game with the University of Michigan, and continue one week. The minimum quota has been set at \$1,500,000.

The individual alumni subscription is \$100, payable in five installments over a period of $2\frac{1}{2}$ years, and the honor subscription is \$200, payable in ten installments over a period of 5 years. With each \$100-pledge, the donor receives an option on one seat for 10 years or two seats for 5 years. As the subscription increases, the number of seat options increases in the same ratio. An honor pledge of \$200, therefore, entitles the donor to two seats for 10 years or four seats for 5 years.

The Doric memorial columns surrounding the Court of Honor which will cost \$1000 a piece, entitle the purchaser to an option on twenty seats for 10 years or forty seats for 5 years. Eighty-seven of these columns have already been purchased by campus organizations and individuals. Every Illini who died in the War will have a column whether someone purchases it or not. The \$1000 simply adds the name of the purchaser.

In Illinois every county will have a Stadium chairman. Outside of Illinois, every state will be represented by a Stadium executive chief. These leaders will have various sub-committees: ways and means, publicity, estimates and county. There will be one solicitor for every ten alumni in each county and in each state.

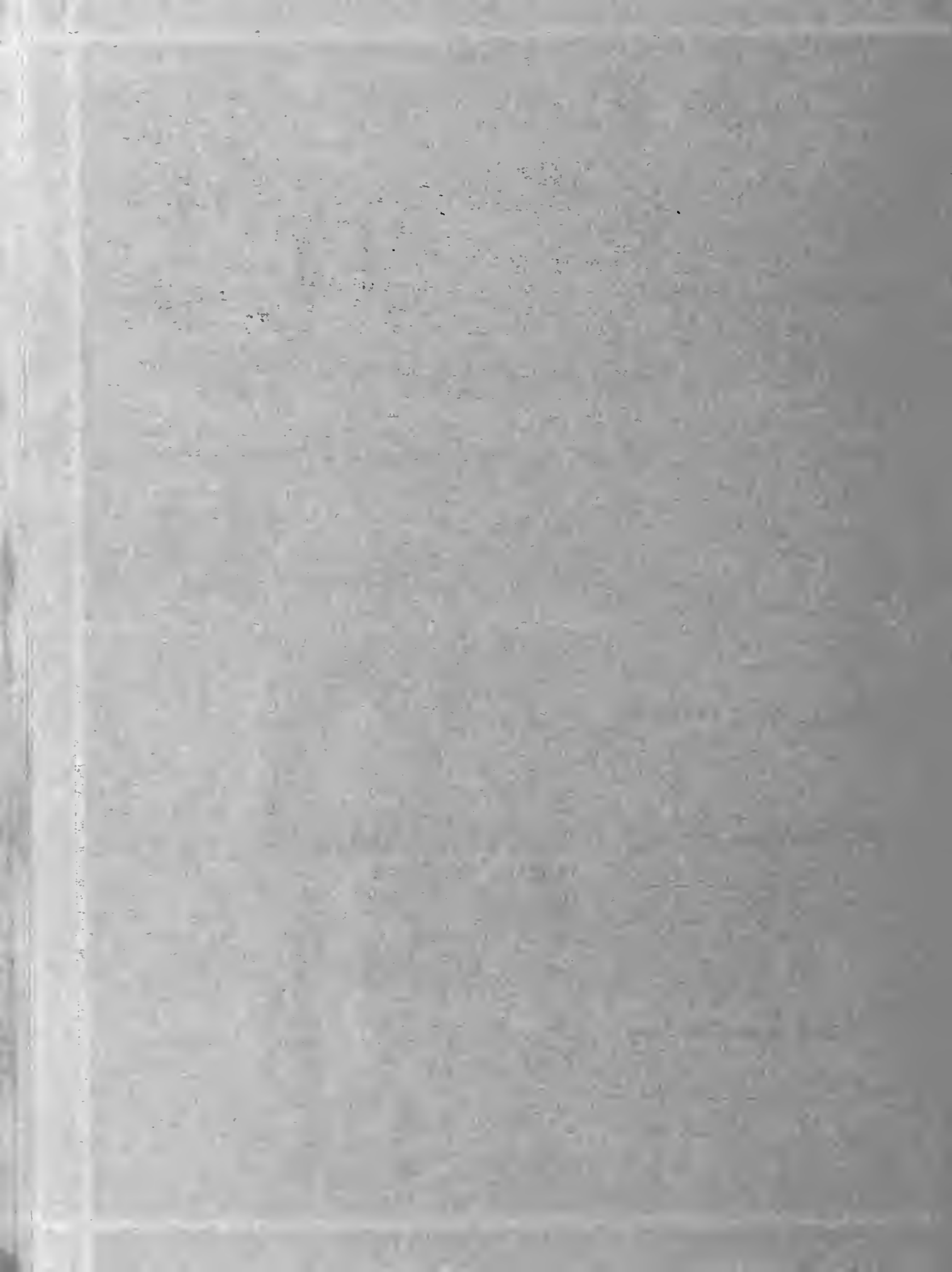
Having returned from a long trip to the West Coast in the interest of the Stadium, George Huff, Director of Athletics, and Robert Zuppke, football coach, are highly enthusiastic over the prospects for a successful campaign. In each of the twelve western cities which they visited, Illinois alumni pledged wholehearted financial backing to America's largest Stadium." - Kenneth Clark.

"Sweet Clover is becoming a valuable crop in the county. One farmer in Dunham township seeded sweet clover with oats this year. Thirty bushels of oats were threshed per acre. The farmer is now harvesting one and one-half tons of sweet clover hay per acre. The soil is black mixed loam. Another farmer seeded sweet clover on peat where corn had failed to thrive. Altho the sweet clover was not seeded until August 1, he has secured an excellent stand and will have considerable fall pasture." - Gafke, McHenry County.

"Our farm bureau tent was well filled on Farm Bureau day. We ran "Spring Valley" and "Horse Sense". Also held a horse shoe tournament and poultry culling demonstration. Our share of the gate receipts on Farm Bureau Day will be approximately \$1000. and our expenses around \$250. which will help our bank account considerably. We estimated that at least 500 people asked information at our office at the fair grounds." - Wheelock, Lake County.

Inspected Seed Potatoes will be available in large volume this fall. If interested write to J. G. Milward, Wisconsin Experiment Station, Madison, Wis.

Wayne County Gets Adviser - Mr. C. T. Hufford who has been assistant adviser in Monroe County has been employed by the Wayne County Farm Bureau as their new adviser. Mr. Hufford will open his office at Fairfield, Illinois, about October 1.



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Threshing

Soy

Beans

"How to thresh soy beans" is a question being asked by many who are attempting to grow soy beans for seed. I believe that almost any standard separator used to thresh wheat and oats can be equipped at a very nominal expense so that it will thresh soys very satisfactorily.

The trouble most people have is not being able to adjust the machine so it will thresh without splitting the beans and will at the same time get the heavy straw thru the blower. First, remember that it is speed and not teeth that splits soy beans. By using a large pulley on the cylinder shaft of the separator, reducing the speed of the cylinder to 320-380 revolutions per minute, and using other large pulleys to keep the feeder, shakers, blower and fan running at normal speed, the possibility of splitting the soys is reduced to a minimum. When the cylinders run slow it is advisable to put in three or four rows of concave teeth so that all the beans will be threshed out of the pods and the straw shredded fine enough to go thru the machine easily. Also this finer straw makes better feed for horses and cattle. These adjustments make a very satisfactory bean huller out of an ordinary wheat separator." - W. E. Riegel, Tolono, Illinois.

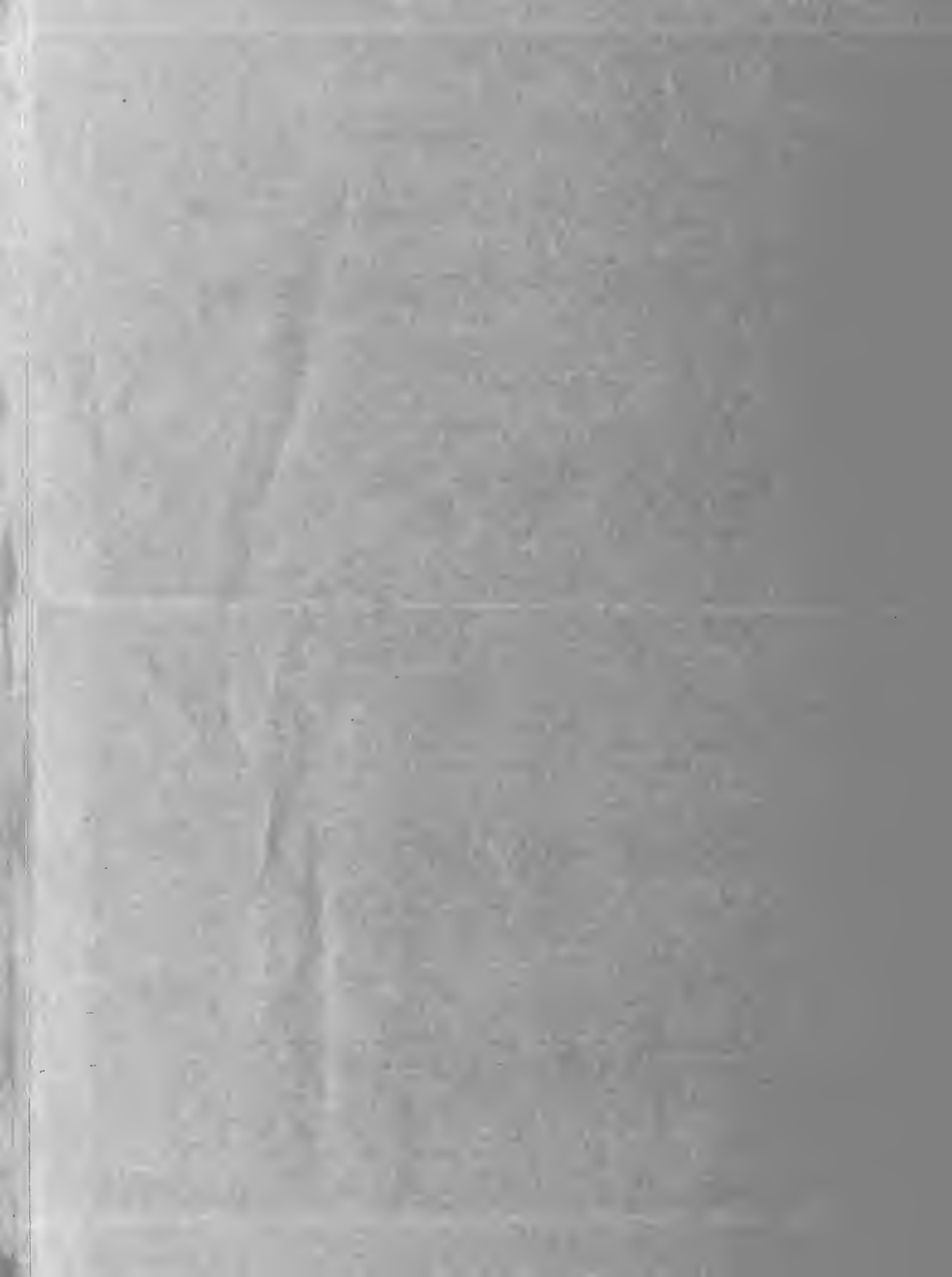
Good Time to Plant Orchards. - "The decrease in the number of apple and peach trees in the United States as given by the 1920 census is almost startling even to those who have been most familiar with the situation. The number of bearing apple trees in 1920 was 115,265,029 as compared with 151,322,840 in 1910, a decrease of 36,057,811 or 23.8 per cent. The number of young trees or those which have not yet reached bearing age was given as 36,171,604 as compared with 65,791,848 in 1910. These figures indicate a decrease of 29,620,244 or 45 per cent.

The number of bearing peach trees in 1920 was 65,654,921 as compared with 94,506,057 in 1910, representing a decrease of 28,851,736 trees or 30.5 per cent. Those not yet bearing in 1920 were 21,623,657 as compared with 42,266,243 in 1910, a decrease of 20,642,586 trees or 48.8 per cent.

The number of apple trees in surrounding states as compared with Illinois is shown in the following table:

	Trees Bearing		Per Cent Decrease	Trees not Bearing		Per Cent Decrease
	1920	1910		1920	1910	
Illinois	5,112,866	9,900,627	48.3	1,825,886	2,548,301	28.3
Missouri	5,162,859	14,359,673	71.0	1,585,823	3,624,833	56.2
Indiana	3,427,816	5,764,821	40.5	929,160	1,961,974	52.6

With a 10 per cent increase in population and new export channels opening up each year there would seem to be no danger of overproduction for many years to come. Now is a good time to plant an orchard." - W. S. Brock, Ext. Specialist in Horticulture, U. of I.



Corn Disease Trip. - "On Friday, September 16, we accompanied 60 of our farm bureau members to the Funk Farms near Bloomington, where the U. S. Department of Agriculture is carrying on the corn disease work in cooperation with Funk Bros. Seed Company. Most of the men who were with us on this trip are men who have corn in Woodford County corn test and so are particularly interested in the corn disease work. We were very much interested in and impressed by the work which is being done, and feel that it will undoubtedly result in very greatly improved methods of selecting seed corn and preparing it for planting." - Mosher, Woodford County.

Christian County Farmers' Week. - "September 14 was Farm Bureau Picnic Day with between 7,000 and 10,000 people on the grounds. About 30 tents housed the exhibits of merchants, farmers and the boys' and girls' clubs. The event was a real county fair with all of the undesirable features left out. A band, merry-go-round, games, addresses, races and horseshoe pitching were among some of the features.

The Farm Bureau had an entire tent devoted to its exhibits. These included sunflowers, chinch bug resistant corn compared with Reid's Yellow Dent that had been attacked by the bugs, limestone, rock phosphate with records of results that can be expected by applying on Yellow Gray Silt Loam and Black Clay Loam, 24 different varieties of soybeans, posters here and there showing work done. A central table bore an appropriate sign suggesting that unpaid membership dues could be paid there.

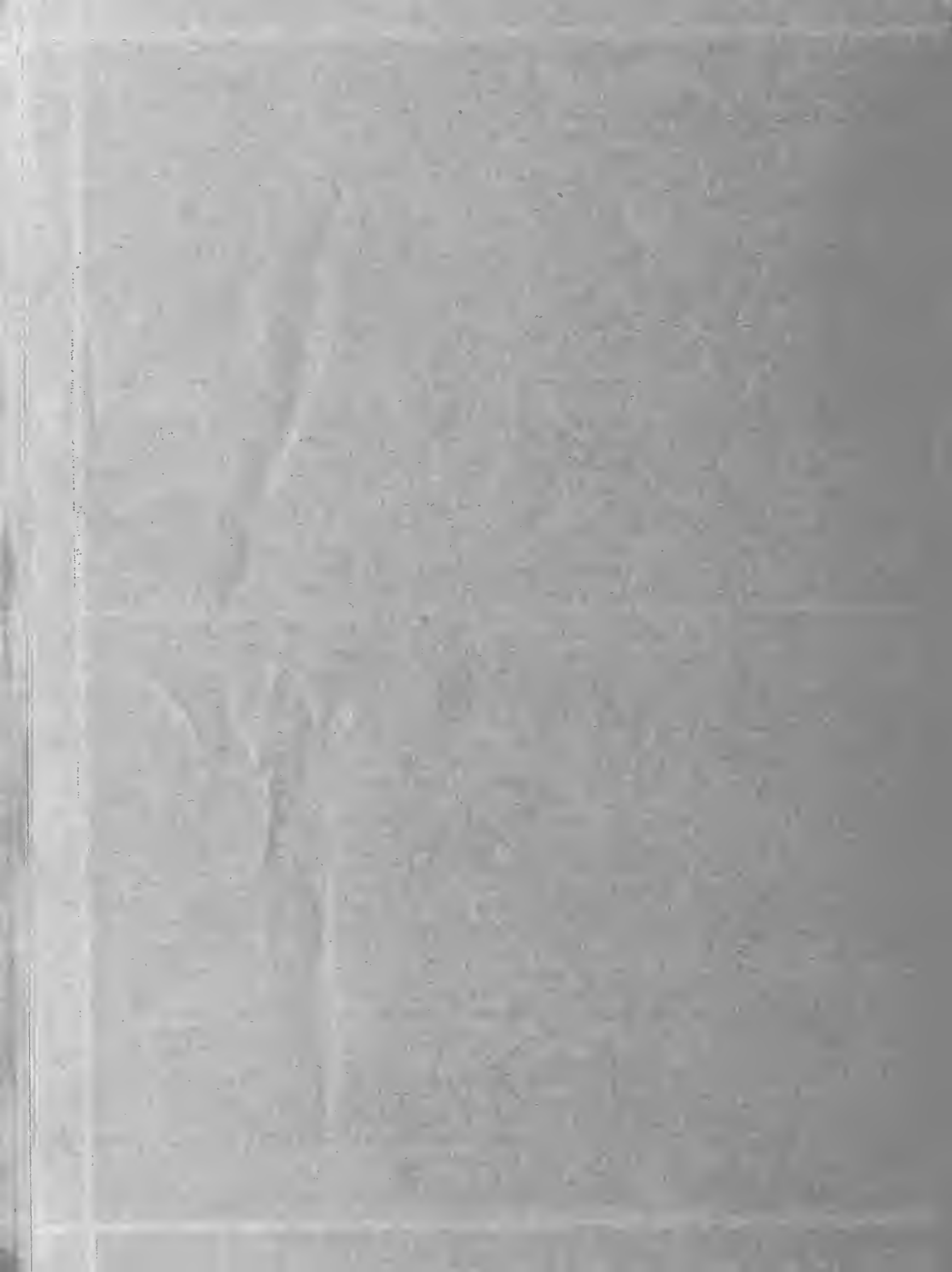
Executive Committeemen were in attendance to show visitors around and give information. One farmer stated that he was going to bring something to exhibit next year so he would feel that he had a part in contributing to the success of the occasion. This seemed to be the sentiment and spirit of the crowd." - V. Vaniman.

Efficient Marketing for Agriculture, by Prof. Theodore Macklin of the University of Wisconsin, is the title of a new work just off the press. A hasty glance thru the copy which has just come to hand promises that it will be worth while reading for all who are interested in the marketing of farm products. The book which is printed by Macmillan should be ready for distribution within a few days." - Handschin.

Alfalfa Hay for Sale. - "A number of our farmers have reported a surplus of alfalfa hay and would be glad to sell some at this time. Most of this hay was put up in first class condition." - T. R. Isdacs, Mason County.

Winter Egg Production Flocks. - Some time ago the Farm Bureau Executive Committee approved of establishing in each precinct one or more winter egg production demonstration flocks. The idea was that the Farm Adviser, during the month of September should cull these flocks, leg banding the hens that show the highest egg production. The hens are to be put in breeding pens with the best roosters next spring. The owners of these flocks are to feed and care for the birds as suggested by the Farm Adviser. They are to keep an accurate record of the amount of feed consumed and report the number of eggs received each month." - Allison, Calhoun County.

Take care of the orchard or use it for fire-wood. Trees unsprayed and not pruned are a source of loss to their owners and to their neighbors.



"At a Poultry Culling Demonstration which was held this week we found the hens all in shipping crates. After the usual remarks as to the general principle of culling and what may be expected from it, the demonstration work began. Almost the entire contents of one crate seemed to consist of laying hens. When the next crate was taken up exactly opposite conditions prevailed. I then found that the owner of these chickens had been reading what information he could get on the subject of culling and attempted to cull his own hens when he caught them. He seemed pleased to find that his judgment and our own was much the same. It also added interest to the entire culling demonstration." - Keltner, Winnebago Co.

Purchase of Guernsey Bulls. - Eleven men went on the Guernsey Breeders' tour Tuesday morning and spent the day visiting Guernsey herds at Plattsville and Livingston, Wisconsin. Wednesday the buying committee, together with Mr. E. M. Clark of the I. A. A. and the Farm Adviser went on to Jefferson County. One stop was made at Lt. Horob and the dairy herd at the University of Wisconsin was visited. At Ft. Atkinson, Wisconsin, the committee visited a number of herds, including the Hoard's Dairyman Farm and A. R. Hoards. A total of 20 herds was visited during the three days. The committee bought the three sons and one grandson of King of Chilmark that were seen on Monday at the Four Pine Farm belonging to Mr. F. K. Babson, Hinsdale, Illinois. Two more calves of the same breeding will have to be located by the committee in order to complete the organization for six blocks of the Bull Association." - Burns, JcDavies Co.

"During all of the activities of the Farm Bureau, including the County Picnic, the Farm Bureau Exhibit at the County Fair, the auto tours and the poultry culling demonstrations, there has been a greater interest shown by a larger proportion of the farmers than I have ever seen at any other time during the nine years that I have been engaged in the work." - Mosher, Woodford Co.

"The Farm Management Auto Tour conducted by the Farm Bureau September 13 was the most satisfactory field demonstration tour that I have ever helped to conduct. The attendance varied from 80 people at the first farm, which was visited at 8:00 A.M. up to 175 at noon, and 60 at the last stop at 5:00 o'clock. At each stop the owner of the farm was asked to tell of his methods of soil management, crop production, livestock management or building arrangement. The very closest of attention was shown by the men present thruout the day. We are satisfied that the work of the Farm Bureau in connection with the exhibit at the County Fair and on this tour, to be followed by personal work with the individual farmers in closing up their farm account books at the end of the year, in working out their plant food balances with them and in considering other phases of their farm management work, will lead a considerable number to rearrange their farms and farming operations so as to put into practice a definite rotation system and a definite plan of livestock management." - Mosher, Woodford County.

"The Stephenson County Cooperative Marketing Company has made an excellent showing of its first month of operation. Checks are going out to the members on the basis of 48 cents per lb. for butterfat plus 17¢ differential, for the skim milk in 100 lbs. of whole milk. This is equal to \$1.85 for 3.5% milk. Our butter 'Vita Gold' is finding a ready sale." - Baumeister, Stephenson Co.

Heap high the farmer's wintry hoard!

Heap high the golden corn!

No richer gift has Autumn poured

From out her lavish horn! Whittier. The Corn Song.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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No. 40

Storing

Threshed

Soybeans

"Storing soybeans if they are really dry is not much more difficult than storing wheat or shelled corn. In fact, we have often piled beans four feet deep, with good results; however, we have never done this without carefully watching them from day to day for at least two weeks, to be sure that the beans did not contain enough moisture to cause heating.

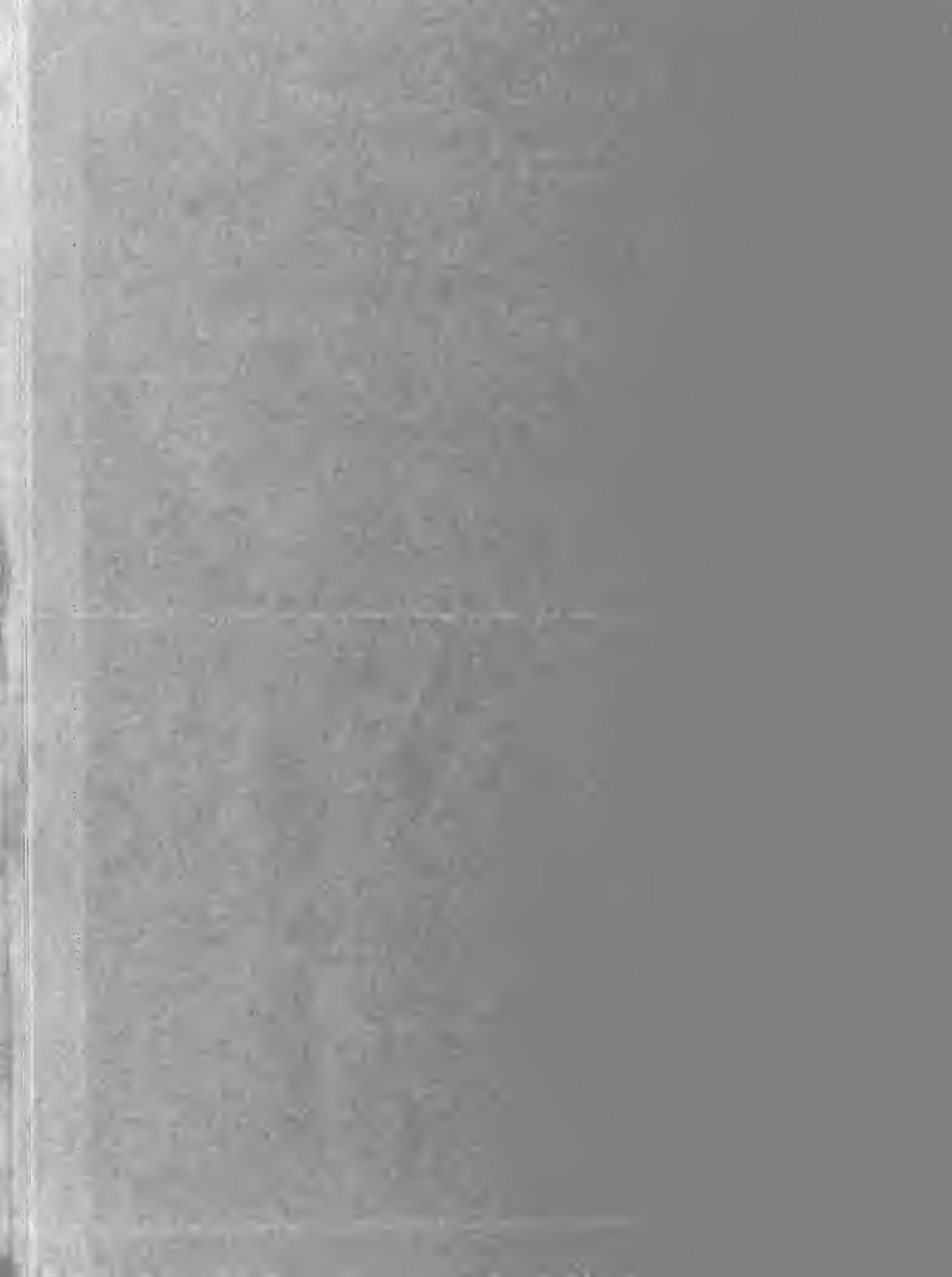
It is best to have the beans perfectly dry in the bundle before threshing. During a rainy season this seems almost an impossibility, but we have found that the beans will dry more in the field during one day of sunshine than they will during a week's time on a barn floor or in a granary. If soybeans are threshed wet, it is very difficult to dry them under the ordinary farm methods of storing, but it can be done by spreading them thinly (not to exceed 12 to 20 inches deep) over a well ventilated floor, and turning them frequently with a shovel.

Soybeans should be put thru the fanning mill just as soon after threshing as possible to remove any cull beans, weed, seeds, or foreign substance they may contain. Dry, clean soybeans store well. Wet beans can be dried out if properly handled." - W. E. Riegel, Tolono, Illinois.

Soybean Varieties. - "Last week we had our Soybean Demonstration Day with about 25 present. We had two types of land in this demonstration, both of which had been limed with 4 tons to the acre last year. On the gray silt loam on tight clay which was really so poor it would not grow red top successfully, we had 13 varieties of beans. These were planted the 13th of June which is really too late for the best results here. The Wilson 5 and the Virginia, gave the best yields of hay. Haberlandt and Holly Brook appeared to be the best for hogging down. Wilson 5 was considered the best for seed. On the richer type of ground a bean for hay appeared to be Sable or Sable and Virginia mixed. Best hogging bean, the Ohio; best for seed, Ebony and Ohio; best silage, Virginia." - Blackburn, Marion County.

Bugs Don't Like Democrat. - "Mr. Vaniman has inspected our White Democrat Corn demonstration and thinks it important enough for an extension demonstration meeting. This meeting will probably be held October 14, and any county in the corn belt who anticipates serious chinch bug injury can get first hand information as to how White Democrat performs in this section of the State." - Dickenson, Cass Co.

Publicity with a bit of local color gets results. To an article in our August Bulletin entitled, "He Got Tired of Advertising", and telling of one man's splendid results of advertising in the Exchange List, can be attributed most of the three-fold increase in the number of exchange items for September 1." - E. J. Brown, Stark Co.



Results of So-called Take-All Experiments in 1920. - "Only thirteen out of one hundred fifty wheat varieties had so-called 'take-all', this year. Less than half of the thirteen was heavily infested. These include Harvest Queen, (white chaffed Red Cross locally known as Salzer's Prize Taker) Niagara, Velvet Chaff, Missouri Bluestem, and Selection No. 13462. Some of the lesser infected varieties are Dawson's Golden Chaff, Ilini Chief, Wisconsin No. 18, World's Champion and Budapest.

The important Illinois varieties that are immune are Beloglina, Fulcaster, Fultz, Gypsy, Harvest King, Hungarian, Indiana Swamp, Kanred, Mediterranean, Michigan Amber, Minnesota Reliable, Nigger, Poole, red chaffed Red Cross, Red Rock, Red wave, Rudy, Turkey, and Wheeling.

These experiments were conducted on infested land near Granite City, Illinois, by the office of Cereal Investigations, U. S. Department of Agriculture, in Co-operation with the Illinois Agricultural Experiment Station," - Geo. H. Dungan, Dept. of Agronomy, and H. H. McKinney, Ass't. Pathologist, U. S. D. A.

Making the Porkers Harvest the Hay. - "One of the good farmers of Lee County is using a four year rotation, corn, oats, and clover, and thereby hangs the tale of labor saving plan. A field feeding of crops is practiced with a vengeance the hog consuming practically all clover and half the corn directly in the field. Hogs have a reputation for being good corn huskers, but it is not adding insult to injury to make them do the haying also." - Billsborrow.

Club Conference. - "The Annual Boyce' and Girls' Club Leaders' Conference will be held at the University of Illinois from noon October 27 to noon October 29. At this conference problems in organizing and conducting clubs will be discussed. Many of these problems will be of especial interest to Farm Advisers and Assistant Farm Advisers who are contemplating doing some club work next year. An urgent invitation is extended to all interested, to be present and enter into the discussions." - James H. Baldwin.

Meeting of the Vegetable Growers' Association of America. - The Vegetable Growers' Association of America will hold its annual meeting in Albany, New York, November 1 to 5, 1921. This is the big event of the year for the vegetable growers who will be able to attend. The program this year will be more elaborate than heretofore. There will be general sessions to which all present will be invited. At these sessions some of the biggest men in their respective lines who can be secured will give addresses. Reduced railroad rates of one and one half fare can be secured if 350 attend the Convention by rail. A special trip will be made from Albany to New York City to visit the principal wholesale and retail markets. Anyone wishing to secure a copy of the program or learn more in detail the plans for the Convention should write C. W. Wade, Organization Secretary, c/o The Ohio Farm Bureau Federation, Franklin Building, Columbus, Ohio. The program will be mailed about the middle of October.

Fire Prevention On the Farm. - Millions of dollars worth of agricultural wealth is destroyed by fire in the United States each year. This is a dead loss to the nation, for the fact that most individual losers are partially reimbursed thru insurance does not in the least reduce the drain on our natural resources, and it is a loss that is largely preventable. October 9, is officially proclaimed as Fire Prevent Day. Each one can do something to minimize the chances for fire in his home, on his farm or in his city. Clean up, Pick up, and examine all possible sources of fire. Get the publications from the National Fire Association of Boston, Mass., and write for U. S. Farmers Bulletin #904 - "Fire Prevention and Fire Fighting on the Farm. - C. A. A.



"STADIUM WILL BE A MEMORIAL TO U. SOLDIERS. Illinois will be among the first states in the union to perpetuate the honor of the heroic veterans of the World War. One of the state's great memorials, the University of Illinois Memorial Stadium, dedicated both to soldiers of the University and state, should be completed by the Fall of 1924. Though 17 states have tentative plans for Memorials, only three, Kansas, Nebraska, and Illinois, have started definite work. Kansas is building a stadium on the campus at Lawrence and a memorial gymnasium at the University of Nebraska will be dedicated to the fighting forces.

Utility is the keynote of the newer types of memorials. Showy, elaborate structures, erected after previous American wars, are being replaced by more useful types, -- stadiums, gymnasiums, libraries, municipal buildings, armories, bridges, and roads. The latter memorial is gaining considerably headway, especially in the East, where soldiers' organizations are backing the movements. The Illinois memorial will be erected from funds donated by students, alumni and friends of the University, entirely without state aid. Practically \$700,000 has already been pledged, and it is hoped to raise \$2,000,000 in the alumni campaign during the football season, this fall," - K. W. Clark, U. of I.

A Reorganized Farm in Each Township. - "During the past week further progress was made on the farm management project consisting of one farm in each township, (except four in which farms have not been selected). On these farms it is aimed to develop the best system of farming for this section as we know it. On most of them a reorganization of the field and cropping system is being carried on. With this, accurate accounts are being kept and it is aimed to develop three or four major farm enterprises to a high point of efficiency. Mr. Elliott of the Farm Management Department gave some valuable help on the projects on Tuesday and Wednesday when eleven of these farms were visited." - Rehling, Clinton Co.

Wanted a Blacksmith. - "Farm Bureau members of DeWitt County desire to establish a blacksmith at Clinton. There is plenty of business in sight for a good workman in general blacksmithing. Do you know of a prospect?" - E. T. Robbins, Farm Adviser, Clinton Illinois.

Card to Head Poultry Work. - "Professor Leslie Ellsworth Card, who is now connected with the Poultry Husbandry Department at Cornell University, will arrive in Urbana on February 1, 1922, to take charge of the poultry work at the University of Illinois. Professor Card comes to Illinois unusually well trained for taking charge of this work. He has had considerable farm experience in poultry work and has taken active interest in the breeding and exhibiting of purebred flocks. Under Professor Card's direction, the Poultry Plant at the University will be enlarged and better equipped to handle this work at Illinois." - H. P. Rusk, U. of I.

W. K. Galeener has been employed as Farm Adviser in Williamson County and expects to begin work November 1, or sooner if possible. Since his graduation in Agriculture at the University of Illinois, Mr. Galeener has spent most of his time in farming and orcharding near Fairfield, Illinois.

H. F. T. Fahrkopf has been promoted to the position of Farm Adviser in McLean County.

The District Conferences will be held upon the dates originally selected.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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No. 41

Alfalfa For Pregnant Ewes

"The pregnant ewe has need of abundant protein for the development of the fetus, for the growth of wool and for body maintenance. Farmers who keep a few sheep often do not realize that the growth of wool requires considerable protein and that the wool and fetus cannot develop properly unless this need is supplied. The production of legumes offers the most practical supply of protein for the pregnant ewes.

It is questionable if there is any roughage which in itself will more nearly supply the nutrient requirements of the pregnant ewe than alfalfa hay. Alfalfa is probably the best single food for sheep and the wintering of pregnant ewes need not be a serious problem for anyone who has a supply of this roughage. Ewes that are in good thrifty condition and are carrying a fair covering of flesh need be fed little grain from now until the first of January, for such ewes are able to produce strong lambs if they are allowed to glean over pastures, stubble fields, and corn fields and are given some alfalfa or other legume hay in addition to the feed they gather about the farm. Feed pregnant ewes a pound of alfalfa, clover, or soy-bean hay while they are picking up waste feed until about January 1. After that give them all the alfalfa hay they will eat and about one-half pound of grain per head daily until lambing time, and if other things have been done equally well the strong, lusty lambs will grow into profits." - W. C. Kammlade, Assoc. in Animal Husbandry, U. of I.

"It pays to cultivate alfalfa. - One of our best fields has received several cultivations with a regular alfalfa cultivator. Altho four profitable cuttings have been removed, the fifth crop is a foot high." - Kendall, Morgan Co.

Bread from stones. - "The Farm Bureau had a display in the agricultural products tent that caused a lot of interest. Chief among the "curios" was a pile of rock phosphate. Nearly one-third of the farmers asked for information in regard to its use. If the saying is true that a 'man's farm is no more fertile than his brain' we have inoculated many farms this week." - Tarble, Bond Co.

Go A-Courting Farm Bureau Exhibit. - "Many farmers in to attend court this week. We have managed to have a good display in the office, which is located in the Court House, so that those who have a moment's time may spend it to advantage." - Wheeler, Lawrence Co.

Plan of Buying Potatoes. - "We have finally figured out a plan that seems to be agreeable all around in handling our potatoes. One of the local merchants will handle the potatoes, pay for them and collect the money for a profit of ten cents per bushel." - Kline, Boone County.



"1921 Power Spray Rings. - Power spray rings were successfully operated in Vermilion and Stark Counties this season. In Vermilion County the work was done under the direction of Adviser Lumbrick and consisted of two rings; the larger being essentially a custom spraying project while the smaller was a cooperative organization to take care of only a few farm orchards. A three cylinder Hardie outfit driven by a 4 H. P. Cushman engine was used in each ring. The summary of the large ring is given below:

<u>Number of orchards in ring</u>	75
Total number of trees	3084
Average number of trees per orchard	41.1
Average lbs. Dry Lime Sulfur per tree dormant spray	.592
Average lbs. Dry Lime Sulfur used on 2 summer sprays.	.35
Average lbs. Lead Arsenate used per tree	.259
<u>Results</u>	<u>Condition of Orchard at beginning</u>
Number Orchards Excellent 11	Number of orchards reported good 14
" " Medium 53	" " " " fair 22
" " Poor 1	" " " " poor 36
Report missing 10	Report Missing 3

Two pounds of lead arsenate in 50 gallons of spray were used thruout. It was not known in the beginning how many trees could be sprayed under such a program, and, while the results were generally satisfactory it was agreed that not more than two thousand trees could be attempted by one outfit in the future.

In Stark County, the work was planned and carried out under Adviser Brown. The rings, two in number were strictly cooperative. The results were splendid. The fruit was of excellent quality with respect to both insect and fungi, and while the Departmental Adviser had not seen the orchards before the dormant spray was applied, it was evident that both Oyster Shell and San Jose scale had been satisfactorily controlled. A two cylinder Hayes pump driven by a 1½ H.P. Fairbanks engine was used in each ring. The data on the Stark County organization is given here, the summary of the season's work being compiled by Mr. Brown.

	Ring #1	Ring #2
NUMBER of orchards in ring	12	13
Amount paid in by each member	\$40	\$40
Average number of trees per orchard	25	20
Average age of trees per orchard	17	15
Number of sprays applied	4	4
Radius of operation	3½ mi.	3 mi.

W. S. Brock, Dept. Horticulture, University of Illinois.

Big Interest Returns. - "Fred Barnett used 75 cents worth of spraying material to spray ten old apple trees as the bloom fell. He used a small hand pump. As a result he has sold \$75 worth of good apples. Other similar orchards lost nearly all apples from worms.

Movies Help. - "Have just finished a series of meetings using moving picture machine. It is quite a success in bringing people together, tho' the machine gave some trouble in that the "take-up" reel would not work. However, we expect to get a satisfactory adjustment or a substitute machine." - Cathout, Champaign Co.

He failed to announce the employment of L. E. McKinzie as Assistant Farm Adviser in Coles County. Mr. McKinzie is a graduate of Purdue University and was for three years County Agent in Fountain County, Indiana. He began work in Coles County, Illinois, August 15, last.



Visits Corn Disease Plots. - "The two days tour of the Rock Island Corn Disease plots under the direction of Adviser Edgerton, was very successful. A meeting was held at each field where a demonstration had been planned. One farmer in each of the twelve larger townships had cooperated with the local Farm Bureau thruout the season in carrying out the project. In each field had been planted four plots- (1) Farmer's own bulk corn, (2) Farmer's diseased seed, (3) Farmer's disease-free seed, and (4) Funk disease-free seed. A large and interested group of farmers visited each field where the respective plots were husked, weighed and sorted into sound corn, unsound corn, and nubbins.

In general it could be easily noted that the disease-free plots had the highest yield, and the best quality of corn. Disease-free characteristics and proper methods of seed selection were emphasized. Each man was encouraged to select his own seed in the field from nearly disease-free stalks, to properly care for it, to test it in the spring and to plant the best 10 or 20 ears on one side of the field for next year's seed." - Atwood.

Attitude Changed as Tested Seed Showed Results. - "We have recently closed a very successful series of demonstrations on selecting seed corn, with special reference to corn diseases. Eight hundred acres were planted in Knox County with corn which had been tested for diseases. Many of these fields were examined and compared with other fields growing under the same conditions which were planted with corn secured from other sources. The real merits of the disease free corn became more apparent as the demonstrations continued. It is worthy of note that at one time in the late summer many farmers did not seem satisfied with the specially tested seed. Their attitude on this point, however, changed during the progress of the demonstrations." - Bracker, Knox County.

Seed Selection Pays. - "The corn root and stalk disease plots on Mr. Wm. Franke's farm at Hanover presents very good material to demonstrate the value of selecting seed corn in the field, and going over it again in the Spring. The difference in the height of the stalks on the selected plot was marked and there was a very noticeable difference in the way the corn stood up. The same corn from fifty of the hills of the selected plot weighed four and one-half pounds more than that from the unselected corn, which is equal to four and one-half bushels more per acre. This demonstration showed that rough corn with starchy kernels will not yield or stand up as well as the smooth type." - Burns, JoDaviess County.

"One of the best seed corn growers paid \$12 for a bushel of disease free corn. Altho he planted it on old ground, his men say it contained much less rotten corn than the home grown seed. A plot of ours was so badly damaged by the corn ear-worm that one cannot tell much about the comparative merits of the seed furnished." - Kendall, Morgan Co.

The Corn Ear-Worm has probably reduced the expected yield of corn from five to ten percent. It is found everywhere, but worst in the later corn." - Price, Kendall Co.

Potato Crop Poor. - "As a general thing potatoes are a very poor crop in this county this year and a good many of them have taken a second growth which will cause considerable spoilage." - Tate, Monroe Co.

"We may take off our hats to the Past, but we must take off our coats to the Future." -- Dr. Lindley, Univ. of Kansas.



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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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No. 42

Cowpeas and Vetch For Hay

"The earlier varieties of the cowpea mature in 70 to 90 days. One feature of this plant is that it may be harvested in a wide range of time without too much loss. The yield in Illinois is from 1 to 3 tons of excellent hay per acre, which is equal to red clover or alfalfa in value, and is an excellent roughage for horses, cattle and sheep. The hay is somewhat difficult to cure, but not any more so than other legumes of its type. Because of its coarseness and unevenness it has no standing on the markets. As a rule the hay is considered better for cattle than any other livestock.

Cowpeas should be cut for hay when the pods begin to turn yellow. The hay is best if the vines are cut when full grown and most of the pods mature. Haymaking practices mentioned for soybeans in previous articles will apply to cowpeas. The crop is not now widely used in Illinois.

Vetch hay really is a better feed than cowpeas. A comparison of analyses follows:

Digestible Nutrients in pounds per 100 pounds of the two hays from Mo.
Ext. Cir. #2, (1915).

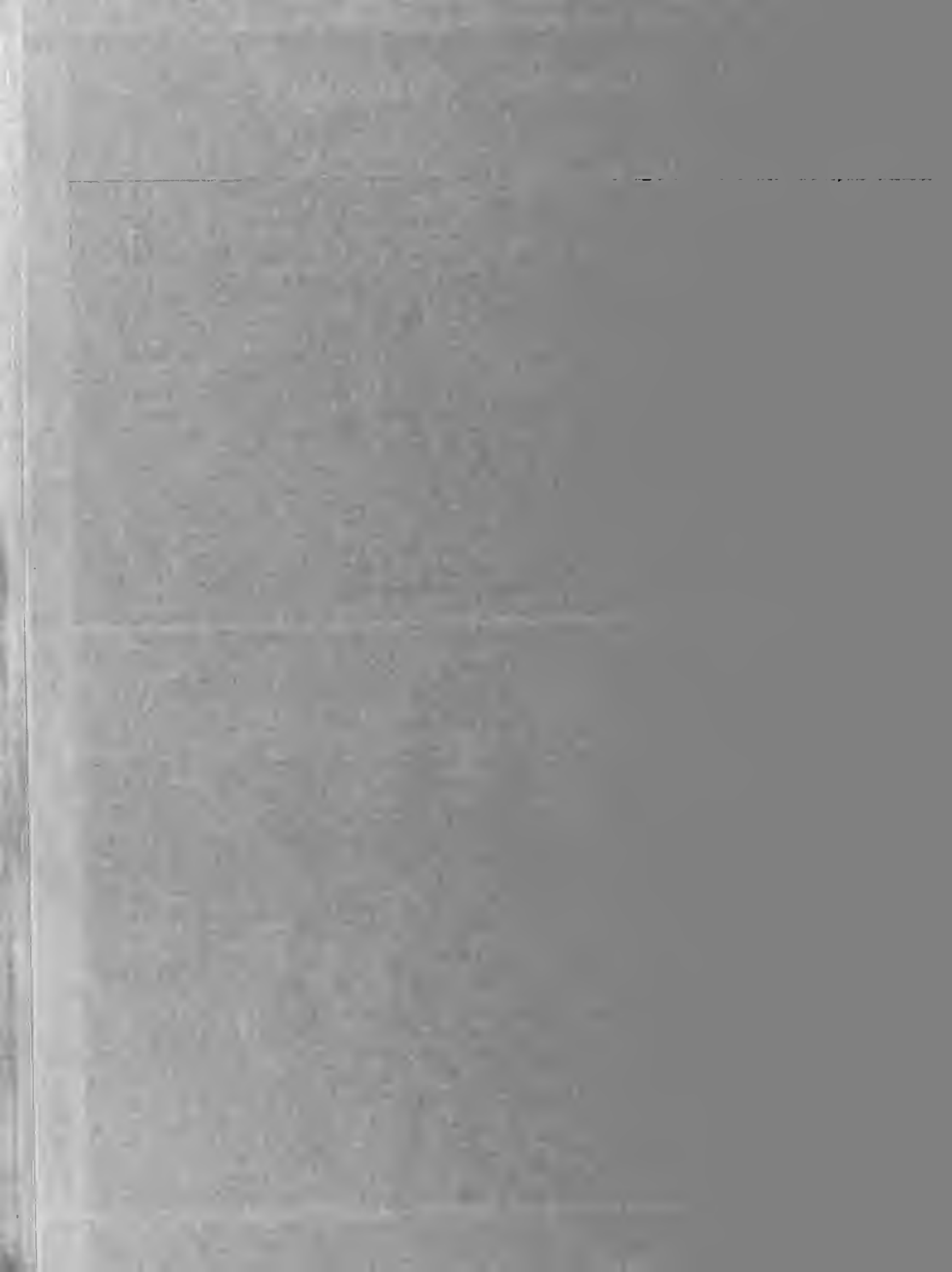
	<u>Crude Protein</u>	<u>Carbohydrates</u>	<u>Fat</u>
Vetch	11.9	40.7	1.0
Cowpea	9.2	39.3	1.3

The Vetches thrive best on fertile loam soils. The only part of Illinois where they are grown is in the south. Vetch makes an excellent hay crop for all farm animals. The above analyses shows it to be even better than alfalfa or bran. For hay it should be cut when in full bloom or before the formation of the first pods. The curing process is the same as for alfalfa.

For dairy cattle these hays balance silage in the ration. Ten or twelve pounds fed with thirty-five or forty pounds of good ensilage makes an excellent complete ration for a cow. Grain should be fed for maximum production but the use of cowpeas or vetches for hay is to be recommended for dairy farmers."

Temple R. Lovett, Ass't. in Dairy Extension, U. of I.

Growing Alfalfa on Blow Sand. - "It has been my experience as a farmer on the sand soil of Kankakee County, that alfalfa does well if properly started. The following is the plan I use. Cover ground with a good coat of manure before plowing, using about twelve loads to the acre. Then plow the soil about six inches deep and apply four tons of limestone to the acre. Get the ground in good shape, finally rolling it to firm seed bed and sow 20 pounds of alfalfa seed to the acre. I inoculate the seed with sweet clover soil, by the glue method. Sow the latter part of August. I have a field I seeded last August, from which I have taken three cuttings and the fourth crop was 6 to 8 inches high by the middle of September." - Merritt Dayton, Farmer, Momence, Illinois.



The 1920 Census of Small Fruits. "Illinois is almost stationary in the number of acres devoted to small fruit production which includes strawberries, raspberries, blackberries, dewberries, cranberries, currants, and other berries. The total acreage was 11,723 in 1909 as compared with 11,215 in 1919. The total for the U. S. in 1909 was 272,460 as compared with 249,084 in 1919, a decrease of 8.6 per cent. There is an opportunity for considerable increase in smallfruit production, but since labor and transportation are so important no steps should be taken without a careful summary of these two factors. The transportation problem may be eliminated where small fruit plantations are located near large centers of population. Any city of 20,000 inhabitants or more offers an inducement to small fruit growers because the demand usually far exceeds the supply. It is also true that in such localities the labor problem in rush seasons may easily be solved by interesting the labor element in the cities." - W. S. Brock, Ext. Specialist in Horticulture, U. of I.

By Their Fruits Ye Shall Know Them - "Several of our farmers sprayed trees under the direction of the farm bureau last spring and summer. It was a pleasure to go out a few days ago and get a picture of the apple trees heavily loaded with good, clean fruit." - Fahrnkopf, McLean County.

Organized Schedule permits 29 Herds to be Tested in a Single Day. - "Thru the efforts of Adviser Waters of Edgar County, the Tuberculosis Testing Work was so well organized that County Veterinarian, Dr. Brennan was able to concentrate his work with most excellent results. A meeting was called at a central place in a township and five men were appointed and each agreed to see the owners of herds in his community and arrange to have the animals ready when the veterinarian called. By perfecting a detailed schedule, each farmer knew when to expect the Veterinarian. The first day 29 herds consisting of 250 animals were tested. This was more than were tested during the entire previous month with the veterinarian working here and there, as he could arrange with individual farmers." - J. C. Spitler, Ass't. State Leader.

New Testing Association. - "The organization of the Cow Testing Association was completed at a meeting held in Elbridge Friday evening, Oct. 7, and the officers elected. We expect within a few days to have a membership roll completed and a tester employed to start work Nov. 1." - Waters, Edgar Co.

"Dairymen around Waukegan are strongly in favor of organizing a local milk marketing company and have gone quite a ways toward completing the organization. We expect Mr. Larsen to meet with them". Wheelock, Lake County.

Pure Bred Week. - "The past week was Pure Bred Week in Stephenson County. Four hog sales and one Holstein sale were held. The boars and gilts averaged about \$34 and the Holsteins, bulls, and a few females averaged about \$80.50. There was a noticeable lack of speculative buying as in former years. Bids were conservative and animals were purchased from the utility standpoint. There was a greater proportion of cash settlement than last year." - Baumeister, Stephenson Co.

Out in the Rain and Snow? would you be horrified Mr. Farmer to find that your wife had left her \$50 dollar sewing machine out in the rain. But what about that \$100. mower or that \$300 binder of yours left exposed to the elements?



Pig Club Project. - "The Poland China Breeders' Association met at the Farm Bureau today, and decided upon the following program for the year's work:

1. Conduct a boys' Poland China Pig Promotion project.
 - a. Members of the Association to donate gilts.
 - b. One boy to be selected in each community in the county, probably by competitive means to receive the gilt.
 - c. Each member of the Poland China Breeders' Association to be given supervision over the boys in his territory to help the county adviser in keeping the boys properly lined up and caring for the pigs.
 - d. A Poland China litter show to be held at one of the local fairs next fall. Each boy to show four or five pigs from the litter, according to the plan of the National Poland China Association."

Burns, JoDaviss Co.

Facts About the Hog. - "Here are ten rules for successful growing as outlined by J. A. Simms, swine specialist, Storrs, Conn.

1. An abundance of green forage.
2. Good sows that bring two large litters each year.
3. A strong registered boar, a sure breeder of good pigs.
4. Pigs properly cared for at farrowing time so that few die.
5. Proper care of growing pigs and breeding stock.
6. Selection of the best sow pigs to replace the old or inferior sows.
7. Prevention of diseases and parasites.
8. Shelter sufficient to protect the hogs from both severe cold and extreme heat.
9. A practical utilization of wastes.
10. Killing and curing for home use and marketing the surplus to best advantage." - Storrs's Extension News.

"Mere Hog Cholera has appeared this week. Also a number of cases of 'flu'. About 50,000 cubic centimeters of serum was distributed and two vaccination demonstrations held." - Lloyd, Hancock Co.

Move to Business District. - "The Farm Bureau headquarters have been moved from the Court House to the State Bank Building. This puts the office downtown in the business district. While the Farm Bureau and Home Bureau are not using the same room, they are in the same building and on the same floor. We feel that the Farm Bureau folks will be benefited by this new move." - Edgerton, Rock Island County.

Offers to Crush Limestone for Dollar a Ton. - "Mr. Holdersshield, a local garage man at Hardin, made a proposition to the Farm Bureau members that he would furnish the crusher, power, and a man to run same, to crush limestone at \$1.00 per ton. This proposition met with favor among the Executive Committeemen. It was decided to encourage the getting together of farmers in different communities in order to avail themselves of this opportunity." - Allison, Calhoun Co.

Clover Seed Crop. - "Excessive rainfall has done enormous damage to the clover seed crop. Some fields which have been cut have been abandoned. The quality of the seed which we have threshed is excellent." - Eyman, Jersey Co.

1. The first part of the report is a general introduction to the subject of the study.

2. The second part of the report is a detailed description of the methods used in the study.

3. The third part of the report is a presentation of the results of the study.

4. The fourth part of the report is a discussion of the results and their implications.

5. The fifth part of the report is a conclusion and a list of references.

6. The sixth part of the report is an appendix containing additional data and figures.

7. The seventh part of the report is a bibliography of the literature cited in the study.

8. The eighth part of the report is a list of the authors' addresses.

9. The ninth part of the report is a list of the authors' acknowledgments.

10. The tenth part of the report is a list of the authors' contact information.

11. The eleventh part of the report is a list of the authors' affiliations.

12. The twelfth part of the report is a list of the authors' dates of birth.

13. The thirteenth part of the report is a list of the authors' dates of death.

14. The fourteenth part of the report is a list of the authors' dates of marriage.

15. The fifteenth part of the report is a list of the authors' dates of divorce.

16. The sixteenth part of the report is a list of the authors' dates of remarriage.

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The Extension Messenger

A source of knowledge and information for the weekly reports of the Farm
Agents, Teachers and Home Demonstration Workers and the
County Extension Office.

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. IV

October 26, 1921.

No. 43

AGRICULTURE UP TO DATE

BUSINESS OF AGRICULTURE
EXPERIENCE SCIENCE

FARM BUREAU

The Farm Bureau is an organization of farmers seeking to combine the results of practical experience and scientific investigation for the benefit of the business of agriculture. - G.N.C.

Better
Methods

Pure-
breeds



"The Most Profitable Hour and one half that I spend a week for the Farm Bureau, is writing up for the newspapers, the experience of farmers following out a better farming practice. It is more desirable to cultivate the friendship of the Editor than any other man in the county." - Fuller, Marshall-Putnam Co.

Value of Giving Every Man a Job. - "In planning our soil demonstrations last spring, I asked the township chairman whom we might use to conduct the demonstration so it would be valuable to the neighborhood as well as to the farmer. He mentioned the name of a man who had been a chronic kicker ever since he joined the farm bureau and was doing much talking against it. A visit was made to this man's farm, and as a conclusion he was willing to try the test from a selfish standpoint. This week the treated rows were harvested and this farmer spent a whole half day helping secure accurate weight from each row. While the test showed that phosphorous had given him an increase of 11 bushels per acre, this is insignificant as compared to the value this demonstration has had upon the farmer himself. There is not a warmer booster in the county, nor one who has any more faith in the work. This has been gained by a simple demonstration." - Fuller, Marshall-Putnam Co.

Township Maps that Tell. - "During the summer while traveling around the county, a map 15"X15" of each township is carried in the car. At meetings and farm visits, the exact location and name of every renter or landowner is placed on the map. When a township map is completed several blue prints will be made. These maps are especially valuable in checking up the mailing list, in locating exactly where the farmer lives in case he requests a farm visit, in knowing who are farm bureau members, and who are non-members, and in knowing exactly where a delinquent member lives. With such a map it is an easy matter to glance at the map and select men in different communities who are suitable for carrying on demonstrations. The final drawing of the maps is taking a lot of night work, but I believe it is well worth while." - Kline, Boone County.

"Our Service Survey Meetings held last Tuesday were well attended. I did not attend any one meeting. At all meetings the men seemed to be well satisfied with the progress the Farm Bureau has made in this county. Chairmen report that they had difficulty in getting the members present to talk. We feel that these meetings followed up by a meeting in every precinct at which the Adviser will be present, will do a great deal of good in bringing before the people the progress and work that the Farm Bureau is doing." - Rustad, Scott County.

"A So Called Everybody's Sale is being planned to be held at Breese on November 8, the Farm Bureau and Breese Commercial Club cooperating. Entries close today and have so far been satisfactory. The plan is to charge a small entry fee, and a two per cent commission on all stuff put up for auction. A number of purebred cattle have been entered and it is planned thru this sale to lay the foundation for purebred livestock sales to be held in future years. The sale committee is giving away a purebred Holstein bull calf as a special attraction." - Rehling, Sinton County.

Good Fall Alfalfa. - "The seven different fields of alfalfa which were sown during August are getting a good start. The plants are from 4 to 10 inches high and are growing nicely." - McGhee, Massac County.



"The chinch bug fight conducted by H. K. Beasley last summer was very successful. The bugs got over his barrier while he was cutting some oats. When he thot most of them had left the wheat stubble he plowed under four or five acres of corn on which the bugs were working, rolled the ground, drilled in navy beans with a corn planter, and rolled the ground again. He did not cultivate the beans. Now he has a big crop of beans and the corn is very good right up to the line where he plowed." - Robbins, DeWitt County,

"Democrat Corn Resists Chinch-Bugs. - The results of the tests of corn varieties for resistance to chinch-bugs have been taken during the past week. Democrat showed the best yields of any of the twelve varieties used in this test. This gives the same standing for this variety as has been obtained every year that these tests have been carried on. Black Hawk was a strong second, and Champion White Pearl, third, based on the yields of the sound ears; while based on total yields, Champion White Pearl was second, and Black Hawk third." - W. P. Flint, Entomologist, Nat'l. History Survey, and J. C. Hackleman, Crops Specialist, U. of I.

"Our White Democrat Corn Field was visited by about 100 people last Friday. After a brief statement of the history of the development of this corn in Southern Illinois, and an explanation as to how it happened to be brought into Cass County, the people visiting the field, were asked to walk thru the White Democrat Corn and to observe the dividing line between this and the Leaming Corn. This line was so distinct that the demonstration spoke for itself, and needed no further explanation. The visitors examined all of the down corn that they encountered in the White Democrat corn but found that even on these stalks there was a very matured ear which was solid, while in the Leaming Corn practically all down stalks showed chaffy ears." - Dickenson, Cass Co.

"Our Democrat Corn has in every instance given good satisfaction. About 60 bushels of this corn was planted by about 40 different farmers. I am urging the farmers to save all for seed that is fit. I anticipate a big demand in this county for this seed yet I believe we will have some to spare to counties further north." - Tarble, Bond County.

"Its the Bushels that Count. - "In the corn demonstration plots conducted to determine the resistance of various varieties of corn against chinch-bugs, the following acre yields were secured:- White Democrat, 32.75 bu., Champion White Pearl, 29.75 bu., Black Hawk, 27.5 bu., Commercial White, 22 bu., Golden Beauty, 19.75 bu., Boone County White, 16 bu., Arlington Prolific, 15.5 bu., Yellow Dent, 14.25 bu., Pride of the Prairie, 13.5 bu., Lancaster Sure Crop, 13.5 bu., St. Charles White, 12.75 bu., Hickory King, 11.75 bu., Northwestern Dent, 0." - Metzger, Macoupin Co.

"Do You Want To Buy Feeder Pigs? "Pigs weighing 80 to 125 pounds, raised in the north, vaccinated under Federal Supervision and in a healthful condition may be secured from the Minnesota Pig and Cattle Co., Smith Street, St. Paul, Minn.

MAKE IT A FARM BUREAU MOTTO---WHY NOT?

MEMBERSHIP "I will not criticise or condemn the Aurora Chamber of
MOTTO Commerce for failure to get results I desire accom-
plished unless I, myself, have personally given time,
thought and effort to help get results."

The Extension Messenger

A series of brief notes from the weekly reports of the Farm
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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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No. 44

The Food Value of Soy Bean Proteins

"Satisfactory growth in animals cannot be secured unless the ration contains a sufficient amount of protein of good quality. The content of a food in protein can be readily determined by the chemist, but its quality for animal growth can only be determined by feeding experiments. Many nutrition

laboratories at the present time are determining the relative values of the proteins of feeds. While the results are still incomplete, certain general statements appear to be warranted.

"The proteins of highest quality for growth are the proteins of meat, milk, and eggs. The proteins of the cereal grains are almost at the other extreme, all being poor for growth. The proteins of peas and navy beans seem to be inferior to those of the cereal grains, corn, oats, rye, wheat, barley, and rice. On the other hand, the proteins of the cotton seed and of the soy bean are distinctly better in quality than cereal proteins. It seems to be true that the proteins of the soy bean are as good for growth as those of any vegetable feed so far examined, and greatly superior to most. Being of excellent quality for growth, soy bean proteins are also of high value in milk production. They are readily digestible by both man and farm animals, especially when heated. The soy bean proteins also are good supplements to corn proteins, so that the quality of the mixture of soy bean and corn proteins is better than the average quality of the two when fed alone.

"While most of this information has been obtained with laboratory animals, the general success attending the use by farm animals of the more palatable soy bean products, testifies to the substantial accuracy of the statements made. Soybeans are the richest in protein of any of the seeds used as feed, and hence they are doubly valuable as a protein concentrate for growing animals and for the dairy cow." - H. H. Mitchell, Assoc. Prof. of Animal Nutrition, U. of I.

"Fall Spraying for Peaches. - Peach trees should receive the dormant spray of lime sulfur as soon as enough leaves have dropped to enable the operator to coat the twigs without unnecessary waste of material. The dormant peach tree spray is important for the control of both San Jose Scale and "leaf curl", both of which live thru the winter on the twigs and limbs. While it is admitted that an early spring application would be more effective in scale control there is danger that bad weather might interfere with spraying and so make the application too late to control leaf curl which begins development as soon as the buds begin to swell. Use commercial concentrated lime sulfur 1:8 or 5 1/2 gallons diluted with 44 1/2 gallons of water. Whatever advantages or disadvantages oil sprays may have on apple trees there is no evidence to show that miscible oils will control leaf curl, control of which is of primary importance in growing peaches." W. S. Brock, Ext. Specialist in Horticulture, U. of I.

"A Great Life." - It is not often that Agriculture sustains such a loss as it did recently in the death of Dr. H. P. Armsby, of State College, Pennsylvania. Thirty-one years ago, when the latter was a sophomore in college, the American Association of Agricultural Colleges and Experiment Stations met here at the University of Illinois. The memorable subject of its meeting was actually sowing and hearing Dr. Armsby, then, but only a young man, had already made a name for himself by giving to the world many truths in animal nutrition. Through all the years that have followed those years -- nearly a third of a century -- he has been actively engaged in the pursuit of finding out basic truths of great value to all livestock farmers. He was an inspirer of men for more than a generation, not by mere loud talking, nor by belittling the other fellow or his work, but by the greatest of all things, earnest work in fundamental research, and a scholarly, sympathetic, helpful life. The world owes a great debt to Dr. Armsby, not only for his contribution to knowledge, great and important as this is, but for the princely life he lived, which has been an inspiration for the many with whom he came in contact. Such a life is truly great." - W. J. Fraser, Professor of Dairy Farming, U. of I.

'The Farmers' and the Bankers' Idea of Loan Office was the subject of a recent evening's conference between bankers and farm bureau officers in Brown County. Each expressed desire for cooperation in solving present problems. The bankers were very frank to admit that there was a limit to the amount of money they can loan even in the face of the genuine need of farmers. They were unanimous in their opinion that the farm bureau should be assisted in every way possible for the best interests of Brown County farmers. It was pointed out that the making out of financial statements by farmers desiring loans would make it much easier for bankers to borrow money on the farmer's paper. The unanimous conclusion was that if the farmer needed the banker, that the banker could not get along without the farmer and that everybody needed the farm bureau. Ham sandwiches, coffee, and pie helped along the good fellowship. -- W. Vaniman, Assistant State Banker.

Legumes are winners. - "One of our farmers is selling his fourth cutting of alfalfa hay at \$12 per ton, some other cuttings that were damaged by being stacked too green at \$15 per ton and is also cutting for hay a heavy crop of sweet clover, seeded in oats this spring. He is getting \$15 per ton for that. Finally, he has two stacks of soybeans ready to thresh. He believes legumes are winners." - Wendell, Morgan Co.

Good Yields. - "Soy beans that were sown for seed are making very good yields. Sables planted solid with a wheat drill yielded 17 bushels per acre. Ohio beans planted with a corn planter are yielding about 20 bushels. This is the first experience for each of the men growing this crop for seed." - Gentle, Schuyler County.

"Our Democrat and Champion White Pearl corn scored a big victory over other varieties in the chinch bug contest. Most of our 'Doubting Thomases' have been converted to the use of chinch bug resistant varieties." - Jemmerli, Franklin Co.

Service. - "The I. A. A. collected a claim of \$77.96 for shortage in count, shortage in weight and over-charge in freight on our first car of potatoes, and got the item adjusted within ten days." - Robbins, DeWitt County.

1. The first part of the report deals with the general situation of the country and the progress of the work during the year. It is a summary of the work done and the results obtained.

2. The second part of the report deals with the work done in the various departments. It is a summary of the work done and the results obtained.

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Baby International at U. of I. "One of the added attractions for the Illinois Homecomers this year is a Baby International Live Stock Show given under the auspices of the Hoof and Horn and Dairy Clubs. All of the University stock that is going to the International will be on display, also the best individuals from the various University herds and flocks. This show will be held in the Stock Pavilion Friday afternoon, November 11. There will also be an Ag reunion at that time. All the old Ag men will have an opportunity to meet the members of the faculty, their class mates; and to see the best of the University stock in the Stock Pavilion at that time. It is hoped that many county advisers and former students will attend." - E. E. Vial, '22.

Every Man's Make-up. - "We plan on having various dairy feeds, both roughages and concentrates at our balanced ration demonstration. Every member will make up a ration for a cow giving 100 pounds of milk per day, 50 pounds and 25 pounds, using as many home grown feeds as possible. The difference between corn stover and alfalfa hay will be pointed out and balanced rations including each of these roughages, will be made up. We will try to impress upon members that the roughages fed effect the kinds and amounts of concentrates necessary and that there is no balanced grain ration which will fit all needs." - Heller, Cook County.

"A Livestock Show" was held in connection with the Douglas County Farmers' Institute on October 14 and 15. There were 31 head of hogs, 20 of horses, 20 of cattle and 12 of sheep shown. This created a great deal of interest among the farmers and attracted much attention. A committee is planning to hold a bigger and better exhibit next year." - Garrett, Douglas County.

Brown Swiss Winnings. - "Spent some time at Peoria District Fair with show herd of Brown Swiss cattle. Won every first premium shown for." - Starr, Tazewell County.

"Our Pure Bred Hog Sale" held October 25, proved a success as far as attendance was concerned. Bidding on animals, however, was a disappointment, which is perhaps a reflection on the limited buying power of farmers at the present time. With the difference in price of corn and price of hogs at the present time, we expected higher prices for the pure bred animals. It seems, however, that even our experienced live stock men are afraid to incur any unnecessary expenses." Dickenson, Cass County.

Sale Conditions Hopeful. - "The Hampshire and the Duroc Jersey breeders each held a sale this week. Considering the general depression and the disease among hogs, the offerings were well received. It is certain that buyers are getting a very high grade of pure bred animals at reasonable prices. The sales averaged \$20.06 for the Hampshires and \$32.08 for the Duroc Jerseys." - Brooks, LaSalle County.

Losses from Diplodia. - "In some fields of corn in Knox County the loss due to Diplodia is running quite high. Some farmers are finding around 35% to 40% of their corn badly damaged by this disease. One farmer was visited who states that he had been leaving from 10 to 15 bushels of corn planted from his own seed in the field because of this dry rot, while the field on the same farm planted from disease free seed, seemed to be remarkably free from infection." - Bracker, Knox County.

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No. 45

SOY BEANS A GOOD FEED FOR DAIRY CATTLE

"Soy beans rank high in nutritive value. Dairy cattle thrive well on them no matter whether fed in the form of whole beans, meal, silage, or hay.

Whole beans for milk production. Soy beans may be fed whole or ground. In this form they are extremely rich in oil and can be fed in limited quantity only. They may be substituted for linseed or cottonseed meal in the ration but not more than one third (preferably less) of the total grain ration should consist of soy beans. When fed in greater amounts there is a tendency toward digestive disturbances and the production of soft butter.

Soy Bean Meal. Soy bean oil is used extensively in the paint and other industries. The residue left after the major portion of the oil has been extracted is termed soy bean meal or soy bean oil meal. Several experiment stations, notably Massachusetts and New Jersey have run feeding trials and found that soy bean meal was superior to cotton seed meal for milk production. That soy bean meal was worth approximately \$41.00 per ton when cottonseed meal was selling at \$33.00 per ton.

With the oil removed the butter was firm. When an amount of oil was added equivalent to that removed the butter became soft and undesirable in texture.

Soy Bean Silage. Six out of seven experiment stations reporting on the feeding of soy bean and corn silage combined as against corn silage alone consider the combination silage either superior to corn silage or state that it requires less grain as a supplement. One station finds the combination slightly inferior to corn silage for milk production. It is usually considered most satisfactory when ensiling to mix two parts of corn to one of soy beans.

Bean Hay. -Soy bean hay contains about ten percent more digestible protein than alfalfa, otherwise they are similar in composition. All stations (five) reporting feeding trials with soy bean hay consider it about equal in feeding value to alfalfa and superior to red clover for milk production." - W. W. Yapp, Asst. Prof. of Dairy Husbandry.

Mulch the Strawberry Plants. - It is important to mulch strawberry plants. A mulch, if properly applied, protects the plants from alternate freezing and thawing which occurs during warm days in winter and in early spring. Straw is the best material to use because it is more open in texture than leaves, sawdust, and similar materials. The mulch should be applied after the ground has frozen hard enough to bear the weight of a wagon. Enough straw should be distributed evenly over the ground to completely hide the plants. One additional advantage in using a mulch is that the berries will be cleaner and larger due to moisture conservation and the absence of sand or mud which occurs in unmulched plantations." - W. S. Brock, Ext. Specialist in Horticulture, U. of I.



"Feed Cost of Producing Butter Fat Lower than Before the War.- Butter Prices Higher. A recently completed study of the feed cost of producing butter fat in Illinois shows that the September 1921 cost was below the five-year average (1909-1913) for the same month. The price of butter based on "Standard" on the Chicago market was 44 percent above the average of the pre-war period. Increased buying and manufacturing costs have absorbed a part of the difference between the present price of butter and the pre-war price. There still remains, however, a relatively wide spread between the price and the cost of producing fat which makes its production profitable.

"The accompanying table gives a monthly index of the price of butter and of the cost of producing fat during the first nine months of 1921:

Index Numbers of the Price of Butter and of the Cost of Producing Fat.
(Five-year average 1909 to 1913 = 100)

1921	Butter Price	Cost Prod. Butter Fat	Spread	1921	Butter Price	Cost Prod. Butter Fat	Spread
Jan.	161	144	17	June	136	110	26
Feb.	176	130	46	July	165	105	60
Mar.	164	128	36	Aug.	163	102	61
Apr.	165	117	48	Sept.	144	98	46
May	122	106	16				

H. A. Ross, Assoc. in Dairy Economics, U. of I.

"Thorough Organization Pays - Elbridge Township, Edgar County, again comes into the limelight. This time the township brags of the most consolidated Cow Testing Association in Illinois. The signatures were obtained, officers elected, and plans of organization drawn up in two days. A banquet was held last Friday noon when Steve Kammlade, brother to Prof. Kammlade, was introduced as Supervisor, Elbridge claims to be the first T. B. free Township in Illinois." - T. R. Levett, In Charge of Test Associations.

"Wrap Young Fruit Trees. - Apple trees three years old or younger should be wrapped with some material as a winter protection against rabbits and mice. Wrappings should be applied in November and removed in April. There are a variety of protectors suitable for this purpose, but heavy paper or corn stalks may be banded around the trunk by string or wire. Wire netting of about 3/8" mesh may be used in which case removal in spring is unnecessary. Very fine wire such as window screen is not durable and might even afford partial protection for insects during the summer months. Poultry wire is objectionable because the mesh is too large. Wood veneer bands prepared for the purpose may be had from most of the companies who manufacture fruit packages, at about two cents each and will last for two or three years.

Growers generally do not wrap young peach trees since rabbits do not damage them so severely as they do apple trees. The fall application of lime sulfur (less. for Nov. 2) doubtless acts as a repellent to both mice and rabbits." - W. S. Brock.

"Thrashing Soybeans. - One of our farmers has a small Racine Separator equipped with special pulleys for thrashing soybeans. He was thrashing the other day without using the concave. The machine was doing perfect work. His Mongol beans were averaging 22 bus. to the acre with very few split beans in the finished product. I am inclined to believe that it is better to get the attachment for a regular machine, than it is to buy a special soybean thresher." - Kendall, Morgan County.

Democrat No. 1 - "The farm bureau picture for farmers last spring about 30,000 bushels of white Democrat corn. Some large size farmers in various communities of the county tried out this variety. We have had quite a number of reports as to the yielding qualities of this corn and find that it has proved its worth. It is out-yielding any other variety where chinch bugs were in evidence 1 to 1.5 bushels per acre. Considerable quantities of seed can be saved from this corn for next year's planting." - Phillips, Greene Co.

"A Community Fair was held on farms of local families in two adjoining townships was quite an event. There were many exhibits of corn, oats, wheat, etc.; poultry, vegetables, fruit, etc. Better than anything else. The boys and girls in club work in township entered their pigs for prizes." - Fahrnkopf, McLean County.

The Farmer Fairs - "Recently we have had three community fairs in this county. We find that they are great occasions for bringing the people together. The men bring in their samples of farm crops and submit them for judging. Usually during the judging the men are found to learn the points involved and the reasons for the placing of one variety over another, first, second, and third rank. The ladies with their exhibits are equally interested and are very free to discuss methods used in growing in fruit, grain, cotton, and the like." - Pratt, Madison County.

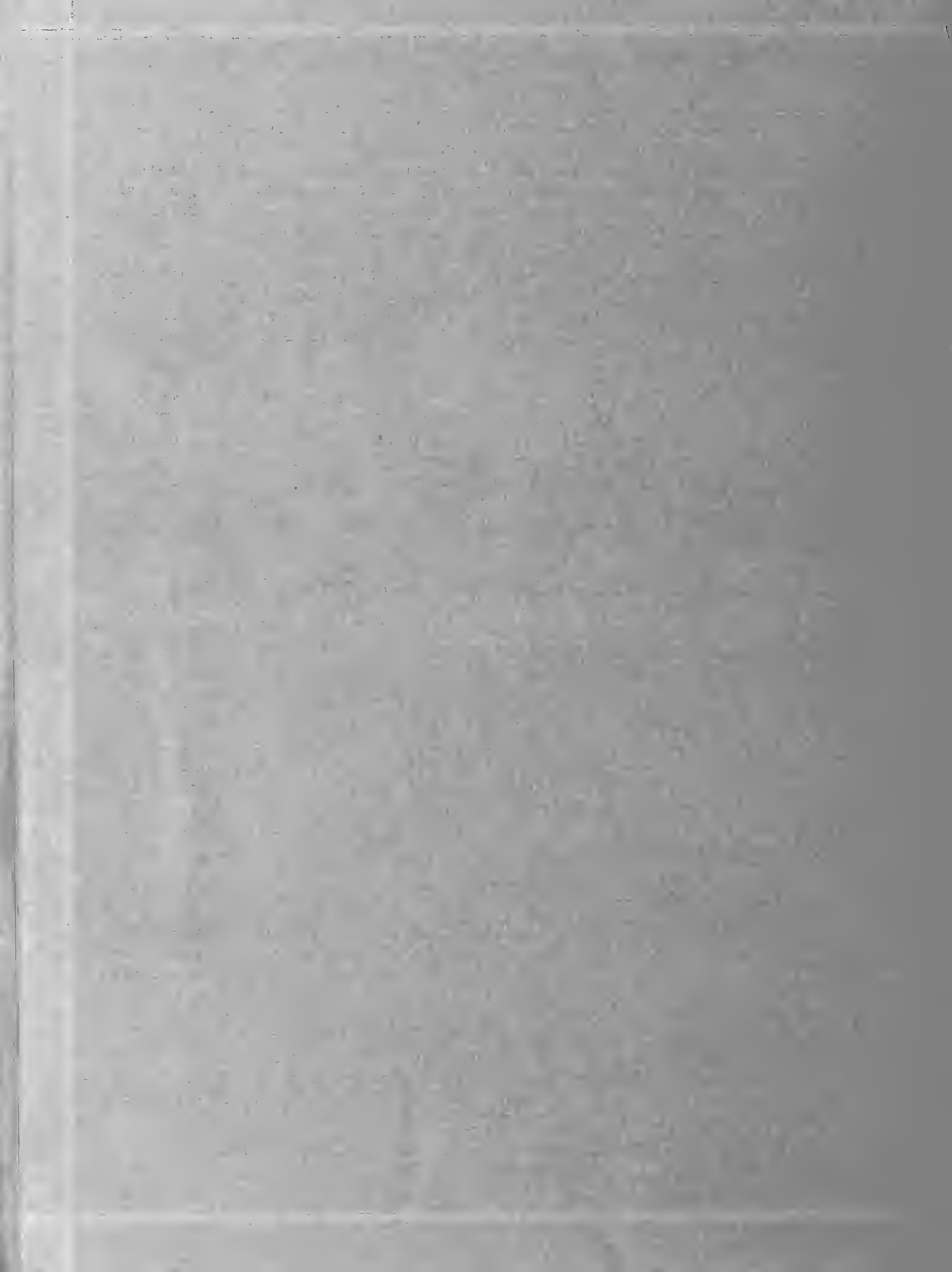
"We held our first community fair at St. Louis, Missouri, Oct. 15. We were well represented. The number of exhibits on the fair first premiums were given out, 10 second premiums and 17 threes, there being over 100 entries all together. The display of corn was especially attractive. The corn was very little injured from the chinch bug and was a fine specimen of the variety. It is a good seed corn." - Pratt, Madison County.

"Four out of five of the people who were asked to come to the fair themselves quite busy playing, barnyard golf. Change life provided for the very busy people, the all right local band played in the afternoon, and gave a dance at night. The fair was held in a park about a mile south of St. Louis. We were very well pleased to hear the comments of the business men who recognized that the farmers could put on a fair of their own without going to them for any money. We believe that a start has been made for a very nice community fair in this section." - Pratt, Madison County.

Farm Bureau Circular Farm Fair - T. P. King, a farmer in Linn County threshed 100 bushels of Volunteer wheat on his farm. His wheat was much better than the average in the county. He advertised it in the Farm Bureau Circular and sold all that he had to sell at \$1.50 per bushel, and could have sold a good deal more if he had the time. He could have gotten \$1.00 at the local mill. - McShee, Linn Co.

Poultry Houses - "The Farm Bureau is giving a new form of service in assisting members in building or remodeling their poultry houses. I have visited every farm that is erecting or remodeling a house, giving suggestions and furnishing plans. Ten of these houses are being built at the present time." - Follock, Edwards County.

"What is paid for education in research is not a tax but a dividend-paying investment." - Dr. Lindley, Univ. of Kansas.



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Variations in the Composition of Soybean Seeds

With the great increase in the production of soybeans throughout the central States, the soybean seed market which formerly readily absorbed all that was produced, has become overstocked. The corn belt farmer who grows soybeans as a substitute for oats in his rotation must now look for a cash market for his beans other than for seed.

The greatest industrial outlet for soybeans is in the production of soybean oil, with soybean oil meal as a valuable by-product. For the former, there is already a large and growing demand. The latter, when it becomes better known may become as important and possibly even a more valuable product of the oil mill, than the oil itself.

Soybean varieties differ materially in their oil and protein content. Soil treatment and seasonal conditions may also materially affect the composition.

If in the development of the oil industry the oil outranks the oil meal in importance, it is probable that the oil manufacturer will buy beans on the basis of their oil content or will contract that the beans delivered, be a certain variety. In that event, composition as well as yield becomes a matter of importance.

Some time ago, a rather extensive study was made of the composition of varieties of soybeans grown by the Illinois Experiment Station, and the effect of season and soil treatment upon same.

Table I—Yield of Important Varieties of Soybeans Grown at Urbana

<u>Variety</u>	<u>Seasons 1915 and 1917</u>		<u>Oil</u>		<u>Protein</u>	
	1915	1917	1915	1917	1915	1917
Hong Kong	19.1	17.8	38.7	40.8		
Medium Early Yellow	18.1	16.2	41.8	46.2		
A. K.	18.6	17.2	42.5	45.1		
Chestnut	16.7	16.1	45.2	48.1		
Ebony	15.6	----	46.8	--		

Of the more important varieties of soybeans grown in 1915 and 1917, the Hong Kong ranked the highest in oil content, while the Ebony contained the least. On the other hand the Hong Kong was the lowest in protein content and the Ebony the highest. There was also considerable difference in the composition of the beans grown during different years, but on similar soil and in the same rotation. The oil content of the crop of 1915 was greater than that of 1917 and the protein content was correspondingly less.

While the composition of soybeans varies from year to year, depending upon seasonal conditions, there may be a remarkable similarity in composition of beans grown in different sections of the state and on entirely different types of soil during the same year. This is shown by the composition of the beans grown in 1917 at Urbana on brown silt loam soil and those grown the same season at Fairfield, Wayne County, on gray silt loam soil. Varietal differences are also illustrated here.

Table II - Comparison of Composition of Soybeans Grown at Urbana & Fairfield 1917

Variety	Oil		Protein	
	Urbana	Fairfield	Urbana	Fairfield
Leyer	18.1	17.6	41.7	43.0
Hong Kong	17.5	18.1	40.8	44.4
Medium Green	17.4	17.3	45.1	47.3
Sherwood	16.9	17.8	44.0	43.3
Swan	16.9	16.7	44.2	48.1
Medium Early Yellow	16.2	16.1	46.2	48.4
Wilson	16.2	15.9	45.2	46.7

Table III - Effect of Soil Treatment upon Composition

	Residues	Residues
	Lime, Rock, Phos., Nat.	Only
Oil	12.7	17.5
Protein	34.1	45.1

Soil treatment, especially if the soil is decidedly acid, may produce a remarkable effect upon the composition of soybeans. This was shown by the 1917 crop of Ebony soybeans grown at Fairfield." - R. W. Stark, Asst. in Crop Production, U. of I.

"The soy bean picker purchased from a southern manufacturer by Carl Walker, is doing first class work. It takes off all the beans that grow above 5 inches from the ground and saves nearly all of them. I made a count in several places, and found an average of only 12 to 15 beans as fast as teams can walk. Mr. Walker is working in his famous walker beans and they are making over 20 bushels to the acre." - Robbins, DeWitt County.

Soybeans become popular. - "Reports from soy bean men as well as those who have not grown beans this year indicate an increasing interest in the plant, and we shall probably have a large increase in the soy bean acreage next year." - Price, Kendall Co.

"Our membership drive temporarily closed Nov. with 1352 members signing up to support the Farm Bureau and I. O. O. F. We have two townships yet to solicit; also some scattered areas, our membership will be well over 1400 when this work is completed." - Wise, Iroquois County.

"One of the members of our Executive Board said he felt that his year's services had been repaid by the amount he had learned about the Farm Bureau movement in general and especially his trip to the district conference of farm advisers etc. at Centralia." - Tarble, Bond County.

"Bull Sale. - In connection with our Pure Bred Sire Campaign we are planning on holding a bull sale November 23. 25 Holstein bulls will be consigned to the sale." - Kline, Boone County.

"The McHenry County Farmers' Co-operative Association held their Annual meeting on Monday, Oct. 21. This association was organized for the purpose of handling the business interests of the farmer which has formerly been done under the direction of the Farm Bureau. During the year nearly \$175,000 worth of business was carried on." - Gafke, McHenry County.

Improvements in Dairy Herds Follow Cow Testing Work. - A survey of the herds in the Knox County Cow Testing Association shows that the average production for each cow the past year was 7,319 pounds of milk and 288 pounds of fat. The average return above feed per cow was \$170.44. Every herd is headed by a pure bred sire. Twenty-four pure-breds were purchased by members during the year. Forty-seven unprofitable cows were sold. Only two members do not have silos. Approximately sixty per cent of them raise alfalfa hay, there being an average of over five acres per farm. All herds, with the exception of two are tested for tuberculosis.

These dairymen appreciate the value of "pure bred sires, clean, high producing herds, silos, and alfalfa hay." - C. S. Rhode, Dairy Dept., U. of I.

Bran and Corn are Cheap Feeds. - Dairymen who are feeding legume hay as a part of their dairy ration can make an extensive use of corn and bran in the grain mixture. Large quantities of milk and butter fat can be produced on corn silage, legume hays, and a grain mixture of corn and bran, or corn, oats, and bran." - C. S. Rhode.

Local Units Serve Best. - Farmers' Elevators, Co-operative Live Stock Shipping Associations, Grange Locals, and Farmers' Clubs are rendering efficient, economical, and satisfactory service in purchase and distribution of feed, flour, coal, and potatoes for their members in a growing number of counties.

A significant development in the attitude of organized wholesale dealers toward these local farmers' units is the action of one of the leading wholesale produce dealers in one of the larger cities of the state. This firm is soliciting the business of local farm units on the same basis as the regular retailer. In one city this same firm distributed 35 carloads of potatoes to employees of manufacturing plants. Local units for distributing commodities not only provide service but they make this service available to a much larger number of Farm Bureau members than can be offered through a central distributing plant.

In confirmation of the soundness of this policy the county in Illinois that has had the longest contact and most experience in the purchase of commodities of this kind is developing and using local merchants and other agencies in securing distribution that will render impartial service to every member of their Farm Bureau." - J. D. Bilsborrow.

Market Livestock Cheaper. - "Returning a larger share of consumer's dollar to the producer is being accomplished in Whiteside County. Instead of a Farmers' Elevator and a Livestock Shipping Association, each operated separately these two services have been combined in the Farmers' Elevator and Supply Company. The manager acts, not only as grain buyer, feed, and coal dealer, but as livestock shipper as well. The service charges for handling livestock is 10 cents per hundred including insurance. All profits arising from this branch of business go into the general fund and are distributed in the annual dividend to the 400 members." - J. D. Bilsborrow.

"For Sale:- A McIntosh Stereopticon, good as new, with both gas and electric bulb attachment." - G. F. Baumenster, Stephenson Co. Farm Bureau, Freeport.

"Agriculture affords the largest share of happiness, because the most independent of all professions. To raise, gather, and enjoy the fruits of the earth, and attend to flocks and herds, were the employments first assigned to man by our great Creator." - L. C. Judson.



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Longevity of Seeds

"The Length of Life of farm seeds depends very largely upon the storage conditions. In general, seeds of the grass crops cannot be recommended for seeding after two years; while legume seeds are good for three years. The above statement presupposes that the seeds were of high germination at the beginning and that storage conditions were good.

The following tables taken from Haberlandt is representative of data gathered on the subject:

Grass Seeds

	Percent 1 yr.	Germinating at End of			
		2 yrs.	3 yrs.	4 yrs.	5 yrs.
Barley	89	92	33	48	0
Corn	97	100	70	No test	56
Oats	96	80	32	72	48
Rye	100	48	0	0	0
Wheat	96	84	60	73	4

Legume Seeds

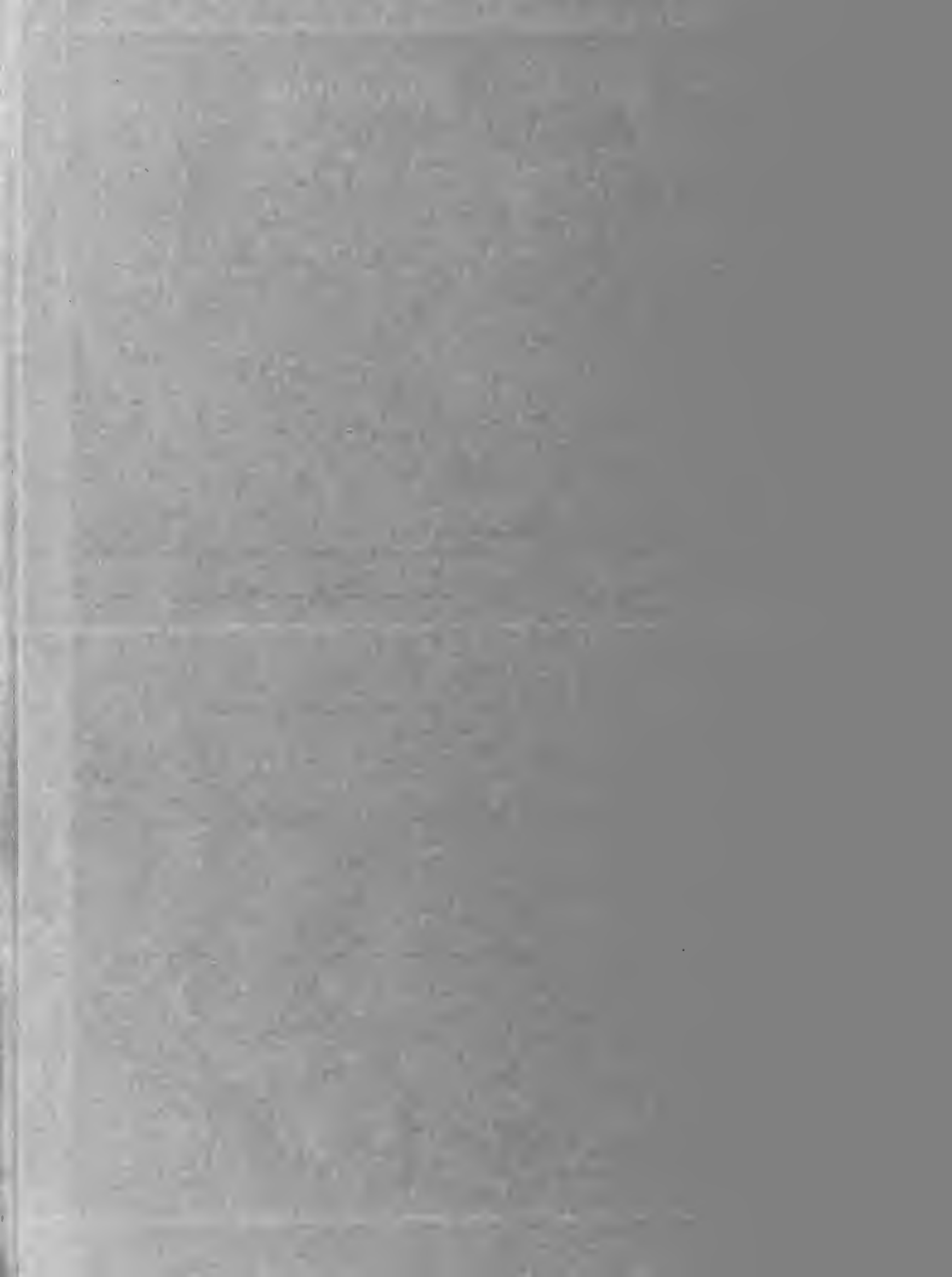
	Percent 1 yr.	Germination at End of			
		2 yrs.	3 yrs.	4 yrs.	5 yrs.
Red Clover	98	98	97	95	30
Alsike Clover	91	93	90	60	42
White Clover	99	99	98	84	63
Alfalfa	99	95	93	No test	44
Sanfoin	84	81	73	60	39
Trifol	99	97	86	86	67

Timothy Seed experiments in our own laboratory as well as those from other places, show that hulled seed will not remain viable as long as the unhulled seed.

Red Clover Seed - Results from experiments indicate that the yellow or light colored seeds die before the purple ones. This is no doubt, one reason why purple seed is in greatest demand on the market.

Soybeans - Light colored varieties of soybeans show a poorer germination at the end of one year than do dark colored varieties. Ordinarily it is not recommended to plant either soybeans or cowpeas which are more than one year old.

Scarified Seed of sweet clover deteriorates very rapidly while the unscarified seed will remain viable for three years. This is probably due to accelerated



respiration in the seed and also to the entrance of fungi through the break in the seed coat.

Weed Seeds live much longer than do the seeds of economic crops. There is an old adage which runs as follows: "One year's seeding demands seven years' weeding." This is true of weed seeds in cultivated fields. These same weeds will lie dormant in sod land for forty years, and then come up when put under cultivation. Experiments where weed seeds have been buried for a long time bear out the above statement." - John Pieper, Assoc. In Crop Production, U. of I.

"Mums" fall prey to corn ear worms. - "visits by the Farm Advisers and Mr. Compton, a representative of the State Natural History Survey to Cook County green houses have indicated that the corn ear worm can become quite a serious pest to carnation, 'mum' and tomato growers as well as to farmers growing corn, clover, and alfalfa. These worms invaded the green house as soon as their supply of outside green food was exhausted and fed upon carnation buds, 'mums', and hot house tomatoes. The worms eat out the blossom buds of the flowers. Picking has been found the most successful control measure." - Heller, Cook Co.

Democrat Gets Attention - The Farmers' Institute was held here two days this week and was attended by an immense crowd both days. The display was unusually attractive. One of the most important things in the eyes of the County Farm Bureau was their Democrat Corn Club display. Sixty-eight boys and girls were given a peck of corn by the Bureau last spring and almost all of these club members displayed 50 ears of this corn at the Institute. The long table of Democrat corn excited much comment and interest." - Snyder, Montgomery County.

"The interest in fruit growing in the county is increasing daily and there are many farmers setting out a few hundred trees. The Bureau is trying to lead and dominate this fruit fever, hoping to prevent many mistakes generally made in the development of a fruit section. In accordance with this, the fruit growers of the county met at Villa Ridge recently listened to the adviser's talk on 'Developing Pulaski County Fruit Lands', and took action to recommend for commercial planting three varieties of summer apples, one winter variety, two varieties each of pears, peaches, and strawberries and one variety of grapes. The importance of a sensible plan for a whole county's fruit interests cannot be estimated. A part of the plan will be the putting on of a publicity campaign to bring progressive fruit men from other counties. Effort will be made to hold down the price of undeveloped fruit lands to reasonable figures. The action taken regarding the standardization of varieties will help greatly in the solution of the future marketing problems." - Eastman, Pulaski County.

Plan for central Packing Shed - "At a meeting of the Fruit Growers Saturday the men who went on the trip to New York gave their experiences and advanced some of the ideas they received which could be put into practice in Marion County in the growing and marketing of fruit. Mr. Durst explained the benefits derived from a central packing shed and Mr. Hinkley spoke of the cooperative marketing of fruit in Illinois as experienced by the Association last year. Most of the men here are in favor of building a central packing shed as soon as we get enough fruit to justify it. We believe the Fruit Growing Association cannot accomplish the greatest benefits for its members until they have a central packing shed." - Blackburn, Marion County.



They Stuck by the Ship - "In spite of the heavy downpour of rain the annual meeting of the St. Clair County Farm Bureau was attended by 600 farmers. This was the best attendance we have had on similar occasions but the chances for a record crowd was marred by the rain. Mr. Robt. N. Clarke and A. C. Everingham were the speakers and both gave excellent account of themselves. Everybody seemed to get a broader vision of Farm Bureau work and went away feeling in a happy mood in spite of dollar wheat and 25 cent corn." - Tillman, St. Clair Co.

"Our second Annual meeting again encountered extremely bad weather, but in spite of this 150 farmers plowed their way to the meeting. We feel confident that we would have had 600 or 700 farmers present had the weather been favorable. We prepared charts showing graphically some of the things that have received our attention during the past year. We believe that some of the advisers do not realize the importance of showing some of their accomplishments, that farmers should know. It is our own fault if we are able to accomplish something and do not let the world know about it. However, we should play up the work of the bureau and not the work of the Farm Adviser." - Fuller, Marshall-Putnam Co.

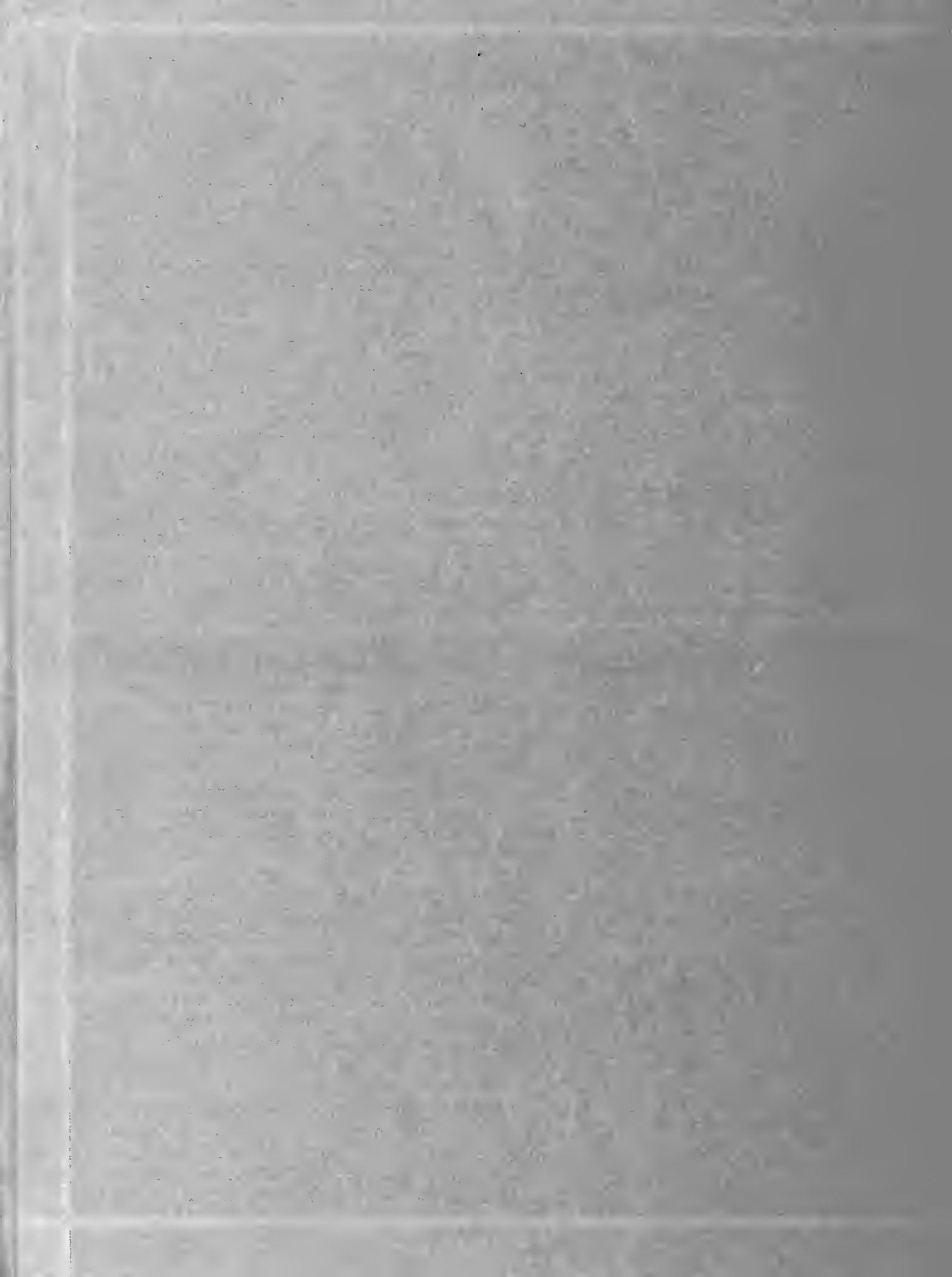
Community Leaders Meet in One Day School - "The meeting of 60 representative Farm Bureau members at the Farm Bureau office on last Thursday, November 17, was all and more than was expected. Mr. Vaniman brought out a good expression from the members and we feel that if the program of work scheme should go no farther than this, it would be highly worth while. These men learned more about Farm Bureau work than ever before and they went home carrying the enthusiasm and information to their own home communities." - Isaacs, Mason County.

Complete Publicity is Best - "We held an auto tour and a poultry culling demonstration. The auto tour merited a big crowd, but unfortunately it was 'announced' and as a result only about 40 people attended. The culling demonstration was 'announced', also 'advertised'. The attendance was fully 150. We were, however, so well pleased with the auto tour, that we intend to try another soon and will not fail to 'advertise' it." - Thomas, Jackson Co.

Let Slides Help - Poultry meetings being held with the aid of the lantern slides seem to be worth while. We are stressing feeding and housing for winter egg production. I believe this is fully as important as culling if not more so." - Walworth, Clark County.

Ridding the Weeds - "During the past summer a number of farmers who had been making every effort to eradicate noxious weeds on their farms, reported that their neighbors were not careful in this regard. The names of these farmers were secured and the State Seed Analyst's office advised of the situation. It was suggested that a letter be written each farmer, asking that he cut the weeds in his fields and along the roadside. Such a letter was written. We had an opportunity recently to check up on this work and found that some farmers got busy who had never before taken any interest in keeping their farms free from weeds." - Bracker, Knox County.

A New Milk Marketing Company - Most of the week was spent on work for the organization of the cooperative milk marketing company at Quincy. About \$20,000 worth of stock had been sold at the close of the week; and at a meeting of the committee that has this work in charge, it was planned to sell about 1/4 of the entire amount required to Quincy business men." - Gougler, Adams County.



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What is
a
Legume?

"Legumes are so named because of the fruit being a pod or
legume. They include not only clovers, alfalfa, vetches, soybeans,
cowpeas, peanuts, and garden beans and peas, but many decorative
plants such as the sweet pea and perennial pea.

Such weeds as the beggar weed, wild indigo and partridge pea are legumes.
They also include trees, as the honey locust, red bud and Kentucky coffee tree.
There are 3800 species of legumes in America." - John Pieper, Assoc. in Crop Prod.

Soy Beans Hold up Corn - "We have an excellent demonstration in Jersey
County of the value of soy beans in corn to prevent it blowing down. The idea
being that where four to six stalks of these beans were in the hill the corn
roots were interwoven with the bean roots and the force of the wind was not
great enough to pull up the beans. In that portion of the field where there
were no beans or only a scattered stand, the corn is down badly. This can be
seen to the row, and all conditions were identical. This man is strong for soy
beans in corn and last year he was hardly lukewarm on the proposition, never
having tried them personally before." - Eymann, Jersey County.

More Legume Seed Needed - There was but very little red clover seed threshed
in this county this year, and no sweet clover seed threshed at all. We are
in the market for both red clover seed and sweet clover seed. I think there
will be fully twice as much sweet clover seed planted this coming season as ever
before. Farmers are beginning to ask about seed and some have bought already." -
Tate, Monroe County.

Have investigated the possibility of developing an outlet for soy beans
commercially. Indications are that a local company will equip to handle 60
to 200 tons per day in the fall of 1922. It is expected the beans will be
used to extract oil and to make soybean cake or meal. Soybean meal has a value
as a feed somewhere between the value of cotton seed meal and tankage." - Smith,
Macon County. (Adviser Oathout reports a similar project under way).

Turning Under Sweet Clover - On one of my visits this week I was at the
farm of one of our members who was turning under sweet clover which had been
seeded in the spring. There was an immense growth, probably not less than two
and a half to three tons of dry matter per acre. We are expecting splendid re-
sults to be shown in the corn crop which is to be grown on this land next year.
We wish we could report many fields of sweet clover being turned under, but un-
fortunately we are unable to do so. Some farmers have been harvesting the
spring seeding of sweet clover for hay which is of excellent quality and a good
yield. We expect the feeding results to be very satisfactory. In one instance
it is to be fed to dairy cows." - J. E. Whitchurch, Saline County.



"Planting Distances for Tree Fruits. - More than 3/4 of the trees in Illinois orchards are planted too close. It is impossible to obtain maximum yields and long lived healthy orchards unless the correct planting distances are observed. The rule is most often violated in the planting of apples and those fruits which require a relatively long time in which to develop, but it is quite common to find peach orchards planted so close together that the root systems are struggling against each other before the trees have come into full bearing. The result is decreased vitality, lack of care because it is difficult to spray and cultivate under such conditions. A ten year old peach orchard and a thirty year old apple orchard will have produced just as much fruit properly planted as will one in which the number of trees was multiplied by two as is frequently the case. Standard apple trees should not stand closer than 33 feet each way and 35 feet would be better. Peach trees are frequently planted 22 x 25 which is the minimum distance recommended. It would doubtless be better to make even large commercial plantings of peaches 25 x 25. There are two temptations facing the prospective orchardist to offset the barren years preceding a paying crop. The first is double planting in which twice the correct number of trees is planted with the hope of realizing enough on a given tree to enable the operator to remove it before the permanent tree is injured by crowding. The objection to this method lies in the failure of the grower to thin the orchard when the permanent trees need the room and also that quite often the semi-permanent tree fails to pay dividends in the allotted time. The second temptation is that of interplanting in which peaches, plums or cherries are planted between rows of apples. This system might work with peach fillers in a section where peaches bear annually. It is to be condemned for Illinois conditions, since nearly all growers who had once planted a peach tree in an apple orchard would leave it there till he reaped one harvest even if that required ten years. Stone fruits are not sprayed on the same schedule as apples which is an added argument against interplanting." - W. S. Brock, Asst. Prof. of Horticulture Extension, University of Illinois.

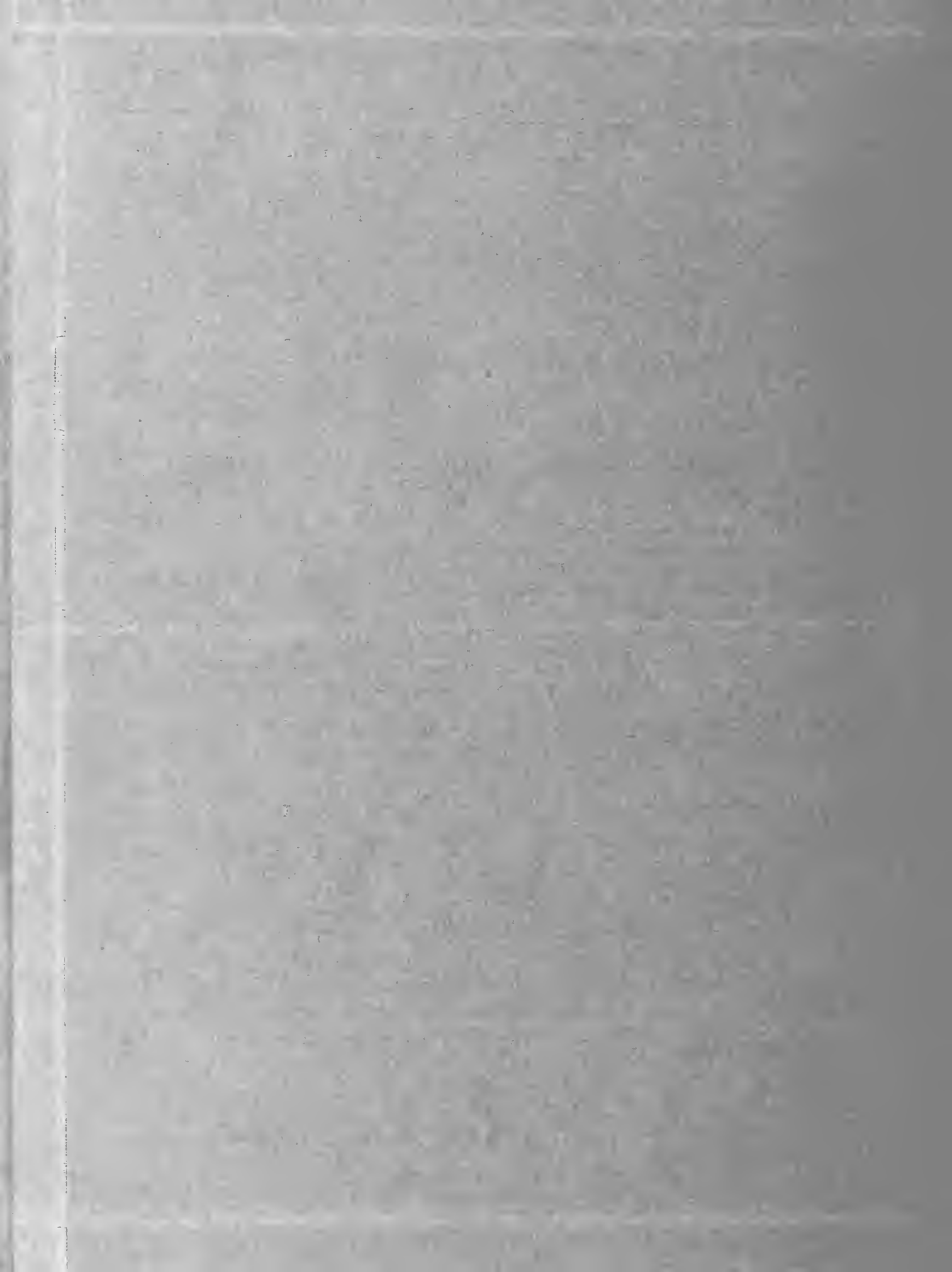
"Over 3500 fruit trees were received by Bureau members for planting this fall. The fruit fever is still pulsating." - M. R. Eastman, Pulaski County.

"Commercial Feeds for Pigs - A recent compilation of the results of the three years' work in feeding commercial feeds to hogs at the Iowa Station would point out the fact that these feeds have about the same feeding value on the average as corn. In 58 lots of five pigs each the Commercial feeds were worth 13.04 per ton when corn and tankage in the check lots were charged at 35¢ per bushel (\$12.50 per ton), and 50¢ per ton, respectively."

"Mineral Mixtures for Pigs - Recent experimental work at the Iowa Station with 280 pigs in 34 lots would indicate that mineral mixtures had but little to do with the economy of growing pigs for market when fairly good rations were fed. This confirms the results of this station." - J. E. Rice, Assoc. in Swine Husb., U. of I.

An Ag Open House will be staged by the Agricultural Club on December 10, so visitors may see the work being done in Agronomy, Horticulture, Floriculture, Genetics, Farm Mechanics and Veterinary Science. Buildings will be open to all visitors from 10 A. M. to 4:30 P. M.

McGhee and Longmire got first and second place respectively for getting in their annual reports.



"Co-operative buying by organized communities has been very satisfactory and the results obtained averaged better than a saving of large sums of money to farmers and have had the effect of reducing retail prices. Dealers have found that it is possible for them to sell goods much cheaper than they have been doing and some of them are out bidding for the farmers' business at prices which relieves us of the necessity of assisting members in this line of work which is a condition entirely satisfactory to us." - Snyder, Ogle County.

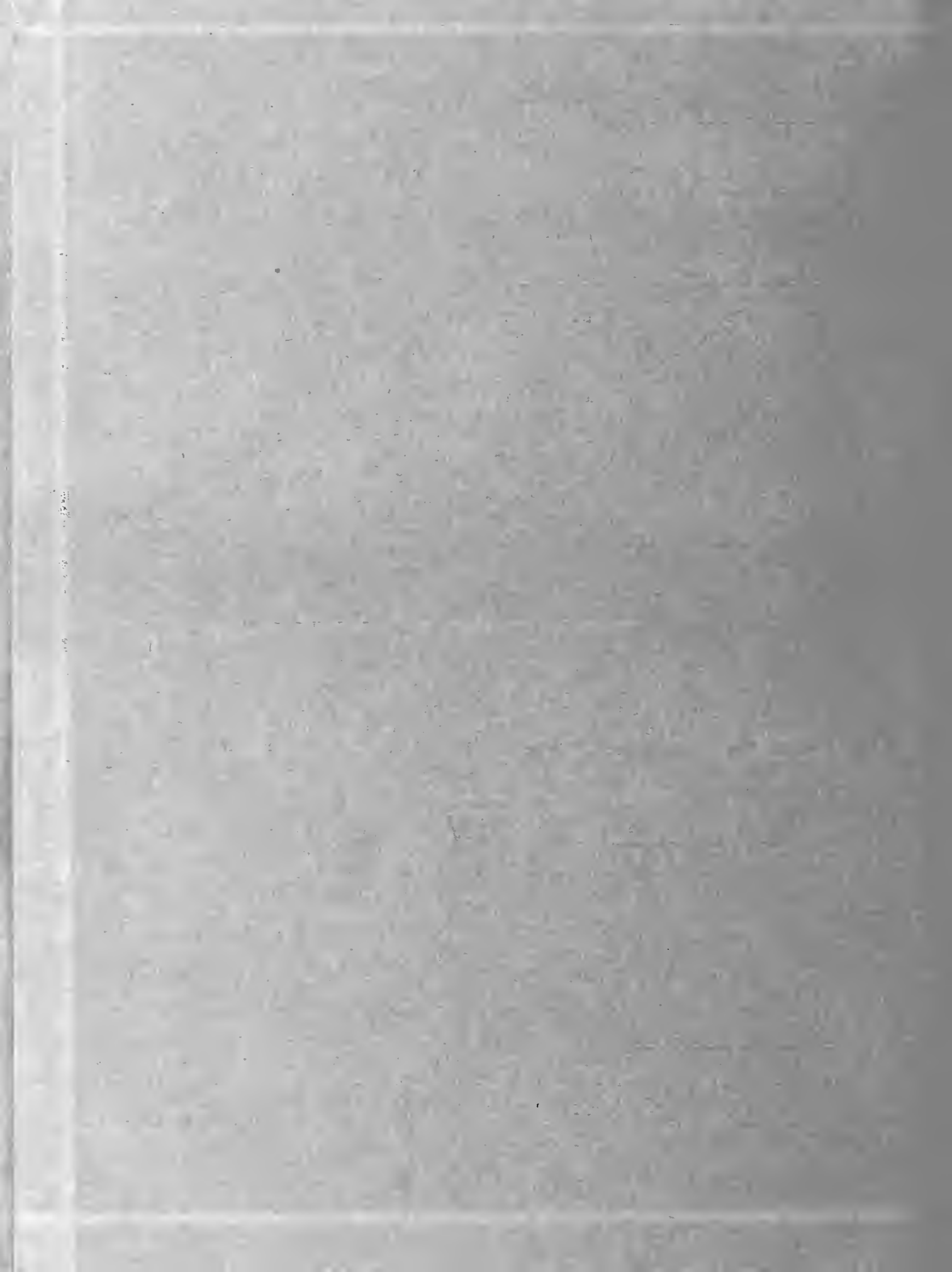
"Co-operative Order Get Approval - "A rather unpleasant emergency recently developed in relation to the unloading of carload shipments at several points in the county. Railroads have a rule prohibiting the vending, peddling or retailing from freight cars. One of the Division Superintendents supplemented this ruling with oral instruction on his line in this county prohibiting the unloading of pooled orders. Much of this business was being done by the most successful cooperative local organization in this county. On hearing of the condition I spent one day in the community getting the facts and then went to the General Office of the railroad in Chicago and interviewed men in the traffic department. As soon as they found that our people were not attempting to evade their rules a hearing was most cordial. They assured me that all goods ordered by the farmers before the arrival of the car could be unloaded by the parties who had ordered it. They also promised to correct the ruling made by the Division Superintendent." - Keltner, Winnebago County.

"Our Corn Day Meeting was a great success. We had 200 farmers out to the meeting from various parts of the county. 30 of these men had experience this year with Democrat corn and some 20 of them were given an opportunity to talk at the meeting giving their experience and opinions regarding Democrat Corn. They were unanimous in the belief that this corn is much more bug resistant than any other variety. They also think that it stands the dry weather better, resists the corn root rot and is much harder to blow down than any of our other varieties. The husks stick tighter on this corn and if it does go down the ears are not damaged like other corn. Practically all the farmers present went away with the determination to make a part of their next year's corn crop Democrat." - Eyman, Jersey County.

"As a result of demonstrations held thru the county a great deal of interest is being shown in better feeding, housing and care of poultry. When we started the poultry work a year ago poultry conditions were below the average. A number of men are now building new poultry houses, better blood is being bought and better feeding practiced. A year ago one of the feed men here in Anna stated he very rarely sold any tankage but that this year he has a very lively sale for tankage both for poultry and hogs. We are going to emphasize and develop the poultry and dairy business as much as possible this winter." - Doerschuk, Union County.

Optimistic Thru It All - "I am trying to make a visit to every member in the county. I have been surprised to see the interest displayed with our members in spite of the bad crops here. There have been very few of them talk about quitting. Most of them are very enthusiastic about getting limestone. Those who cannot handle a carload by themselves are going in together and buying." - Hufford, Wayne Co.

What are you doing to develop leaders?



The Extension Messenger

A source of facts from the weekly reports of the Farm
Adviser, College and Experiment Station Workers and the
State Leader's Office.

UNIVERSITY OF ILLINOIS - URBANA, ILLINOIS

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No. 49.

The Cow's "Breadbasket" Then and Now.

A quarter century ago this autumn, when the writer started the dairy department at the University of Illinois, one of the first things done was to make a careful study of the conditions that existed on the farms in the dairy region of northern Illinois. The winter ration of the cows, which was practically the same on nearly all dairy farms, consisted of timothy hay, corn stover, corn meal, and a small amount of bran. Legumes as feed for dairy cows were little appreciated at that time, and almost none were grown. The result was that in the spring the majority of the cows were in a poor, unthrifty condition, with dry, staring coats, which meant a great shrinkage in the milk yield and a tremendous loss in profit.

Since research work of this department has shown that 22 pounds of milk per day, on an average, can be produced from a ration of 40 pounds of corn silage and 16 pounds of alfalfa hay without grain for a year, nearly every dairy farm in the northern portion of the state now grows some alfalfa or clover hay and has one or more silos. On our annual dairy inspection trip in the spring, just before cows are turned to pasture, it is now difficult to find a single herd in as emaciated and unthrifty a condition as most dairy herds were at this season twenty-five years ago. However, if these same cows were fed all the good alfalfa hay they could eat in connection with a liberal feed of silage thruout the winter they would be in a still better, sleeker condition in the spring, as our demonstration has shown. This is a strong argument for corn silage and alfalfa hay as feeds for dairy cows." - W. J. Fraser, Prof. of Dairy Husb. U. of I.

Less Land and More Cattle. - "Last spring Trimble Brothers, of Trimble, Illinois, disced down the corn stalks in a 23 acre field and seeded it to oats and sweet clover, at the rate of one-half bushel oats and twelve pounds of scarified sweet clover seed to the acre. After the oats were cut, the sweet clover was soon knee high. Trimble Brothers' pasture was practically dried up by the 15th of August and their silage was almost gone. They turned 48 head of milk cows and 12 springing heifers on the sweet clover pasture for a period of 75 days. During the first 10 days of the 75 and the last 10 days, some silage was fed; otherwise the sweet clover made up the entire ration.

In the 75 days the cows produced 60,992 pounds of milk, or about 30 1/2 tons, from the 23 acres. Figuring the milk as 5 per cent milk, the production of butter fat was 3,050 pounds. The cattle did not fall off in milk production in August and September as they had done previously, and they came off the pasture in good condition. There was no evidence of impaction or bloat during the feeding period. In November, just before the freeze, the sweet clover was as high as it was the 15th of August. Trimble Brothers say they plan to have a larger acreage in sweet clover next year, and are now thinking 'less land and more cattle'." - C. S. Rhode, in Charge of Dairy Extension, U. of I.

Read Books This Winter - Organize a small circulating book club or reading circle in your community this winter. Such a club should have from half a dozen to a dozen members. Each member buys one book. Books are passed on or circulated in regular rotation from one member to another every two or three weeks. The books selected may be recent or standard fiction, or books along some special lines such as soils, crops, livestock, economics, or marketing. The members should meet to decide the general subjects they wish to take up; to select books desired and to plan the order in which the books are to circulate. Books of about the same value should be chosen by different members of the club. Each member's book is returned after circulating among the club, and may be retained or better may form the nucleus for a school or community library.

Three or four dozen eggs, as many pounds of butter or ten gallons of gasoline will buy a good book. One of the most satisfying services I ever rendered to a rural community was the organization of a club of this kind. Many rural and small town people are hungry for good books. A suggestion and a little local initiative are all that are needed to put the plan across. - J. D. Billsborrow.

Farm woodlands in Illinois - According to the 1920 report of the Bureau of Census the value of all wood products from farms in 1919 in Illinois was \$6,259,154. Of this amount, material to the value of \$3,614,288. was used on farms and the rest sold or held for sale by Illinois farmers. It would seem from this that the farm woodlot as a source of profit and as a producer of farm building material is a resource which should not be neglected. Reports from only 20,151 farms give an area of 458,464 acres of merchantable timber on farms in Illinois, with a total for the state of 3,102,000 acres in farm woodlots." - R. B. Miller, State Forester.

Sodium Nitrate vs Ammonium Sulfate for Orchards - "The use of nitrogen in commercial forms upon Illinois orchards is relatively new but the practice is now so general that it might have been with us for twenty years if the readiness with which growers are ordering is any indication. Sodium nitrate was the first nitrogenous fertilizer to gain favor, but the past year saw some ammonium sulfate used in nearly every section as a test. All reports indicate that results were quite as satisfactory with one as with the other and in the case of peaches the ammonium sulfate seemed slightly better. Ammonium sulfate contains 25 percent more nitrogen per unit than does sodium nitrate so that prices should reflect this difference. In carlot shipments to southern Illinois points sodium nitrate is at present quoted at approximately \$53.00 per ton. Ammonium sulfate should, therefore, be quoted at about \$70.00 f.o.b. destination. The fact that ammonium sulfate promotes an acid condition in the soil is well known, but all experiments agree that calcium is not a limiting factor in the production of either tree or fruit so that the fruit grower does not feel that he is greatly concerned over this phase of the question. As the matter now stands the deciding factor between sodium nitrate and ammonium sulfate is price based on nitrogen content." - W. S. Brock, Asst. Prof. of Horticulture Extension, U. of I.

"We recently organized a limestone cooperative company at Jeff, with 15 members. These members each pay \$25. a piece. \$5. of this fee is to go in fixing up a shed to store the limestone. The other \$20. is used in keeping limestone on hand so that any member can take out a load of limestone, if he wants it, when he comes to town. We expect to organize several other limestone organizations in the county soon." - Hufford, Wayne County.

"Eat Your Own Pork" - The retail price of meat is cheap compared with the prices of other foodstuffs. However, the retail prices of meats are much higher relatively than the prices for live stock. A hog weighing 225 pounds will dress about 80 per cent or produce a carcass weighing 180 pounds. The following table shows the average per cent of each retail cut in the carcass, the approximate weight of each cut in a 180 pound carcass, the retail price per pound of each cut, and the retail value of each cut.

Cut	Per cent of carcass	Weight lbs.	Price Cents	Cost \$
Loin	12	21.6	25	5.40
Shoulder	8	14.4	20	2.88
Shoulder butt	6	10.8	20	2.16
Spare ribs	2	3.6	10	.36
Ham	21	37.8	25	9.45
Bacon	21	37.8	20	7.56
Lard trimmings	12	21.6	8	1.73
Neck bones, and feet	4	7.2	2	.14
Sausage trimmings	13	23.4	15	3.51
Waste	1	1.8	--	----
TOTAL	100	180	--	33.19

A smooth hog is now worth about 6 cents per pound on the farm. Thus the farmer would get \$13.50 for a 225 pound hog. As shown by the table above, the meat and lard from this hog would cost him \$33.19. While the prices assumed may vary some, yet the fact remains that the farmer will be well paid for his time if he slaughters some of his own hogs for family use instead of sending them all to market and buying meat at the butcher shop. - Sleeter Bull, Meats, U. of I.

"An excellent demonstration test on corn root rot was conducted by C. A. Hunt the past season. The work was done accurately and carefully notes taken. This week the plot was harvested and the average of the diseased rows and the disease-free rows were compared which showed 11½ bushels per acre more corn on the disease-free plots than on the root rot infested plots. The practical manner in which this test was conducted and the results is sufficient evidence of the importance of selecting seed as free from this trouble as possible." - Longmire, Grundy Co.

More Results than Anticipated - "The corn root rot demonstration plot gave much more significant results on harvesting than the appearance of the corn throughout the growing season indicated. In fact there was so little difference in the appearance of the corn during the growing season that we did not have any meetings for observation. However, when the corn was harvested this fall there was an appreciable difference between the corn from the good seed and that from the diseased seed as well as a marked difference in the yields on the limed and unlimed soil. The results of this plot and the presence of so much corn root rot in the county this season encourages us to plan for a demonstration plot on corn diseases in each township the next season." - Melvin Thomas, Coles County.

"Our two small rock crushers have ground and sold 1200 tons of limestone. Most of it has been crushed during the last three months." - McGhee, Maasac Co.



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State Lecturer's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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No. 50

Should In The Farm Bureau Program for 1922---why? "The avowed object
Sweet of the Farm Bureau is to help farm folks improve their living con-
Clover ditions. Increased efficiency of production is necessary if a
be Pushed large proportion of the rural population achieves this objective.
Among all the developments of recent years the new found use of
one plant stands alone in its potential benefits to the human race.

Sweet Clover is the unrivaled queen of the plant world. Her performance during the past thirteen years under field conditions has justified the wildest hope and fondest dreams of a seeker for a suitable queen for King Corn.

Sweet Clover thrives under adverse conditions of heat, cold, wet and dry. She is hardy while young and grows rapidly, penetrating to a great depth and feeding upon all subsoils excepting rock. These soils are broken up, aerated and filled full of humus; thus, splendid drainage is established and a deep reservoir formed in which to store water for time of need. Sheet washing of soil is stopped and the gully bottoms are fitted for a rank growth of permanent grasses, the cheapest and best of all ditch fillers.

Sweet Clover grows from early spring to late fall gorging herself with mineral elements from the depths and nitrogen from the air. As a soil builder she reigns supreme. As a pasture plant she furnishes immense quantities of luxuriant feed the season thru. Nourished by her, the contented horses, cattle, hogs, and sheep grow strong bones, develop full muscles and wax fat and sleek.

Sweet Clover is a good queen giving much and demanding little. Give her a sweet soil and a chance to play hostess to her bacteria and she will return a thousand fold, the time, the effort and the expense of securing her services." - J. W. Morgan, Pres. Henry County Farm Bureau.

"Rock Phosphate on Southern Illinois Soils - The question is often raised as to the advisability of using rock phosphate on the lighter soils of southern Illinois. The 1921 wheat yields from the Newton experiment field (Jasper County) seem to indicate that if rock phosphate is properly handled it may be very profitable on this type of land.

Yields Given in Bushels per Acre.

No treatment except crop rotation	4.0 bu.
Residues	3.0 bu.
Residues, limestone, sweet clover	10.2 bu.
Residues, lime, sweet clover, rock phosphate	22.7 bu.

Here a three years' rotation of wheat, corn, soybeans is used. Sweet Clover is grown as a catch crop in the wheat and spring plowed for corn. Limestone is applied 1 1/2 tons every third year. There was no heavy first application of lime made. Rock phosphate is applied 1500 lbs. every third year." - H. J. Snider, In Charge of Soil Experiment Fields, U. of I.



"Eat Your Own Pork -*In selecting hogs for home slaughter, pick smooth barrows weighing around 200 pounds or even less. Avoid very fat animals, boars, stags, old sows, and piggy gilts. Omit the evening feed of the day before slaughter.

Stun the hog with an axe or a shot from a .22 caliber rifle. It is really better to have some one hold the hog on his back while another sticks him without previous stunning as the hog will bleed better. In sticking, insert an 8-inch knife, edge down into the middle line of the throat, three inches in front of the breast-bone. Run the knife in and down until the lower edge of the breast-bone is located. Then push it slightly under the bone and cut back toward the head, severing the veins and arteries. If the knife goes forward too far, the heart may be stuck and the hog will die instantly and bleed poorly. Avoid getting the knife out of the middle line and sticking the shoulder.

Oftentimes the water for scalding is heated in a kettle over an open fire and the hog scalded in a barrel. A better method, especially when several hogs are to be butchered, is to set a small galvanized watering tank upon bricks or over a shallow pit so that a fire may be built under it and the water heated directly. The water should not be too hot. Dip your hand into it three times in rapid succession. If the third time is uncomfortably hot, the water is the correct temperature. A scraping platform is set alongside the tank and the hog is rolled off the platform into the water and onto a rope, the ends of which are fastened about three feet apart to the platform. The hog should be rolled about and removed from time to time to see if it is ready. Clean the feet and head first. After the hair is removed, hang the hog upon a gambrel stick inserted through the tendons of the hind pasterns just so the head clears the ground. Pour hot water over the carcass and shave it. Then pour cold water over it.

In dressing, begin with the twist (i.e. between the hams) and cut down to the pelvic bone. Then split down the middle to the breast bone, taking care not to cut too deeply and into the guts. Next cut thru the exact center of the pelvic bone, being careful not to cut the bung just beneath. Pull down and out on the penis or uterus while cutting around the bung. Then the intestines, liver and stomach may be removed without much difficulty. Next split the breast bone by inserting the knife a little to one side of the center and cutting downward. Remove the heart, lungs, gullet and wind pipe. Thoroughly wash the inside with cold water and allow the carcass to cool over night before cutting it up. However, do not let it freeze." - Sleeter Bull, Meats, U. of I.* (2nd of a series of 5 articles)

Horticultural Society Meeting - "The sixty-sixth annual convention of the Illinois Horticultural Society will be held in Champaign December 20-22. Headquarters for visitors and delegates will be in the Beardsley Hotel; the society meetings are to take place in the lodge room of the new Elks Home immediately west of the hotel and the commercial exhibits will be displayed in the automobile sales room of M. A. Nelson just across the street. A feature of the convention will be an apple show which from the entries promises to be the best since the apple show held in Chicago in 1918. The list of speakers includes, in addition to many members of the Dept. of Horticulture, Prof. Laurenz Greene, Chief in Horticulture at Purdue University and Prof. V. R. Gardner who holds the same position at the University of Missouri, Director W. F. Handschin, U. of I. will discuss the economic significance of the census figures relating to Horticulture and Professor J. C. Blair will present the development of landscape gardening in the middle west using lantern slides to portray the changes which have taken place during the past twenty-five years. Every interest allied to Horticulture will be represented at this meeting, which is the most important annual gathering of its kind in the middle west." - W. S. Brock, Ext. Spec. in Hort., U. of I.



Bad Roads Do Not Keep Them from Meetings - "We are planning to hold a number of meetings this coming winter. Will try to hold a meeting in each township once a month. Moving pictures will be one of the features of the program. This month 'Homestead' will be shown. The Home Adviser is cooperating in these meetings by furnishing a program of Recreation. Charts representing the activities of the Farm Bureau, I.A.A., and A. F. B. F., are being used to present the facts in a more forceful manner. The first meeting was held Friday Dec. 2 at Pleasant Ridge Church. The roads were in very bad condition but the folks of the community made up parties and came in wagons. Over a hundred came in this way. Good eats composed the closing performance." - Edgerton, Rock Island County.

Loving Pictures proved quite a drawing card at our Annual Meeting held last Wednesday. We had an attendance of practically 500 people which is about double the number we have ever had at an indoor meeting, indicating that the farm movie will not only be an attraction to get the crowd, but that it acts as an educational feature regarding the work done by the Farm Bureau." - Dickenson, Cass County.

Burn Those Bugs! Chinch bugs are now found over more than half the area of Illinois. There are some in every county south of Peoria. wherever it is possible to do so, the chinch-bug's hibernating quarters should be burned this winter. All the railroads in this area have been requested to burn their right of way as thoroly as possible. Nearly all have agreed to do this. Every bug killed now may mean several heads of wheat or oats or a hill of corn saved next summer. Give 'em all a roast!" - W. P. Flint, Chief Entomologist, State Nat. Hist. Survey.

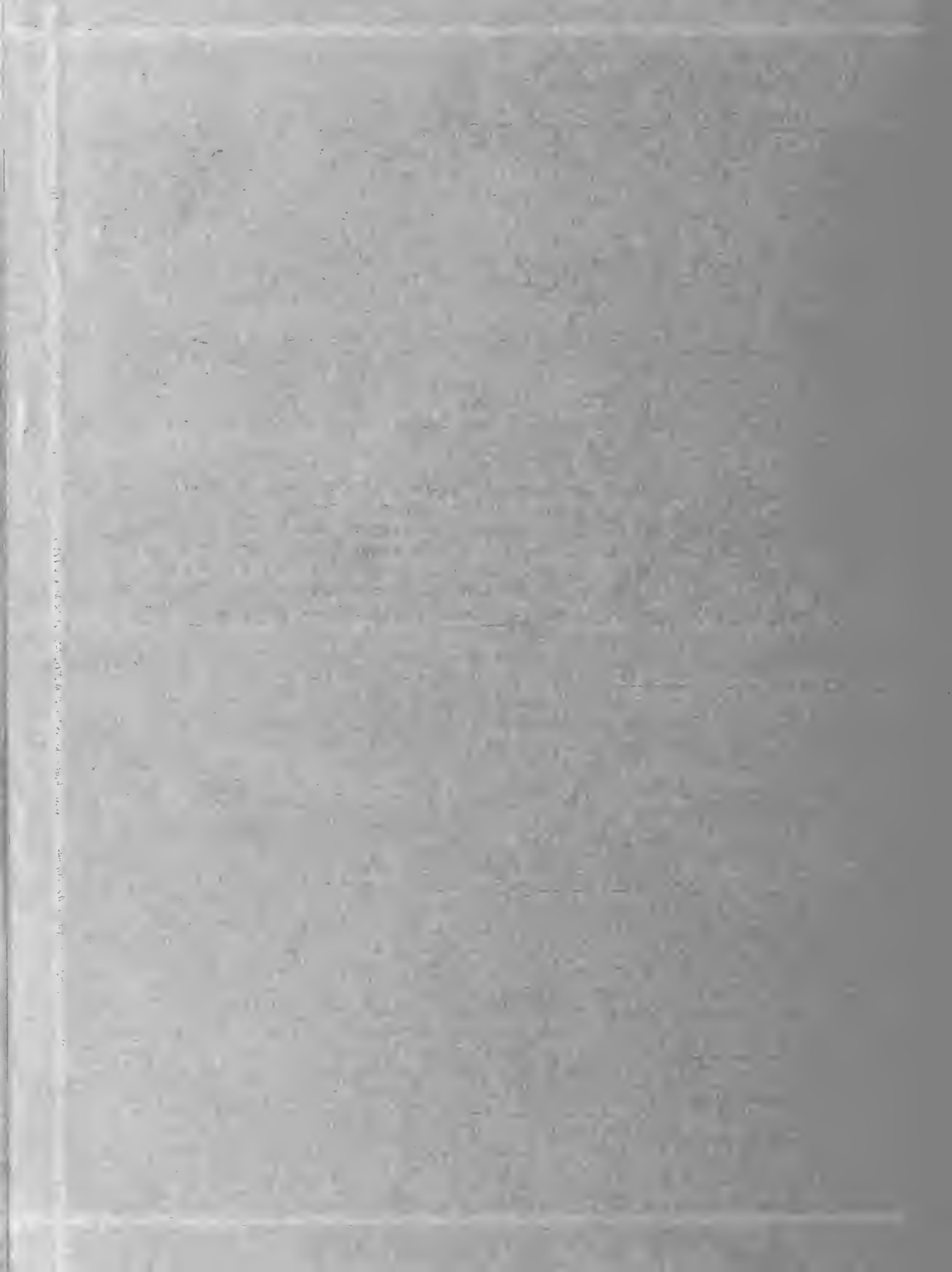
A new way of presenting the results of feeding experiments is used in Illinois Bulletin 234. Emphasis is placed on financial results, rather than on rates of gain and economy of gain. Much of the discussion centers around the monetary costs of gains, necessary margins and profits or losses per head, for the particular market conditions prevailing. Charts are used in such a way that the reader may compute for himself, in a purely mechanical way, whether a given method of feeding would be liable to return a profit at prevailing market prices. This bulletin by Dr. H. H. Mitchell is just off the press. Any adviser may obtain a copy from The Agricultural College, Urbana, Illinois.

Feeding Pure-Bred Draft Fillies is the title of Illinois Bulletin No. 235 which also has just been published. Professors J. L. Edmonds and W. G. Kammlade are the authors. These experiments show that good pastures and legume roughages make the best basis for feeding rations for draft fillies. It has been found best to feed grain in comparatively small amounts during all seasons rather than to feed it in large quantities at one time and discontinue its use at other times. This bulletin will soon be sent to the complete mailing list in Illinois.

Mr. H. R. Pollock has tendered his resignation as Farm Adviser in Edwards County to take effect January 31, 1922.

Mr. E. T. Ebersol who has been farm adviser in Logan County since the work started there in 1918 has tendered his resignation effective December 1, 1921.

Mr. L. O. Wise who is now county agent in Clinton County, Iowa, has been employed by the Whiteside County Farm Bureau as farm adviser in that county to succeed Mr. S. J. Craig, whose resignation became effective December 1, 1921. Mr. Wise will take up the work as soon as he can arrange to make the transfer.



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M E R R Y C H R I S T M A S

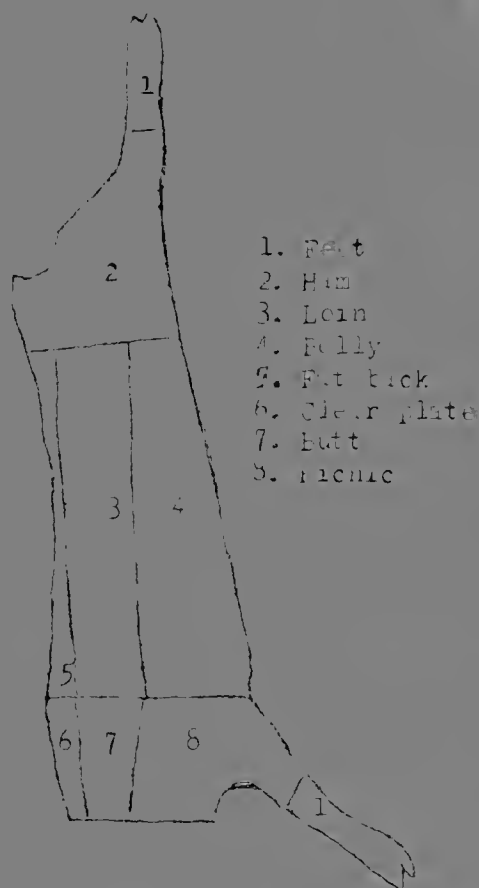
A bit of a greeting
A bit of a rhyme
To wish you on Christmas
A mighty good time

The Relation of Legumes to Soil Fertility

The campaign for increasing the legume acreage in Illinois has been undertaken with a full knowledge of the great importance of legume crops in soil improvement and in increasing crop yields. It is recognized by farm advisers and others active in this work that the value of legume crops is due very largely, if not entirely, to their ability to fix atmospheric nitrogen, and to their adding active organic matter to the soil. Many farmers, however, do not understand clearly the function of legume crops in a cropping system, and the shortcomings of legumes as fertilizers.

Granting that the supply of easily nitrified nitrogen in the soil is an important factor and one which is usually reflected directly in crop yields, the fact must not be lost sight of, that legumes, when plowed under as green manures contribute nothing to the maintenance of the mineral plant nutrients, unless it be that which is brought to the surface from lower strata by deep-rooting crops, and even this may not truly be considered an addition to the total mineral resources of the soil. On the other hand, legume crops when removed from the field remove very significant amounts of phosphorus, potassium and calcium, and, therefore, constitute a source of depletion of the fertility of the soil with respect to these elements. Thus, a three ton crop of red clover hay removes from the soil as much phosphorus as the grain of an 88 bushel crop of corn, as much potassium as 473 bushels of corn, and as much calcium as 6700 bushels of corn. If both the grain and stover of the corn crop are removed, the three tons of red clover remove the same amount of phosphorus as 65 bushels of corn, potassium equal to 126 bushels of corn and calcium equal to 393 bushels of corn.

These figures should not discourage the use of legumes as a part of the standard rotation or for green manure, nor do they minimize the importance of these crops; but they do emphasize the fact that the growing of legumes does not complete the program of fertilization for the maintenance of soil fertility."—
E. E. DeTurk, Asst. Prof. of Soil Tech., U. of I.



1. Feet
2. Ham
3. Loin
4. Belly
5. Fat back
6. Clear plate
7. Butt
8. Picnic

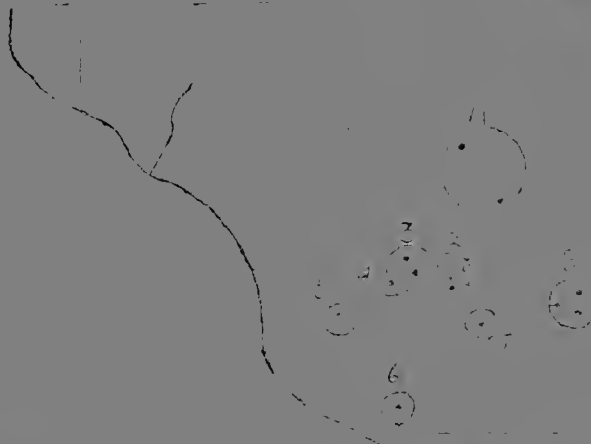
"Eat Your Own Pork" - After the hog carcass has chilled liberally for 24 to 48 hours, split it down the center of the back with a meat saw. Many farmers split the hog on each side of the back bone, with a cleaver or ax. This method spoils the best cut in the carcass - the loin. The head is cut off about a half inch behind the ear or at the atlas joint. This may be done before or after splitting. Lay the side skin-side down upon a table and cut off the feet just above the knee and hock. Make a square cut between the third and fourth rib to cut off the shoulder. The layer of fat on top, called the 'clear plate' may be cut off and used for lard. The neck bones and ribs are then taken out. The upper part of the shoulder or 'butt' may be cut off squarely just above the joint of the shoulder blade and cooked fresh as a roast or boned and used for sausage. The lower part of 'picnic' may be boned for sausage or cured. The entire shoulder may be cured without division.

Cut off the ham squarely about two fingers in front of the pelvic or 'H-bone'. Then trim it smoothly so there are no loose, thin, ragged shreds of meat on it. Also trim off the tail and flank. If the ham is very fat, trim off some of it. However, be sure to leave about one half inch of fat over the lean. Hams are usually cured. Strip out the leaf fat for lard. Cut the loin from the belly by sawing through the ribs parallel to the back bone, just below the large muscle of the back. Then remove the 'fat back' from the loin with a sharp knife. The fat back is used for lard. The loin may be used for roasts or cut up into chops. It may be allowed to freeze and then used as needed. It will keep indefinitely while frozen.

The spare ribs are cut from the belly and used fresh. The belly is then trimmed so that all corners are square, all edges are straight, and all ragged meat is removed. If the carcass is a female, trim off enough meat from the lower edge to remove the nipples. The front or brisket end and the upper part of the belly piece are not so good as the lower flank and side portions. Hence they are often cut off and used for sausage and lard. The trimmed bellies are cured for bacon. All fat trimmings should be used for lard and all lean trimmings for sausage. Do not use any bloody trimmings." - Sleeter Bull, Meats, U. of I. (3rd of a series of 5 articles.)

"A Grain of Golden Corn" mounted on a pin is the entrance badge required if you attend the exhibit of the Woodford County Corn Test, the first week in January. Did you get your pin? January 6th is the day for out-of-the-county visitors.

Bez sax - "You can't toot your own horn without being at the little end of it."



indicates a breeding block and place. But in the circle marked 1 is a center. A bull is located in each breeding block. Every two years a bull on block No. 1 is changed to No. 2, No. 2 to No. 3, and so on, to prevent inbreeding.

The chief advantages of this association are:

1. The members have the community or county idea of all pulling together to develop good Guernsey cattle.
2. The members are all working the same line of breeding.
3. They are enabled to use good bulls at a low cost.
4. Their bulls will all be tested under the state and federal plan for true breeding.
5. The county will be known as a center for good, healthy Guernsey cattle.
6. Good herds will be developed at a low cost.
7. Good bulls will increase production.
8. Members know where to turn for the future, which includes the selection of one or two good bull calves to keep when the herd is clean." - C. L. Bonds, in charge of today production.

"The total of all better cows and bulls is increasing. Dairymen realize that the best cow bulls of better breeding are the ones if they wish to improve the herd. The larger part of a buck was spent in wisdom with Holstein Bros who wished to purchase pure bred cows and pure bred bulls. Two bulls singly a 1000 pound bull was purchased; also twelve cows. One of the cows will be shipped to the State Test Plant at Dixon, Illinois, for official test." - Giffie, Lehigh County.

Giving Every Man a Job - "Our people who have not had any active duty thus far in the Farm Bureau work at with the Board of Directors last week to discuss 'Farm Activity'. Four committees were provided: One to help with the exhibit which the Farm Bureau will put on in connection with the County Farmers' Institute; one to plan and assist in holding the Annual Meeting of the Farm Bureau; one to have charge of special meetings, and still another, the movie meetings of the County. Effort will be made to give every man something to do." - Price, Kendall County.

Agriculture: Illinois -- 1920 Census Bulletin has just been published. Statistics for the state and its counties covering Farms and Farm Property, Tenancy, Mortgages, Livestock, and Crops data are given in detail. Write for your copy to Bureau of the Census, Washington, D. C.

The Extension Messenger

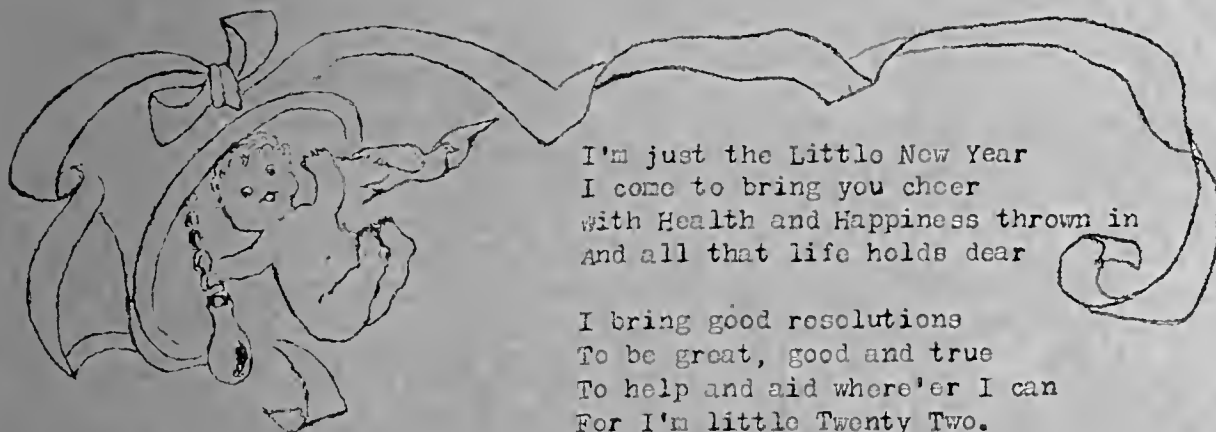
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I'm just the Little New Year
I come to bring you cheer
with Health and Happiness thrown in
And all that life holds dear

I bring good resolutions
To be great, good and true
To help and aid where'er I can
For I'm little Twenty Two.

Feed Legumes for Minerals

"At present there is great interest among stockmen as to the value of minerals in the rations for farm animals and claims of wonderful benefit thru the use of mineral mixtures are being broadcasted by firms which compound them. Most of these claims, at least in connection with dairy cows, are not substantiated by careful investigations conducted at agricultural experiment stations. Forbes of the Ohio Experiment Station, who has done a large amount of work on this subject states:

'In harmony with the large measure of independence which there is between nitrogen and mineral metabolism, however, the feeding of minerals produces no definite increase in growth or in milk production. In cases where the ration is especially deficient in minerals the use of mineral supplements will cause some additional growth, and perhaps some additional milk production, but probably not sufficient to make it a paying venture merely on account of the pounds of increase immediately resulting.'

"It seems evident that the best possible way to supply minerals to dairy cattle is by the use of liberal amounts of leguminous roughage, such as alfalfa, clover, soybean or cowpea hay, both in the rearing of young stock and in feeding for milk production. It is likely that if cows are fed legume hay during the time that they are not producing milk that they store a reserve of minerals which is drawn upon during the succeeding lactation. Legume hays are high in lime content while wheat bran, cottonseed meal and linseed oilmeal are relatively high in phosphorus. Under most conditions, when good rations which include liberal amounts of legume hay are fed, there is no need for the addition of minerals, with the exception of common salt, which should always be supplied to cattle in such amounts as they care to consume." - Dr. W. B. Nevens, Assistant Professor of Dairy Nutrition, University of Illinois.

Motion Pictures Give Opportunity for Important Discussions. - "We are now giving considerable attention to community meetings. Three of these were held the past week. At the first two we had full houses; the third, held last night, the weather was bad and the roads muddy, hence attendance was small, but we had a very good meeting with about 30. We are now using our new motion picture machine with very good effect. The program at these meetings does not, however, consist of pictures alone. We get into the discussion of important community problems. Last night poultry was the subject discussed. At the other meetings ship-ping and cattle were in for discussion and at one the local association work which had been under way sometime previously was completed by the hiring of a manager.

All of the above work is interesting and mighty important but it is surely very strenuous for the adviser and especially so when he has a long 20 mile pull thru rain and mud to get back home. We got in a little after midnight last night (Dec. 16) and just about ruined a suit of clothes and a pair of shoes extricating the 'Flivver' from the mire." - Phillips, Greene Co.

Farm Films are Popular. - "'Spring Valley' and 'Farm Bureau Comes to Pleasant View' have been shown at five places in the county during the past week. At this series of eight meetings we had an attendance of 2100 people. From the response which we received from the questions asked regarding the films, we feel that this form of publicity is well worth while. We expect that the showing of these farm bureau films will assist us greatly in our community organization which is to follow." - Simpson, Gallatin County.

Arrangements have been made for the showing of the films 'The Old Homestead' and 'When the Farm Bureau Came to Pleasant View' at various points in the county during the first week in January." - Logan, Crawford County.

Best Meetings Ever. - "We have just completed the best series of community meetings ever held in Mercer County. We find the movie projector a very valuable addition to our extension work. We also found that it was worth while to call our farmers' institute meetings under the name of community meetings and that the attendance and willingness on the part of the people of the communities was greater as a result." - Richey, Mercer Co.

An enthusiastic meeting of thirty of our Farm Bureau directors and members took the whole day on last Monday to talk over Farm Bureau work. These men took with them outlines which had been prepared and several engaged others as speakers for township meetings which will be held this month. Assistance is being given in the different townships towards arranging these meetings and for having some farmer in a nearby township who attended this meeting of instruction to be the principal speaker." - Brooks, LaSalle Co.

This Annual Meeting was a big success from our point of view. The crowd came early and stayed late. They were enthusiastic over the work of the bureau and in addition to our regular program some excellent ideas were brought out by voluntary speakers on the floor." - Watson, Piatt County.

Horses Die in Stalk Fields. - It is estimated that nearly 100 horses have died in DeWitt County, mostly in stalk fields, from forage poison. In spite of warnings people continue to run risks." - Robbins, DeWitt Co.

"The Illinois Horticultural Society." - It evidently requires more than a total crop failure to dampen the enthusiasm of the fruit growers. The 55th annual convention and show of the society held in Springfield December 20-22 was the equal of any previous similar event and certainly better than most. The quality of the fruit shown was remarkably good. Of more than passing interest was the election of W. S. Brock of Urbana as Secretary. Mr. Brock replaces A. M. Augustine of Normal, Illinois, who has served the society for nine years and who was promoted to the office of President." - Atwood, Asst. State Leader.

Short Course Sept. Term - The first annual meeting of the Corn Growers' and Stockmen's Convention (formerly called the 'Ag Short Course') will be held in the College of Agriculture, University of Illinois, Urbana, Illinois, January 16 to 17, 1922. The program is arranged especially to meet the needs of farmers and farmers' sons. No registration fee or examination is required.

In addition to the main body of lectures in all branches of agricultural work, a splendid list of special addresses is arranged as follows:

"Why Market by Federation", Dr. J. T. Mackin, Univ. of Wis., Madison, Wis.

"Iowa's Soil Improvement Program", Prof. L. M. Roman, State College, Ames, Ia.

"Farm Finance and Farm Credits", Herman M. Danforth, Pres., Federal Land Bank, St. Louis, Mo.

"Livestock Marketing", Prof. H. L. Mumford, Dir. of Livestock Marketing, I.A.A.

"Beef Production in the Corn Belt", Prof. R. B. Kin, Purdue Univ., Lafayette, Ind.

"America's Opportunity", Henry A. Rothman, Chicago, Ill.

A clinic and illustrated lecture concerning some facts on round worms obtained in field experiments, R. D. Piffers, Genl. Entomologist, Chicago, Ill.

Two addresses on poultry, Prof. H. B. Carr, Cornell Univ., Ithaca, N. Y.

The last two days of the short course, Thursday and Friday, January 26 and 27, will be devoted to a special agricultural conference. A detailed program for the two weeks is being prepared and a copy may be obtained by addressing the College of Agriculture, Urbana, Ill. - F. H. Rankin, Assistant Dean.

Date Changed - The date of the Annual Farm Advisers' Conference has been changed from January 17, 18, and 19, to January 14 and 15. The advisers will join in the General Agricultural Conference called by the University on January 26 and 27. The lectures this year will be held in the Illinois Union Building (The old Y. M. C. A.) - G. M. Coffey, State Leader.

Two Tractor Schools will be conducted by the Department of Farm Mechanics, College of Agriculture, University of Illinois this winter. One will meet January 9 to 14 and the other January 30 to February 4, 1922 (the week before and the 1 week after the Corn Growers' and Stockmen's Convention) Registration each week will be limited to 30 students. Lecture work will cover construction, theory, operation, maintenance, and repair of gasoline and oil burning engines and tractors. Laboratory periods will consist of practical work in magnetos, carburetors, tuning up, wiring, adjustments, trouble and operation. For further information, address R. I. Snodl, Department of Farm Mechanics, College of Agriculture, Urbana, Illinois.

"During the Soil Survey field season just closed, the survey of Will, Coles, and Union counties was completed, and 140 square miles were mapped in Henry County, 212 miles in Williamson County and 522 miles in Madison County. The total season's survey was 2392 square miles." - R. S. Smith, in Charge of Soil Survey Mapping in Illinois, U. of I.



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