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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. March 13th. No.1.

CROPS

The seed corn situation has proven to be a very serious one in every county, although some of the southern counties have reported a sufficient amount of seed for their own use and some extra seed to be supplied to the seed corn administration.

It is reported that the farmers of Fulton County seem more anxious to buy than to test their own corn. Doubtless this is true in general, and is a most lamentable fact.

Peoria County reports six men out of one hundred and thirty-five having enough corn for their own use.

Ogle County reports that they are getting the majority of their seed from old 1916 crib corn, several hundred bushels having been located from that source. In several counties the husking was not yet completed on March 9th.

Adviser Higgins of Moultrie County reports a farmer who bought corn for $5.00 per bushel which when ear tested germinated only 25%, and a sample from his own crib tested 80%. This shows that farmers can better afford to spend some time in ear testing rather than to buy on recommendation.

Mr. Ebersol of Logan County has hit upon a novel plan of window display which seems worthy of note. At the present time Mr. Ebersol has in his window a sand seed corn tester. Back of the sand box the ears of corn for test are placed in a rack and numbered. This permits anyone to see the actual germination of the seed corn and the method in which it is arranged. In addition, samples of small grains for seed, with prices attached, are displayed. Such a window front can be used at all times of the year to good advantage, serving a purpose which brings results much more efficient than that of acting solely as a dust catcher.

Mr. Doerschuk of Randolph County reports that the alfalfa which was seeded last spring with oats looks exceedingly well. He suggests that this might prove to be a very profitable method of starting alfalfa in that section of the state. The general practice seems to be that of fall seeding. If seeding in the spring was found to be successful in the majority of cases, it would save practically one year's time in the rotation.

Prospects are exceedingly good for an increase in the acreage of spring wheat, also barley. Rock Island reports a purchase of five hundred bushels of barley and a portion of a car od seed wheat. LaSalle County has already bought two cars of spring wheat seed, and has demand for more. Peoria County reports the purchase of the following seed: 167½ bushels Marquis Spring Wheat, 198½ bushels of Oderbrucher Barley, 8 bushels Soy Beans, 7½ bushels N. W. Alfalfa, 24 pounds Rape, also the locating of a considerable amount of Iowa 103 Oats, for seed for members.

Mason County has placed several hundred bushels of cow peas, though they still have for sale 1500 to 2000 bushels more.

LIVESTOCK

A significant conclusion comes from the Iroquois County report as follows: "Many of our farmers who have fed hogs, sheep, or cattle, who are sending them to market now, are very much discouraged to learn that in the majority of cases they have conducted their operations at a loss. We have had several feeders who have had their cattle returned with the hope of gett ing enough better markets later to justify the expense."

Cattle feeders in Mason County after having fed their animals for heavier weight were disappointed to find the packers bidding higher on light weight stuff.

Lake County reports the beginning of a Pure Bred Dairy Cattle Breeders' Association. Much interest was shown and it is quite possible that other associations of the sort will be formed in that county.

Will County reports a combination grade and registered bred sow sale on March 12th. This sale was quite successful.

FERTILIZERS

One of the new counties reports the placing of a carload of lime and a carload of phosphate this week.

Saline County has taken up the question of unloading limestone along the right of way on some of the branch railroads. Prospects are good that the farmers will be allowed to unload their lime locally, thus saving from one to nine miles haul.

Effingham County has taken up the matter of cheaper freight rates on fertilizers with the different railroads and has been able to get a price for limestone at $1.30 plus 3 cents tax, delivered at most of the stations in the county.

MISCELLANEOUS

The purchasing of a tile ditching machine is under consideration in Saline County.

Tazewell County reports an experiment with sodium chloride to be used to kill lice on cattle. This is a fine white powder and is applied with blow gun. Twenty cents worth of the powder was used on twenty head of cattle. Mr. Robbins says "if it works out as preliminary tests have indicated, we expect this to be a fine method of combatting lice".

Several of the old counties in planning their reorganization work, are placing the membership on a more permanent basis by arranging to have each membership extend for a period of three years, regardless of the time of its being issued. This provides a system whereby all memberships do not terminate at the same time and is a much more permanent system than where all memberships end at the close of the three year period. We also find that some of the old counties are adopting the idea of organizing their executive committee along subject matter lines. The counties which have been recently organized have followed this plan and the old counties are beginning to feel that such a plan is worth while.

Several of the Advisers have reported demonstration meetings where the farmers were invited to bring in a number of ears of corn. Samples from these ears were actually placed in rag dolls by the farmers themselves. Arrangements were then made for a meeting some six or seven days later when the dolls would be opened and the owner would read the germination of his own seed corn.

This is one illustration of what we consider ideal demonstration work, for the men are actually taught how to do these things for themselves.

Our attention is called to the fact that farmers in general are reluctant to prepare corn for seed according to the rules set down by the seed corn administration. Labor is so scarce and time so valuable that most farmers seem to prefer to sell their corn at $4.00 or $5.00 per bushel than to prepare it according to regulations even though they should obtain $8.00 or $10.00 for it. Mr. Smith of Macon County in giving demonstrations for oat smut treatment, has arranged to have some local men at the meeting carry thru the actual operations and has thus made the demonstration of much more value than if he himself had done the work. This plan should be followed to a great extent in all demonstrations.

The Farm Bureau of Morgan County arranged for a midday banquet at Jacksonville. This banquet was well attended, some one hundred and twenty-five members being present. Toasts were given by the new adviser, the State Leader, and several other men and a number of three minute talks were given by local farmers. The idea seemed a very good one for a get-together meeting in a county.

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. March 30th No. 2.

CROPS

The seed corn situation appears to grow more serious every week. Many cribs of corn which were thought to contain quite a large amount of good testing seed are showing up a small percentage germination, in many cases not over 30 or 40 percent.

Of 450 ears in a test in Moultrie County the germination ranged from 15% to 88%, the majority averaging from 40 to 60 percent

Ear tests of corn are being made at the rate of 40 to 60 bushels a day at Delavan, Illinois. Quite a force of both women and men are making ear tests of the seed. Mrs. James L. Reid, wife of the originator of Reid's Yellow Dent corn was one of the ladies who helped in the work. This corn is selling at $10.00 per bushel. A crib of 5,000 bushels testing 80% to 90% was located in Tazewell County. It is believed that this will supply the shortage of that county.

"Seed corn picked from the field early in September and dried before October freezes tests 95% to 100%"says Adviser Baldwin. "Corn selected while husking and hung to dry does not average any better than crib run corn, and many are reporting as low as five percent germination in such corn."

Two carloads of seed corn have been purchased for the members by the Logan County Farm Bureau.

Winter wheat and winter rye are looking very well in most sections of the state. Some advisers recommend harrowing; others believe this would be injurious because of scanty root system.

About 150 acres of spring wheat have been seeded in Macoupin County, the size of the fields ranging from two to thirty acres.

Barley has been seeded more generally this year in Grundy and Rock Island Counties than ever before.

Black cow peas. Forty bushels seed for sale. College of Agriculture, University of Illinois. Write A. F. Gustafson.

Canadian field peas. One hundred fifty bushels for sale at $4.50 per bushel. County Agent, Fergus Falls, Minnesota.

Certified seed potatoes. A limited quantity for sale in Ottertail County, Minnesota, at from 80 cents to $1.00 per bushel, sacked, f.o.b. cars from shipping point in that county. Seed is free from disease and was harvested before frost. Address J. V. Bopp, County Agent, Fergus Falls, Minnesota.

Cow peas and soy beans. For sale by Mason County Farm Bureau. This seed was raised by members of the farm bureau and is considered choice.

Oat smut demonstration where ten bushels lots of oats were treated on the public streets in the day time and in buildings at night in the different villages, is a novel plan used by Mr. Smith in Macon County. Usually a couple of boys were allowed to do the actual work. Some men said they "did not know it was so easy and so cheap" and they are going to treat their seed oats this year!

LIVESTOCK

Acquirement of a milk plant to manufacture butter and cheese and also to skim milk in an emergency, is under consideration by farmers in the vicinity of Geneva, Kane County, Illinois.

Marketing livestock by motors. "Gate records of the Omaha Stock Yards Co. indicate that 90% of the hogs driven into the ya rd (i.e. not shipped in railroad cars) recently have been hauled in trucks. The saving in shrinkage has been figured by some patrons to pay the entire cost of hauling."

A pure bred livestock association has been organized in Rock Island County.

A pure bred stallion has been purchased cooperatively by the farm bureau members in Tazewell County.

FERTILIZERS

Limestone. "Taking advantage of the rate of $1.00 per tone offered at the quarry by the Columbia Quarry Co., orders have been placed for 47 carloads of limestone for 1918 delivery. This offer was for members of our association only, and expired March 15. So far, 20 more carloads have been ordered from the prison at Chester." This from Randolph County.

MISCELLANEOUS.

Sodium Fluoride. A mistake in our previous issue gave sodium chloride as an insecticide used to kill lice on cattle. This should have been sodium fluoride. We know common salt is valuable, but we never heard of it being used for this purpose.

Orchard Demonstrations. Such a meeting was held in Grundy County where several trees were pruned and suggestions given as to the care necessary to produce good fruit for the coming year.

City Gardening is calling much attention in Peoria, Ill.

The Adviser has helped to lay plans for this work, but it is hoped to place a man in entire charge of this work.

Farm Bureau Membership was increased in Effingham County by the holding of a demonstration meeting in a far off corner of the county, which had not been canvassed when the organization was being formed.

Attendance at meetings. Mr. Mosher reports that all of his one hundred and ten schoolhouse meetings where seed corn demonstrations were arranged, were carried out according to schedule. Twelve hundred men, 860 women, 2240 school children and 150 boys and girls not in school attended these demonstrations. Mr. Mosher says, "The same number of people could have been reached in a comparatively smaller number of meetings, but in no other way could half of the farmers on the county be reached in so personal an interview as we were able to do at these small group meetings." The Farmers' Institute have agreed to stand the expense of these meetings, since the county as a whole received the service from these demonstrations.

TIMELY TOPICS.

Oat smut demonstrations. It is not yet entirely too late to bring this before the farmers in some of our counties.

Kitchen gardens. In the rush of farm work, do not forget the importance of the kitchen garden. During this cool spring weather is the time to start lettuce, radishes, spinach, both seed and set onions, early peas, and early potatoes for home use.

Fruit tree spraying will soon require the attention of some of our advisers.

Alfalfa and Red Clover inoculation. Spring seedings of alfalfa and red clover. Inoculation of alfalfa seed is far better than taking a chance. Some farmers have found it advisable to inoculate their red clover seed as well.

Spring pigs. Do not forget the untiring vigilence necessary to save the early pigs. Records show that fully 25% of these are lost.

A shortage of poultry brings to mind the necessity of raising more chicks. The early chick has a much greater advantage over the late hatched chick and produces a fowl which will lay thru the winter.

Farm accounts. The income tax report is nearly complete for this year, but in order to facilitate next year's report, do not forget to keep up the records in your farm account books during the busy season.

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol.1. March 27, 1918 No 3.

Weekly Reports of Farm Advisers. We appreciate the promptness with which the weekly reports are being mailed in. As the value of this publication depends largely upon the freshness of the material used, we shall appreciate having you mail your report on Saturday It must be in our hands Tuesday morning to be used in current issue. Thank you.

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Nearly fifty names have been submitted for this publication, Interest and appreciation have been expressed with nearly every answer. We are going to reprint just two.

> "I am delighted with your first weekly report of the Farm Advisers, and I will welcome it very much."
> - Paul R. Lisher.

> "I am much pleased with the appearance of your 'long contemplated publication'. I think this will be of great value to the farm advisers."
> - E. T. Robbins.

CROPS

A car lot of early seed corn grown in Missouri from seed raised in Henry County last year was purchased for farmers in Henry County at $3.00 per bushel F.O.B. shipping points. Corn having been removed but one year from its original location makes good seed to bring back.

To provide seed corn for replanting or late planting in an emergency, Mr. Montgomery spent four days near St Paul, Minnesota locating seed of an early variety.

Contracts for 1260 bushels of seed corn to be delivered to the State Council, have been written to date in Hancock County. Most of the corn is of early varieties and will make the test 260 bushels were received at the warehouse this week and samples taken for testing at the University.

Eight cribs of corn have been located in Livingston County. These contain about 20,000 bushels. "Out of this it is hoped to get approximately 2,000 bushels of seed. There will still be a shortage of several thousand bushels.

From all indications, Mason County will be able to furnish 2500 bushels of seed corn for the State Council of Defense, in addition to supplying the wants of the local farmers.

A general estimate of the corn situation in DuPage County indidate that the acreage will be reduced from 12 to 50% per farm under the ordinary area planted.

Cribs of corn in parts of Iroquois County are reported to be in bad condition. Grain dealers estimate that 40 to 50% of corn in these cribs will be unfit for human food.

In Sangamon County some questionable corn seems to have been imported. Warning has been given to farmers not to use this seed unless the variety and location have been guaranteed.

Mr. M.L.Mosher, adviser in Woodford County has been requested to take charge of the seed corn administration work in the southern part of the state where he will be located for the next two weeks.

The acreage of spring wheat in Iroquois County, will be much more than was anticipated. It is estimated that the acreage will equal 1/4 to 1/3 that of the winter wheat acreage. Acreage of barley is also much increased. Some farmers sowing from 20 to 80 acres.

More spring wheat and barley are being sown in Grundy County than had been anticipated, these crops are being seeded in very good shape.

LIVESTOCK

Investigation in regard to spring pigs according to W.J. Carmichael, shows that thruout ten counties visited, sows were bred for later farrowing than usual. No one reported any special trouble in the saving of the spring pigs, probably due to the excellent weather.

A survey of pigs lost at farrowing time made by the swine department, estimates that one-third of all the pigs died before weaning. Of this loss the causes and proportion are as follows: Abortion 4%, farrowed, weak, or dead 25%, eaten by sows 4%, overlaid by sows 15%, chilled or frozen 4%, scours 20%, canker sore mouth 8%, thumps 5%, miscellaneous causes 15%.

An unusually large number of weak pigs are reported in some sections this spring, the cause being attributed to the soft corn fed.. However, a report by D.P.McCraken who has covered 8 counties in Southern Illinois says that the pigs are of normal strength apparently no detrimental effect resulting where soft corn was fed as a large part of the ration.

ORGANIZATION

"There is no weapon that slays its victims so surely as praise"

"It does not pay to scold Farm Bureau members to the public, it does more good to brag about the fine results some man got from treating oats for smut than it does to scold about the loss the county experienced because people did not do so." - Robbins

J.H. Lloyd, is to be re-employed for a three year period in Hancock County.

MISCELLANEOUS

Several orchards were reported where apple trees were dying San Jose scale was found to be the probable cause, proper treatment was recommended - Logan County.

Farm visits are to occupy practically all the available time during the summer and fall months according to the action of several Executive Committees.

A Farm Bureau sign which can be seen for several blocks directs the Macoupin County farm bureau members and all visitors to the seen of action. This is a suggestion to others.

Cost accounts of 30 Illinois port producers for 1916 and 1917, show that it cost some men twice as much as it did others to produce pork The forage crop used was the largest influencing factor. In accordance with college experiments, the records show that alfalfa, red clover, sweet clover and rape, furnish the best forage, giving abundance of good forage in July, August, and September when spring pigs can make use of it. Timothy and bluegrass fail at this time.

Boys Working Reserve. Burridge T. Butler reports that trained boys can now be secured. The boys are enthusiastic, their preliminary training has been thoro and as many as possible should be located with good farmers at once. Every boy trained on the farm this year will render double service next year in relieving the labor shortage. Farm Adviser Brooks reports from observation of these boys that their preliminary training has been of much benefit. Many of the boys especially those from small towns have had previous farm experience.

THE FARM ADVISERS CONFERENCE

The Farm Advisers Conference held at Urbana, March 18- 22 inclusive was much appreciated by all who attended. There were 35 men present at the first session. This increased to 75 and from all reports the conference was considered very valuable to both the new and older advisers alike.

Most of the advisers spent at least half of the week at the Conference, which shortened the amount of work done in their home counties. Words like these from Mr. Mosher indicate the value of such a meeting even to advisers with several years experience - "Monday and Tuesday were spent at the State Conference of Farm Advisers, and I was very sorry that I could not stay for the entire four days of the session, as I felt that the program arranged was the best we have ever had."

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. April 3rd, 1918 No. 4.

CROPS

"Corn is king", has been the corn-belt slogan for a number of years. But a cloud has risen which threatens his kingship, and it bears the insigna - " Poor seed shall undermine your power."

Many farmers have heeded the warning, yet the situation is still very serious. The farm advisers are spending the greater part of their time in getting the farmers to test their corn or to place orders thru the Seed Corn Administration if they are in need of good seed.

Official seed samples sent to the University to be tested for the seed corn administration are showing increasingly better germination. Out of the large number of samples received during the last few days, the majority are running over ninety percent.

Nearly 350 bushels of corn were delivered in Randolph County this week for the State Council of Defense according to Adviser Doerschuk. "This required considerable time in sampling, weighing, and re-sacking. We are getting some very good testing and very early corn. One lot of twenty-five bushels of Reid's Yellow Dent made an official test of 96 percent."

"Most of the farmers in Sangamon County seem to be supplied with sufficient seed corn for one planting," says Adviser Madden. "However, much of the seed has not been tested."

"Samples of corn selected last fall in Coles County are testing less than 50%", reports Adviser Thomas. "The situation is very serious thruout the northern half of the county."

Questionable seed corn has again been found in one of our northern counties. Two elevator companies and several other parties were discovered who were selling corn which they claimed was grown "about fifty miles south", but when pinned down, they admitted that this corn was grown in Missouri. Farmers cannot be too careful in ascertaining the reliability of all seed agents.

Longmire's Ford will "Talk seed corn." Colored signs bearing the words "Seed corn? Yes, the State can furnish it", and "You can get seed corn from the State. See F. E. Longmire", will flash the signal from either side.

Wheat has suffered considerably the last two weeks in the southern half of the state, due to the dry weather. Some advisers have recommended harrowing where no clover has been seeded. Many farmers, however, were "too busy" to use the harrow on the wheat during the oat seeding time.

Much of the winter wheat made very little growth last fall and is badly killed out as a result, according to Adviser Reidheimer. In some instances the drilling in of spring wheat was advised; in all other instances the use of the roller was recommended.

Comparative effects of the use of the corrugated roller and the harrow on wheat is a demonstration being noted by Adviser Kendall in Morgan County.

"Practically every farmer in DuPage County has at least small acreage of spring wheat", says Adviser Heaton.

About 3500 acres have been sown to spring wheat in Kankakee County.

"Early oats are up and looking fine." - Randolph County.

LIVESTOCK

The effort to control animal diseases which is being made by the United States Department of Agriculture and State Department of Agriculture seems to be appreciated by the farmers in Morgan County according to Adviser Kendall.

Sale of one of the best herds of Holstein cows in Kane County is reported by Adviser Reidheimer. Half of this herd was registered, the remainder high grade. Eighty-five head were sold, and the owner went out of the dairy business. Scarcity of labor and low price of milk were given as the causes.

Pig club work is arousing a great deal of enthusiasm in Rock Island and Lee Counties.

Members of the Rock Island County Pure Bred Livestock Breeders' Association have adopted the constitution for their organization and seem to be greatly enthused, believing there is a real future for this organization.

Poultry production should be further stimulated. Arrangements have been made in Illinois for three addresses by Edward Brown of London, England. Mr. Brown is one of the world's greatest authorities on poultry. He will speak at Chicago, Urbana, and Carlinville on April 8th, 9th, and 10th respectively.

Sowing of alfalfa, rape, and some other forage crop for hog pasture this summer is the plan being followed by farmers in Fulton County to relieve the corn situation.

MISCELLANEOUS

Farmers are generally treating their oats for smut in the counties where farm bureaus have existed for several years. In the new counties the advisers are finding that a great deal of educational work in treatment of oats for smut is still needed.

Considerable wheat remains unmarketed in Randolph and Monroe Counties, due partially to difficulties in marketing conditions. Some of the mills have already ground their quota. Many elevators are subsidary to the mills and some of these are closed.

Farm surveys in Macoupin County have shown that farmers as a rule are very much interested in bettering farm conditions.

Pastures are starting well, but there is a tendency to turn on stock too early.

Farm visits are again getting some attention from the advisers.

Cropping systems for many farm bureau members are being planned this year by the advisers.

Now is the time to cultivate alfalfa. The spring tooth harrow and the alfa lfa renovator are especially recommended for this purpose. The disc should be used only as a last resort.

Three counties report demonstrations in pruning fruit trees and the control of San Jose scale.

Burning of corn stalks has been reported in several counties, attributed in most cases to the exceedingly large and heavy stalks still left on the fields this spring. This is a rather deplorable condition, and advisers are recommending that the stalks be left on the ground, and a sharp disc used to work them down.

"A namelesspublication" no longer. "The Extension Messenger" is christened in this, the fourth number. We have often been asked the question "What's in a name?" This name most nearly represents the service which we hope these notes render. We trust you will like it.

The grand prize for suggesting the name chosen - "TThe Extension Messenger" has been awarded to Dr. W. L. Burlison. This prize has been presented to the winner with all due ceremony. What is it? A handsomely bound copy of "Woolworth's Atlas of the World."

There are 57 rules for success. The first is "Get Results". The other 56 don't count.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. April 10th, 1918 No. 5.

Alfalfa is nearly knee high on the best fields in the southern third of the state.

"Alfalfa seeded the last of August or the first of September shows exceedingly fine stands with few exceptions. A few fields seeded late in September are a failure, due to dry weather at time of seeding." - Mason County.

A sweet clover demonstration on blow sand east of Havana was visited by Adviser Baldwin. "Ten acres of the worst blow sand possible has been transplanted to sweet clover, plants being set about three feet apart each way. A similar demonstration was conducted two years ago in the same manner and proved a success. Should this field prove successful, and we find that sweet clover will reseed itself in the same sod, we feel that thousands of acres of idle sand land may b reclaimed and made good pasture land."

"Inoculation of red clower paid well where clower had not been seeded recently" reports Mr. Longmire. "This practice is being continued this year."

Wheat as a whole is reported looking very well all over the State except parts of southern Illinois where it has suffered considerably the past few weeks from lack of moisture. A much needed rain was reported generally over southern Illinois on April 6, which no doubt will make the prospects in that section much brighter. Where the snow was blown off the tops of hills last winter, the wheat was generally killed out.

Largest acreage of spring wheat in the history of Kane County is reported. Ten thousand acres is a very conservative estimate. There is also a large acreage of barley. Wheat is looking exceptionally fine in Macoupin and Union Counties.

Corn planting has begun in Union County. This is about two weeks in advance of the average season. Adviser Durst has issued warning against planting too early.

Questionable seed corn is reported as being sold in various counties. The history of this seed has been proven in many cases to be falsely represented. In nearly every case this seed was reported as having been "grown from corn obtained last year" in the particular Illinois county where it is now being sold for seed. The history of such corn should be very carefully investigated and germinated as the tests generally are proving to be very low.

A carload of fine looking corn was shipped into Woodford County and the local buyer said it came from "south of Sioux City". Investigation showed that this corn came from "south of Sioux City", but the intention apparently was to leave the impression that this corn was grown near Sioux City, Iowa. - W. G. Eckhardt.

The seed corn administration on April 2nd had 60,000 bushels of corn contracted for, and orders for only 8,000 bushels.

Sorghum. Over one hundred acres in McHenry County have been contracted for sorghum growing, providing suitable seed can be located. One business man in the county has agreed to purchase a mill for the use of the farmers who will grow this sorghum.

Many men forget to order soy bean seed sufficiently early. Soy beans should be in the ground about May 15 in central Illinois.

SOILS & FERTILIZERS

A sample of commercial fertilizers from a carload sold to farmers near Sparta, Illinois, was analyzed and found to contain only 3% available phosphoric acid. This was called "half and half" and sold for $34.00 per ton.

Service in soil identification appreciated. The identification and location of soil types is proving to be a valuable service, particularly to the new advisers.

Thirty cars of limestone are the result of a series of community meetings conducted during the past week in Clinton County. Mr. Rehling reports that the orders are not all in as yet. It is planned to use this limestone on fields that go into clover or alfalfa next spring.

LIVESTOCK.

Brood sows are farrowing and saving pigs quite successfully. Some little complaint attributed to feeding mouldy corn in Grundy County.

"Many pigs being farrowed in Union County!" reports Adviser Durst. No complaints reported.

Milk producers at Harvard and Crystal Lake incorporated, purchased a site, and are getting buildings and equipment in shape to handle their own production if need be. - McHenry County.

Twenty-six Percheron breeders have started in the business in Tazewell County since the Percheron Association was organized there in July, 1913. Mr. T. B. Mayfield of Athens, Tennessee, was in Tazewell County the last week in March for the purpose of buying a carload of grade Percheron mares.

Dairy Short Course to be held at the University of Illinois, May 1st to 11th, for the purpose of training young men not subject to draft, men past the draft age, or those physically unfit, in the testing of milk. These men will be given positions in official testing work and in cow testing association work. Many positions will be open in Illinois at $60 per month and expenses, and there is quite qa demand in other states as well. The subjects given during the short course will be feeds and feeding, breeds and breeding, cattle judging, care and management of dairy herds, and testing milk and its products. Anyone interested is invited to attend. Men having some practical experience are especially desired. There will be no expense attached to the course except board and room.

E. M. Clark, College of Agr.

The value of molasses and gluten feed for fattening steers has been determined in a feeding test just concluded at Ames. Six Lots of two year old steers were fed for 120 days. Four lots were fed molasses feeds as recommended by the companies which make and sell those feeds. One lot was fed gluten feed and a check lot was fed a ration of shelled cornm oil meal, alfalfa hay and corn silage. In each case where molasses feeds were used the average daily gains were decreased, cost of grains increased, the margin per steer over feed cost was decreased when compared to the check lot receiving the shelled corn, oil meal, alfalfa, and silage. The lot where gluten feed replaced part of the corn gave practicallynthe same results as the check lot. The results of this experiment strengthens the advisability of making large use of farm grown feeds with the addition of oil or cotton seed meal for fattening cattle. -

W. H. Smith.

MISCELLANEOUS

"Three hundred gallons of lime sulphur and equivalent amount of arsenate of lead was purchased for orchard spraying this year. The first spray has already been administered." - McHenry County.

Don't forget the garden.

Early cabbage plants should be hardened off now. Withhold more of the water from them and remove the cover earlier in the morning, leaving it off later in the evening. This will accustom the plants to the cool weather. Cabbage plants, if properly "hardened" can be set out much earlier than people generally believe. - Prof. Lloyd.

The Black Stem Rust of wheat has been found to harbor on the European, tall or common barberry, as it is variously called. A complete and immediate destruction of this ornamental shrub has been asked by the Secretary of Agriculture. The Japanese barberry does not harbor this rust and should not be destroyed.

"Teach your dollars to have more cents, "

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. April 17th, 1918 No. 6.

"Cultivators of the earth are the most valuable citizens. They are the most vigorous, the most independent, the most virtuous; and they are tied to their country and wedded to its liberty and interests by the most lasting bonds."

Thomas Jefferson.

CROPS

"Patriotic motives are largely responsible for the 1200 acres of spring wheat sown in Champaign County this year" says Mr. Oathout.

"Increased amount of spring wheat has been sown in Stephenson County." - Baumeister.

"At least 5000 acres of spring wheat in Grundy County."-Longmire.

"Winter wheat is suffering. Weather dry and cold."- Readheimer.

"Over 8000 acres of wheat in Will County, according to conservative estimate. Acreage of barley also very large. Practically all of seed was obtained within the county."- Lisher.

Oats seeding practically finished in Stephenson County.

"Feared hard freezes may have damaged early oats and young clover in Moultrie County." - Higgins.

"Large acreage of beautiful alfalfa on the bottom lands of Union County. This is fully knee high now. With good weather it should be ready to cut by May the 1st." - Durst.

"Noticed one field of corn planted. Wheat and young clover needs more rain." Rehling, Clinton County.

"State Council corn delivered tests 96% - very high quality - approximately 900 bushels ordered thru the State. Large number of farmers are testing their seed."- Grundy County.

Crib corn (1916) is supplying a large number of Kane County farmers with seed.

"Sixty-three samples taken from the car of seed corn received from Missouri gave an average test of 94%. The local cribs still fail to show up any seed worth working out in this county." - Oathout.

Listen to this one! "2870 bushels of corn contracted, 1500 bushels sampled, 1540 bushels of contracted corn ear tested. Would have had over 4000 bushels contracted had not Mr. Eckhardt stopped us by telegraph. Fully three fourths of the people in the county are testing their seed or have purchased ear tested seed. The above is one of your 57 rules for success. I do not know the other 56." McCarrell, Pike Co.

"Cool weather has put a quietus on corn planting - fortunately." Durst.

SOILS & FERTILIZERS

Identifying soil types. "Two days with I. O. Ellis." - Snyder in Ogle County. "One day with Professor Mosier."- Baumeister in Stephenson County. "Two days with Washer."- Smith in Macon.

Fifty-one cars limestone ordered so far in recent limestone campaign. Three communities yet to report. - Clinton County.

About forty tons of nitrate of soda purchased in Union County this spring.

"Many corn stalks burned in Union County, especially on bottom land. Allowing two per acre, the nitrogen wasted would cost $8.64 at present prices paid for nitrate of soda." - Durst.

LIVESTOCK

"Fall pigs generally are in need of worm treatment, and mineral matter. Spring pigs more numerous than ever - very good success reported." - Grundy County.

"Litters of pigs are large in number and nearly all pigs are being saved." - Ebersol, Logan Co.

Many lambs have been lost in some sections because many farmers are not acquainted with methods of sheep raising and have not provided for the necessary warm lambing quarters.

"Now is the right time to dock and castrate lambs. Do notneglect this. Many farmers think it unnecessary to castrate the ram lambs, but in this they are mistaken. A lamb left entire is a nuisance after his sex instinct develops, and if he is not marketed until autumn he is worth less per hundred weight than a wether lamb." - W. H. Smith.

Telegram: "Rule of Food Administration prohibiting sale of hens or pullets for slaughter will terminate April 20th. Give greatest possible publicity urging retaining of healthy hens which will continue to lay up to time of moulting. Market only old hens and non-producers. Sale of large number of fowls at this time would tend to lower prices considerably." Lamon- Animal Industry.(April 13th)

Tri-County Holstein Breeders' Association organized at Polo. Snyder, Ogle Co.

MISCELLANEOUS

"Meadows have suffered severely. Ground has frozen every night during past week. Much timothy gone, clover has heaved badly. Many farmers will be short of hay. We are giving information on Sudan grass, and soy beans for emergency hay." - Baumeister, Stephenson Co

"Cold weather has been a very serious matter with Union County fruit and truck crops. It is diff icult to determine the injury as yet. The few peach buds which survived the winter were opened and were probably killed. Cherries and pears have no doubt suffered seriously. Asparagus, rhubarb, and potatoes suffered." - Durst.

More regulation of the price of farm products seems inevitable. Intelligent regulation should be based upon actual costs of production on the farm. This information must come from the farmer himself. The "cost accounting suggestions" recently sent to the advisers will help. A little assistance given to Farm Bureau members regarding cost accounting will be of untold value later on. - H.C.M. Case.

Farm visits are again becoming the order of the day. One third of the counties reporting had over ten farm visits the past week.

Increased marketing and consumption of potatoes being urged by the Food Administration, and Department of Agriculture. Thirty million bushels must be marketed before the middle of June, to prevent great losses to farmers, and encourage planting.

Two new county advisers have been employed. E. M. Phillips in Green County with office at Carrollton, and R. R. Wells in Warren County, with office at Monmouth. These men have not been officially approved, nor have they reported the time they are to begin work.

We must not forget the ladies. Home Economics extension work in the State is progressing rapidly. Five counties have women advisers, namely, Kankakee, Livingston, Champaign, Mercer, and Adams. Williamson County is organized ready to employ an adviser. Several other counties are in the progress of organization. One or more city agents are at work in each of the following cities: Chicago, East St. Louis, Peoria, Springfield, and Rockford. There are also seven emergency district leaders, some of whom have assistants. To date, the list of workers in Home Economics Extension totals thirty-three in number.

Liberty Loan. - "Farmers of Kankakee County have subscribed about 65% of the total amount, according to the statement made by the chairman of the Liberty Loan committee. Over 98% of the farmers who were asked to buy bonds, took them." - Collier.

"Come across, or the Kaiser will."

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. April 24th, 1918 No. 7.

"Follow your flag to the furrows."

CROPS

Rains the past week were general all over the state. Cold weather seems to have done no serious damage to growing crops. Spring wheat, winter wheat, barley, and oats generally reported as looking fine.

"Small grain largely up. No spring plowing for corn as yet. Quite an area fall plowed. Farmers busy hauling out winter's manure. Rain Monday, Wednesday - Sleet, snow, and rain Saturday. Froze one half inch ice Thursday night". - Stephenson Co.

"Never saw better prospects for alfalfa and red clover than we have in Monroe County this spring. With favorable weather, alfalfa will be ready to cut in two weeks. Red clover especially good in the bottoms."

Wheat prospects in Macoupin County reported better than for many years. Both wheat and oats looking fine.

"Oats were not injured by the freezes and are looking fine. Practically all the clover seeded a year ago is in fine condition this spring - large acreage in the county". - A.W. Miner, Fulton Co.

Seed Corn Administration reports on April 20th a total of 99,410 bushels of seed corn contracted for, and 54,777 bushels delivered.

"State Council corn is beginning to come into the county so far as we are able to find out it is very satisfactory". -Rock Island Co.

"Two seed companies and some ten farmers are preparing corn for the seed corn administration. The needs of most of the local farmers are also being supplied." - Baldwin, Mason Co.

Mirages. "We keep hearing of cribs of corn containing large amounts of seed. We always make efforts to see these cribs, but in most cases, we find that the trip was made for nothing".-Moultrie Co.

Sorghum. "Some sorghum will be grown for syrup". - Ogle Co.

Wanted. "Over 20 bushels of clean sorghum seed". -
Adviser C. E. Hay, Taylorville, Ill.

"Straw spread on wheat last fall shows marked effect. Growth is more rapid and more thrifty where straw was spread than where not in same fields. - Kankakee Co.

Wheat fields on the bluffs.look one hundred percent better than before the first rain. Many high spots which looked perfectly bare before the rains, are now showing some green. Potatoes are all planted - early ones beginning to come up. - Monroe County.

Chinch bugs. Advisers in some of the wouthern counties report the belief that cold weather and heavy rains have killed most of the chinch bugs.

LIVESTOCK

Announcement has just been made of the appointment of Dr. J. S. McDaniel of Columbia, Missouri, as Assistant Professor of Veterinary Extension in the Animal Pathology Division of the University of Illinois. Dr. McDaniel is a graduate of the University of Missouri, as well as the Kansas City Veterinary College. He was a member of th veterinary faculty at the Michigan Agricultural College for six years, and during the past year held the position of Extension Veterinarian at the University of Missouri. His services will be devoted to disease problems confronting the veterinarian and stockman thruout the State of Illinois.

Hog cholera has broken out in a few places in several counties, but vaccinations have been resorted to in all cases which have come to the attention of the adviser. All outbreaks seem to be under control.

Serious poultry losses are reported in Vermillion County. Fowls affected die quite suddenly. It is thought that mouldy feed is responsible for the trouble. Dr. McDaniel has visited the sick flocks and is making a study of the malady.

Percherons. Ten gray Percheron mares were sold thru the Tazewell County Farm Bureau to F. B. Mayfield of Athens, Tenn.

"One member reports that 12 sows farrowed 143 living pigs this April. - A hard record to beat". - Hay, Christian Co.

Profit in Steer Feeding. Mr. Frank Harris of Fremont recently sold a carload of steers which he fed on silage, alfalfa, hay, and a little cotton seed meal without corn. Mr. Harris says these cattle made him more money than any catt le he has ever fed. They sold for $13.65.

MISCELLANEOUS

Farm Visits. The advisers are planning to spend most of the time in the next few weeks in farm visits. The new counties are leading in the number of visits now being made. Adviser Miller of Macoupin County says "Rainy days are good days to get acquainted with farm bureau members who drop in at farmers' elevators, banks, and stores."

News Bulletin. A new sheet entitled "The News Bulletin" is being published weekly by the University of Illinois. It is prepared especially for editors of newspapers, about four hundred and fifty of which are on the mailing list in Illinois and one hundred outside the state. The first issue was released for publication on April 17th. It is attractive and up to the minute on news concerning the University.

Grape Root Worm is doing serious damage in the region of Nauvoo, Hancock County. A series of experiments for control of this pest has been arranged under the supervision of W. P. Flint, Assistant State Entomologist, in cooperation with E. J. Brown of Mauvoo.

The Farm Bureau office should be equipped with a safe, or, the membership cards and valuable papers should be kept in a bank vault.

An extension telephone in the adviser's office is a great help.

Window space next the street is being used by some advisers to good advantage for display and demonstration of seed corn tests, various samples of legume seeds and other timely topics.

Keep a carbon copy of your weekly report. It will be a great aid in making your annual report.

Send copies of all your cimular letters to the central office. We like to keep in touch with your work.

Let us have any new methods or new ideas. They may be a help to the other fellow.

State Leader or assistants will be glad to meet with your executive committee and render any assistance possible. Several of the older counties have already organized their committees along subject matter lines.

Projects. Has your Farm Bureau decided upon the important projects that should be taken up this season. A carefully thot out plan is half the work. Things worth doing are worth planning.

Hog cost accounting record books can be supplief from our office.

Are you sending a copy of your circular letter to forty-nine other advisers?

"A satisfactory lease calls for profitable farming and a fair division of returns." Iowa Bulletin No. 159 - "Farm Leases in Iowa."

"Fortune is infatuated with the efficient".

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. May 1st, 1918. No. 8

"Be still, sad heart! and cease repining;
Behind the clouds is the sun still shining;
Thy fate is the common fate of all, -
Into each life some rain must fall,
Some days must be dark and dreary".
Longfellow - "The Rainy Day".

CROPS

Rain has brought sorrow to some, joy to others, discomfort to most of us, but crops to all of us.

The "Seed Corn" flag still waves. O'er this broad land it continues to stir the hearts, the hands and the pocket-books of our farmers. A few slackers are yet unmoved, but during the past few weeks, many a one has yielded to the call and joined the ranks.

"Many farmers, at the eleventh hour find they are in need of seed corn". - Baldwin.

"Persistently plugging away at the ear test", characterizes the work of many farmers in Macon County according to Adviser Smith. "They may get but one ear in four that is good seed, but their field will be planted with local seed that will grow".

"Rains are making wheat stool considerably. Alfalfa continues to look fine. Need fair weather soon to allow cutting of first crop of alfalfa. Wheat, oats, and grasses, doing fine". - Durst.

"Plowing for corn is now nearly done. Oats is showing a splendid stand and wheat is improving every day. All clover and alfalfa seems to have wintered almost perfectly".-Robbins, Tazewell

"Alfalfa, clover, oats, and wheat are in excellent condition". - Logan, Crawford Co.

Spring work. "Corn ground largely plowed and some farmers expect to plant as soon as the soil and weather conditions are favorable. Farmers report more spring work done up to the present time than in any previous year". - Miller, Macoupin Co.

"An increased acreage of broom corn will be put in this year."- Gernert, Edgar Co.

"More than seven inches of rainfall during April. All field operations stopped. Thorough discing in preparation of seed bed will be necessary. Small grains, alfalfa, and grasses in excellent growing condition." - Thomas, Coles Co.

Hessian Fly. Investigations made last week in twelve wheat fields in Vermillion County indicate no danger from fly this year. In only one field was a trace of fly found and that field was of very early seeding. The investigations were made by Mr. W. P. Flint, entomologist, University of Illinois, and Adviser Lumbrick.

Ten counties have reported the approximate number of acres of spring wheat being sown. These vary from one hundred to ten thousand acres. We should like to hear from the other counties.

Soy beans in silage corn. Several demonstration fields of soy beans and silage corn are planned in Sangamon County.

Strawberries. "Not injured by cold weather", reports Adviser Durst. Union County produces more strawberries than any other county in Illinois.

"Fruit seems to have escaped injury, altho temperature was as low as 24 degrees F. Steady wind, cloudy weather, and gradual rise of temperature are responsible. Much spraying has been done, though wet weather has greatly interfered. Weather favors scab - few reports of canker". - Union County.

LIVE STOCK

Percherons. In search of a carload of Percheron mares came Mr. A. G. Ratcliff of Mt. Rose, Colo. to Tazewell County, Ill. Tazewell seems to be about first on the Percheron map.

"Cattle on feed last month or two have been doing exceptionally well. Most men are feeding a concentrate, cotton seed or oil meal, with corn and hay. Others are feeding silage. The men feeding at present feel that they may have a chance to gain back what was lost during the past few months". - Longmire, Grundy Co.

Two pure bred, high record bull calves, one pure bred Duroc Jersey boor and one bred sow have been placed with Clinton County Farm Bureau members thus far.

Several carloads of fine beef cattle have been shipped from this county the past week. Altho these were not finely finished, yet they were in very good condition. - Kendall, Morgan Co.

Increased pork production. "From all indications, Lake County farmers will produce more than their twenty percent increase in hogs this year. Farmers report from six to ten live healthy pigs per litter. Many are being induced to plant more alfalfa, clover, and rape for hog pastures. Some are following the University's idea of arranging the hog pastures to be grazed alternately". -
Watkins, Lake Co.

Wool price fixing. Professor W. C. Coffey has just returned from Washington, D. C., where he was one of the representatives of wool growers that met with the War Industries Board on the matter of fixing the price of wool. The Board has decided to take over the entire 1918 wool clip and all existing stores of wool for the Government, because in no other way can the needs of the army and navy for wool be supplied. It is the intention of the Government to pay a fair and just price for the wool because it realizes the importance of stimulating wool growing at this time.

SOILS & FERTILIZERS

"Abandoned" six years ago, is the description of a certain farm in Monroe County. Sweet clover and alfalfa were introduced. Records of last year are: 26 bushels wheat per acre and $61.00 worth of sweet clover per acre and every acre producing.

Some limestone is being ordered, but shipments are held up for want of cars. - Sangamon County.

Fertilizers must be ordered farther ahead than ever before. Transportation is less certain and demands are much greater.

MISCELLANEOUS

"Service is the secret of all success".

Farm visits. A new type of farm visit is reported by Griffith in Lee County. Six tenants, the owner, and the Adviser went over the series of farms in one day. Purpose of the visit was to get the tenant interested in better rotation, fertilizing, livestock production, and use of silos. Griffith says it was a good stunt.

Liberty Loans. Counties reporting on the Liberty Loan say that practically every farmer visited bought a bond.

What the advisers were doing one year ago:

Making many farm visits; inspecting clover, alfalfa, and wheat; making suggestions for the inoculation and growing of soy beans; encouraging the planting of gardens in every available space; arranging canning demonstrations; assisting organization of cow testing associations; and giving help toward answering the questions of corn planting and best implements for corn cultivation.

As we go to press, the information comes that Mr. E. M. Phillips has gone to work as adviser in Green County with headquarters at Carrollton, and Mr. S. J. Craig is to take up the advisory work in Whiteside County on May 1st, with office at Prophetstown. This makes fifty-three Illinois counties with advisers.

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"The worlds in which we live are two,
The world 'I am' and the world 'I do'."

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. May 8th, 1918 No. 9.

CROPS

With the advent of clear days and warm sunshine which betokens the coming of spring, comes the cry of corn planting. The click of the planter will be heard in many sections of the state before the end of the week, even tho many farmers have firmly resolved not to plant before the 15th. Some corn has already been planted in southern Illinois, while in the northern tier of counties there is considerable plowing yet to be done.

"Eleventh hour seed corn worry is common in Edgar County, but mostly with the men who are not members. - W. B. Gernert.

Speaking of - "he who laughs"- Robbins hands us this: "One wealthy old farmer who laughed all spring at the idea of seed corn being poor, examined his corn the other day preparatory to planting and immediately began offering his neighbors $25 per bushel for seed corn.

Many men have been testing corn all spring and are very positive that one cannot tell if corn is good by looking at it. Some of them have done very good missionary work among their neighbors because of that fact. - Higgins, Moultrie Co.

Ear test."In the seed corn campaign of Monroe County where fifty country schools were visited, reaching more than one thousand school children and 350 men, only two men were found who had ever tested corn by the ear method. Now, much corn is being ear tested and men are satisfied it pays!" - J. A. Tate.

"Some corn which has been in the ground about three weeks is reported to be coming up and some has rotted in the ground."- Price, Saline County.

Pleased with State Council Corn. "Practically all of our farmers who had to order corn from the State Council placed their orders early. Those who have received and tested the corn report generally a much higher grade of corn than they had purchased". -Heaton,DuPage.

Corn planted shallow in a firm even seed bed stands a much better chance to make a full stand than corn planted deeper or in a rough uneven seed bed. This is our motto for 1918.

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These are facts, and facts are stubborn things.

"Alfalfa looks very good and came thru the winter in fine shape. Some of the best alfalfa in the county is on blow sand that has been especially prepared for alfalfa growing. Winter rye and wheat look exceptionally well". - Collier, Kankakee.

Weevil. "Alfalfa weevils damaging one field of alfalfa considerably. Nine other fields were examined but very few weevils were found." - Logan, Crawford Co.

"Sweet clover demonstrations on sandy and tight clay soil give promise of success. The five acres of sand sod transplanted to sweet clover this spring gives promise of four-fifths of plants living. This will be continued in 1919 with view of establishing sweet clover on our light sand land for the purpose of pasture". - Baldwin, Mason Co.

"Spring wheat - 20,500 acres; barley - 29,000; oats - 62,300. This is an increase of 500% in wheat acreage; 25% in barley; and 10% in oats over 1917". - Readhimer, Kane Co. Who said wheat will win?

Cow peas. Mason County Farm Bureau still has for sale about 2000 bushels of cow pea seed of New Era or mixed varieties.

Apples. "Prospects are good for Wine-sap and Minkler apple crop in orchards properly cared for. Spraying is in progress". - Logan, Crawford Co.

"More interest is being taken in orchards. Several farmers are lined up with sprayers and spraying material. They will spray their orchards this year and these will be used as demonstrations.- Longmire, Grundy Co.

Barberry. "People are destroying the common barberry to save wheat from the rust, and they are doing it cheerfully, tho in some cases at considerable sacrifice". - Ebersol, Logan Co.

"An alfalfa field on every farm" is the slogan of J. B. Haberkorn, Adviser, Madison Co.

"Dairying in Lake County is not on the decline as many of our newspapers would indicate. At a recent sale about fifty good cows went into the hands of farmers at a price ranging from $75 to $205." Lake County Cow Testing Association No. 1 has just finished a year's work and is being easily filled for another year. Three cows show a record of over 10,000 pounds of milk, and the highest fat record is 419 pounds.

Pig clubs are being organized in many counties. Macoupin County reports one boy who last year made $131.00 in premiums. Yes, that pig was some hog.

Talking about pig records - a Macoupin Farm Bureau member reports three sows which farrowed forty-two live pigs.

"Pasture is picking up. Several herds turned on, altho it is too early. Many dairy herds in poor shape for lack of winter feed. Large acreage is being seeded to alfalfa this spring. Plowing for

corn in earnest this week. Many will plant soy beans with corn for silage". - Baumeister, Stephenson Co.

Sheep. "Over ten thousand sheep in Pike County. A good lamb crop was saved, and the lambs are doing well." - McCarrell.

MISCELLANEOUS

In the U. S. Boys' Working Reserve more than 102,000 between the ages of 16 and 21 years have been enrolled and trained for farm work in six states, announces the Department of Labor. Illinois leads with a registration of 25,000 boys.

"Boys aren't adult farm hands; but you may not be able to get men, and with a little patience, boys will fill the bill. We may be very glad to get them next year. Let us give them a job now". W. H. Young, Farm Help Specialist.

Doesn't this sound like Sidney? Under heading of "New Methods and Ideas" which we have asked for, he writes - "Use bright red thumb tacks to mark on the wall map in the adviser's office, the best boarding houses thruout the county". We always knew Sidney was strong for the eats!

"Board of Directors' meeting and luncheon was held at Morris the afternoon of May 3rd. Twenty-two members were present, representing nearly every part of the county. Dr. G. N. Coffey, State Leader, was present and gave a talk regarding community plan of organization. Plan was taken under consideration and various lines of work were suggested which will be taken up". - Longmire, Grundy.

Name of the County Farm Bureau has been painted on the side of several County Advisers' Fords. Let them know who you are!

One in every fifty people in our country is in war service, or soon will be, fighting to make the world safe for democracy. The other forty-nine should work to make democracy safe for the world.

Tile are beginning to run freely, the first time in about nine months. Many wells are still dry. - Madden, Sangamon Co.

Horace Greeley once wisely observed of us, the American people, that "our foresight is not as good as our hindsight by a darn sight". A sagacious tho homely sentiment. This is one of the lessons the war has brought home to us.

Farm Records. Twenty-eight complete farm records and eight hog records were closed and summarized for farm bureau members in Tazewell County the last year. This is in addition to records which the men closed without assistance.

"Plan to register all clerks and others willing to go out and plow corn, or work in the harvest for a few days this summer". - Oathout, Champaign Co.

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Emergency is often opportunity in disguise.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. May 15th, 1918 No. 10.

"Man wants little here below", but he wants it sprinkled with sunshin

CROPS

Rain has been quite general over the entire State during the past week. While this has prevented corn planting in many sections, it may be a good thing because corn of rather weak germination may be better out of the ground during such weather.

Storms. A large amount of damage was reported in five counties where severe wind storm and hail wrecked a number of buildings and did some damage to orchards and growing crops.

"Wheat in many fields is more than knee high and is looking fine. More clover in the county than for a number of years. Farmers without exception are in the right mood to do everything possible to produce a larger yield". - Miller, Macoupin Co.

"Apple crop continues to look promising. Many growers have already contracted their apple crop at $2.00 per bushel, not including wormy fruit; size appears to be no consideration with the buyers". - Durst, Union County.

Corn planting has been in progress throughout the central and southern portions of the state. Some fields are reported where corn is up in counties south of East St. Louis.

Credit where credit is due -- "Many calls for seedcorn from laggers. Probably a thousand bushels of Eckhardt's corn will come into the county. Don't know what farmers would have done without the seed corn administration". - Baumeister, Stephenson Co.

More credit -- the farmer boy. -- "Last week a farmer came in the office saying he needed a little more seed corn. He stated that he had nearly enough good seed, for which his boy who is attending high school is responsible. One Saturday late last September the son had insisted on picking seed corn when his father wished to plow. The corn was picked and dried. The father said this day's work was of sufficient value to pay the boy's school expenses for the whole year". - Longmire, Grundy Co.

"Grow a Patch of Sorghum" is the new slogan to secure a sugar substitute which will be needed next fall. A number of counties report a few fields of sorghum. Some communities will have sorghum mills in operation.

"It is impossible to sow too many seeds of kindly service in the fields about you".

LIVE STOCK

"Over the top for a cow testing association at Litchfield, Illinois. Twenty-six members signed up and more want to come in". - Snyder, Montgomery Co.

"Only about one tenth the usual number of cattle on feed. Corn is too high and cattle market too uncertain". - McCarrell, Pike Co.

FERTILIZERS & SOILS

"Proper use of limestone is demonstrated on a field in Randolph County. Five tons limestone per acre were put on part of the field after plowing. On the other part of the field, five tons per acre were applied before plowing and turned under. All was seeded to clover. Where limestone was put on top of the ground there is four times as much clover as where lime was plowed under. The lime which was plowed down was placed where it did not have much chance to help the clover". - Doerschuk, Randolph Co. It will be interesting to watch this comparison in the future.

Fields are being prepared for corn in a much more thorough way than they have in average years. Continuous rainfall has packed the ground and desolved the clods. All of this, coupled with the enforced late planting have provided much more favorable conditions for the germination of weakened seed.

MISCELLANEOUS

Attention, Sidney! Here's an answer! -- "Find I don't need to locate good boarding places with red thumb tacks, My memory is pretty good there". -- Baumeister.

"Headquarters - Clinton County Farm Bureau", emblazoned in striking colors upon a sign board twenty feet in length invites you to visit the spot where nestles a little office in a breezy little town called Breese.

Only fifteen reports were in on time this week. It would help if every adviser would make it a rule to dictate his weekly report the first thing Saturday morning and get it in the morning mail. Saturday's letters, consultations, etc., may be reported with the following week's data. We cannot give you mention if your report does not arrive on Monday.

Silence may be golden, but if it is, friend Snyder in Ogle County must be a millionaire. His reports say not a word.

And Gillmor of Mercer County - can anyone tell us - is he lost, strayed, or stolen? Not one word has he written since the birth of the "Messenger".

Some of them work over time. Here's one from Logan, Crawford County. "Report completed and mailed 12:30 Sunday A. M.

A new adviser has been employed in the HomeImprovement work. Miss Mary Hoover, a graduate of Kansas State Agricultural College, who has had wide rural experience in Kansas and Wyoming and who has been serving on the demonstration staff at the University of Illinois is to be the new adviser in Williamson County. Miss Hoover will take up her work May 15th with headquarters at Marion, Illinois

Results. "Four years ago I helped H. W. Danforth in laying out a farming system for George J. Jochem on his farm near Chillicothe. He prodeeded to follow instructions. To see how results came out I spent a day to go there and see the place again. Four years ago it was a dreary waste of sandy land and cockle burrs. Now it looks far different. Mr. Jochem has covered much of the land with limestone, and has established some splendid pastures of blue grass and clover, with lots of other grass. He has some fine alfalfa fields, some vigorous sweet clover, excellent wheat, oats, and barley, and a good prospect for corn. His horses, cattle, and hogs are making him money, and he is ready to buy some registered Percherons from Tazewell County." - Robbins.

TIMELY TOPICS

1. Urge thorough preparation of soil before corn planting.
2. Encourage use of harrow or weeder on corn ground after planting.
3. Inoculate soy beans and cow peas, as well as alfalfa and sweet clover.
4. Use soy beans and cow peas with corn for hogging down.
5. Encourage spring seeding of alfalfa.
6. Speak now for your extra help in corn cultivation and harvest.
7. Plant a patch of sugar cane for sweets.
8. Locate your demonstrations and plan for auto tours.
9. Have thrashing coal on hand.
10. Order limestone and phosphate ahead.
11. Test dairy cows.
12. Work from your eyes up!

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"Cultivation of the earth is the most important labor of man. National strength lies very near the soil". - Daniel Webster.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. May 22nd, 1918 No. 11.

"Every man shall receive his own reward according to his own labor".

CROPS

Corn planting is now in progress throughout the entire state. Heavy rains last week handicapped the progress of the work in Southern and Central Illinois, while field conditions in the northern one third of the state were exceedingly good. Some fields of corn are coming up and the stand is reported as better than expected. Some fields were planted with untested corn and will need to be replanted. In general, conditions are quite hopeful.

"Spring wheat looks better than ever before. With a favorable season, DuPage County with her nine townships will produce over 200,000 bushels of spring wheat". - Heaton.

"Just received report of the coming of Mr. Chinch-Bug. With a big family, he has already arrived in the northern part of the county. Plans for his reception have already been made, and it is our wish that he may be so well received that he will cease his journey there". - Rucker, Effingham.

"Some wheat is improving while some is getting poorer. Wet weather has been harmful and chinch bugs will probably do much damage from now on as they are very thick in some places. Some farmers say they have never seen them worse". - Rehling, Clinton Co.

"Alfalfa will be cut next week. The crop is very good". - Haberkorn, Madison Co.

"Alfalfa cutting has begun. The wet weather has caused the young shoots to grow very rapidly, and in some places they will be clipped off. Wheat is beginning to head out. With the right kind of weather a big wheat crop is to be expected in Monroe County". - Tate.

"Pastures improved by warm weather and rain. Small grain looking good. Corn planting well under way. Seed corn orders still coming in. Conditions of soil preparation generally favorable for germination". - Baumeister, Stephenson Co.

"Late planted corn is inevitable this year, as there is still quite a lot of plowing to be done". - Higgins, Moultrie Co.

"Soy bean inoculation dirt has been kept in the office for the farmers. Judging from the number of calls for this soil, there will be many more men raising soy beans this year than last." - Edgerton, Rock Island Co.

"Late sowing of wheat seems to have caused some dissatisfaction in Randolph County, but investigation shows that poor stands are due to poor soils rather than time of seeding. Very little, if any, Hessian Fly has been found".- Doerschuk.

Crop insurance. - "Some farmers are considering the insurance of their wheat crop. The owner of one excellent fifteen acre field said that he would be willing to pay $100 insurance". - Price, Saline Co.

LIVE STOCK

"Hemorrhagic septicaemia has caused more trouble in Tazewell County. Four herds have been affected this spring. One farmer lost seven calves. The trouble was first attributed to oats, silage, and various other things, but when Dr. H. L. Deuell of the Bureau of Animal Industry was called, diagnosis showed the real cause. Herds were vaccinated and no further losses resulted".

"More sheep in Logan County than ever before. Shearers cannot be procured and in some cases the sheep are suffering, or are losing their fleeces".- Ebersol.

Poultry conditions "over there" were summed up by Dr. Edw. Brown, of London, one of the world's greatest authorities, as follows:

"Poultry in Belgium is gone. The poultry business in France and England has been thrown back twenty years. In Russia, poultry stocks have been reduced seventy-five percent. Conditions are practically the same in Holland, Denmark, and the remainder of Central Europe. America must be looked to for a large quantity of the poultry and eggs which are to be used for human consumption as well as seed for breeding stock. Possibilities here are great. If poultry should be properly developed in the State of Illinois, enough poultry would be furnished to supply all of Great Britain".

"Feeding immature corn to brood sows seems to have been very detrimental. Those farmers who fed largely on soft corn lost the bulk of the pigs. One farmer reports only 18 pigs from 17 sows. Where a ration of ground oats, ground alfalfa, and very little corn was fed, exceptionally good success in size of litters is reported". - Heaton, DuPage Co.

"Pig crop looking better all the time throughout the State. Southern Illinois reports an average of one and a half sows to the farm, with number of pigs saved above the average. A record in average hog production is shown in Adams County where Adviser Rusk reported that he knew of only one farmer in the association who did not have at least three sows. Bureau County reported last December an average of ten sows to the farm". - Carmichael.

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"Fools are governed by rules, wise men by circumstances".

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MISCELLANEOUS

The twine situation is very critical. Twine is under the control of the Food Administration, which will mean absolute control of distribution. This means but one thing - the farmer should buy his twine and take it to the farm now. We are advised by dealers that to simply place the order is not enough. Twine ordered of the dealer but not removed to the farm may be re-shipped where shortage is more acute.

Destruction of twine by crickets in the field was very serious last year. A satisfactory remedy based upon a single year's experiment is given by Mr. W. P. Flint, Assistant State Entomologist. The treatment is as follows: "To two gallons of kerosene add one gallon of crude creosote. In this solution soak the ball of twine until saturated - an hour, more or less. Set the ball of twine away to dry ready for use". While this is based upon one year's trial only, it is the best remedy known".

A get-together conference of the new advisers in the territory surrounding Springfield, was a new plan on trial last Friday. The men in attendance felt that such a meeting was well worth while. Every adviser in that district was present and the general problems of the new men were frankly discussed.

"Hello, Mr. Adviser, I been waitin' all spring for you to come 'round. Want to ask you some questions. Sure, and I'll tell the wife to put on an extra plate, too". That's the story our farm advisers are hearing each and every day. The value of the individual farm visit cannot be over-estimated.

Khaki overall is a much more popular costume for the Farm Adviser than are the white collar and the patent leather shoes. The farmer may not comment, but he is thinking just the same. Let us dress for our work when we make our farm visits.

"Red tack idea in Macon County seems undiplomatic. We are not partial - have painted the whole map red."- Madden, Sangamon Co.

Another "home run" for the ladies! This time for the Home Improvement Association of McLean County, where Miss Clara Brian has been employed as Adviser in Home Economics. Miss Brian has been the head of the Home Economics Department in the Wesleyan University at Salina, Kansas. She is a graduate of the Illinois Wesleyan University and has had graduate work at Columbia, where she specialized in Dietetics. She is to begin her work with a campaign for food conservation in rural districts of McLean County June 1st.

The soil survey has been greatly checked by the war. Six men are now in the field, while in other years there were from twelve to sixteen. O. I. Ellis and E. F. Torgerson are working in Lee County, with 207 square miles to be done. They will then go to Stephenson County. G. E. Gentle and B. H. Questel, who were working in Fulton County, are now with the army in Texas. F. A. Fisher is working in Logan County. F. W. Wascher and H. F. Tuttle are in Macoupin County, with 178 square miles to complete, when they will go to Morgan County. H. C. Wheeler is doing some revision work in Richland County. C. T. Hufford, who is now in Camp Taylor, Louisville, Ky., was working with Mr. Wheeler until a week ago. When Richland County is completed, Mr. Wheeler will go to Effingham County.

Kankakee County Soil & Crop Improvement Association boasts of a service flag with forty-seven stars. These represent members of the Young Men's Country Club, which is a branch organization of the Soil & Crop Improvement Association. Thirty-eight of these boys are now in France. The young ladies in the county have formulated a plan whereby they correspond regularly with the boys in service; each girl writes to three boys, and she writes each one letter every week. Think what this must mean to these boys at the front.

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"In the sunset is reviewed the glory of the day".

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. May 29th, 1918 No. 12.

"Eat potatoes, save the wheat,
Drive the Kaiser to defeat."

CROPS

Rain has not only delayed corn planting and prevented good stands of early planted corn, but it has brought an added worry to the alfalfa growers. Many fields of alfalfa should have been cut from three to ten days ago to avoid clipping off the new shoots. Some crops were cut but could not be removed from the ground. This means not only a partial loss of the first crop, but a decided injury to the second crop.

"Knee high clover fields as smooth as a red and green carpet are gladdening the eye in the best parts of Christian County. Saw forty acres of straight alsike that looked as good as it smelled. Examined five alfalfa fields as good as any in Illinois." - Hay.

"Clover crop is so large that some farmers are planning to roll or pasture lightly the first crop, and then plow under both crops after the seed is removed in the fall." - Thomas, Coles Co.

"From the planter boxes in the field were collected fifty-four samples of seed corn. The samples were taken as they came to justly represent the seed being planted over the county. These samples were germinated in a rag doll tester under excellent growing conditions, 100 grains from each sample. The average test was 64 strong, 15 weak, 21 dead. The poorest test was 9 strong, 7 weak, 84 dead. The best test, 84 strong, 13 weak, 3 dead." - Mosher, Woodford Co.

"Some plowing yet to be done. Corn planting under way. Cut worms and gophers are bad this year. Small grains are looking exceptionally good. We have a large acreage of spring wheat, and prospects are fine for a good yield."- Snyder, Ogle Co.

"Probably eighty percent of the corn acreage which was planted before the heavy rains has been planted over. Some fields have been planted the third time." - Price, Saline Co.

Comparison of winter wheat seed beds. "An interesting demonstration is shown where wheat was sowed on a field where a portion was very well prepared and the remainder rough and cloddy. The wheat on the land where there was a very mellow smooth seed bed shows only one-half a stand this spring, while that where the land was in a very rough conditions shows an exceptionally good stand,

in fact, one of the best in the county." - The smooth seed bed does not tend to hold the snow and moisture like the one which is more roughly prepared."- Heaton, DuPage Co.

"Time to cut alfalfa, but most farmers in this part of Egypt are in the habit of finishing their corn planting first. Wet weather for three weeks has delayed planting. Pastures are fine. Cattle doing well." - Snyder, Montgomery.

"Have seen more alfalfa fields this afternoon in our drive from Hutsonville, Crawford County, than I have seen in any other section of the state this year." Bilsborrow.

"Wheat fields around Hecker badly infested with chinch-bugs. The large amount of heavy rainfall does not seem to have interfered very much." - Tate, Monroe Co.

"Chinch-bugs in Effingham County do not seem to present as serious an outlook as predicted." - Rucker.

"Very few chinch bugs found when Dr. Flint was here. Believe there is not much danger of a general outbreak but some fields will need watching." - Wheelock, Jersey Co.

"Corn seed maggot is reported in Coles County. "A few fields of planted corn and some of beans are infested with corn seed maggot. The eggs are laid in the soil by a fly much like the house-fly. The maggots are not dependent upon the corn kernel, but may live on clover roots and other things. According to the State Entomologist nothing can be done at this time to arrest its injury, or to clear the ground of the larvae." - Thomas.

"Loose smut of wheat is causing considerable damgge. Practically every field seems to be infected. Loss estimated about 3 or 4 percent." - Price, Saline Co.

"The strawberry crop is not doing so well as anticipated. At present, the raspberries and blackberries are promising. Apple buyers are now offering as high as $2.35 per bushel for number 1 and 2 fruit. There are no peaches in this section." - Durst.

LIVESTOCK

"Sheep scab is reported in several flocks in Warren County, and has worked havoc with the wool crop in those flocks."

"Young pigs that are out on clover are doing very nicely." - Johnson,DeWitt.

"Low price of milk for the summer is the cause of worry to farmers in Stephenson County. Many discouraged over their losses for the winter and spring." - Baumeister.

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There is something fine and fascinating about the man who is never licked within himself.

MISCELLANEOUS

Mixed fertilizer serious mistake. "Have noted a case where a farmer had to replant his corn, but not because the seed was at fault. Mixed fertilizer was dropped in the hill with the corn. Close examination showed that every hill had sprouted, but had been burnt by the fertilizer. This farmer says "Never again, for mixed fertilizer". - Collier, Kankakee Co.

Limestone freight rates. The Public Utilities Commission had a hearing in Chicago last Friday regarding request of the railroad to raise freight rate on limestone. Representatives of the limestone manufacturers and Dr. Hopkins, and the State Leader attended this meeting. The proposed increase on agricultural limestone would amount to one hundred percent on a fifty mile haul and 184 percent on a hundred mile haul. The Commission will hand down its decision later.

"Four carloads of acid phosphate have been placed on wheat and it appears to be doing a great deal of good. Wheat covered with straw last year is showing up nicely in comparison with that not covered by straw." - Collier, Kankakee.

County field excursions at the University. Counties intending to make a field excursion at the University should make their dates now. The best time to "see things at their best" is the latter half of June and all of July. Parties will be taken care of whether they arrive by train, electric line, or auto. Correspondence should be addressed to Prof. F. H. Rankin, College of Agriculture. Mason and Moultrie Counties have reported intended visits.

"Prospects for farm adviser work are unusually bright in Warren County and the farmers are anxiously awaiting Mr. Wells. Every boy in Monmouth and other small towns of the county who wants a job on the farm has been placed and ten boys from Chicago have been ordered."

"If Sidney B. were in Union County he would have to use a red thumb tack for every farmer. I have yet to eat a poor meal with any of the Union County farmers. Corn bread is the order of the day." - Durst.

"Slipping in between showers, we have been able to make a total of 32 farm visits this week. Even with shortage of labor and the high cost of supplies, farmers are carrying out the suggestions of the association. Catch crops are being sown everywhere. Thousands of acres of rape and soy beans will be seeded and many miles of fence will be built in order to hog down corn, feed lambs, and glean the fields generally." - Bishop, Livingston Co.

"Agricultural tours", says Logan, "are good stunts, but I would rather not have more than ten or a dozen autos in the tour. Too large a group is not desirable. We arrange these thru our local committeemen." - Crawford Co.

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Don't let yesterday's blunders or failures darken today's sunlit opportunities.

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The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. June 5th, 1918 No. 13.

A day lost is something precious lost forever. Don't be so small as to let some little happening spoil or mar what you can make out of a day.

CROPS

Efficiency to the Nth power - efficiency, coupled with hard, untiring labor, is the requirement of the farmer who will keep his work up to the minute now. Rainy weather has made corn planting late and at the same time has brought exceedingly heavy crops of alfalfa, and the clovers. The corn that is up is rapidly becoming very weedy unless cultivated. The first rye and wheat will be ready to harvest within a week or ten days and some farmers have already reached the point where they "don't know what to do first".

The corn crop, on the average, seems to be as far ahead in the northern part of the state as it is farther south. This is due to the fact that the southern half of the state had heavy rains throughout the entire week when the corn planting was in full swing farther north. As a whole, the situation seems quite encouraging, and a great deal of credit is due to the work of the County Advisers and the Seed Corn Administration for pushing the seed corn testing, for locating and importing good seed, and for advising shallow planting.

A seed crop from the first growth of clover, is the plan of the Crop Production Division of the University of Illinois. It is believed that a crop of seed will mature from the first growth of clover this year. If prospects are not good for a seed crop by the time it should be cut for hay, it will be used as a hay crop, and the second growth cut for seed. "Rolling down" first crop red clover is not deemed advisable as a rule. Clipping in a season of abundant growth is usually a better practice.

Registering of men in stores and factories to aid the farmers during the emergency season of corn cultivation, haying, and harvesting, is planned for most sections of the state. The response seems to be good. Mr. Baldwin of Mason County reports, "Our factories have agreed to lay off at least forty or fifty men the last week of June and the first week of July to work in the harvest field. Contractors are offering their men and are agreeing not to drive a nail or lay a brick through harvest if they are needed in the harvest field. Merchants are offering to let part of their clerks go".

"Saw fifty goats clearing land yesterday. Had no camera, else I might have sent you a picture of them climbing ? trees." - Baumeister, Stephenson Co.

"Good fields of alfalfa in Morgan County have been found only where clean cultivation was practiced until late summer, ground limestone applied, and field either well manured or treated with rock phosphate. In no case has a good stand resulted where alfalfa has been seeded with a nurse crop." - Kendall.

"It has been gratifying to note the small percentage of farm bureau members having to buy seed corn for re-planting purposes. Judging from the number of farm bureau members who have ordered State Council corn as compared with the percentage of orders from non-members, it is conclusive proof that the Bureau has taught its members to select and care for their own seed in the fall." - Hedgecock, Peoria Co.

"Wheat fields are heading very unevenly. The wheat that came through the winter in good shape is heading very early, while in the spots where there was damage on account of the winter the heads are not showing at all as yet." - Higgins, Moultrie Co.

"Area in wheat over 1917 shows an increase ranging from fifteen to twenty percent. No serious insect pests are as yet in evidence, but damage from smut may amount to two or three percent in some fields. Prospects for a bumper crop are very promising." - Phillips, Greene Co.

Smut in wheat seems to be quite general over the state this year. Nearly one half of the counties have reported a damage.

Planter box seed corn tests made by Lumbrick of Vermillion County ran as follows: "Of the nineteen samples, one lot tested 14%; fourteen germinated between 50% and 60%; three between 60% and 70%; two between 70% and 80%; seven between 80% and 90%; and two above 90%. The average for the nineteen samples was 70%.

LIVESTOCK

"An important lesson was taught in connection with the DuPage County Holstein sale: three different herds reacted to the tuberculin test. These animals were slaughtered at the Chicago Union Stock Yards. Every animal showed tubercular lesions. Since one entire herd reacted, there has been a general sentiment among the cattle breeders in favor of the tubercular test. Quite a number of herds have been tested already." - Heaton.

Necrobaccilosis has been diagnosed by the veterinarians in Hancock County. One herd of a hundred and twenty-five spring pigs were vaccinated with mixed infection Bacterin.

"A butter-fat testing demonstration at Bunker Hill in Macoupin County seems to have created great interest. Some of the farmers brought in samples of milk from different cows and these were tested before them to give them an idea of the Babcock test. Many of these farmers had never seen a Babcock tester and did not know its use. A large condensing plant is located at Bunker Hill and the farmers are very much interested in milk production". - Miller.

"Vaccination for cholera on the farm of Charles Ameran at Mackinaw has proved completely successful. Mr. Ameran is greatly pleased with the results and very glad that he followed my advice and had all his hogs vaccinated, even including the sows which were having pigs that day". - Robbins, Tazewell Co.

FERTILIZERS

"An 8-5-1 fertilizer, that is, 8 loads of manure, 5 tons limestone, 1 ton of rock phosphate per acre, is the advice Crawford County Farm Bureau is giving to its members. Where manure is not available in some form, the fertilizer formula is quite commonly 5-1 or 3-1." - Logan.

"A good comparison between the use of $31 per ton commercial fertilizer and $18 acid phosphate", is reported by Doerschuk in Randolph County. "The field is now in wheat and a check strip was left between the two soil treatments. The acid phosphate is just as good if not better than the commercial fertilizer treatment, and the cost was $13 per ton less. The same amount of fertilizer was used per acre. The one percent each of nitrogen and potash in the commercial fertilizer did not show up."

Three tons of limestone enabled Logan Laughlin to take 30 loads of A No. 1 alfalfa hay from 8 acres of what was once "worn out" timber soil.

MISCELLANEOUS

Organizations for home improvement associations have been completed in Madison and LaSalle Counties, and advisers will be employed in the near future. The home improvement work in the state of Illinois is becoming more and more important and the life of the farmer's wife will soon be the envy of her city sisters.

"At a special meeting of members, the name of our organization was changed from the DeWitt County Improvement Association to the DeWitt County Farm Bureau." Johnson.

Preserve eggs. Water glass method. Use a solution composed of ten parts of water to one part of water glass, (Sodium silicate). Heat the water to boiling, add water glass and stir for five minutes. Solution cool is ready for use and may be kept for weeks until needed. Place in vessels. Glass or earthenware preferable though wood or galvanized iron may be used. Use clean new laid eggs with sound shells. Add more eggs as they are gathered. Place the vessels in the cellar or basement. The cost is about one cent per dozen eggs.

"The levee protecting Union County bottom land is threatened. The Mississippi River is cutting into the bank and at the present rate the levee will be reached in another year. This levee protects 40,000 acres of splendid crops, and more land is being rapidly cleared. The matter is being taken up with the river engineers and all efforts possible will be made to correct the situation before it is too late." - Durst.

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Its the man with the "punch" that climbs and achieves.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. June 12th, 1918. No. 14.

Success is just ordinary failure-turned forward. Success is a positive piece of business. There is nothing negative about it.

CROPS

Cut worms have done a great deal of damage to the corn crop, especially on sod fields. Nearly all of the adviser's reports have indicated this damage. Sometimes it has been necessary to re-plant the field of corn. Some damage has also been done to soy beans planted in such fields.

"Seed corn handled by the Seed Corn Administration has given almost perfect satisfaction. Not a sack has been returned and a number of farmers report perfect stands from seed not guaranteed above 82% in germination test." - Miner, Fulton County.

"Shallow versus deep corn planting, is very effectually demonstrated in two fields in Peoria County. A father and son picked all of their seed from one field last September, dried it thoroughly with heat in the same room, and divided it this spring. Each planted 40 acres. The son reported a 90% stand. The father reported only one hill out of 10. The only difference was that the young man planted his seed about one inch deep, while the father planted nearly three inches deep. This lesson cost the father an extra $100.00 worth of State Council corn." - Hedgcock.

Alsike Poisoning.- A few cases of poisoning of stock running on Alsike Clover have been reported. Horses, cattle, hogs and sheep are all susceptible. The effects seem to be variable. Sometimes there is bloating, sometimes slobbering and the eyes often become sore, in which case the trouble may be mistaken for "Pink Eye." Alsike Poisoning should not be confused with "White Face Disease", which is a blistering of the skin of white-faced horses or cattle, or of white pigs or spotted pigs, when such animals feed in tall wet pasture grass during bright hot sunshine. This latter disease is a blistering of the non-pigmented skin brought about by the moisture and the hot sunshine on a bright day, especially after a few cloudy days preceding.

"Red rust is very severe in many fields of wheat in Union County. Extremely wet weather of a couple of weeks ago is probably responsible. I have failed so far to find any insects in the head or stem of the plant. Aside from the rust injury, wheat looks very good."- Durst.

"Value of Sweet Clover inoculation is clearly shown in a field near Dwight. A small portion of the seed used was inoculated. The crop now has a great many yellow plants, through which are sprinkled a number of plants of dark green color. Investigation showed that there were no nodules on the roots of the yellow plants while the green ones had a great many nodules on their roots."- Longmire.

"Pasture composed of red clover and sweet clover is much favored by a number of farmers in Grundy County. They like it because it makes a better pasture, improves the hay, and when it is clipped the second year, if the sweet clover is killed there remains sufficient red clover to make a crop." - Longmire.

Red Clover gives promise of seed from the first crop in many counties. The Crop Production Division reports that prospects are still good for a seed crop on the University fields.

Legumes leave a bank account in the soil when they are plowed under, even where hay is removed. Adviser Hay reports,- "Red chaff wheat is nearly twice as good on alfalfa sod as on timothy sod in a field in Christian County."

"Smut in oats in southern Illinois is generally not considered by the farmers to be very general, yet all men who have treated oats are well satisfied that it paid. Those that left check strips have remarkable demonstrations. I have seen one untreated field which contains 33% smut."- Rehling, Clinton County.

Threshermen are preparing to meet the call- "Save all the grain." This is true throughout the state. The following from Monroe County is representative. "At a meeting of the threshermen called in the county, sixty threshing-machines were represented. Practically all of the machines are in good order and the operators will do everything possible to prevent useless waste of grain at threshing time."

LIVESTOCK

"Seizes so-called hog cholera remedy. Seizures of sixty-two cases of a so-called hog-cholera remedy in Iowa and North Carolina upon order of the Federal Courts mark a determined effort on the part of the United States Department of Agriculture to stop interstate traffic in so-called hog-cholera remedies which do not cure, prevent nor control this disease which has such an important bearing on the Nation's pork supply. The seized goods are now in custody of United States Marshals pending action under the Food and Drugs Act. The Government charges that this remedy will not prevent or cure hog-cholera, as claimed on the labels of the seized products.

The Bureau of Animal Industry, through its veterinarians and experts in animal diseases, is cooperating actively with the Bureau of Chemistry in this campaign to control interstate traffic in fraudulent stock remedies."-From The Journal of the American Veterinary Medical Association, for June, 1918.

The farm work team deserves especial care at this time of year. We say a great deal about man labor on the farm but we should by no means forget the work horse. The prospects are good for bumper crops and the farm team should be in the best of condition to handle the work. The horse should never be allowed to go thirsty and the best results will be obtained by accustoming him to drink mostly before eating. He should be fed good clean hay and oats, with the largest feed of hay at night. A good teamster will also see that the collar and harness fit properly. He will keep them clean and in hot weather will daily bathe the shoulders with salt and water, or with a solution of lead acetate to prevent blisters and harness sores. The horse is our chief farm power during the hot weather and should receive the most consideration and care in order to make him efficient.

MISCELLANEOUS

The Boys Working Reserve has had an unprecedented call for boys during the last two weeks. The late corn planting season and the heavy hay crop, together with the recent draft call, has greatly increased the demand for farm labor. As a result over 15,000 boys have been placed on the farms of Illinois. Most of these are recorded by the Boys Working Reserve. This will prove an immense help to the farmers during the rush season.

The Labor Administration has been very successful in enrolling the business men of the towns for a few days work on the farm during haying and harvest. This will do a great deal toward taking care of the work on the farm during the period of "peak-load" of harvest.

"Farmers are hauling coal for threshing, securing repairs for binders, organizing threshing rings, and in many cases buying canvass to cover the wagon racks in order to prevent loss of shattered grain."- Thomas, Coles Co.

Another group conference including the advisers in Southern Illinois was held in Centralia, Friday, June 7th. The time was taken up in discussion of matters of particular interest to the men who have recently taken up Farm Advisory work. The securing of an adequate supply of limestone is of very great importance in that section of the state and considerable time was given to this discussion.

Farm Adviser work will proceed in Tazewell County under the guidance of Mr. C. G. Starr, who has taken the place of Mr. E. T. Robbins. The office was moved to Pekin, Illinois. Shelby County has employed Mr. Henry Belting as their adviser. Mr. Belting began work on June 1st, with headquarters at Shelbyville.

A limestone and inoculation experiment to show the effect of various quantities of limestone and the difference between a pure culture inoculation and the dirt method, is being carried on in Rock Island County. Eight plots have been planted to soy beans and cow peas. This experiment is on sand lands of Cordova Township.- Edgerton.

"We are apt to value most those things which come to us because we go after them. And those who have not the energy and force and fight to go after things, work over time trying to convince the rest of the world that they have been cruelly left on the back door step of Time."

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. 1. June 19th, 1918. No. 15.

Energy is high in value, but back of all energy must come common sense and the initiative to act.

CROPS AND LABOR

"It is good to be back on the job", says Adviser Mosher of Woodford County. "I never saw better general prospects for big crops than we have at this time. It is interesting to realize definite results of farm bureau work in the county during the past two and a half years. The thing which impresses me most, is the comparatively large number of men who have taken up and are beginning to reap the benefits of consistent soil improvement. During the past week we have been on farm after farm where the consistent use of legumes and phosphate, even for only two or three years, is showing definite results in different ways."

Mammoth Clover. There are a large number of fields of mammoth clover in Grundy County. This clover looks fine. Some farmers are rolling it down, while others are leaving it. Most all have planned to get a crop of seed. On one farm I saw 25 acres being pastured with one steer per acre. The clover was about ten inches high and indications are more favorable for a seed crop on this field than where no stock has been pastured." - Longmire.

Grape Root Worms.- "Professor Flint and myself visited the Nauvoo Vineyard last week to observe the progress of the grape root worm. The insects were just beginning to emerge as full grown beetles, which is the proper time to destroy them by cultivation and poison sprays." - Lloyd, Hancock County.

"To meet the labor shortage on the farms, the stores in Carlinville have decided to dispense with deliveries during the summer in order that the boys may help work on the farms." - Miller, Macoupin.

"A Twilight Labor Squad is the latest plan for assisting the farmers of Mason County during harvest. This will consist of men who could not go into the field in the heat of the day, but who are willing to go ten or fifteen miles into the country and shock wheat from four or five o'clock in the evening until dark. These squads will be sent out from the different towns at the calls of farmers who cannot get their wheat shocked. The shovel factory at Havana has agreed to close down during harvest and has instructed its men to fill out cards for harvest work. Carpenters are also agreeing to furnish their men." - Baldwin, Mason County.

Threshing-Machines. Inspection of the condition of threshing-machines throughout the state, shows that they are being carefully over-hauled and prepared for saving as much of the grain as possible.

Speaking of "Farmerettes", just read this. - "Farmers are extremely busy and their wives and daughters are helping them out. It is not uncommon to see a large number of women in the field cultivating corn and I saw one instance this week where two women had disked all the ground, prepared it, and planted the corn themselves and they are cultivating it a s well. The day I visited the farm they were setting 120 rods of fence, digging the post holes themselves. I returned to the office about five-thirty in the afternoon and I noted the contrast as I passed by one of our club rooms where probably thirty-five to fifty men were inside playing pool, bowling and having a general good time. I have noticed this for the past several days and contrasting this with a picture of the women at work in the field the question arises.- "Who is the Slacker?'" - Collier, Kankakee County.

"Emergency farm labor is being registered from the factories and stores in Springfield and the smaller towns in Sangamon County. The farmers located near Springfield are finding enough help to date, if they hire by the day. Month help is hard to get, unless harvest wages are paid. We are making an effort to keep the wages for harvest down to $3.00 a day and board. This is difficult when men are taken from factories where they are getting a higher wage. During the past week fifty-four men were placed on farms." - Madden.

In our last issue we mis-quoted Mr. Durst. We should have said that "The extremely wet weather of a couple of weeks ago was probably responsible for many wheat heads being improperly filled out." The item as we quoted it intimated that the wet weather was responsible for red rust. Of course, wet weather cannot be responsible for the origin of red rust, though it may provide more favorable conditions for its development.

LIVESTOCK

At a meeting of Illinois breeders of Angus cattle held in Chicago, June 11th, there was formed The Illinois Angus Breeders' Association. Senator S. E. Lantz of Congerville was elected President and Ray M. Hamilton, of Good Hope, Secretary. The Shorthorn and Hereford breeds already have state associations which assist the breeders with their problems. Mr. W. H. Smith attended the meeting of the Angus breeders.

"Pneumonis in calves. This disease is often infectious and is usually of the catarrhal type, also occurring as croupous pneumonia, or pleuro-pneumonia. It has become of great economic importance since it occurs annually, usually in the spring of the year, causing death suddenly or retarding the growth of animals able to survive. The cause of this disease is not always the same. Frequently the hemorrhagic septicemia organisms are responsible. Other organisms of the coccus and coli group are often present. In a case in the University herd this spring two calves died with pneumonia and seven more were affected. Mixed infectious autogenic bacterins made from cultures of the lungs of a calf autopsied were used and satisfactory recovery made by the remaining calves. In outbreaks of pneumonia in calves mixed infection bacterins are recommended and usually give better results than specific bacterins. It is our belief that in general, hemorrhagic septicemia in calves cannot be diagnosed from symptoms and autopsy without a bacteriological examination." - C. B. Olney, Division of Animal Pathology, University of Illinois.

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"Meetings are being held over the county in connection with the Milk Producers' Association, with a view to perfecting a milk marketing company, which plans to handle all the milk in the Chicago district after July 1st." — A. J. Gafke, McHenry County. The development of a comprehensive plan for handling the milk surpluses in the Chicago district is one of the most important problems confronting the dairy farmer. The efforts being made to solve this problem will be watched with much interest.

"The Vermilion County Live Stock Breeders' Association was organized on June 6th. The object of this association is to promote the breeding of pure bred live stock and to encourage such agencies as will advance the knowledge of its members in breeding, feeding, managing and marketing of live stock. - A great deal of interest is being shown in this organization, and plans are being made to hold a combination sale at the Danville Fair Grounds sometime during the coming fall." - Lumbrick.

"The disposition of the 1918 wool clip of the county has been the chief concern this week and as a result we had Professor W. C. Coffey with us for a meeting June 15th. The question of pooling and consigning the wool in car load lots to a central warehouse or of selling to agents now in the county has not been fully decided, but much interest was shown at the meeting and we feel sure that permanent good will result." - Thomas, Coles County.

MISCELLANEOUS

The annual meeting of the Illinois Association of County Agriculturists is scheduled to be held at the University of Illinois on June 20th and 21st. The time will be spent in visiting machinery demonstrations, inspection of the various soil and crop plots, and the various experiments in animal husbandry, crop production and soil fertility.

A chinch bug demonstration has been started on a farm in Clinton County, where an experiment is being made with the use of the so-called "B. S. Oil Waste", from a Clinton County oil field. Through the State Entomologists a man has been put in charge of this work to keep up the oil barrier and take notes on the results.

D. E. Warren of Elvaston, Illinois has been employed as Assistant Adviser in Lee County, to begin work about July 1st.

Reports from C. H. Belting, Shelby County, and W. E. Hart, Williamson County, shows that it doesn't take long for a new man to get into the harness. There is plenty of work for the Farm Adviser to do and each one awaits with great anxiety the arrival of his little "fliver", which is probably his greatest aid. Mr. C. G. Starr is also getting well into the work in Tazewell County.

"One of the most inspiring divisions of the day is twilight--just as the day is closing in and the labors of men are about over and when sleep and rest begin to beckon, then it is that twilight appeals to the serious mind, to review the day, to sum it up and to take its average."

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The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. June 26th, 1918. No. 16.

"No man has come to true greatness who has not felt to some degree, that his life belongs to his race."

CROPS AND FERTILIZERS

Phosphate demonstration on clover. Adviser Thompson of McLean County reports- "A splendid demonstration of rock phosphate used as a top dressing on clover. Rock phosphate at the rate of 1500 lbs. per acre was spread on part of a field which had been in oats. This field was seeded to clover and the rock phosphate scattered as a top dressing. On June 21st, 1918, I personally supervised the following test of yield on the non-phosphated and phosphated areas of this field. The tenth of an acre which had no phosphate, yielded 485 lbs. of green clover. The tenth of an acre of phosphated area yielded 1990 lbs. of green clover. Reducing this to a cured hay basis, shows a yield of 1.08 tons of clover hay per acre from the non-phosphated area and 4.43 tons of clover hay per acre from the phosphated area. The resulting increase of 3.35 tons was a result of top dressing the clover with 1500 lbs. of raw rock phosphate which cost $5.17 per acre.

A study of the rye crop on the light soils of Mason County in comparison with wheat has been made by Adviser Baldwin. "Farmers report 8 to 10 bushels per acre more grain from white rye (King William) than from common rye or wheat on the same soil."

"Sweet clover fields in Lake County are giving very good results. One farmer has two five acre fields which were seeded to sweet clover in the spring of 1917 with oats and barley. Seven pounds of scarified seed were sown per acre. Since April 1918, these fields have been pastured alternately with twenty head of milk cows. As a pasture crop this sweet clover has given good results and the owner is very enthusiastic regarding sweet clover for this purpose."

"Second brood codling moth eggs will begin hatching in southern Illinois about July 2d to 4th; in the latitude of Centralia July 3d to 5th; in southwest central Illinois July 4th to 6th; and in north central Illinois July 5th to 7th. Spraying for the codling moth should be completed not later than the dates given for the different sections of the state." W. P. Flint.

Top dressing wheat with straw. "Have noted one or two fields of wheat that were strawed last winter and the results are very conspicuous. We believe that advocating the use of straw on winter wheat should be one of our aims this fall and winter." - Thomas, Coles County.

Holding demonstration meetings in the late afternoon is the plan of Adviser Bishop of Livingston County. We quote him as follows: "Have listed a large number of demonstrations and as rapidly as possible these will be called to the attention of our farmers in various communities of the county. A community demonstration was held Friday afternoon at five-fifteen o'clock. We shall plan from now on to conduct our demonstrations at the most convenient hour for farmers. A large number will be held after five o'clock. We find that a splendid demonstration can be conducted in thirty or forty minutes after the farmer has completed a good day's work. Eleven men were present at this demonstration where we discussed the common types of soil found in the community, their proper management and the management of crops."

Early oats vs late oats on rich soils. Practically without exception the Crop Production Division of the University of Illinois has had better results from the early varieties of oats. There is much less tendency for the early oats to go down because these varities invariably grow a shorter straw than late oats.

A bumper wheat crop calls for methods of storage out of the ordinary. It has been suggested that corn cribs be boarded up inside to hold the small grains when threshed, as the elevators will not be able to store all the wheat this year. It also seems justifiable to resort to stacking of bundles in some cases in regions where this is not a regular custom. If properly stacked, wheat, oats or rye will keep well in the stack and that would help solve the threshing problems, especially for the men on the end of the threshing runs. Stacking should be done by an experienced man.

Feeding of soy bean straw, red clover chaff (after hulling) and even sweet clover straw is growing more and more in favor among feeders. This practice is also indorsed by results obtained at the University Farm.

The Clover Seed Problem. Where a farmer cannot decide definitely to cut his first crop for seed because it has some seed but "not as much as he had expected" the following procedure has been advocated by a progressive Illinois farmer. If the crop has pretty well matured, cut and cure it well and put it in the barn or stack in the usual way. Then later on if it seems desirable to hull this clover for seed, it can be done and the chaff residue will make good feed. If not hulled the clover hay has been saved in good shape anyway.

MISCELLANEOUS

"More harvest hands than we could place came into Clinton County looking for work. Most of them demanded $5.00 a day and board.- A price so high that it was rather difficult to find a job for them." - Rehling.

"Four swine growers of Peoria County were visited," says Adviser Hedgcock. "Their herds were looked over and suggestions made in regard to feeding for the pure bred market. The majority of spring pigs are doing remarkably well and indications are that Peoria County will furnish its quota of meat. To my knowledge, we have had but one light attack of hog cholera in the county this year. The hogs were vaccinated and everything seems to be alright."

"The twilight labor squad" idea is working out fine according to Adviser Baldwin in Mason County. He reports- "Thursday afternoon Mr. Terhune drove out with our first twilight labor squad, consisting of fourteen men, to Quiver Township where 65 acres of rye was put in the shock between the hours of one and six-thirty. This crop belonged to a farmer who was killed by lightning a short time ago. Kindly neighbors volunteered the use of their binders to cut the grain and the twilight labor squad from the town put it in the shock.

Labor. Adviser Lumbrick of Vermilion County has obtained good results in the plan for registration of farm labor. "Returns are not all in, but to date 426 men have registered in Danville alone. In order to find out what the demand for help was going to be, I mailed a card questionnaire to every farmer in the county, whose address I could secure. About 3500 cards were sent out. To date 366 of these cards have been returned, and 35% of those reporting need help. These 128 farmers need 238 men."

A meeting of the State Veterinary Association will be held at the Auditorium of the University, July 9th, 10th, and 11th. Further information can be obtained from Dr. D. M. Campbell, Secretary, Chicago, Illinois.

The County Adviser's Meeting at Urbana, June 20th and 21st, seems to have been much appreciated by everyone in attendance. Reports indicate that much benefit was derived from the demonstrations of various types of machines and from meeting with the other advisers and the men from the college. The attendance was fine. Out of the 55 advisers now working in Illinois, all were present except five.

"Three excursions to the University Experiment plots and fields, are scheduled for this week under the leadership of County Advisers. We are expecting to date a good many more in the near future. It is desired that those contemplating such a trip write our office, 100 Agricultural Building, for general information concerning such trips. We are preparing a brief statement devoting a paragraph to each department which will outline what is to be seen on such trips. Let no one keep away as a matter of war saving. Trips of this kind are most emphatically war measures, and no one can calculate the good that comes from them. Our big job is producing food and no stone nor wheel should be left unturned that will help this vital part of the program of winning the World's War." - A. W. Jamison.

Some circular letters are scarcely legible, due in many cases to poor inking. It is a good practice to re-ink the pad on the mimeograph about every 100 copies. A little care in the detailed steps of making a circular letter will add much to its attractiveness and is well worth while.

Walnut Lumber. A number of Advisers have inquired regarding the sale of walnut lumber. This lumber is wanted by the government for the making of gun stocks and other things. Anyone having walnut logs or lumber can write the "War Department, Small Arms Section, Production Division, 7th and B. Streets, Northwest, Washington, D. C." from whom full information can be obtained. Several counties have taken the matter up with this Department and report satisfactory sale.

Kick out Discouragement.

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The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. July 3rd, 1918 No. 17.

"Progress is determined not by the obstacles met, but by what meets the obstacles."

LABOR AND THRESHING

Labor Registration. State Labor Administrator Bishop reported that the week ending June 29th would see approximately 50,000 men signed up for special farm work in sixty counties. In his own county at Pontiac, over 1100 men registered in one day. In the whole county it is expected that over 2000 men will sign up for periods of from one day to several weeks.

Threshing Rules. The conferences of the farm advisers and the County Food Administrators with the threshermen are productive of many good rules and suggestions. The following are the rules adopted to govern the threshing in Woodford County this year:

"1. Every machine must be put in first class condition before the threshing season opens. Each man was put on his honor to see to it that his machine was in good shape.

2. Two (2) canvases of a suitable size are to be furnished by each threshing machine operator, one to be placed at the front of the machine under the feeder, the other at the side of the machine under the grain elevator and spout.

3. Each threshing club shall furnish at least six (6) canvas wagon covers to cover loads of bundles at night on which to start threshing early in the morning.

4. Two (2) large placards giving instructions for proper feeding of bundles into machines are to be placed one on each side of the feeder, by the threshing machine operators. These cards will be sent to each operator by the Threshing Committee.

5. Each threshing machine operator must report to the County Food Administrator, Low Point, Illinois, as soon ashe has finished his threshing for the season, the names of all men he has threshed for and the number of bushels of each kind of grain threshed for each man.

6. The owner of each threshing outfit is a member of the Federal Food Administration and directly responsible to the Government for the operation of his machine. Anyone interfering in ay way with the operation with any machine should be reported at once to the County Food Administrator, Low Point, Illinois.

7. Each thresherman must give not less than standard weights for threshing

8. The concensus of opinion was that prices for threshing should be Three (3) Cents per bushel for oats and Six (6) Cents per bushel for wheat. Seventy operators present favored these amounts. Nine operators present favored Two and One-half ($2\frac{1}{2}$) Cents for oats and Five (5) Cents for wheat.

9. The ruling of the Food Administrators of the county that beef should be served for only four (4) meals per week in threshing clubs was unanimously approved.

10. The use of basket racks, each hauler pitching on his own load, was very strongly urged.

Threshing Chaff. In building basket racks, the object is to hold the corners of the load. The mistake is often made of building the racks with straight high sides that make high pitching. The suggested plan is to build the ends about four feet high, and let the sides consist mainly of braces running from the ends down to the middle of the side of the rack. - Farmers in some sections are making tight bottom racks or plan to spread canvas over the racks which will be cleaned off before leaving the threshing machine. This practice should prove profitable as well as patriotic. - While the government will move the new wheat as rapidly as possible, farmers on the end of threshing run especially will do well to plan where they can store their grain in event the elevators become filled.

LIVESTOCK

Fairs. Everybody takes pride in his "own home county" and is interested in facts about it. Also a picture of a fact often attracts more attention than printed words. For a fair exhibit why not prepare map pictures? For instance, on a map of your county can be colored in the farms of farm bureau members or with colored tacks can be indicated the pure bred breeders of any breed of livestock.

Poultry Facts. Illinois poultry products in 1909 were worth $18,000,000. Poultry and egg prices have doubled since that date. Foreign as well as home conditions demand that poultry production be stimulated at once. Since the war began the stock of poultry in Russia and the Central Empires has been reduced to 25% of the normal number. In other countries the situation is not much better. In the past England has imported from European countries 280,000 tons of eggs annually. Decreased production prohibits such large imports from the usual sources. Illinois is one state that produces more eggs and poultry than are consumed at home. The same was true of some Atlantic states, but the flocks there have been reduced because of the difficulty of securing feed and the high price of feed. Poultry like any other class of livestock can be produced most economically where feed is produced. It should be recognized that poultry in a way are scavengers living largely on feed that would otherwise go to waste and that relative small amounts of supplements are needed to feed poultry properly. Timely hints for the poultry program are: Swat the rooster, smite the mice and lice, preserve eggs for home use, retain the early pullets for winter laying and breeding, cull out poor layers, grow roots for winter feeding, and plan proper housing for winter egg production.

MISCELLANEOUS

Income Tax. Farmers will be allowed to make their income tax returns on the inventory basis according to a statement made by a representative of the Treasury Department. It was also stated that the simple farm account book, in the main, met the requirements of the Treasury Department. A conference of

of the farm management extension workers in the thirty-three northern and western states was held recently at Chicago. It was at this meeting that the subject was presented and the farm management men were asked for suggestions to improve the method of the income tax reports of farmers. Suggestions were prepared and are being considered by the Treasury Department. From the spirit of cooperation shown by the Treasury Department, we would suggest that farmers who started their farm accounts be urged to continue them thru the year, and that farmers who can do so be urged even at this late date to record their inventory for January 1st, 1918. Final information will be forwarded when received.

City and Town Help. Adviser Logan reports that professional and business men of Robinson have assisted six farmers in shocking 200 acres of wheat and rye. A number of pool-room loafers and idlers were registered in one town and expressed a willingness to work. These boys are not certain but what the County Labor Administrator has authority to compel them either to work or fight and no one has gone to any trouble to inform them on this matter.

The small flea-beetle has destroyed at least 500 acres of small, late planted corn in Christian County. Adviser Hay says "In every case the damage was done on fields where weeds had flourished because of late plowing. When weeds were plowed under, the beetles had nothing to do but get hungry until the corn came up. Fields of forty acres were destroyed. Even weeds along fences were black with beetles. Good farming brings rewards not appreciated until an outbreak like this occurs.

Ten twilight shocking clubs of five members each have been formed in Lincoln, Logan County. These clubs work from four P. M. until dark at 25 cents per hour and supper. The money goes to the Red Cross.

We regret to state that Mr. J. B. Haberkorn of Madison County has an attack of typhoid fever. This carries a suggestion for the advisers to be inoculated against this disease. This treatment is an absolute preventative for a period of two years, costs but little, and is of very little inconvenience to the patient for two or three days, not interfering with work.

Mr. Clair J. Thomas has been employed as farm adviser in Jackson County, and will begin duties July 16 with headquarters at Murphysboro. Mr. Thomas is a graduate of the University of Illinois and has farmed for himself for six years in west central Illinois. Recently Mr. Thomas has been teaching Agriculture in the Chaddock Boys' School at Quincy, and has been serving as County Director of the U. S. Boys' Working Reserve in Adams County.

Hundreds of women and girls are helping to meet the labor emergency in Lake County. Reports indicate that there will be little demand for emergency help in haying and harvest. The farmers are meeting the emergency by using larger tools, more horses, and by using time more economically.

The occasional poor stand of corn or replanted field stand out as mute but convincing evidence of what might have been had it not been for the State Seed Corn Administration and the untiring work of the Farm Bureaus.

All things may come to those who wait,
But when they do, they're out of date.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. July 10th, 1918 No. 18

"Whatever you can do, or dream you can, begin it,
Boldness hath genius, magic and power within it."

CROPS

The United States Bureau of Markets has prepared the following table and description of the various grades of wheat.

U. S. Wheat Standards
(Abridged from Standard Regulations)

Grade No.	Minimum limits of test weight per bushel			Maximum limits of --						
				Moisture		Damaged kernels		Foreign material other than dockage		Wheats of other classes
	Hard Red Spring	Durum Hard Red Winter Common White and White Club and Red Winter	Red Walla	Hard Red Spring and Durum	Hard Red Winter Soft Red Winter Common White and White Club	Total	Heat damage	Total	Matter other than cereal grains	Total
	lbs.	lbs.	lbs.	%	%	%	%	%	%	%
1	58	60	58	14.0	13.5	2	0.1	1	0.5	5
2	57	58	56	14.5	14.0	4	0.2	2	1.0	10
3	55	56	54	15.0	14.5	7	0.5	3	2.0	10
4	53	54	52	16.0	15.5	10	1.0	5	3.0	10
5	50	51	49	16.0	15.5	15	3.0	7	5.0	10
Sample (a)										

Grades of Wheat

(a) Sample Grade -- Shall be wheat of the appropriate sub-class which does not come within the requirements of any of the grades from No. 1 to No. 5

inclusive, or which has any commercially objectionable foreign odor, except of smut, garlic, or wild onions, or is very sour, or is heating, hot, infested with live weevils or other insects injuricus to stored grain, or is otherwise of distinctly low quality, or contains small inseparable stones or cinders.

(1) The wheat in grade No. 1 shall be bright;

(2) The wheat in grades Nos. 1 to 4, inclusive, shall be cool and sweet;

(3) The wheat in grade No. 5 shall be cool, but may be musty or slightly sour;

(4) The wheat in grade No. 1 Dark Northern Spring and Grade No. 1 Northern Spring may contain not more than 5 per centum of the hard red spring wheat variety Humpback.

(5) The wheat grade No. 1 Amber Durum and grade No. 1 Durum may contain not more than 5 per centum of the durum wheat variety Red Durum.

(6) For each of the sub-classes of the class Durum, grade No. 1 and grade No. 2, may contain not more than 2 per centum and 5 per centum respectively, of soft red winter, common white, and white club wheat, either singly or in any combination.

(7) For each of the sub-classes of the classes Hard Red Spring and Hard Red Winter, grade No. 1 and grade No. 2, may contain not more than 2 per centum and 5 per centum respectively of common white, white club, and durum wheat, either singly or in any combination.

(8) For each of the sub-classes of the classes Soft Red Winter, Common White, and White Club, grade No. 1 and grade No. 2 may contain more than 2 per centum and 3 percentum respectively of durum wheat.

LIVE STOCK

"Poultry rations have been greatly modified during the past two years, due to the large increase in cost of all poultry feeds, and the impossibility of securing some of them. The common practice of former years of feeding poultry rations compounded from a great variety of grains, ground feeds, and some animal by-products has given place to much simpler feeds. A recent bulletin, No. 322, from the Ohio Agricultural Experiment Station, reports an experiment of two years duration, where various rations were fed. The ration which gave the greatest profit as measured by egg production, was the simplest of all. It was made up of grain (shelled corn) and mash (ground corn 7 parts, bran 3 parts, and tankage 4 parts). The ration was fed so that twice as much grain as mash was consumed. -- At the University of Illinois poultry farm during the past year corn and oats have been the grains fed, and the mash has consisted of equal parts of ground corn, ground oats, wheat bran, and tankage. Results have been very satisfactory, both in the egg yield and the growth of chickens and capons. Feeding one meal a day of a ration made by mixing the dry mash with sprouted oats slightly moistened, was found to be a decided advantage. These rations are simple, easily obtained, and cost less than other rations, which make them especially commendable to the farmer poultry grower." - D. O. Barto.

MISCELLANEOUS

Prospects for a seed crop from the first cutting of clover seem not to have materialized as was expected. In the counties reporting we have not heard of a single case where clover was actually cut for seed. The clover fields on the University farms were put up as hay. There seems to have been a lack of pollination and the seed which was formed did not ripen, due to abundant rainfall. We should be pleased to hear from any counties having satisfactory clover seed crop in first cutting.

A large percentage of the wheat threshing is already completed in the southern third of the State. In some of the counties the yield and quality of the grain is not up to the average. Adviser Tate, Monroe County, reports, "The first wheat brought to market weighed 56 pounds per bushel, and 61 pounds per bushel after it was cleaned. I think the average yield for the county will be about 15 bushels per acre".

Rehling of Clinton County reports much light wheat this year, some running below 55 pounds per bushel. The best average yield per acre on fifty acres is about 23 bushels.

Threshing prices reported average about four cents a bushel for oats, six to seven cents a bushel for wheat, and eight cents a bushel for rye.

"A white shirt brigade has been formed in Macon County to help farmers with the harvest. This organization of laborers from the town has been worked up through the efforts of the Secretary of the Y. M. C. A. representing the business men, and the County Agent, representing the farmers. Some forty business men divided into parties of three to six, go out to the harvest fields in the afternoon and shock the grain cut during the day. These men, most of whom have had some experience on the farm in their earlier days, go out largely for the sport of it, for the exercise, and for the good they can do the country by saving the grain. Wages are collected and donated to the army Y. M. C. A. The movement has been popular and has helped considerably in getting harvest work done and also in combatting the six and seven dollar a day leach who is quite common this year." - Smith.

"Second crop alfalfa has been cut in most places in Union County. Farmers seem to be discouraged over the sale of this crop since buyers are offering only about $10 per acre for well cured hay. Considerable difficulty is being experienced in getting the crop baled and some farmers will not have enough barn room to store it."

"The early varieties of oats have shown up splendidly this spring and I believe there will be a big tendency for the majority of farmers to turn toward this type of oats another year. The later oats this year are short and are not filling as well as they do normally." - Heaton, DuPage Co.

More than 75,000 acres of land in the United States have been planted with castor bean plants to produce sufficient oil for air craft.

Spring wheat demonstration meetings. "The spring wheat fields will be the rallying point for a series of demonstration meetings this coming week.the These meetings will be arranged for five o'clock, so they may not interfere with the regular farm work to any great extent. The meetings will last about one hour. Incidentally, something will be said about legumes, limestone, and phosphate. This is really the forerunner of a drive for larger wheat acreage next year". - Kendall, Morgan Co.

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Business is a battlefield, and the men who win are those armed with knowledge, new ideas and superior methods.

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"Give your good intentions attention."

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The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. July 17th, 1918 No. 19

CROPS

Stand of corn in the fields. Following up the study of the average germination test of seed corn planted, Woodford County has made a study of the stand of corn in different fields during June. One hundred fields were visited and the number of stalks were counted in one hundred hills in each field, care being taken to avoid dead furrows, ditches, and ends of rows. Twelve percent of the fields observed had stands which averaged below one and one half stalks per hill. Nineteen fields averaged between one and a half and one and three quarters stalks per hill. Fifty percent of the fields averaged between one and three quarters and two and one quarter stalks per hill. Nineteen fields averaged above two and a quarter stalks per hill. It is noted that the stand of the fifty percent, namely one and three quarters to two and one quarter stalks, is sufficient stand for a good yield on brown silt loam. It is plain that with all the agitation for testing of seed corn there were some farmers who were not reached by the seed corn campaign. A few who were doubtful as to the strength of the seed planted thicker than usual in order to show a stand. One iield was found where fifteen percent of the hills had four stalks or more each. Comparing this study with the germination study made at planting time, and allowing two and a half stalks per hill, as perfect stand, we find we have 76.4 percent of a stand in a county or only 2.6 percent less than the total germination strength of the seed planted. (Extract of Mosher's report)

"Iowa 103 Oats are a disappointment in Champaign County this year. They are short and thin, apparently not having stooled at all. They are the same in all parts of the county. Would be glad to know how they are doing in other counties." - Oathout.

Iowa 103 oats in Woodford County. "There is more or less complaint that the Iowa 103 oats are short and can't possibly make much of a yield. Being an Iowa man, all I can do when I hear such criticism is to swallow hard and wait until after threshing." - Mosher.

Value of straw on wheat and corn fields. "Straw was spread on one of the fields of wheat on a certain farm in Grundy County. This field has kept ahead of the uncovered wheat thruout the season. At the present time it shows up immensely. Straw put on corn land is also showing the effect on the corn crop. This farm owner is planning to have all of his old straw piles spread on the land before another crop season." - Longmire.

MEETING OF THE ILLINOIS STATE VETERINARY ASSOCIATION

At the summer meeting of the Illinois State Veterinary Association held at Urbana last week, Mr. A. C. Page, Editor of the Orange Judd Farmer, addressed the meeting on the subject of "The Relations of the County Agent, the Veterinarian, and the Farmer". The key-note to Mr. Page's address was that the services of the veterinarian in the future would be used largely to prevent rather than to check outbreaks of disease. The importance of the County Agent and the farm bureau organization as a factor in helping to control outbreaks of disease was brought out.

The matter was further presented by Professor W. F. Handschin of the University, who brought out clearly the attitude of the University toward the work. Professor Handschin sketched briefly the development of the County Agent work in this State, and showed how the scope of the work has broadened since it was started six years ago. Professor Handschin stated emphatically that veterinary work was not the work of the County Agents, but that one of the important services that the County Agent could render was one of general educational work along lines of disease prevention and sanitation.

During the general discussion of this whole subject, the veterinarians from several counties having County Agents, expressed themselves as being entirely in accord with the work being done by these men. They stated that much service has been rendered in improving live stock, in securing better co-operation between veterinarians, and in educating farmers to the importance and need of securing the services of a competent veterinarian, when needed.

Amount of Grain to Feed Pigs on Pasture. "The results of tests with various amounts of grain forpigs on alfalfa and rape pasture at this station would indicate that it pays to feed a medium to full grain ration. Light grain feeding ($1\frac{1}{2}$ pounds of corn per 100 pounds liveweight daily while on pasture) involves the feeding of the pigs until after the holidays, since they weigh scarcely 100 pounds at the end of the pasture season. The amount of grain necessary to produce a hog of marketable weight in this case is greater because of the great length of the time the hog is under the more expensive dry lot conditions. The most rapid gains can be made by full or self-feeding. Early spring pigs make all their growth on forage under these conditions and are ready to sell before the usual decline of the market after October first. It is necessary to use some protein supplement when full feeding on pasture in order to obtain the cheapest gains. Next to skim-milk, tankage is undoubtedly the cheapest protein supplement to use, even though it may cost over $100 per ton.

The feeding of a medium corn ration on pasture (3 pounds per 100 pounds liveweight daily) produces pigs weighing from 125 to 150 pounds at the time that they are ready to turn into the corn. It is not necessary to feed any protein supplement in this case until fall when the feed is increased, since they consume sufficientforage to balance their ration during the summer. This method brings the farmer quicker returns from the corn crop than full feeding and involves but a short dry lot feeding period in the corn field. The market, at the time these pigs are ready to sell, (December first) may not always be as good as it is six to eight weeks earlier. Our results at

present go to show that by this method of feeding the spring pig produces the cheapest hog of marketable weight under average conditions." - John B. Rice, Assistant in Swine Division, Department of Animal Husbandry, U. of I.

"Botulism. During the last year much alarm has been caused by widespread statements that vegetables canned by the cold-pack method were unsafe to use, because of the danger of a poisoning technically known as "botulism". In many cases of canned products infected with bacillus botulinus, the organism which causes the poisoning, there were no apparent signs of spoilage; in cases where it was found, usually only one jar of the pack contained the toxin. These facts make it necessary for the following precautions to be taken:

1. Can only products which are fresh and perfectly sound. Do not can spoiling products to save them. If some products are spotted, protected spores may be embedded in these spots. This spoiling stuff may be cooked and eaten within a few days, rather than be canned, since the toxin from bacillus botulinus develops only after standing in the can.

2. Cleanse products, utensils, and worker's hands as thoroughly as possible before canning is done.

3. Follow reliable directions explicitly.

4. Do not taste or eat suspicious canned products.

5. Boil all canned vegetables ten minutes after removing from the can and before eating. This also applies to apricots and pears. This boiling eliminates all danger of botulism, since the bacillus botulinus and the toxin which it forms are destroyed by such treatment.

The steam pressure canner is a more effective sterilizer than the hot water-bath canner." - Naomi Newburn, Assistant in Home Economics Extension, U. of I.

Fertilizers. Limestone ordered continued to be received by many of the farm advisers and some are getting satisfactory deliveries. Large increases in freight rates in some places are reported. A number of rock phosphate orders have been received, but it is practically impossible to get delivery on rock phosphate at the present time, altho promises have been made for some deliveries in October and November.

Tractor demonstration. Adviser Logan of Crawford County invites all farm advisers and farmers to visit a large tractor demonstration to be held on the Trimble Bros. Dairy Farm at Trimble, Illinois, Wednesday, July 24th. Eight or ten tractors of different makes will be at work on the field. About sixty acres of ground will be plowed. It is planned to have "Prep" White or some other prominent speaker address the gathering at the noon hour.

Randolph County reports between eight and ten bushels saved at the threshing machine by the use of tarpaulins and efficient cleaning up at the close of the threshing operation.

"Congratulations on the last few issues of "The Extension Messenger". They are along the right line". - Oathout.

Let us hear from some of the other advisers.

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Today is short, yesterday is gone, and tomorrow may never come. If you've got anything to do, - GET BUSY!

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

VOL. I. July 24th, 1918 No. 20.

CROPS

Eel Worm Trouble in Wheat. The United States Department of Agriculture is anxious to obtain information concerning the extent of the attack of nematode or Eel Worm on wheat kernels. This trouble has been reported from Virginia and California and promises to be very serious in this country since it is known to decidedly decrease the wheat yield in Europe. The nematode attacks the ovaries of the wheat, transforming the kernels into dark, hard galls, which are shorter and somewhat thicker than the normal wheat grain, causing the chaff to spread on the wheat more widely than normally. The disease is not very evident in the head and should be looked for in the threshed grain. The kernels may be mistaken for those attacked by bunt or closed smut, or for bin-burnt wheat, caused by over-heating in storage. The kernels when attacked by this worm are quite black, almost tar-like and can be easily seen in the threshed grain. All suspicious kernels should be sent at once to H. W. Anderson, Botany Annex, University of Illinois, Urbana, for inspection. County Agents will confer a great favor if they will be on the lookout for any such affected grain.

Lodging of oats, six years experience U. of I. "It has been asked regarding respective tendency of early and late oats to lodge in the fields. The six years experience on the U. of I. plots and fields indicate that the early varieties of oats do not lodge as badly as the late varieties." - W. L. Burlison, Crop Production Division.

Iowa 103 Oats. A number of the advisers have reported regarding the condition of Iowa 103 oats in their several counties. In the majority of cases Iowa 103 seems to have disappointed the grower at the time of harvesting, but it is anticipated that the yield at threshing will be better than expected. Baumeister of Stephenson County says, "Iowa 103 oats in this county are plenty tall; one field so rank that it lodged badly". Lumbrick of Vermillion County reports, "Some early oats are being threshed and yields are reported as high as fifty-five bushels per acre. Most fields of Iowa 103 are very thin and the shocks are far apart. Possibly the machine tally will make the report look better for this variety".

Wheat is now selling from about $2.05 to $2.10 at the local elevators in the section of the state where threshing is now going on.

"A few alsike clover fields in the county have been cut for seed. The crop seems to contain a large amount of seed." - Longmire, Grundy Co.

Comparison of Varieties. "We have been able to observe a number of varieties of oats", says Adviser Collier of Kankakee County. "These varieties were seeded by the Pure Bred Breeders Association for comparison. We find that the Silver Mine and Big Four are the best. The Iowa 103 oats invariably is thinner, and did not stool out as well as the other varieties. We have also observed different varieties of wheat in the counties and find that under the same conditions the same amount of seed on the same ground, the Turkey Red is far the best. Likewise, the Marquis Spring Wheat is showing up the best and the Blue Stem is a close second. Golden Glow Rye seems to be the best variety of rye in the county".

Buckwheat following Rye. "Some of the farmers on the sandy land near Cole City, Grundy County, followed their rye cutting immediately with the seeding of buckwheat, and as the weather has been favorable, most of this is up nicely. It looks as though this land would produce two crops this year. The rye crop is good". - Longmire.

"Canada field peas and oats are proving to be a very valuable substitute for the hay crop. The majority of the fields were cut the second week in July, and yielded as high as four to four and a half tons per acre." - Gafke, McHenry Co.

"Wheat threshing is in progress and yields are running around 35 bushels per acre for the good land. The quality is excellent, practically all grading No. 2. From all reports, I believe the wheat acreage will be increased this Fall." - Miner, Fulton Co.

"Wheat yields are very good, ranging from 19 to 50 bushels per acre. One member who has been using limestone and rock phosphate has a fifty acre field yielding fifty bushels per acre. Farmers are providing themselves with seed wheat during threshing, and are planning to increase their wheat acreage."- Thomas, Coles Co.

Wheat Smut. "Stinking smut of wheat was found in Moultrie County at threshing time. The smut had not been discovered previously, and some of the farmers were greatly surprised when the elevators reported that the wheat was badly infested with smut. Smooth varieties have shown more trouble than others." - Higgins.

Wheat Rust. "A large amount of wheat rust is found in every part of McHenry County. An investigation was made in cooperation with Mr. Wilson of the Federal Department. The rust was directly traced to the barberry in nearly every case. The various towns and villages are taking up the question and requesting that all common and purple barberry be taken up and burned."- Gafke.

Potato Blight. "A large percent of the early potato crop in DuPage County has been ruined by the blight. As there are not over forty or fifty farmers who spray their potatoes with Bordeaux Mixture every year, It is going to mean a big loss." - Heaton.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

VOL. I. July 31, 1918 No. 21

CROPS

Wheat Yields. The best wheat yield so far reported in Richland County is 46½ bushels per acre. It was grown on land treated with 2½ tons of limestone, 1200 pounds rock phosphate, and 100 pounds of steamed bone meal.

Randolph County reports comparative tests of wheat on treated and untreated land. "The yield on the untreated land was 12.4 bushels per acre. In the same field where the land was limed with two tons per acre two years ago and 1500 pounds of rock phosphate per acre plowed under last fall with second crop of clover, the yield was 28 bushels per acre. Counting the cost of the lime and phosphate including the cost of applying to the soil there was a profit of 284 percent on the investment."

Fulton County reports an increase of 12-1/6 bushels per acre due to phosphate. The application was one ton per acre five years ago. The phosphated strip in the field was threshed separately and yielded 51-2/3 bushels per acre.

Marquis Wheat, according to all reports is standing in the fields much better than other varieties. In comparative tests on the same soil, the Marquis variety withstood quite severe wind and rain where other varieties were very badly lodged. In nearly every case reported, the yield of Marquis Spring wheat will be above twenty bushels per acre.

Iowa 103 oats. As has been anticipated, Iowa 103 oats seems to bring a surprise at threshing time. Many farmers who were disappointed at the appearance of this variety of oats as it shocked up in the field, have been very agreeably surprised at threshing time to find the yield far above their expectations. Here is one instance: We quote from J. H. Lloyd of Hancock County. "Iowa 103 oats have again established their superiority over all other varieties this year. Not only is the yield higher in all comparative tests reported to date, but in addition the clover is universally better in the Iowa 103 stubbles. If all Iowa 103 had been seeded at the rate of three and a half bushels per acre, they would have been still further ahead."

Harvesting sweet clover seed has usually given trouble to the beginner. This is a difficult operation at best and threshing presents almost as great a problem. Farmer's Bulletin 836, U. S. Dept. of Agriculture, gives a very good treatise on the subject.

Sweet clover for seed. Monroe County reports, "Two of our members have been cutting sweet clover for seed the past week. They did not clip the clover last spring and it made a very heavy growth. I am sure I am not exaggerating when I say it is fully ten feet high in many places. It is a difficult proposition to harvest it. I helped one man for two or three hours trying to cut it with a self-binder, but we finally gave it up as a bad job. Any suggestions for harvesting sweet clover for seed will be appreciated." Let us hear the experiences of others.

Red clover seed. "In 'The Extension Messenger' dated July 10 there is a paragraph on clover seed from the first cutting. In regard to this, I would like to state that I found a man in Macoupin County who cut seven acres of first crop clover for seed. When hulled this yielded approximately four bushels per acre. I think probably the large yield was due to the large amount of dry weather we have had in this locality." - F. W. Wascher, Soil Survey.

Value of limestone has been demonstrated in the corn fields in a number of cases in Southern Illinois. This has been an extremely dry summer and the corn on unlimed land has suffered much worse than where limestone has been added. This is also true in regard to young clover fields and all pastures.

"Young clover has been killed by the dry summer everywhere except where lime has been applied. This fact is quite noticeable, and it seems to me is one of the strongest arguments in favor of limestone. I have ordered eight carloads of limestone the past week." Tate - Monroe Co.

LIVE STOCK

Feeding thin sows and stags. It does not pay to hold thin sows and stags in the feed lot too long. It costs just a little more to put the flesh on them than it is worth on the market with corn at the present price. However, one should at least get them in medium condition to obtain the increase in price over very thin stuff. The difference in value of the boar and stag makes it advisable to castrate the boar and hold him for a short feeding period." - J. B. Rice, Swine Division, U. of I.

Pigs with worms. It is fairly safe to say that every bunch of pigs has some worms, even though they may be healthy and doing well. Worms are also often the cause of pigs doing poorly. Santonin and calomel, which can be obtained at almost any drug store, is giving satisfaction in ridding pigs of worms at a cost of about five cents per one hundred pounds liveweight. The most effective use of these drugs has come thru treating the pigs individually. Every pig gets his dose. For this purpose the santonin and calomel should be obtained in capsules or tablets of one or two grains each, giving it to the pigs in doses of four grains to the one hundred pound pig. - J. B. Rice, Swine Division, U. of I.

Fake cholera cures. Very serious losses have resulted in a number of cases where a farmer placed faith in some so-called "cholera cure", while his hogs continued to die of the dread disease. Our attention is particularly called to a case in Hancock County where, according to Adviser Lloyd, "a bad outbreak of cholera occurred. It started on a farm where the owner used stock food, 'that might not cure cholera, but which would absolutely keep the well hogs from taking the disease'. The report was slow in reaching the farm bureau office and the local veterinarians, and 125 carcasses had to be burned on that farm. The remaining forty head were vaccinated but not soon enough to save many. A visit to the seven farms surrounding identified cholera on three of them. All these herds were vaccinated but one, and that one will probably be vaccinated very soon." This is just one instance in many which demonstrates the inadvisability of depending upon so-called cholera cures and remedies to cure hog cholera or to prevent well hogs from taking the disease. Vaccination is the only sure method.

MISCELLANEOUS

Smut in wheat. Many cases are reported of quite a large amount of smut especially in the smooth varieties of wheat. Some elevators are refusing to handle badly smutted wheat. This brings out the necessity of treating all seed to be seeded this fall.

Grasshoppers are reported as being serious in many places over the state. Demonstrations in the use of the hopperdozer and poisoned bait have been put on in several counties. J. H. Lloyd reports that the hopperdozer caught about twenty-five grasshoppers per square yard. He says the demonstration meeting was a big success. U.S.D.A. Farmer's Bulletins Nos. 637 and 691 give description and methods of control.

Army worms have become serious in some localities. In a section of DeKalb County near Lee, Illinois, Adviser Eckhardt says not a bushel of oats will be harvested from a forty acre field, the army worms are causing such devastation. In many other places they are found in lesser numbers, but where they literally eat up every green thing, their methods resemble very much those of the Hun. U.S.D.A. Farmer's Bulletin No. 731 describes "The True Army Worm and Its Control."

A correction. Two mistakes appeared in one of our items last week. The item should have read as follows: "Necrobacillosis in Swine" by Robert Graham, is a circular recently issued by the College of Agriculture, U. of I. This is Circular No. 222. It is now available to anyone wishing a copy.

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Suppose the weather does spoil your plans. Mind not. Fit in.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. August 7th, 1918 No.22.

CROPS

Yes sir! We need rain. Where? Everywhere.

"Grow More Wheat in Illinois" is the title of Extension Circular No. 24, recently issued by the University of Illinois. It is just one step in the campaign which is being launched for increased wheat production in the State of Illinois. This campaign is being started in every county in the State, under the direction of the County Adviser, (or the County Food Production Chairman, in those counties where there are no advisers), in an effort to reach every farmer. The campaign is under the general direction of the College of Agriculture, University of Illinois, cooperating with the State Council of Defense. This is the most important issue of the day, and requires immediate attention, for the time is short.

Get Wheat Seed Now. If the counties in the oat-growing and corn-growing section of the State are to have sufficient seed wheat to plant the acreage asked for in the "grow more wheat" campaign, it is exceedingly important that sufficient seed of good quality and proper variety be reserved and placed in the hands of each wheat grower immediately. The largest part of the wheat is being shipped out directly from the threshing machine and it is of the utmost importance to reserve sufficient seed before it is too late.

Wheat Straw-Worm. "During wheat threshing the wheat straw-worm has been found in several wheat fields in the southwest part of Coles County. They were first discovered at the time of threshing when small pieces of straw from one to three inches long came thru the separator with the wheat. Upon examination these pieces of straw were found to be woody thruout, except for small pieces containing the straw-worm, Isosoma grande. The chief Field Entomologist recommends that the infested straw stacks be burned and wheat fields where the wheat was grown be seeded to a crop other than wheat next year." - Thomas.

"Turkey Red Wheat in the northern part of Macoupin County has averaged much higher than the varieties of smooth wheat."- Miller.

Wheat from phosphated land. "With very few exceptions the wheat that has yielded forty bushels per acre or more has come from phosphated land." - ise, Iroquois County.

Phosphate on Wheat. Mr. Doerschuk of Randolph County calls our attention to the fact that in the item reported last week, it was stated incorrectly that the 1500 pounds of rock phosphate had been plowed down with the second crop of clover. We should have stated that 1500 pounds of rock phosphate were applied as a top dressing and worked into the land with a disc. While this may not make very much difference, Mr. Doerschuk reports that phosphate applied in this way made a very good showing for this year. He adds, "There was another strip of the unlimed part of the field on which phosphate was applied as a top dressing and it certainly showed up well on this also."

"Marquis Wheat is out-yielding other varieties, the yield running from 35 to 46 bushels per acre." - Gafke, McHenry Co.

Iowa 103 Oats again! Watkins of Lake County reports a field of Iowa 103 oats averaging 75 bushels per acre. He says the owner was agreeably surprised as he had been disappointed in the appearance of the crop at harvest time. Mr. Readhimer of Kane County reports a field of Iowa 103 which yielded 92 bushels by machine measure, or 98 bushels by weight per acre. These and similar reports show that the old adage, "Appearances are deceiving", most certainly applies to the Iowa 103 oats.

Alfalfa hay in Mason County is being baled from the shocks. Mr. Baldwin says, "Orders for seven cars have been received by the Farm Bureau this past week and these will be loaded as soon as cars can be received. A considerable acreage of alfalfa will be seeded this fall."

"Some alsike clover has been hulled and we are getting from two to two and one half bushels of seed per acre. This gives some notion as to the value of our alsike crop. The Association members will produce about 700 bushels of seed this year and will also put up a large tonnage of excellent feed made from the alsike seed crop."

Hopperdozer results. "One farmer used a hopperdozer and caught 7 bushels of hoppers in a twenty acre clover field."- Belting.

"A number of members are reporting good success with the use os the hopperdozer and the poisoned bran bait. One man caught ten bushels of grasshoppers on ten acres of alfalfa. Another reports that he gathered 18 bushels by actual measure from a 34 acre field of clover. Actual results from the poisoned bait are much harder to determine accurately, but those using it report good success."- Lloyd.

"We caught a good half bushel of grasshoppers every quarter of a mile covered by the hopperdozer." - Wheelock.

Army Worm. Eckhardt reports, "Army worm outbreak in the southern part of Malta Township has destroyed much of the small grain in four sections. Mr. E. M. Schalck, of the Entomology Department is on the ground advising farmers as to methods of control. Furrows are plowed between the grain fields and the corn fields; then post holes dug in the bottoms of the furrows. In some cases the post holes were filled with army worms before the other end of the field was reached." - DeKalb Co.

Codling Moth. "Third brood larvae of the codling moth will begin hatching in Southern Illinois about August 12th to 14th, in Central Illinois about August 16th to 18th. Owing to the hot dry season and other causes this brood will be large. Experience of the past several years shows that it is important to spray for this brood of the codling moth in all commercial orchards." - W.P. Flint.

Information for Owners of Black Walnut. "Black walnut is urgently needed for war purposes. Firms having contracts with the Government to furnish black walnut for gun-stocks and airplane propellers, and their sub-contractors, buy logs in carload lots and most of them buy standing timber of merchantable amounts. These afford the best markets for owners of walnut, since small sawmills are generally poorly equipped and wasteful in handling walnut.

Logs are wanted 12 inches and over in diameter at the small end and 8, 10, 12, etc., feet in length. A few logs down to 10 inches in diameter and 6 feet in length will be accepted in order to avoid wasting useful parts of the tree. Trees cutting less than a 10-foot log 14 inches in diameter lose much in scaling and should be cut sparingly and only to fill out an order.

Before starting to cut their walnut, owners should have an agreement regarding specifications and terms of sale with one of the firms filling Government orders. Prices for logs vary widely and are based chiefly upon diameter and cost of transporting them to the manufacturing plant. The prices paid at loading points for reasonably clear walnut logs that will cut airplan propeller and gunstock material have, in a number of cases, averaged around $80 to $90 per thousand board feet, higher or lower depending on the diameter and location of the logs. On the stump similar walnut has been bringing mostly from $60 to $80.

Gunstocks are made from planks or "flitches", sawed 2½ inches thick, from second-grade logs and the less desirable portions of better logs. Airplane propellers demand the very best grades of clear walnut boards, full one inch thick. The width most desired are 10 inches to 14 inches and the lengths 10 feet up. Logs 16 inches and up at the small end and 10 feet and over in length, containing airplane propeller stock are specially needed by the firms upon whom our Government is dependent for war material necessary for winning the war.

A carload of walnut logs usually contains from 3 to 4 thousand board feet. Larger sized logs average from 18 to 20 thousand and smaller logs from 30 to 50 per carload. Since it is impracticable to ship less than a carload of logs, owners of smaller amounts should join with neighbors in making cooperative shipments, or selling jointly a merchantable amount of standing trees to firms having Government contracts. Such firms in Illinois are: Langston Lumber Co., Pekin, Illinois; and T. A. Foley, Paris, Illinois. - Forest Service, U. S. Dept. of Agriculture, Washington, D. C.

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No one is useless in this world who lightens the burdens of others.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. August 14, 1918 No. 23.

Read the splendid "Message from the Secretary of Agriculture to the American Farmers" on page 200 of the Breeders' Gazette, issue of August 8, 1918. Secretary Houston says in part, "American farmers last year, and again this year, revealed the true American fighting spirit and ability to meet serious situations. They will not let the war fail because of deficient food production.

Let us sow liberally for a big harvest in 1919. It has been called the Liberty Wheat Harvest. We all hope it will be. But let us undertake the task with the determination that we will sweat our blood for many more if need be, before we yield one measure of our freedom to a Prussian domination. Let us fight in the furrows."

Wheat. Where will we grow it? A preliminary wheat survey of sixteen counties scattered over the southern third of the State in what is considered the wheat belt of Illinois, shows the proposed wheat acreage for 1919 will equal 36 percent of the grain acreage of that section. This shows that Southern Illinois will not greatly exceed the maximum quota requested, even though fall rains may yet aid in the preparation of all the ground that will be sown to wheat if weather permits. This indicates our slogan should still be "A field of wheat on every farm". And to quote Professor Handschin, "If the desired acreage is not reached, it will not be because those who grow wheat do not grow their quota, but because a large number of our farmers grow no wheat at all."

Early seeding. Since there seems to be very little prospect for danger from Hessian Fly next year, it seems that wheat might be seeded a little earlier in most sections where there is great danger from winter killing. Wheat growers have carefully held to Hessian Fly seeding dates advocated by the College, and this probably explains why the situation is at present under such excellent control. While as a whole these dates should still be adhered to, there might be some growers in those sections suffering from the severity of winter who would care to take a chance on a little earlier seeding for 1919.

Kankakee County reports, "Phosphated ground is showing from six to eight bushels more wheat per acre than where it is not phosphated." - Collier.

A smut circular is about to be issued by the Crop Production Division of the U. of I. This circular includes the discussion of smuts in wheat, oats, rye, and corn. The treatment recommended for the stinking smut in wheat is the use of formalin solution made up of one pint of formalin to thirty gallons of water. From one half to one gallon of this solution is used to each bushel of wheat. It is sprinkled on the wheat, which is mixed in the ordinary way recommended for the treating of oats. The wheat should be covered for about two hours and then thoroly dried before seeding, unless seeding follows immediately after treatment.

Cars for shipping wheat. If farmers are unable to obtain cars for shipping in seed wheat, they should notify "State Council of Defense at 120 West Adams St., Chicago." If cars cannot be obtained for shipping of wheat to market, "The Food Administration Grain Corporation" at Chicago, or St. Louis, should be notified. An excellent article treating of wheat prices paid at elevators in Illinois, is contained in "The Prairie Farmer", issue of August 10, 1918.

Danger. There is great danger in this extremely dry weather from burning of shocked grain alongside railroad tracks. Some fields have already been completely destroyed due to the lack of protection. A few furrows plowed between the railroad fence and the shocked grain, usually afford ample protection from fire.

Straw is needed in many army cantonments. Quotations on No. 1 oat straw in Fort Worth, Texas, are $17.00 per ton, according to the U. S. Bureau of Markets report of August 7th. Probably more straw will be baled this year than under ordinary conditions, especially in the western states.

Silo filling is already in progress in the section of the State represented by Clinton, Madison, Pike, Scott, and Calhoun Counties. The corn has dried out so very rapidly due to the hot winds of last week that the silo presents the best means of getting the maximum returns from the corn crop. Most reports indicate also, that the dry weather will handicap the seeding of wheat due to difficulties of soil preparation, unless rains come soon to relieve the situation.

Alfalfa seedings in Stephenson County. "Alfalfa seeded with a nurse crop which was left for grain is all gone. Where the nurse crop was cut early for hay, the alfalfa is still good. One of our members used beardless barley for that purpose and likes it for hay. Spring alfalfa seeding without a nurse crop is all right on limed soils". - Baumeister.

Difference in the firing of corn is pointed out by Adviser Kendall in Morgan County, who says, "The corn that was laid by with surface cultivators has not fired as badly as that ridged with a disc cultivator."

Where one hundred pounds of steamed bone meal were applied this spring, 75 bushels of oats are reported in a field where the yield was 55 bushels without treatment, according to reports by Adviser Lumbrick in Vermilion County.

"The outlook for clover seed in Morgan County is decidedly poor. The first crop had no seed worth mentioning and the grasshoppers are going to damage the second crop." - Kendall.

Heavier barley due to phosphate. "Barley which was grown on phosphated land showed an increase of two pounds per bushel in weight over that grown in the same field without rock phosphate." - Brooks, LaSalle Co.

Horses on short dry pastures should have some grain additional. When horses are allowed to run down in flesh on dry pastures, it is more expensive to bring them back into condition than it is to feed some grain during the hot summer months when pastures are short. The horse on temporary vacation must not be forgotten. Keep him in working condition the year round.

Administering capsules to pigs. In response to our recent item regarding the treatment of pigs for worms, Adviser Phillips of Greene County reports the following experience of one of his Farm Bureau members who is a prominent hog raiser. "A ball made from ship stuff by wetting the same, and the capsule placed within it so that it was concealed, was the idea. The pigs were caused to pass from one pen to another, one at a time, thru a narrow lane, and as they did so, the ball containing capsule was placed where the pig in passing could get it. This method was used with a bunch of one hundred and twenty-five pigs, and in only two cases out of this number did the pigs refuse to take the capsules. This is a method well worth trying to any man with a large number of pigs needing such treatment."

Nitrate of soda results have been especially marked on apples in Union County. Durst says, "About forty tons of this were used in the County this Spring. From four to eight pounds were spread around each tree by growers who used it. Treated trees developed a much darker and heavier foliage than untreated trees, as the nitrate seemed to make more of the blossoms set. Another effect on early apples was to make the fruit ripen more nearly at one time. A number of fruit growers have reported recently that the buds forming for next year's crops look much better on the treated than on the untreated trees. The prospects are that a large amount of nitrate will be used next spring if it can be secured.

War course in Farm Tractors. The College of Agriculture, University of Illinois, will offer during this coming fall and winter a series of war courses in farm tractor operation, for the purpose of enabling men and women to prepare themselves as tractor operators. The work offered will be of a very practical nature, consisting chiefly of actual practise supplemented by lectures. Two weeks will be required for the individual student to complete the course. Work will begin on Monday, October 14, 1918, and twenty-five students can be admitted each subsequent Monday until March 24, 1919. Any man or woman, sixteen years of age or older, will be admitted to this course. Applications for admission will be accepted in the order they are received and they should state clearly the date upon which the applicant desires to enter. In case more applicants desire to enter on a given date than can be accommodated, a choice of later dates will be offered, The fee for this course, payable at the time of entering, will be four dollars for each student. A number of other war courses are to be given by the University, and a catalog is being published describing these in detail. Such catalog or other information can be secured by communicating with the College of Agriculture, Urbana, Illinois.

Working Reserve Boys. The majority of the boys who have been placed on the farms thru the Boys' Working Reserve seem to have made good. A census has been taken by several of the county advisers and it is found that where there is dissatisfaction, the trouble is nearly as often due to the farmers as it is to the boys. Longmire of Grundy County writes as follows, " I have seen several of the high school boys from the Boys' Working Reserve in the county, and they are making good in their farm work. On one farm there were two young lads who had never farmed before. One was driving a mower and the other a two-row cultivator.

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All habits revolve about one great central habit of ours - the habit to accurately, logically, clearly and quickly, when occasion demands it - THINK!

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

VOL. I. August 21, 1918 No. 24

We could tell you how dry it has been in Southern Illinois, but ----- Well! that's too dry a subject for "The Messenger".

MORE WHEAT - both more acres and more bushels to the acre - that is our aim for 1919.

"Our slogan is '25 acres of wheat or rye on every 160 acres of farm land in the county' ", says Hedgecock of Peoria County. A large number of men are going to seed from 40 to 70 acres of wheat on 160 acres. This will not change their corn acreage much next year but instead will cut down their acreage of oats. We have had several yields of wheat which have gone over 40 bushels. The largest yield reported has been 47½ bushels. On the average, the Turkey Red seems to be the best yielding variety."

Limestone and wheat yields. "One of our farmers near the Macoupin County line has tried out limestone to his satisfaction. Two adjoining fields, one treated with limestone, and the other untreated, have yielded 40 and 31 bushels of wheat respectively. His experience is better than a litmus test, as an argument for limestone." - Kendall, Morgan County.

Necessity for treating wheat seed for smut is indicated by such occasions as this quotation from Belting of Shelby County - "There is more wheat smut (bunt), in the county than was realized until threshing time. Very few farmers it seems, have ever treated their seed and they will have to be 'jarred' severely before they wake up."

"Stinking smut has done quite a little injury this year in all parts of the county in winter wheat. The Turkey Red has not been affected to a noticeable extent. Smooth varieties have been affected very badly. - Lisher, Will County.

Marquis Wheat. "Threshing season is on in Will County and reports are coming in. There will be something like 25 men who have raised 50 bushels or more of wheat per acre. A part of the Marquis Spring Wheat has made a yield of 60 bushels. I have never seen wheat filled any better nor the quality higher."- Lisher.

In conversation with W. P. Flint, we find there is now under way, some investigational work regarding the prevalence of Hessian-fly and consequent possible danger this fall in various sections of the state. We hope to report something definite in next week's "Messenger" in this regard.

"Clover, alfalfa, and corn on treated land are enduring the drouth much better than crops on untreated land." - Logan, Crawford County.

Chinch-bugs - effect on different varieties of corn. "In an experiment conducted on the farm of the president of the Farm Bureau, twelve varieties of corn were planted with two to four rows of each, to note the effect of chinch-bugs on the different varieties. All of the yellow varieties were very badly damaged and practically destroyed, while a variety locally known as 'Democrat', which is probably a strain of Champion White Pearl, is in marked contrast to such varieties as Reid's Yellow Dent, Silver Mine, and Boone County White, in the ability to stand the drouth and bugs. All of the corn was covered with about the same number of chinch-bugs, but the 'Democrat' will make good silage and is standing up well, has a good dark green color, and is full of roasting ears. At the demonstration this afternoon, ten hills of 'Democrat' (fodder) weighed 53 pounds; ten hills of Silver Mine weighed 17 pounds; and ten hills of Reid's Yellow Dent weighed only 11 pounds." - Doerschuk.

"Corn in Stephenson County has had sufficient rain and will make a big crop if the frost holds off. Some of the earliest fields have the ears well dented. Council of Defense corn is later but with good weather will mature in most cases. Baumeister.

Cutting corn for silage. In answer to a question regarding the best time to cut corn for filling silos, Professor H. P. Rusk says, "The sum total of what evidence we have to date indicates that probably the best time to silo corn is just before it reaches the shocking stage. It should be remembered that the riper the corn when put in the silo, the more difficult it is to get it properly packed, and the more danger there is of spoiling. Hence it is important in siloing corn at this stage to use liberal amounts of water and see that every particle of corn is well moistened. Regarding the most recent experimental data on the subject, results recently secured by Dr. Grindley and associates indicate that there is a marked increase of the total nutrients of the entire corn plant up to the state when it is mature enough to shock. From that stage on, there is a gradual decrease in the nutrients."

"Silo filling is in full blast in Clinton County. Some farmers are not filling their silos but are turning their cows into the corn to gather what they will eat of it. The chances for an increased wheat acreage seems very good, as many farmers are planning to put their corn ground into wheat. A poor crop of corn and its early removal will give ample time for a well prepared seed bed and will increase prospects for a wheat crop on the corn lands." - Rehling.

More reports are coming in in regard to the Iowa 103 oats. Heaton of DuPage County says, "One field of nineteen acres seeded as a nurse crop for alfalfa, threshed 88 bushels per acre, and the entire sixty acres which this man had, averaged 80 bushels per acre. Another man reported 90 bushels per acre from a small field. The average reports from this variety run from 70 to 75 bushels per acre. This makes a three years trial in this county of this variety, and is proving that it is probably the best variety that we can secure. On our dairy farms where a good deal of farm manure is to be had, there is a tendency on the part of all small grains to lodge badly, and this short straw oat is meeting with favor."

Edgerton of Rock Island County says, "Since threshing, it seems that Iowa 103 oats have redeemed themselves. They have yielded well."

Rosen Rye. We have received information from T. A. Farrand, County Agricultural Agent, Charlotte, Michigan, quoting uninspected Rosen Rye seed at $2.25 per bushel, re-cleaned and sacked. We know nothing of Rosen Rye under Illinois conditions, but we are getting good reports from nearby states as to its high yielding qualities.

"Sweet clover seeded in wheat on swamp lands last spring has proven very successful, and farmers in that section feel very kindly toward sweet clover. We are answering calls in regard to seeding alfalfa on land that was plowed, limed, and seeded to cow peas this past spring. We are advising that where land is quite sandy, the cow peas be thoroly disced into top soil previous to seeding alfalfa. On the heavier land, cow peas are cut for hay and the soil thoroly disced." - Baldwin, Mason Co.

Sweet Clover. Adviser Durst reports the following: "From what I have seen of sweet clover I believe that it is the greatest soil building and soil holding crop which can be grown on our uplands. By sweetening the soil with limestone, this crop can be grown on the poorest types, and it will reclaim soils which have eroded, fitting them for other crops. A number of farmers have already grown this crop in Union County. One of them grew a field of it in 1913 and 1914, allowing the second crop to go to seed. In 1915 and 1916 this land was planted to corn and sweet potatoes and the owner said that the yield of both crops was twice as large as it had been before on the same land. In the fall of 1916 it was noted that sweet clover was coming up in the field and this produced a stand that was sufficient to leave. I saw this crop a short time ago. It is now in its second year and it looks very good. The owner of the farm thinks that if sweet clover seed will lie in the ground two years and then produce a stand, he has discovered a means of solving the nitrogen and organic matter problem in a very cheap way. It should be remembered that 1915 was a very wet season and 1916 a very dry one. If the seed will survive two years of this kind, it seems that it would have no difficulty in enduring two ordinary seasons."

Limestone and young clover seedings. Miller of Macoupin County reports, "I was on a field of this year's clover which emphatically indicates the advantage of limestone. This land had had two tons to the acre applied seven years ago, and last year three more tons of limestone per acre were added. There has been no rain in that section for eight weeks and still the stand of clover is fine. In fact, it is the only remaining piece of this year's seeding of clover for miles around."

"Liability of farmers' threshing machine companies for injuries." We had hoped to publish in "The Messenger", an item treating upon this subject concerning liability, but the scope of the subject was so large that we could not get a treatise which would be at once concise and of sufficient detail to be used, in our brief pages. However, if anyone desires special information along this line, we will endeavor to furnish this upon request. The same information would apply equally to farmers' companies running silo cutters and shredders.

Two additional counties have recently been added to the list of those having county advisers. These are Jackson County and Knox County. The former has employed Clair J. Thomas and the latter E. M. D. Bracker. Mr. Thomas is a graduate from the University of Illinois, and has been teaching Agriculture in the Chaddock Boys' School at Quincy, Illinois. Mr. Thomas has also had considerable farming experience and is well qualified for the position. He began work on August 15, with headquarters at Murphysboro, Illinois. Mr. Bracker graduated from the University of Illinois in 1908. He taught Farm Mechanics at Purdue University for one year, and at the Oregon Agricultural College for three years. He was brought up on a farm near Hillsdale, Rock Island County, Illinois, and has been farming there since 1915. Mr. Bracker expects to establish his office at Galesburg, Illinois, about September 1st.

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"Happiness is a by-product of industry. Save enough as you go along to pay your way back."

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. August 28, 1918 No. 25

Wheat growing is first on the farm program today, and every loyal Illinois farmer is doing his best to prepare a maximum number of acres for the growing of bread grains. "The number of acres" have received careful consideration, - let us strive to spare nothing which will "grow more bushels on every acre." Treating the seed for stinking smut should be a universal rule, even if there "seemed to be none" this year. Even a little smut may be widely spread by the threshing machine. Limed or phosphated fields should be used whenever possible, or available fertilizers can logically be used where obtainable. Last of all, wheat fields should be top-dressed with manure or covered with straw before Christmas to prevent killing in winter and excessive evaporation in the spring.

Farmers enthusiastic about wheat growing in Woodford County. "We were well pleased with the Wheat Campaign meeting held in Eureka, Saturday, August 17. Although the roads were practically impassible for autos, there were 150 men present from fourteen of the seventeen townships of the county. Frank I. Mann gave one of his characteristic good talks on soil improvement in general, placing special emphasis on wheat growing and answering the many questions which were put to him. " - Mosher.

"Prospects for a large wheat acreage seem rather good. Threshing was completed much earlier than last year and farmers on the whole, I think, have done as much arly plowing as last year and under less favorable conditions. The rains we have had are making plowing easier. Another factor which will tend to increase the wheat acreage is the large amount of corn ground which is either being pastured off now, put into the silo, or is entirely destroyed by chinch bugs and drouth. These corn fields are free from weeds and very little available plant food has gone into the corn crop from them so that a thorough preparation without plowing should put them in shape for wheat, especially as the corn is being removed early. Putting these fields in wheat will save labor next spring when they might have been plowed and prepared for oats. The corn crop in the Mississippi bottom, especially about Prairie du Rocher, will be almost a normal crop if not better than normal. It has been noted that there is no chinch bug injury in the Mississippi bottom." - Doerschuk.

Stinking smut and not loose smut is prevented by formaldahyde treatment. Letters indicate that many farmers do not know this difference. Advisers should make this distinction clear.

Covering wheat after smut treatment. "There seems to be considerable misunderstanding as to how long wheat is to be left under cover after treating with formaldahyde. It should be covered from two to four hours - not longer than four hours." - W. L. Burlison.

"Smut demonstrations were well attended, and a great deal of interest was shown. We found plenty of bunt in each locality where demonstrations were given. The farmers seem very willing to treat their seed this fall." - Belting, Shelby Co. Doubtless it will be true in many localities where it is believed there was no smut in 1918, that investigation would show up enough smut to more than justify treating on every farm.

Marquis Wheat. "One member has ten acres of Marquis Wheat which averaged 60 bushels per acre. 14 bushels of wheat were used for seeding. Quite a number of farmers have had yields between fifty and sixty bushels, including both winter and spring wheat. Most of the oats are making over a load to the acre and are weighing out as much as 37 pounds. The best yield I have heard is 98 bushels per acre on ten acres. We have reports of 90 bushels which are correct." Lisher, Will County.

Oats in Fulton County. "In the previous report, I stated that Iowa 103 oats were disappointing, but since the threshing returns are coming in, the farmers are finding that the oats are yielding much more than they anticipated and in many cases the Iowa 103 yields are larger." - Miner.

"Mammoth clover is being hulled and yields are running from five to eight bushels per acre. Medium Red Clover will not make a very large seed crop, due to drouth and grasshoppers." - Miner, Fulton Co.

Alfalfa seeding in Mason County. "Due to good rains and favorable weather conditions, we are advising the seeding of alfalfa at this time. On sandy lands we are advising the following methods of seeding. After seed bed is thoroughly prepared, roll land with corrugated roller, broad cast inoculated seed at rate of 15# per acre, and cover by cross-rolling. This method has proven to be much more satisfactory than the drilling, as in drilling one is apt to seed too deep. Covering by cross rolling with corrugated roller firms the soil over the seed and provides for even and rapid germination." - Baldwin.

"Soy beans are making a hit with a number of men who are trying them for the first time. A soy bean tour is planned." - Gernert, Edgar Co.

Feeder lambs. "A great many farmers are situated so that they could run a bunch of lambs for several months in stubble fields, corn fields, and clover. A few lambs have already been shipped in and are being pastured in corn and stubble fields. More men would buy if arrangements could be made to buy them right." - Longmire, Grundy County.

"Some feeder sheep are being bought for turning into corn fields. They are doing a fine job of cleaning up the undergrowth and the leaves. Some farmers are preparing to use both hogs and sheep to assist in their corn husking." - Brooks, LaSalle Co.

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It is cheaper to Keep up Fertility
Than it is to Bring up Fertility.

Alfalfa for spring pigs in Livingston County. Adviser Bishop tells of visiting a number of herds of spring pigs which show results of various kinds of feeding and pasture. To quote him exactly - "Our study of the management in pig production has produced convincing arguments as to the very great efficiency of alfalfa pasture for pork production. With what may be seen in Livingston County alone along this line, it looks out of the question that anyone would attempt to produce pork from spring pigs without providing alfalfa or its equivalent. We visited a farm just over the line in LaSalle County where the owner has been putting off spring pigs in August and September weighing around 200 pounds. This has been recognized as an extraordinary performance. Apparently this herdsman's success is largely due to his method of feeding on alfalfa pasture. On a farm near Rutland, we found some 24 Poland China pigs which now average 140 pounds. They have been grown almost all together on alfalfa, only a very supplementary feed of corn having been fed."

"Whole milk. St. Louis and Chicago are the two largest urban markets for whole milk. The prices of milk (3.5 percent butter fat) for August, 1918, in these two markets is $2.75 per cwt. The price of milk each month in the Chicago district is to be set on the "Formula" until January first. This so-called "formula" is composed of the following items:

20# home grown feed
24# purchased grains
110# hay
3 hrs. labor.

Monthly prices for the above commodities are applied to the different amounts and the sum is equivalent to the yearly cost from which the monthly prices are derived.

Butter. Whole milk butter with a score of 94-95 is selling at about 45 cents, and centralized butter with a score of 90-91 is selling at about 44½ cents. Centralized butter is at present selling at relatively higher prices than whole milk butter, as it is easier to secure carload lots of butter of more even quality. In case of farmers shipping to centralizers during the warm months, care should be taken to prevent any considerable quantity of butter fat to be sold as an inferior article." - F. N. Pearson.

Thru a mistake of the printer, some of the organization charts recently sent to the advisers, have a line connecting the Farm Management Executive Committeemen with the Livestock Committee. If the copy sent to you has this line, it should be covered or marked out." - G. N. Coffey.

"Morgan County is in very great need of more married men to work on farms", reports Adviser Kendall. "If any county in the State has a surplus of this sort of farm labor, we should be glad to have it sent our way." Doubtless many other counties have as much need as Morgan for married men to replace our boys who have gone into the service.

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"Dear little flag in the window there,
Hung with a tear and a woman's prayer;
Child of Old Glory, born with a star -
Oh, what a wonderful flag you are!"

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. September 4, 1918 No. 26

Hessian Fly Survey. The following is a report of the recent survey conducted under Mr. Flint's supervision. "From the recent examinations for Hessian Fly in the different sections of the State, conditions are about as follows:- Southern Illinois, very little fly , traces of infestation in Clinton and Washington, and a few of the more northern counties. Central Illinois, traces of infestation in all counties where examinations have been made. On the whole the least infestations for a number of years. There is somewhat more fly in the north central counties than in the south central. Northern Illinois, slight to moderate infestation." - W. P. Flint.

Increasing wheat yields. Rucker of Effingham County reports his experience from wheat meetings held in the county. "At one meeting the men present were going to increase their wheat yield 20 percent, having an average acreage of 25 acres per farm. Another community was going to increase the acreage 138 per cent with an average of 28 acres per farm. A threshers' report indicates a ring that had increased their acreage 400 percent over 1917, and will increase next year's acreage nearly as much over 1918. We feel greatly encouraged over the prospects."

Says Madden, "If the Kaiser could see all the ground that is being prepared for wheat in Sangamon County and the way the rain has come, putting the finishing touches on an edial seed bed, he would think 'Gott mit uns - nix'."

Rosen Rye. Edgerton of Rock Island County reports the following experience: "The farmers in Cordova Township are beginning to get enthused about sowing Rosen Rye on their sandy soils. The county agent has been in Michigan this week looking over the rye situation and has found some very good seed, 1500 bushels of which has been shipped to Cordova."

A variety test of four different varieties of rye is planned by Miner in Henderson County. Farmers on both sand land and brown silt loam will seed five acres each of Rosen, Wisconsin Pedigreed, Mason County White, and Common Rye to ascertain the difference in varieties on local types of soil. We shall watch for results next harvest.

Red Rock Wheat. "Twelve of our farmers in Grundy County are going to try out in a small way, the very highly recommended Red Rock wheat. They have each ordered from ten to twenty bushels of the Michigan State inspected seed. Those growing this wheat in Michigan are making very flattering reports concerning it." - Longmire.

Smut demonstrations held in connection with the farm sales seem to have been a success in Clinton County. Rehling reports good crowds and much interest.

Fall Army Worm. "There is considerable danger of an outbreak of the fall army worm in this State during September. The moths are now quite abundant. In 1912 there was quite extensive destruction to young alfalfa fields and this should serve as a warning that all fall seedings of alfalfa should be closely watched for any appearance of this insect this fall. This is the true army worm but is very similar and the destruction of crops is nearly as rapid. The true army worm does not feed on alfalfa or any other legumes, while the fall army worm feeds quite generally on both the grasses and legumes. This insect can be controlled by spraying the young alfalfa with a solution of two pounds arsenate of lead in fifty gallons of water, or by the use of poisoned bran bait, made from one pound Paris Green, twenty-five pounds of bran, mixed dry, water to make a stiff mash, to which has been added the ground fruit of six lemons and two quarts of molasses." - W. P. Flint.

Notice! In Issue No. 22, page 1, of "The Extension Messenger", there appeared an item regarding "Wheat Straw Worms". Mr. Flint informs us that the method of control given therein does not conform with his recommendation, which is as follows: "The wheat straw worm, of the "joint worm" has not been sufficiently destructive in this State to warrant such drastic measures of control as burning the straw stacks; rather the straw can be used for bedding, which will destroy the worm, and the stubble can be burned. The larger number of the straw worms are contained in the stubble."

Seed Corn. Let us prepare now for the early selection of a full supply of seed corn this fall. Proper and adequate storage room should also be arranged in advance. Illinois passed thru a seed corn crisis in 1918, which should be sufficient warning to prevent any recurrence of such a serious situation another year. Plan now to advise selection of seed corn in the field before the first killing frost. Proper care of the seed after selection demands that some provision be made whereby the moisture co[illegible]nts can be reduced to such a point that the germ is not injured by freezing, and then to maintain this condition until planting time.

Seed Corn Week. Let each community or each county proclaim a seed corn week. Some counties have already taken this step and are urging that all farmers in their district select their seed corn not later than that. In U. of I. Circular No. 225 the selected dates are - Northern District - September 15 to 22; Central District - September 20-27; Southern District- September 25 to October 2. These districts approximately divide the State into thirds. It seems to us these dates are plenty late enough, judging from present stage of corn development and weather conditions.

Seed Corn Posters. Fifty posters entitled "Save Seed For Victory" have been sent to each adviser. There are a number of these posters left and if you need more we can supply you with a limited number.

Husk corn with hogs. "In a few weeks corn will be ready to turn hogs into. Soy beans and rape have made fine growth in corn, but where these are not growing in the field, tankage can be used to supply the protein. Hogs are excellent, profitable, corn huskers. We don't know how abundant huskers may be later on." - Brooks, LaSalle Co.

Feeder lambs are proving very satisfactory for cleaning up undergrowth weeds in the corn field and the like. If your farmers have any fields where lambs can be used profitably, it might be well to investigate the nearest market.

Baby Beeves. Miller reports the following item from the Macoupon County Fair: "Thirty-nine baby beeves which had been fed out by the Baby Beef Club of the county were placed by Mr. Imboden of Decatur. The boys winning the first five prizes are to be given a trip to the Chicago International, and the next ten received cash prizes. The calves were all sold at auction. The first prize-winning calf weighed 1150 pounds, and sold for 21 cents a pound. This made the selling price $241.50. The boy also won $33 in premiums which gave him in all $274.50 for his calf. The average for the thirty-nine calves was 995 pounds in weight, and they sold for an average of 16.82 cents per pound."

County Fair a success in Hancock County. "This is the third year for our county fair, and our association is largely responsible for its success. The livestock classes were all well filled and the stock was of good quality. In the farm products department we did not have room to display all of the produce entered for premium. A little more than two hundred of the members of the association called at the Farm Bureau headquarters during the four days."-Lloyd.

Pork Production. "From the report of 192 farms in the State, pork production was increased 6.05 percent in 1918 over 1917, although the average size of litter weaned was somewhat smaller in 1918. The average size of breeding herd in 1917 was 12.4 sows while in 1918 it was 14 sows. This explains the increase in production." - From Carmichael's Report.

One method of oiling hogs to kill lice. We note that the Connecticut Agricultural College advocates "This may be done cheaply, by placing a post in the pen, wrapping it with an old gunny sack or piece of burlap, and saturating occasionally with oil. Crude petroleum is recommended because it is not very expensive, does not blister, and is lasting in its effects. It is more effective for mange than ordinary stock dips. The use of crude oil serves not only for destroying lice but also in softening the skin and making the hair glossy."

We have discovered the following notice to threshermen, "The Farm Bureau office will typewrite your Government report free of charge if you will bring it to the office in Cambridge." We repeat this by way of suggestion.

Will County is planning to conduct a wheat survey of the county to ascertain whether or not their wheat quota has been reached and at the same time will make a drive for the picking of seed corn from the fields before frost.

Gone. "Out of the 91 farm boys making exhibits at the Kankakee Inter-State Fair last year, 89 are now in training camps. The result was noticeable in the exhibit of farm products." - Collier, Kankakee Co.

"Broom corn harvest is about half over", reports Thomas of Coles County. "The quality of the yield this year is very good. Better grade broom corn is selling at $500 per ton."

Second Crop Clover. Many farmers seem to prefer plowing under the second crop clover rather than to try to obtain seed from it. In a few localities where grass hoppers have not been too bad and where moderately season has permitted formation of seed, some fields will be cut and threshed for seed.

"There is something big and fine and inspiring about a good loser. No one ever wins all the time." Are you a good loser?

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. September 11, 1918 No. 27

RAIN. Not long since, some of our good Southern Illinois friends wished for, longed for, and mayhap - prayed for rain - and now, human-like, they are wont to complain to the tune of "Too Much Rain". Every time you complain about the rain, stop long enough to realize what an uninteresting and discouraging old world this would be without it. The good farmer seldom complains of either extreme. There's a reason.

Seed corn week has been set in most of the counties and in many, a campaign has been planned to urge the farmers to select their seed at this time. Corn is maturing earlier than normal in the northern part of the state and from all indications good seed can be obtained from the best fields very soon. If frost does not come during the next two weeks, the seed corn situation promises to be far less serious than it was last year, although Southern Illinois may need to be supplied from sections farther north since the late planting and insect injury coupled with the dry season has made the Southern Illinois corn crop far from a normal one.

Covering the top of silage after filling. The following item from a circular letter of Adviser Miner's is of interest: "I again wish to recommend covering the top of silage with tarred roofing material. Cut the strips as near the size of the silo as possible and allow the edges to lap two to three inches. One thickness of the roofing is sufficient and the heat from the silage will cement the laps together. This should be put on the day following the completion of filling the silo, after the silage has been well tramped (and if possible) the top surface well soaked with water. As the steam rises from the heating silage, the tarred paper causes the water to condense and fall back upon the surface and in this way excludes the air and also keeps the top layer moist instead of being dried out as in the case when no covering is used. I have the reports of several farmers who used this plan last year, and they believe it the best method of covering the silage that they have ever seen. They had less than three inches of spoiled silage beneath the paper." - Fulton Co.

Shallow, level cultivation produces good corn crops according to a report from Adviser Durst of Union County. High ridging of corn seems to be the general practice in that portion of the state and as there is every reason to believe that shallow, level cultivation would produce more satisfactory results in most every kind of a season, the county advisers may render a great service to Southern Illinois farmers by helping to demonstrate the value of surface cultivation.

"Soy beans. Several of our farmers sowed soy beans with their corn for the purpose of hogging down. These beans had made fine growth and have increased the feeding value of the different farms greatly. Another year a much larger number will sow beans in their corn." - Miller, Macoupin Co.

Broom corn. "Recent rainy weather has been extremely hard on the broom corn growers as they have had to feed from fifteen to thirty men who have not worked for almost a week. At the same time the broom corn has depreciated more than one half of its value in many cases. The chief injury to the corn is in the bending and kinking of the broom though it also changes color very rapidly in the sunshine after the rains." - Thomas, Coles Co.

"Stinking smut was found in a bin of wheat belonging to one of our farmers. It is so bad that the wheat is unsalable for flour and must be sold for feeding to live stock. The owner said he could notice no smut in the seed last year, but he is buying new seed and intends to treat it even if he can find no trace of smut in it. This example may help to prove to other farmers the need of treating their seed even though they believe it free from smut." - E. H. Walworth, Adviser, Clark Co.

Keep the flies off the horses and cattle. A home made fly repellant recommended by Adviser Belting is made as follows: "Fresh lard, one gallon; sulphur, two pounds; kerosene, one pint. This should be applied with cloth or brush." It seems to us that this might be a very desirable repellant for flies since it does not evaporate so rapidly as the coal tar mixtures. Horses used in the field for plowing and discing are bothered during the fall of the year with flies on the bellies, backs, and legs and horses in the pastures having no darkened shelters lose a great deal of weight for the same reason. We should like to hear from anyone using this preparation or any other more satisfactory method of control. It seems that this might also be used satisfactorily for keeping flies off cattle.

"Fall pigs, farrowed late with poor feed, care, and shelter, are seldom profitable. But with strong litters, farrowed in September and early October, having good mothers fed for milk production on green pasture and a good grain ration, fall pigs should grow fast and be in good shape for weaning. Warm, dry, sanitary sleeping quarters help much to make a thrifty bunch of fall pigs. It is when young pigs are not given a good start before cold weather that the characteristic pot-bellied winter pig develops. The stunted fall pig is subject to all the ailments that may be in the herd and usually does not make economical use of his feed.

Some farmers say that they make more money on their fall pigs than on those farrowed in the spring. They can spend more time with them, feed them better, and sell them on a good April or May market. Prospects indicate that there will be a profit to the producer for all the hogs he can properly raise from the fall pig crop." - John B. Rice, Swine Division, University of Illinois.

Pig Club Prizes. "At the Boys' and Girls' Pig Club Contest at the State Fair, Macoupin County won eleven out of the 29 premiums given for the pure bred classes. One of our boys had the grand champion pig at the fair. We think this is a pretty good record for Macoupin County." - Miller, Macoupin Co.

Clark County has employed Mr. E. H. Walworth as farm adviser. Mr. Walworth has been connected with the Crops Division at the University of Illinois for a number of years. He left the University to take up his work in Clark County on the first of September. His headquarters are at Martinsville, Illinois.

Students' Army Training Corps. The University of Illinois had agreed to take 5,000 student soldiers of the S. A. T. C. We have been able to obtain a number of copies of information concerning the registration and regularions of these student soldiers and are including a copy for each one of the county advisers. Anyone wishing additional copies can obtain them from the Registrar's office, University of Illinois.

Organization. The amount and variety of work of the farm adviser and the farm bureau have been greatly multiplied by the war. However, this presents a greater opportunity for service. If this service to the country is to be rendered most effectively, efficient organization is absolutely necessary. It seems very desirable therefore that the advisers and their executive committees give careful consideration to this matter, if they have not already done so.

The organization chart which was sent out recently shows in a graphic way the general plan of the farm bureau organization that has been adopted in most of the counties. The lines of work undertaken will necessarily have to be adapted to the different conditions and needs of the different counties, townships or communities. The farm adviser and executive committee cannot themselves do the many things that need to be done and they should therefore develop their organization in order to be prepared to do anything that may need to be done during the present emergency.

In a county recently visited by the State Leader, the value of efficient organization was shown in the results secured in connection with the campaign for increased wheat production. Blanks asking for the number of acres of winter wheat, spring wheat, or rye sown in 1917 and planned for in 1918 and also the bushels of seed needed or for sale were prepared and sent to one man in each township. This man sent these on to one man in each school district, with instructions that he see every farmer in that district. Seventy-five percent of these had already been returned and the adviser felt confident that he would get every one. These will give the adviser definite data showing how much wheat and rye will be sown and also will enable him to arrange for the farmers to get the seed when needed.

Several other counties have developed very similar plans with equally good results. By having similar committees, made up usually of different men, to handle the different problems needing attention, it should be possible to accomplish a great deal that would otherwise have to go undone, without imposing any great burden on any one person.

A representative of the State Leader's office will be glad to give any assistance possible in helping to develop this work of organization in any county where such assistance is desired.

Registrations in the Farm Tractor course to be given this winter at the University of Illinois now total fifty-five. The class beginning October 14th is completely filled, and a number of entries have been received for nearly every subsequent week. Anyone wishing to take this course should write the College of Agriculture as soon as possible, indicating their preference as to time of entrance. The course requires two weeks time for its completion. Students can enter on any Monday until March 24th, 1919.

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Put good stuff into the present for out of it the past is made.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. September 18, 1918 No. 28.

"It is not an army we must shape and train for war; it is a nation."-
Woodrow Wilson.

"The Lesson of 1 9 1 7.- 1. Good Seed Corn must be selected in the field. 2. It must be selected early. 3. It must be properly stored. The seed corn weeks declared by the State Council of Defense are: Northern District, Sept. 25 to 22; Central District, Sept. 20 to 27; Southern District, Sept. 25 to Oct. 2. If corn is allowed to remain in the field during cold, moist weather, the germination and vitality will be greatly deminished, or entirely destroyed. The moisture content of corn is often 30 percent or more when the seed is ready to pick.

Selection: - (1) Ears of medium size only should be chosen.
(2) The grain also should be well dented (corn will make satisfactory seed as soon as the grains are well dented.)
(3) The ears should be of good shape, but early maturity must not be sacrificed for fancy points.
(4) Ears which hang down should be chosen , because these shed water.
(5) The shank should be of medium length and diameter.
(6) There should be two good stalks in the hill from which a seed ear is taken.

Storage:- As soon as the corn is picked, it should be husked and placed so that the air can circulate freely around every ear. Never put it in a pile on the floor, even over night, as it will heat, or mould, or both, in a very short time." - W.L. Burlison

Fall Army Worm. "With W. P. Flint, Chief Field Entomologist, drove thru the county to make a census of the damage done by the fall army worm to alfalfa seeding. Most of the fall army worms found were badly parasitized, and as worms will soon change to pupa stage. Mr. Flint was of the opinion that no damage would be done here by later brood this fall." - Baldwin.

Alfalfa seeded in grain. "Adviser Baumeister of Stephenson County makes the the following statement. "I previously reported that spring alfalfa seeding in grain cut for seed was a failure. I want to modify this statement. Right after harvest there was scarcely a sign of alfalfa left, due to the dry, hot weather. Rain appeared a few days later and all fields that were not badly down and were treated with limestone now have a good stand. Fields that were not limed, however, have no alfalfa at all. I consider the risk of leaving the grain crop too late, however, to take the chance. The stand in the nurse crop cut for hay is also enough better to pay for the loss of the grain."

Buy clover seed this fall. The price will doubtless be much higher next spring and it may be hard to get satisfactory seed then.

What shall dairymen feed? With the present high price of commercial dairy feed, and the rather low price of milk to the producer, dairymen generally are arriving at the conclusion that they can best afford to feed home grown farm products. Adviser Heaton of DuPage County recommends that local dairymen feed barley as the main part of the grain ration to be supplemented with cotton seed meal. Since the market price for barley is not especially attractive, it seems that up-state dairymen who grew a large acreage of barley this year will be prone to follow this advice. The feeding of home grown feeds as a large percentage of the ration has long been advocated by the Animal Husbandry Department of the University, but there never was a time when this seemed so sensible and so practical as it is at the present time.

Hogging down corn. "More corn than usual should be harvested by pigs this fall on account of the scarcity and price of labor. October and November, in general, marks the time limit for this work. Pigs weighing 125 to 150 pounds that have been carried thru the summer with a moderage grain ration on pasture, are the most suitable for hogging down. By having the field fenced hog-tight and running a cross fence, fastening at either end, thru large fields so that 10 to 20 pigs have access to an acre of corn, better results are obtained than by allowing them to run over the whole acreage. Approximately eight pigs are required in cleaning up an acre of corn, in as many days as it yields in bushels per acre. After having been made accustomed to the new corn for one to two weeks, such pigs may be expected to make gains of about 1½ pounds per head daily in the field. It is nearly as essential to furnish a supplement to corn for pigs in the corn field as in the dry lot in order to make the most economical gains. Where they do not have access to a crop such as rape, soybeans, alfalfa, or clover, a feed such as milk, tankage, oil meal, or middlings, should be used." John B. Rice.

"Hogging down corn and soy beans has proven a very successful plan, both from the standpoint of gains and labor. One of our Iroquois farmers had 2-2/3 pounds gain per head per day for forty days last year and another had about two pounds per day." - Wise.

Pig club results. "Bureau County's first pig club show brought forth some outstanding pigs. Eight pigs were shown which were judged to be better than the Bureau County pig which won second place at the club show at Springfield. A numb er of the club pigs were entered in the open classes and made the regular breeders hustle, winning two firsts, two seconds, and a number of third premiums." - Mann.

Hog Cholera. Our attention has been called to the fact that hog cholera has taken the larger part of a herd where double treatment was administered some ten or twelve days previously. The vaccinating was done by a practitioner who was not a graduate State Veterinarian. Evidence points to the conclusion that either an over-dose of virus was given, or insufficient serum was injected to react against the amount of virus given. One of the government veterinarians has issued the warning that (1) immunizing should be done only by capable, graduate veterinarians, (2) it is better to use a little more serum than the minimum requirement for an animal of any given weight, (3) the amount of virus should be very carefully measured, and (4) only reliable serum and virus should be used, even if it cost a little more than some other brand.

"The man who finds it a trouble to decide what to do next will accomplish more and be paid better for it if he works under the eye of a foreman." - Dimock.

Demand for fertilizers. "In my driving thru the country, I have had more men stop and ask concerning fertilizers than ever before. Since the farmer knows the price he is going to get for his wheat crop, he feels more like investing in fertilizers of some kind. A large amount of rock phosphate will be applied if it can be obtained. Some parties are going to use acid phosphate. A good many are also using limestone as they are finding that limestone helps considerably with small grain, especially on the lighter colored soils of this county." - Heaton, DuPage Co.

Limestone. "We are much pleased that the government has placed limestone in the priority list and hope this will help us to get deliveries in time for wheat. Our farmers are thoroly interested in limestone and will use from five to ten thousand tons this fall if th ey can get it. I received orders for ten carloads yesterday and today orders came in for three cars of limestone, one car of rock phosphate, and fifty tons of nitrate of soda." - Durst, Union Co.

"Farmers are pleased at the arrival of the cars of limestone. Sixty-three cars have been ordered thru the farm bureau office and most of it will probably be delivered before wheat seeding time. Some farmers have courage to haul the limestone six miles over bad roads because they know the importance of it." - Price, Saline Co.

Limestone not lime. Our attention has been called to the tendency from some of our men to use the word "lime" when they mean agricultural limestone. We should be more careful to say limestone for we have heard that someone has mistaken the term and used ordinary or hydrated lime instead.

"It is quite apparent that the fertile land and the shallow cultivation brot a good deal of the corn thru the drouth. We will have enough seed corn for our bottom lands and those in a higher state of fertility." - Haberkorn, Madison Co.

Select seed corn enough for two years supply. In order to prevent the return of the seed corn situation of last year, let us urge that every farmer who has native corn, select enough good seed for a two years supply. If he shall practice ear testing next spring he may not have more than enough at that.

"Farmers have begun picking seed corn and those who have examined closely, acknowledge that the corn crop is above their expectations." - Lloyd, Hancock.

Corn husking prices. "The farmers of the county are to meet at the Farm Bureau Office to determine what the prevailing price for corn shucking shall be. A report of the decision reached at this meeting will be mailed to the county advisers in the adjoining counties in order to stabilize prices for shucking if possible." - Madden, Sangamon Co.

Notice! Advisers have been asked to send a report of surplus or deficiency of labor to the Farm Help Specialist. The Farm Help Specialist in Illinois is Wm. H. Young, College of Agriculture, Urbana, Illinois.

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Remember - that when you're in the right you can afford to keep your temper, and that when you're in the wrong you can't afford to lose it.

The Extension Messenger

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UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. September 25, 1918 No. 29

Wet Weather Talk - "It hain't no use to grumble and complain;
Its jest as cheap and easy to rejoice.
When God sorts out the weather and sends rain,
W'y, rain's my choice."
James Whitcomb Riley.

The Illinois wheat quota looked big, but the response has been fine. The following report from Woodford County shows what community organization can accomplish in a short time. "The county will put in about 22,500 acres of wheat and rye in 1919, or 500 % increase over 1918. Volunteer canvasses reported for every one of the 117 school districts of the county. From the 1950 farms in the county, signed statements were secured from 1296 men, that they would put in 22,457 acres of bread grains. Only 12 % of the farmers planned to put in no wheat. The canvassers took orders for 1500 bushels of winter wheat, 500 bushels of spring wheat, and 150 bushels of rye. In addition to two carloads of winter wheat, probably 2500 bushels of seed wheat and rye was located and referred to buyers." - M. L. Mosher.

Winter vs Spring Wheat. "A partial summary of threshing reports show 5800 acres of winter wheat with an average yield of 26 bushels, and 2000 acres of spring wheat with an average yield of 23 bushels. I believe that the conclusion is justified that if all the spring wheat acreage had been in winter wheat, we would have had 6000 bushels more of wheat. This would keep our Bureau County boys who are "over there" for at least a year. I can't help but feel that winter wheat is our best bet. It has been at least as sure a crop as corn during the past ten years." - C. J. Mann.

"The DeKalb County Agricultural Association, a co-operative organization, was organized September 20. The purpose of this organization is the buying and selling of seed, other farm produce, and supplies, and the growing and breeding of seed. A license was secured from the Secretary of State, permitting the sale of 400 shares of stock at $100 per share to take care of the seed work for DeKalb County. The value of seed handled annually by the association has gone from $10,000 the first year to $96,500 last year." - W. G. Eckhardt.

Alfalfa in Macoupin County. "One of our members sent in a bunch of alfalfa which was 32 inches in length and was from the fourth cutting. Five tons of limestone to the acre have been applied to the land." - W. P. Miller.

Live stock production is picking up in Champaign County. Many carloads of feeder hogs are taking the place of human corn huskers. Also the county is becoming spotted with many flocks of sheep.

Classification of Farmers? Recently the farm advisers received a questionnaire concerning the shortage of farm labor and its reference to the draft. This is to acquaint the Draft Boards and the new members assigned to the Boards, with actual farm labor conditions. Up to the present only a third of these questionnaires have been returned. You recognize the importance to the farmers getting this information before the proper authorities at once, because the draft questionnaires are going out and the boards are organizing to begin work."- W.H.Young.

Labor suggestions. Securing labor next year will be difficult. The army apparently plans to take single men first, leaving married men, especially those with children, to the last. This means that every farmer who can, should plan to use a married man next year. Some farmers are securing sectional houses ready to set up for next year's use. In many, if not most, counties, there were more married men than jobs open for them on farms this year.

More exchange labor was done than usual this year, but not systematically. It is thought that school districts could be organized for the purpose of exchanging labor on the production of crops. Many men help out a near neighbor, but go no farther. A local leader could be appointed to whom all would apply who wanted or who could spare labor. A daily wage could be agreed upon that is fairly high. This would induce a man to report when he could spare a day's labor and would prevent a man asking help unless it is badly needed. One neighbor does not like to charge another, hence the local leader should attend to the settlement. This is an opportunity for the farm bureau to develop their community organizations.

As usual, many married men from the south are expected for corn husking after their own work is finished. Much of Southern Illinois has little or no corn crop and these men will be free when wheat is seeded. Since many of the corn belt farmers are behind on work, it is believed worthwhile to try to secure some of these men for two or three weeks' before corn husking. Hence it is suggested that the farm advisers in the northern and southern parts of the state can cooperate in this arrangement and secure these men before they go to other jobs in cities or coal mines. - H. C. M. Case.

Feeder hogs. Mr. W. C. McGuire, Maroa, Illinois, has been appointed to temporarily take charge of securing feeder hogs. Many carloads of good feeder shotes weighing 100-125 are on the East St. Louis market. They have been shipped from the dry areas in Southern Illinois and Missouri. At present East St. Louis is probably the best place to secure feeder hogs. Also large numbers are available in parts of Wisconsin. - W. J. Carmichael, U. S. D. A.

More sheep."Farm Adviser Edgerton and a member of his Association made a trip to Omaha and bought one thousand head of ewe lambs for the 'More Sheep-More Wool' campaign that is being put on by the AgriculturalDepartment of the Rock Island Chamber of Commerce." When honors are distributed for increasing sheep production, Rock Island County will be a "sure enuf" contender.

Culling the farm flock. The following data kept on two farm flocks that had been culled by Mr. Platt, poultry extension worker, certainly emphasizes the value of this work. Quoting from a letter from Sidney Smith, Farm Adviser in Macon County, Mr. Smith says "I will admit I appreciate the work a great deal more now than I did when it was done." The reports speak for themselves.

	Flock No. 1	-	Flock No. 2.
Date flock was culled	August 28		August 28
No. of hens in the flock	142		92
No. of hens left in best pen	105		67
No. of hens put in the cull pen	37		25

(Continued:)

	Flock No. 1	-	Flock No. 2
Length of the test	14 Days		7 Days
No. of eggs laid by the best pen	620		137
No. of eggs laid by the cull pen	15		8

Farm Bureau Statistics. The following statistics for the 1910 census show that the farm advisers in the organized counties in Illinois are in a position to have an influence on a considerable portion of the food produced in the State.

	No. of Farms	Land in Farms	Corn	Oats	Wheat
STATE	251,872 -	32,522,937 A. -	390,218,676 bu.-	159,386,074 bu.-	37,830,732
27 S-L Counties	31.4 %	35.7 %	43.3 %	57.2 %	21 %
58 Counties With Advisers	63 %	67 %	75 %	80 %	63 %
63 Counties Organized	70 %	71 %	78.6 %	82 %	70 %

Walnut Lumber. A communication received from the government gives the following quotations on walnut logs:

Diameter	Prices of Black Walnut Logs 8 ft. and longer on board cars on R. R. Minimum	Maximum	Equivalent Value for Standing Timber Minimum	Maximum
12"-14"	$45. Per M.	$55. Per M.	$20. Per M.	$35. per M.
21"-22"	85 " "	95 " "	60. " "	70. " "
31" & up	135 " "	150 " "	110. " "	120. " "

Walnut Manufacturers: T. A. Foley, Paris, Ill.
C. L. Willey, Chicago, Ill.
Langton Lumber Co., Pekin, Ill.
Illinois Walnut Co., East St. Louis, Ill.

Adjoining states have a number of dealers whose addresses we can furnish.

In Southern Illinois it never rains but what it pours this year. A lmost without exception the reports from the southern half of the State, report heavy rains. As a result, soil preparation and wheat sowing have been delayed. In Central Illinois fair weather must come soon, or many farmers will not attempt to sow as much acreage as they had expected to put in had the weather been favorable. In S outhern Illinois land is now being plowed for wheat where a short time ago it was so dry that the 1919 acreage of wheat threatened to go below this year's acreage.

"Active doer, noble liver,
Strong to labor, sure to conquer."
Browning.

The Extension Messenger

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UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

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Save Fuel. Quoting from the Federal Fuel Administration is the following: "It is certain that the nation's enormous demand for fuel cannot be fully met. Altho 700,000 miners worked to the limit, and the transportation agencies of the country strain every nerve to facilitate distribution, the war demand for fuel will inevitably outstrip the possible output." Part of the difference between the output and the demand can be met by saving. This applies to many communities in Illinois where wood is available. Illinois has become so thoroughly a coal burning state that in this emergency it seems advisable to call attention of people generally to substituting wood for coal. The price of coal should be an incentive to farmers to get out their own fuel supply, in so far as the supply of labor and timber permit.

A survey of the farm labor situation in Lee County was obtained by calling thirteen men in representative communities who reported for ten farms each in their immediate communities. On 128 farms there were 244 men not including boys under 16. Forty-nine additional men were needed for fall work. On these farms, 101 men are included in the new draft and 73 of this number are managers. On this basis, the 2774 farms in the county show a shortage of 845 farm hands and 2188 men from the farms registered on September 12th, of which 1582 were managers.- L. S. Griffith- Such reports as this indicate that the labor problem is as serious a problem as there is to be met the coming year.

"Curing immature cow peas for hay is generally met with much trouble. Heavy dews have added to the trouble this year. One farmer has tried putting the peas in bunches two days after cutting and left until cured. The rains did not seem to penetrate the pile. On the eighth day the hay is green colored, leafy and almost dry enough to put away. It was in much better condition than that left exposed in the swath. Other trials will be watched before widely recommending this practice." - C. J. Thomas, Jackson County.- This experience coincides with the practice which has been followed on the Meharry farm at Tolono and elsewhere in curing soy bean hay. Even though the hay sometimes becomes colored the leaves are saved and when cured makes a good quality of hay.

Picking seed corn with the assistance of old Dobbin well muzzled and hitched to a narrow sled, on which are set boxes or barrels is finding favor in many counties where the corn is standing straight enough to permit the practice.

The registration in the S. A. T. C. to date is far below early expectations. It is probable that the number of men in in the S. A. T. C. will exceed 3000. Registrants will be admitted till October 15th. Men who registered prior to September 12th and are not in Class I. may apply to the Committee on Education and Special Training, Care of War Department, Washington, D. C. for permit to enter October 15th or later.

Barley is available for feed in considerable amounts this year. The restriction on using barley for malting purposes is throwing a lot of barley on the market which could be used for feeding. At present prices barley may be a cheaper feed than corn. In this connection, we have a letter from Dadmun Brothers of Whitewater, Wisconsin, stating that they have a surplus of barley of excellent quality on hand and that they would like to get in touch with any sections of Illinois that are short of feed.

Saline County Picnic. The first annual picnic of the Saline County Farm Bureau was held at Eldorado, SSeptember 28th. The Farm Bureau was organized in this county less than a year ago. The adviser has been at work less than nine months. This picnic was similar, in most respects to like gatherings in other counties. To the writer, however, it was a most significant gathering. The work of organization in this county required much labor and perseverance on the part of the local people, as well as considerable assistance from outside sources.

It was not an easy task. To one who has ever attended a meeting in the county in the past, it was very evident that the Farm Bureau is stimulating interest in community development and the improvement of agriculture. Previous to the organization of the Farm Bureau, it was very difficult to develop enough interest to secure a representation of farmers at any local meetings. The 250 farmers and their wives who were present, a majority of whom were members of the Farm Bureau, was evidence enough that a new force is now working in Saline County. Frank I. Mann gave the principal address at the meeting. President Baker, to whom, perhaps, most of the credit of perfecting the organization, is due, was well pleased with the meeting. He stated that they would have 1000 at their next picnic. Adviser Price, needless to say, was not down-hearted. While the work did not start as soon in southern as northern Illinois, the experience of Saline County is, we hope, an indication of what may be expected in other southern Illinois counties. J. D. Bilsborrow.

A hog cholera report was given recently concerning the loss of hogs from cholera after double treatment had been administered. Similar losses have been reported from other counties from various causes. In Bureau County over thirty hogs in one lot were double treated. As a result, ten hogs died. On investigation it was found that one bottle of old serum was used. It was thought that the loss in this case was due to the old serum.

Mr. W. C. McGuire whom we reported last week as having been appointed by the U.S. Department of Agriculture to work on the feeder hog project, has furnished us with the following statement: "Arrangements have been made at St. Louis with Mr. Bisbee of the Live Stock Exchange, to have any feeder hog business that goes thru their market well handled. The commission men request shippers to notify them immediately upon loading, the character of stock they are shipping. They then agree to notify the feeders who request it, what they are expecting to have on the market and when it will arrive. This enables the buyer to come to St. Louis, see the stock unloaded, vaccinnated, sprayed and reloaded, all in the same day. (This statement will be verified before next week to ascertain whether the market referred to is St. Louis or East St. Louis). Also, Mr. Tull of the Bureau of Markets at Little Rock, Arkansas, will mail a complete list which he has prepared of shippers and feeders in that state, who have stock to dispose of, or who can secure it in quantities. It might be mentioned that there are many cattle in Arkansas for sale, and I believe any feeder going there, would be well treated and get good stuff."

Cattle from Texas. We are advised by F. R. Marshall, Acting Chief, Animal Husbandry Section, B.A.I., Washington, D. C., that owing to effects of drouth, in Texas and other Southern sections, many high grade breeding herds, largely grade Herefords, Angus and Shorthorns, are offered for sale. The cattle range from calves to aged cows. Some pure bred animals are also available. Further details may be secured by writing J.C. Burns, College Station, Texas.

Dr. C. G. Hopkins has been given a leave of absence for one year to go to Greece as a member of an Allied commission to study the Agricultural reclamation problems in that country.

Mr. J. Z. Frazier, a graduate in Agriculture at Illinois, has been appointed for sheep extension work in Illinois by the U.S. Department of Agriculture. Mr. Frazier is virtually working under the direction of Prof. W. C. Coffey. His activities consist of advising people relative to sheep raising, lamb and wool clubs and establishing demonstration flocks.

Marion County secures Adviser. The Marion County Farm Bureau has employed Fred J. Blackburn of Hillsboro, Illinois, as Adviser. Mr. Blackburn is a graduate of the University of Illinois. He was field man for the Department of Farm Management in Franklin County for one year and in charge of the household science demonstration car the year following. For the past three years he has been in charge of the home farm. Mr. Blackburn is not only well qualified for his new work by training and experience, but he has a thoro understanding of the section in which he is to work. Mr. Blackburn started work September 27th.

"With every rising of the sun
think of your day as just begun."

BENEDICT SUPPLEMENT

In spite of the greatly increased cost of "yellow paper", coal, breakfast food, and sundry articles of subsistence; and the frantic admonishments of us who know from first hand experience that "The Dollar is Shrinking", ye Editor has gone and taken unto himself a wife and embarked for ports unknown.

The following official announcement has been received at the office:

Mr. and Mrs. Samuel Cromwell
announce the marriage of their daughter

Myrtle Belle

to

Mr. Charles Austin Atwood

on Thursday, the nineteenth day of September
nineteen hundred and eighteen

Momence, Illinois

At Home
after November the first
508 Iowa Street
Urbana, Illinois.

A certain widely circulated publication features a department known as "The Office Dog", with the explanation that the "Dog stuff" consists of vari and miscellaneous bits picked up here, there, and everywhere. In the absence of the "Chief Canine", the various Office Dogs, (or pups, as Ye Editor would call them) have attempted to collect such bits, bones, old shoes, and sundry scrap as they thought might interest their readers. Until the Big Noise returns they beg your kind indulgence.

All those in arrears with their subscriptions should pay up promptly. Potatoes, canned goods, pork, sausage, and general household supplies will be accepted in lieu of cash.

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"Eventually, Why Not Now?"

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. 1 October 9, 1918. No.31

Prices for Corn Husking - In the counties reporting, the State Council of Defense prices for husking corn seem to be favorably received by the local farmers. These prices are six cents a bushel where board is furnished and seven cents where the husker boards himself. This is based upon standing corn. Any unusual condition would require special arrangements in each particular case. The small crop of corn in the southern part of the State will help to bring additional labor into the remainder of the State and with the early seeding of wheat and favorable weather, husking will begin much earlier than usual. All these conditions are favorable toward a satisfactory solution of the labor problem in harvesting the corn crop.

Soy Beans in Corn. Do soy beans cut the yield? The following experience is quoted from the report of Adviser Lloyd: ."A careful test made by a Hancock County farmer would indicate that soy beans planted in corn do not decrease the yield of corn. While planting last spring, this farmer allowed the bean attachment to run empty thus securing several rows of corn without any beans. A few days ago these rows were husked. Two rows without beans and the two rows of corn immediately adjoining were husked and records taken. The rows with no beans yielded at the rate of 51.3 bushels of corn per acre, while the next two rows in which there was a good stand of beans and the same amount of corn planted, yielded 52.5 bushels. None of these rows were in the dead furrow or on the headland and as near as any one could tell, they had exactly the same chance to produce corn. There were two or three good bean plants in almost every hill and they were loaded down with pods. "

Seed Corn Selection from the field is being more generally practiced this year and judging from most reports, nearly every locality will provide its farmers with sufficient seed which is favorably adapted to local conditions and of good quality.

"Sing a song of seed corn,
Hanging up to dry;
Every ear selected
With a careful eye.
And when the corn is planted
Every grain will grow
Won't that give the Kaiser
A solar plexis blow? "
— Ralph Wells.

Wheat Talk. Madison County reports twenty-five per cent increase of wheat for 1919. Morgan County threshed 940,000 bushels of wheat this year and the acreage is increased about fifty per cent for next year. Monroe County will maintain the wheat acreage for next year. Richland County is putting in a record-breaking acreage of wheat. Shelby County records from 100 farms show that fifty-two farmers harvested wheat this year, while eighty-five plan to grow wheat the coming year.

"DuPage County reports from 725 farms show 122,980 bushels of spring wheat, 24,448 bushels of winter wheat and 243,000 bushels of barley produced this year. At this rate, the county produced 250,000 bushels of wheat. This record compared to the 1910 census report showing a production of 51,000 bushels of wheat and 29,000 bushels of barley shows a big increase in the production of bread grains. When it is considered, however, that only an average of 200 bushels of wheat was produced to the farm, it should not be hard to double the production in this county". -E.B. Heaton -

"Potato Wart, a very serious European disease of potato tubers, has recently been discovered in Luzerne County, Pa. If this disease becomes widespread in America, it will cause more damage to the potatoe industry than all the other diseases of the potato combined. For this reason every effort should be made to discover it before it becomes generally distributed. The infection in Pennsylvania was traced back to a shipment of European seed potatoes in 1912. There is, therefore, a chance that the disease has become widely distributed. County Agents should be on the lookout during the digging season for any unusual, wartlike condition in the potatoes and if found, should send samples at once to Dr. H. W. Anderson at the Experiment Station, Urbana, Illinois. The disease causes rough, warty outgrowths on the potato. These may be at times almost as large as the potato itself, or the whole tuber may be covered with small granular warts. The small, smooth little potatoes that frequently grow on larger potatoes should not be confused with this disease. The disease is especially to be looked for in mining communities where poor seed potato stocks would likely be used." - H.W. Anderson, Assistant in Pomology.-

The Value of Poultry Culling Demonstrations has been expressed by quite a number of County Advisers. We have the following item from Adviser Lloyd, of Hancock County: "Six poultry culling demonstrations were held Tuesday and Wednesday. Mr. Platt culled about 1200 hens and records are being kept on more than half of these. There is a great deal of interest in this work and our people are well pleased with the way Mr. Platt handles it. If the roads had been passable for automobiles, the attendance would have been much larger. However, enough people came on horseback and in buggies to give us an average of more than thirty persons at each meeting."

Three bushels per acre of "English" clover seed at $18. this year makes farmers willing to grow clover. -Gernert, Edgar Co.-

How Pigs Are Lost Before Weaning Time. Questionnaires were sent to a number of men in each county in Illinois having a County Adviser, and a summary of the answers was made by J.B.Rice: "The following list of percentages gives a summary of how pigs were lost before weaning time. Overlaid by sows, 29.13%; Farrowed weak, 22.34%; Farrowed dead, 15.88%; Killed, 10.09%; eaten by sows, 4.59%; aborted, 4.55%, scours, 3.43%; Thumps, 1.78%; necrobaccillosis, 1.56%; cholera, 1.01%; miscellaneous, 5.64%. From these figures, it is readily seen that the largest losses result from pigs being overlaid by sows. Much of this could be prevented with proper care and properly constructed farrowing pens. The total loss of pigs on these 192 farms in 1918 was 24.95% up to weaning time."

Time To Buy Feeder Lambs. The top yesterday for choice feeder lambs weighing 55 to 60 pounds was $14.40 per hundredweight on the Chicago market. In the opinion of the trade this is about as low as choice feeders may be expected to go this season unless there should be a sudden and violent disturbance in the various industrial activities of the country. Therefore, it seems a good time to buy feeder lambs if one has made preparations for them. W.C. Coffey.

Value of the Model Farm. - "Our model farm at the Fair this week was a pronounced success. It created considerable interest and probably received more attention than any other one exhibit on the Fair grounds. Doubtless more than a thousand individuals saw this exhibit, charts and explanatory material. It was very gratifying to hear the many favorable comments. I believe it was a good advertisement for the Farm Bureau" - Phillips, Greene Co.

Restrictions placed on the sale of middlings and bran are causing many farmers to ship thin hogs. As a rule they have depended so long on middlings or "shipstuff" that many seem unwilling to try other feeds such as tankage, barley or ground oats. This is responsible in many cases for the marketing of unprofitable hogs." Doerschuk, Randolph Co.

Rural Credits. We have on hand a limited supply of Minnesota Farmers' Institute Annual No. 29. This report is confined largely to information on Rural Credits. It contains articles by Myron T. Herrick, T. N. Carver, E. Dana Durand, C. W. Thompson and other authorities. As long as our supply lasts, copies will be sent to Advisers who are interested.

"The Farm Income is not increased because a successful man is in charge, but because of the way he does things." - Dirock.

To Our Readers - If you miss the customary blue border on pages 2 and 3, blame it to the War. Our printers have been swamped printing "war copy".

Don't allow friends or influence or circumstances to color your courage and your aims.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I October 16, 1918. No. 32.

"The difference between one man and another is not mere ability - it is energy." - Arnold.

Save Seed From Early Corn. Adviser Mosher is urging the saving of large quantities of early seed corn by those men who have early types of corn. He writes as follows: "We believe that it will be a wise policy to urge the planting of about one-third of the crop of the early types of corn next spring, in order to insure a good quality of corn for part of the crop at least and to provide for early husking."

Corn Huskers. "Adviser Wise, of Iroquois County is using the managers of the local elevators in helping to handle the emergency labor needed for corn husking. The labor needs in each community will be listed with the local man. The Farm Bureau office will serve as the main clearing house in supplying emergency labor and will keep in close touch with the local men. Any shortage or surplus of labor in any part of the County will be adjusted through them." J.D. Bilsborrow.

Scatter Straw and Protect the Wheat. The late sowed wheat can be protected and possibly saved from killing out by covering with a thin layer of straw. Farmers differ as to the best time to make the application, but the general opinion is that best results are secured by applying the straw after the growth has stopped and perhaps the ground frozen. The most damage to winter wheat is done by the alternate freezing and thawing. The layer of straw will help to prevent this heaving out, as it is commonly called.

Spreading Straw By Hand. "There are many makes of straw spreaders on the market and most of them do satisfactory work. But every one does not own a straw spreader. It is hard to find one that beats the old-style pitch fork. If you must scatter by hand, don't try to do the work from the top of the load, but push the straw off the side of the rack into a small windrow and then go back and do the scattering. You will be surprised at how much ground you can cover in a short time with this method. Most straw spreaders on the market are selling around $100. If you think you can't afford to buy a machine, don't let that hinder you from covering your wheat."

One Cord of Mixed Wood, well seasoned, equals in heating value at least one ton of average-grade bituminous coal.

Feeder Pig Market.- The market for feeder pigs referred to on page 3 of Extension Messenger #30, October 3, 1918, is "The National Stock Yards, East St. Louis, Illinois." Further information can be secured from H. F. Parry, Secretary of St. Louis Livestock Exchange, East St. Louis, Illinois.

Why Can't the Farmer Buy Middlings? That is just what Mr. E. Z. Russell, Swine Specialist, U.S. Department of Agriculture is going to investigate. But first of all, he must have some definite reports of cases thruout the country, where millers are selling middlings in car lots to commercial feed manufacturers and refusing to sell to individual farmers.

With the present price of old corn, middlings make a really cheaper hog feed than does corn, but many places the farmer cannot buy middlings, because the miller is selling his whole output to a commercial feed man, who mixes in some cheaper feeds and fillers and sells the composite at "twice the price." The man who knows this prefers not to buy these feeds. He would rather do his own mixing. But he can not buy middlings.

So Mr. Russel is preparing to conduct an investigation of this matter and he wishes any adviser or any one else who can give specific information about such a case, to write him direct giving details. Mr. Russell's address is Animal Husbandry Division, Department of Agriculture, Washington, D.C.

Live Stock Association Organized - The Short Horn Breeders of Edgar County completed an organization last week. A pure bred sale will probably be held later. This is the third organization of pure bred breeders to be organized since Adviser Gernert took up his work in Edgar County.

Attendance Records. "At times it is desirable to have a record of those in attendance at picnics, annual meetings and other large gatherings. At the Saline County picnic recently, every person in attendance was tagged with a typewritten label. The labels were made by perforating large sheets. The office secretary was present with her typewriter, wrote the names and tagged everyone as they arrived. A carbon copy was retained, thus giving a complete list of those in attendance." - J. D. Bilsborrow.

Buying Apples by the Carload. - During the past week Adviser Collier made a trip to New York where he purchased eleven carloads of apples for members of the Farm Bureau. He says: "We got A No. 1 apples at a most excellent price, saving $350 to $400 on a car. It looks like we will use from twenty to twenty-five carloads more."

Fall Plowing disturbs many insects and weed seeds in the field, consequently they do not come back next season. As a rule, the land can be used earlier if fall plowed.

Vaniman says: even though these war conditions require foresight and some extra thinkin', he's not losin' his optimism. "Van" reminds us of a tea kettle - when its up to its neck in hot water, it keeps singin' away. - Anon.

Nut Shells Wanted for Gas Mask Making. We have just received the following telegram from Washington: "Handschin - Government daily needs five hundred tons of shells from Hickory-nut, Walnut and Butternut, for use in gas mask making. Solicit your aid in having campaigns organized in every rural community for collecting these nuts and delivery to Red Cross for shipment. Urgent." Dated Oct. 15, 1918.

Short Course for Cow Testers. There is at present a very urgent demand for cow testers. In view of that fact the Dairy Department of the College of Agriculture, Urbana, Illinois, will give a special dairy short course October 23 to November 2 inclusive. The subjects covered in this short course will be as follows: testing milk and its products; feeding, care and management of dairy cattle, and other subjects which will be of value in training men and women to act as testers. The course is open to any one who is not subject to draft, and it is open to women as well as men. There will be no charge involved. The cow testing associations in this state are doing a great deal of good and we feel that their numbers should be increased. For further information write to E. M. Clark, College of Agriculture, Urbana, Illinois.

Additional County Home Advisers. Five new County Home Advisers have recently gone to work in Illinois. Miss Genevieve Newlin, who has been assisting in the State advisory work, has taken up her new duties in Saline County. Miss Susan Wilder, a graduate of Minnesota, completed her work for a master's degree at Chicago this past summer and is now Home Adviser in Hancock County. Mrs. Alice Dillon, a graduate of Iowa State College, who has been teaching a Normal School at Winona, Minnesota, has taken up the work in Tazewell County. Miss Lena Corzine is Home Adviser in Logan County. She is a graduate of James Milliken University and has been assisting Mrs. Bronson of Champaign Co. in her work for some time past. Miss Lilla Harkins, who has been head of the Department of Home Economics at Bozeman, Montana, is the new Home Adviser in Macon County.

Prices of Crops in Illinois.

	1918	1917	5 yr. Ave.		1918	1917	5 yr. Av.
Wheat	$2.08	$1.99	.91	Potatoes	$1.64	$1.37	$ .86
Corn	1.39	1.80	.65	Hay	20.00	16.00	13.82
Oats	.67	.56	.37	Eggs	.40	.37	.21

S. D. Fessenden - Bureau of Crop Estimates.

Apples will keep better if they are picked carefully from the trees and wrapped immediately in paper and placed in boxes in a cool cellar. Rough handling causes quick decay.

"O little Ben Zene, come blow your horn!
You plow my meadow and hoe my corn,
Till the hired men that I used to keep
Look over the fence at my tractor and weep."

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. 1. October 23, 1918. No.33.

"The best chance for the individual is the cultivation of personal efficiency."- Dimock.

Straw covering in the chinch bug region. "It is my opinion that in the counties where the chinch bugs are abundant, that it is better to leave off the straw this winter. Wheat covered with litter of any sort is almost always so much heavier infested than that where the ground is clean, that I would expect the damage caused by the bugs to more than offset the benefit from the straw. There is, of course, the chance of a wet spring next season killing the bugs and no damage from them occurring, but if I were farming in that section I know I would not apply straw this fall." - W. P. Flint. The region referred to by Mr. Flint includes the following counties: Randolph, Monroe, St. Clair, Clinton, Perry, Jefferson, Washington, Marion, Clay, Fayette, Bond, Madison, Jersey, Calhoun and a portion of Wayne, Jasper, Effingham, Montgomery, Macoupin and Green Counties.

Fall Plowing. "Fall plowing of a larger acreage than usual has been brought about by the increased acreage of winter wheat and rye sown in Illinois this year. This means that for every acre of winter grain that lives thru, there will be one less acre of land to plow and prepare next spring. With the prospect of a very serious labor shortage next year it is of the greatest importance to reduce in every way possible the labor requirements of putting in the spring crops. The period from about April 1st to May 15th is the one in which practically all of the crops are planted in a normal season in the corn belt. It is the most prolonged rush period of farm work and the one which taxes the man and horse labor to the utmost. With these facts in mind it is of the greatest importance that fall plowing be pushed with more than usual energy in spite of the present labor shortage and the pressure of corn picking and other fall work. In addition to cutting down of the acreage to be plowed next spring, fall plowing nearly always makes it possible to get onto the land and get in the spring crop from a week to ten days earlier. Fall plowing kills insects, and on nearly all Illinois soils insures better working up of the land and a better seed bed. And besides, the Kaiser is too busy to do any plowing these days. So push the fall plowing and "beat him to it." - W. F. Handschin.

"Hogging down corn and turning lambs into corn fields are becoming very popular in Coles County with the present labor shortage. A good many people are practicing this method of feeding for the first time." - Melvin Thomas.

"Mineral Mixtures for Hogs. Hogs crave something in addition to the feeds given to them. When fed mineral mixtures containing ingredients such as wood ashes, salt, and lime, they not only seem better satisfied, but have a greater appetite for their feed and their general health is improved. At least this is the experience of many farmers. Some men feed mineral mixtures as a preventative for hog cholera. They do assist in better maintaing the health of the herd, but aside from this they are of little value in preventing hog cholera.

Little experimental work has been done to determine the value of mineral mixtures or to find out just what ingredients they should contain when fed in addition to the average ration. In fact, it would be difficult to prescribe a mixture for all classes of hogs fed different rations and under different conditions. The importance of mineral mixtures in the hog's ration is greater when the rapid development of the young pig and the heavy corn feeding to which he is subjected are taken into consideration. Corn is lacking in the elements, calcium and phosphorous, more particularly the former. It has been proven that when corn alone is fed, or when it is not properly supplemented, a more porous and weaker bone is formed. With the addition of feeds high in lime and phosphorous, or substances containing them, a bone with greater breaking strength is developed. Salt should be before the hogs in some form at all times, and if it is present in the minerals, they will eat more of the mixture. The man who grows hogs for the market on a ration in which the corn is properly supplemented with feeds such as tankage, skim milk, or forage, does not need to worry about developing in his pigs the necessary framework to make a 200- to 250 pound hog. But the breeder who expects to grow out his stock with the maximum strength of bone should be interested in their use.

The following mineral mixture has given good satisfaction and may be obtained at a small cost in any locality:

Slacked coal, charcoal, or wood ashes.....5 parts
Air slacked lime or ground limestone.....1 part
Salt.....1 part

The addition of a little bonemeal or ground rock phosphate will improve this mixture.

The above minerals are usually kept before the herd at all times, preferably in a small self-feeder." J. B. Rice. U. of Ill.

Combating Bot Flies. "The most recently developed method of combating the common bot-fly of horses is to rub the hair on the fore legs, throat and shoulders of the animals with a two percent solution of carbolic acid. Care should be taken to rub the solution on the hairs wherever the eggs of the bot-flies are noticed. Kerosene rubbed on these eggs does not prevent them from hatching. The flies which lay these eggs are the parents of the bots which attach themselves to the walls of the horse's stomach and impair the digestion. The larvae are taken into the mouth by means of the horse licking the hairs on its legs or body and then move to the stomach where they feed during the winter. The flies appear in great numbers in the fall and are a source of great annoyance to horses." Ohio State University Extension Service.

War Course in Farm Tractors. The series of war courses in Farm Tractors which has been organized for the benefit of tractor owners, operators, tractor dealers, service men and others who may be sufficiently interested in some phase of the tractor industry to set aside two weeks at the University, is now in progress. The plan is to accept registration in this course to the maximum number of 25, each Monday from October 28th. The course will contemplate two weeks' work for each group of 25 men and the series of courses will continue until about April 1st, 1919.

Each two weeks' term will contemplate 12 lecture hours and about the same number of laboratory periods of two or three hours duration. A study will be made of tractor mechanics, motors, elementary electricity, ignition equipment, hitches, plows, binders, separators, motor cultivators and ensilage cutters. Some of the laboratory time will be given up to a study of tractor troubles and how to remedy them.

Indications are that the classes will be well filled and it is especially desirable that those interested file their application for registration as early as possible, setting forth the time when it will be most convenient for them to come. If there is any reason for changing the plan advice will be sent to the registrants promptly. The fee for the course is $4.00. Applications for registration may be made to Mr. J. C. Thorpe, Director of the War Courses, Farm Mechanics Division, College of Agriculture, University of Illinois.

Correction. "A few of the reports of the 'Cost of Producing Pork under Farm Conditions', which were sent to the Advisers on request, did not have the correction made in one figure. On the second page of the report in column 1, the figure for 'Gain per bushel of corn fed', should read 12.27 lbs., instead of 10.96 lbs." - H. C. M. Case.

County Maps. The rural delivery County Maps have been found to be very useful additions to the Farm Adviser's equipment. These maps are used as wall maps, to picture the communities, show location of members' farms, pure bred breeders, etc., and also to show the roads throughout the county. These maps may be obtained from the Third Assistant Postmaster General, Division of Finances, Washington, D. C. The cost is 35¢ each and remittance should be made by P. O. Money Order in advance. Ninety-six of the counties in Illinois are mapped and published.

Name of farmers on mail boxes. It has been suggested by Adviser Bracker of Knox County, that it is very helpful if fammers will put their name on their mail box or some of their buildings. He says- "It would seem too that the farmers ought to be very glad to let the general public know who lived on these splendid farms. We shall be very glad to have the Farm Bureau members take the lead in this work."

Profit in sheep raising. "One of the Christian County Farm Bureau members started this year with 35 good Oxford sheep and sold $935.00 worth of lambs and wool and has 36 extra fine sheep left." - C. E. Hay.

A Successful Man loves his work.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I October 30th, 1918. No.34.

Grain Saving in the Fields at Threshing Time - Adviser Watkins of Lake County reports a case where a farmer kept records on the amount of grain saved in raking twenty acres of barley after threshing. It required one day to rake and two days to haul the rakings. The work was done by one farmer for another on shares. Two loads of unthreshed barley were given to the owner of the field. The farmer who did the work obtained five loads for his share, which when threshed out gave 50 bushels of grain. At this rate, the twenty acres yielded 70 bushels of barley which would otherwise have been lost. This looks like pretty good pay for three day's labor for one man and team. This man was patriotic enough to invest the proceeds in liberty bonds.

Sheep Make Clothing and Food From Waste. The slogan "A hundred hens on every farm" might be supplemented by "A bunch of sheep on every farm," because they are profitable; they eat weeds, they convert waste into profit, they improve the farm's appearance and they do not require expensive shelter. There is a world-wide shortage of wool and mutton and more sheep should be raised as a war measure. No animal approaches the sheep in converting weeds and waste into food and clothing. There is a wealth of wasted grass and weeds in barn lots, fields and road-sides. Let there be "A bunch of sheep on every farm".

Measuring Hay in the Stack. Our attention has been called to the following rule for finding the volume of a hay-stack. The rule is: F×O×W×L = Volume in cu. feet. "F", represents a fraction varying from .25 to .37 depending on the shape of the stack. The lower fraction is used for the low or narrow stacks and the higher fraction for the taller full-round stacks. "O" represents the "over" measurement (that is, the distance from the ground on one side over the stack to the ground on the other side). "W" represents the width of the stack and "L" the length. To find the number of tons, the number of cubic feet should be divided by 512 if the hay is well settled, or by 550 to 580 if the hay is freshly stacked. This figure represents the number of cubic feet for a ton of hay and depends somewhat upon the kind of hay as well as the length of time it has been stacked. Mr. J. B. Andrews, of the Department of Farm Management, University of Illinois, says that this formula has been used quite successfully in Farm Management work conducted by the University.

Pneumonia in Swine. Trouble often develops among hogs at this season of the year in the form of cold and pneumonis. When pigs of all ages and size are allowed to pile up at night in a warm shed some are likely to come out steaming in the morning and the cold winds and frosty atmosphere have a bad effect on them. There are still a number of counties in the State where hogs show indications of having necro-bacillosis. This is a specific, infectious disease which in certain localities constitutes a serious menace to swine raising. It is commonly known in pigs as canker sore mouth, infectious sore mouth, bull-nose or sniffles. A complete treatise of the subject is given in Dr. Graham's Circular No. 222 of the Illinois Experiment Station. It recommends the following precautions: Hog-houses and feeding places, run-ways, fences and sheds should be thoroughly cleaned and sprayed with a three-percent water solution of compound of cresol (U.S.P.) or its recognized equivalent. Quicklime should be scattered freely about the lots, after they have been raked clean of cobs and manure. Wallows should be drained and fenced off, all small holes filled, and large fields where the infection prevails should be cultivated. - W. H. Smith.-

"Aspergillosis. Investigations of poultry losses in several places thruout the state show the presence of aspergillosis in flocks of poultry. This is a disease affecting the air passages of fowls and birds. There is a fungus like growth in the throat and lungs. It may cause quite a large fatality in a flock if the cause is not removed. There is an increase in the temperature of the fowl, accompanied by some thirst. Diarrhea and inactivity follows and the affected bird does not forage with the rest of the flock. There is a drooping of the wings and the plumage becomes rough in appearance. The comb shrinks and becomes tinged with blue. The lungs may be affected, having the appearance of being almost decomposed. Occasional specimens become lame and show white spots on the liver which causes the disease to be easily confused with tuberculosis. Because of the diarrhea, some farmers conclude it is fowl cholera. Aspergillosis is due to fungi or mold from musty grain or damp musty litter. It may be taken in thru breathing, but it seems more commonly to come from eating moldy corn or other moldy feeds. The disease does not yield to treatment. The only cure is to remove the cause, which in the cases investigated was due to eating of moldy corn. " F. L. Platt.

Notice. Mr. F. L. Platt has requested that we tell the County Advisers that he does not consider it advisable to hold culling demonstrations later in the year than November 1st. After that date, it is doubtful if the average poultry owner could successfully cull his own flock. Looking forward to the next year, it is planned to arrange dates with Advisers who may wish to hold culling demonstrations. With a prearranged itinerary more efficient service may be given to all counties wishing assistance in this project.

A Bound Copy of Volume 13 Experiment Station Bulletin has been sent by the College of Agriculture to each one of the Farm Advisers.

The New Armory Mess Hall for the S. A. T. C. men at the University of Illinois is now in use. When all of the five steam tables are in working order, it is expected to feed 2,500 men in less than thirty minutes.

The Dairy Short Course for Cow Testers which is now in progress at the University Dairy Department has a very satisfactory attendance, according to Mr. E. M. Clark, who is in charge. The men attending are either in deferred classification, or are under and above the draft age. It is expected that all of these men will be used in the cow testing work this winter.

War Course - Small Fruit Culture. It is suggested that those interested in growing strawberries, bush fruits, brambles, and grapes plan to attend the two weeks course in small fruit culture to be given at the University under the supervision of A. S. Colby, of the Department of Horticulture, November 18 to 30. An intensive course designed to cover the most important phases of the subject and utilizing the entire time of those registered is being arranged. Small fruit culture offers an excellent opening for women as well as men and it is expected that there will be a good number of the former present. Further information will be gladly furnished on application to Fred H. Rankin, Secretary for War Courses, College of Agriculture, University of Illinois.

Alfalfa Hay. We are in receipt of communication from Mr. O. E. Moon, Emporia, Kansas, saying he has at hand a quantity of alfalfa hay for sale. We quote him as follows: "Good #1 hay is selling at present on our market from $28. to $30. a ton. Our plan of doing business is to ship hay sight draft, bill of lading attached, weights guaranteed."

Protect the Farm Machinery.- The past summer has been such a busy one that much of the farm machinery has been left in the barn yard or the field and is unprotected from the elements. The present prices of machinery and the scarcity of material make it more important than ever before that we carefully gather up all the farm implements and place them in a shed where they are protected from rust and decay. All polished surfaces should be coated with some form of oil or grease. Ordinary axle grease is probably the best.

Tile Drain Outlets. The outlets of drain tile should be examined at this time of year. These outlets should be protected with a concrete abutment to prevent washing at the end and should be screened against the entrance of birds and animals. They should also have a clear fall at the exit, so that the land may be completely drained.

Dr. Cyril G. Hopkins, head of the Department of Agronomy, University of Illinois has been granted a leave of absence in order to answer a call from the American Red Cross, to join an expedition to Greece. Dr. Hopkins is to have charge of the agricultural activities of this Commission in the reconstruction of some of the countries in southern Europe.

"Suggestions to Beginners for Selecting Breeding Sheep" is a title of a new publication by Professor W. C. Coffey, U. of I. This is Extension Circular No. 26, which is now ready for distribution.

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Whatever you do - at its close- convince yourself that it might be better.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. Nov. 6, 1918. No. 35

Every man has a right to proclaim his political opinions, provided he does it when alone.

Chinch Bug Control for 1919, is to be discussed in a meeting to be held in Centralia, Ill., on November 25th. At this meeting, plans will be discussed in regard to control of chinch bugs in the infested area of the State. Plans will be evolved along the line of winter burning of stubble fields, fence rows and other places of infestation. The conference will be made up of State Entomologists, County Advisers, representatives of the Bankers' Association, Commercial Clubs and other coordinate organizations, and will be in charge of the Vice-Director of Extension.

A poor stand of wheat might be unjustly attributed to smut treatment as shown by the case which came to the attention of the County Adviser in Lake County. Mr. Watkins says: "I found one field where the stand was extremely poor. An examination showed that nearly every berry had sprouted, but was covered so deeply with soil that all the energy was exhausted before the seedling reached the light. In some cases the seeds were covered five inches deep. The owner unjustly attributed his poor stand to too severe treatment for smut, claiming that the formaldehyde was too strong."

Sweet Clover in Mason County. "One of the first farmers in the County to use sweet clover has over one hundred bushels of seed this year. This farmer is raising sweet clover in his regular rotation with a view to building up a badly run down farm, which he purchased only a few years ago. The results to date, are very striking. Corn on the sweet clover ground will yield double that of land where no sweet clover has been grown. Not only has the fertility been increased, but the drainage is wonderfully improved. Part of the land is underlaid by a layer of tight clay and the sweet clover roots have penetrated this, insuring good drainage." Baldwin.

"Results from Spraying are showing up better than in 1917. Apples on sprayed trees show no signs of scab, curculio or codling moths, while the apples from neighboring orchards which were not sprayed are practically worthless. All sprayed orchards have an abundant apple crop of the late varieties." Gafke, McHenry Co.-

Feeder Pig Situation. S. O. S. Call to County Advisers.

Following is a letter from W. C. McGuire, Federal Agent in Feeder Pig Distribution:

"W. F. Handschin-

As you know, the Federal Government, thru the Department of Animal Husbandry, has been assisting and stimulating the movement of feeder pigs from the short-feed, drought sections to the corn belt. It is quite important that the County Agents cooperate at once in helping to place these feeder pigs on the farms of the corn belt.

While some farmers show a disposition to fear a serious decline in the hog market, in the event peace were delcared, it is an indisputable fact that meat production across the water has been reduced to a very low point, and, in the event of peace, Europe's first order would be for meat.

Arkansas offers the largest remaining available supply of feeder pigs and the extension division under Mr. J. H. McLeod of the Bureau of Markets, Old State House, Little Rock, is in a position to furnish definite information or will send men with buyers who wish their assistance. They will aid in securing proper vaccination.

The opportunity to secure feeder pigs will last only a few weeks longer as they are being steadily marketed. I have personally seen many herds of these pigs for sale in Arkansas and find them, in the main, of fair quality and they should prove good feeders. They can be bought at whatever price the same class of stock would bring if shipped to market.

It is possible to go to Little Rock and return with the loss of but one day's time. If several prospective purchasers desire to go to Arkansas in the next week, Mr. McLeod of Little Rock, would arrange to have them met at trains and help to conserve their time in every way. If possible for me to do so, I will be glad to accompany any party of buyers to the sections I have personally visited.

It is necessary that the corn belt farmer, who wants feeder pigs, act promptly. May we suggest that you ask the County Advisers of Illinois to devote two days within the week to this project. They could call them "feeder pig days" and advertise them in local papers. The feeders will be glad to get the information and will lend their aid in this project of producing more pork. It is remunderative as well as patriotic.

Very truly,

W. C. McGuire."

We suggest that County Advisers give this matter due publicity in their respective counties and cooperate in every way possible toward the distribution of these feeder pigs. -W.F. Handschin -

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Behind every successful business there is a personality of some kind and behind every magnificent city there exists some organized body of visioned men.

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Calf Feeding at Weaning Time. "Breeders of beef cattle are fully convinced that it pays to push the young animals in order to get them well developed for sale purposes. To prevent calves from losing their calf fat at weaning time, it is a good plan to feed them some grain ration a month or six weeks before weaning time. The effect of the change is scarcely noticeable. A ration commonly used for developing young stock consists of equal parts of ground corn, oats and bran by measure with alfalfa or clover hay in addition. To secure more rapid gains and quicker finish the corn in the above ration may be increased and cottonseed meal or oil meal fed at the rate of 1 pound to every 5 pounds of corn consumed." W. H. Smith -

Embargo on Live Stock, etc. in Territory East of the Missouri River. Owing to the great congestion of express matter moving during the holiday season, and the extraordinary amount of Government war equipment and supplies handled by express, an embargo is placed from December 10th to December 31st, inclusive, on live stock, live animals, fancy poultry and other live birds in the eastern half of the United States. This embargo will not extend to the movement of live stock in carloads, nor to live poultry for market. However, it may be necessary to place a temporary embargo upon the latter named shipments at intervals, by special notice. - American Railway Express Co. -

Barley is available for feed in considerable amounts this year. The restriction on using barley for malting purposes is throwing a lot of barley on the market which could be used for feeding. Any one contemplating buying feeds should investigate the comparative cost and feeding value of the feeds available.

This Might Have Happened. "Fire last Saturday night destroyed the building occupied as an office by (Blank) County Farm Bureau. Building and contents were a total loss before the fire was brought under control. Besides, losing their furniture and equipment, all of the membership pledge cards of the Farm Bureau were destroyed. These pledges represented nearly $7,000. About $200. in currency and checks received for membership fees were also lost." - A word to the Wise. -

Several of the Advisers make it a point to take one or more of the members of their Executive Committee or Farm Bureau with them when attending meetings outside the County. In several instances, this has resulted in much benefit to the Farm Bureau thru the members getting a larger view as to the work that the various Farm Bureaus of the State are doing.

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The surest way to win a man's heart is to ask his advice. Whether he is a failure or successful you can learn a whole lot. It is your duty to know why certain men are not successful and to so shape your campaigns that they will do the things which you and your Executive Committee decide are the things to be done.

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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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I November 13, 1918 No. 36

Farm Account Books. "The 1919 Farm Account Book is now off the press. The price of the book in quantity to the Farm Adviser for early delivery will be 9½¢ each, regardless of number, plus: $1.00 for the special cover imprint. For instance, if you wished 100 books with the cover used by the College of Agriculture, the cost would be $9.50. If you wished to have the name of your County Farm Bureau imprinted on the cover, the cost would be $1.00 extra for the order, or $10.50 for 100 books. Single copies mailed to purchasers will cost 15¢ each. A sample copy will be mailed to the Farm Advisers at once. Orders should be sent as soon as possible, as printers' prices are subject to change after December 1st, on account of unstable conditions." H.C.M. Case.

Farm Management Concentrates. A new feature in the 1919 Farm Account Book consists of two pages of so called "Farm Management Concentrates". The following are excerpts -

"Pioneering farming was a job, not a business. Modern farming is a business with large investments on which fair profits must be made if the business is to be satisfactory."

""A good sire is half the herd, a bad one more than half.' Try to be content with half."

"A good rotation of crops is necessary to economically maintain soil fertility. It is no less necessary to insure the most economical use of man and horse labor and to provide the best feed for live stock."

Red Ripper Cowpeas. "One of our bottom farmers sowed some Red Ripper cowpeas in corn 12 to 14 years ago. This land has been in wheat and corn continuously and the cowpeas have maintained themselves without reseeding. I visited this farm recently and saw a very fair stand of these cowpeas in corn that was planted after the wheat had been harvested. It seems to me that the stand was especially significant, in view of the very dry winter. The seed is small and red in color. The farmer told me that when plowing or cultivating, one can very often see the bright red seeds, in fact, he dug into the soil with his hands and found an apparently good seed, which undoubtedly must have remained in the ground since last year." C. E. Durst.

The first year's work of the United States Food Administration cost the government less than two cents for every person in the United States. It may be safely said that it saved dollars instead of cents in the cost of living for everybody.

Feeding Barley to Hogs. The following is a recommendation from the "Successful Hog Feeder" in Will County: "In starting hogs on barley take away all other grains and feed the barley alone until the hogs have become accustomed to it. The barley should be soaked for twelve hours or for a longer time for the first few feeds. Do not feed more than a small feed to start with, about half what the hogs might eat. The amount may be increased each day until they are on full feed. One should be careful to always use fresh water in soaking barley and not to soak more of this feed at one time than needed for a single feed. This precaution is necessary because of the liability of the development of posion where fresh water is not used each time."

Feeding Barley Dry. Satisfactory results are being obtained on the farm of one Iroquois County member by feeding whole barley with tankage in a self feeder to pigs. The idea sounds quite feasible. Adviser Wise has a large number of his farmers hogging down dcorn in which were planted soy beans. This is a saving of both labor and purchase feeds,

Preparing Hogs for Slaughter. The U. S. Dept. of Agriculture says: "In preparing hogs to be slaughtered a fast of 24 to 36 hours, plenty of water, careful handling, and rest before slaughtering are all important in securing meat in the best condition for use, either fresh or for curing purposes. Food in the stomach decomposes very rapidly after slaughter, and where the dressing is slow the gases generated often affect the flavor of the meat. Water should be given freely up to the time of slaughter, as it keeps the temperature normal. It is highly important that the animal be not excited in any way sufficiently to raise the temperature of the body. If the animal becomes heated it is better to allow it to rest over night before killing than to risk spoiling the meat. It is also essential that the hog be carefully handled so as not to bruise the body".

Care For Farm Machinery. In the rush of harvesting, the matter of properly storing and caring for farm implements is often neglected. They are left in the fields, or if placed under a shed the protection is seldom adequate. The cost of machinery and implements is constantly increasing. Prepare now to protect implements and machinery from exposure during the coming winter. As far as possible, all implements should be placed under a dry shed. Woodwork should be painted and all exposed iron and steel parts should be either painted or covered with grease or oil to prevent rusting.

In one of the Farm Bureau offices the stenographer is a Notary Public. This is a convenience to farmers which is very much appreciated.

A loose leaf book for keeping minutes of Executive Committee meetings is desirable in that the leaves may be removed and notes written on typewriter.

Cattle Lice. "There are three species of cattle lice that attack dairy cows; two of these suck the blood from the cattle and the third feeds on the dry skin and hair. Those that suck the blood do by far the greatest amount of damage, cause considerable irritation and reduce the milk supply. Control measures on young stock are very essential because infested calves do not increase in weight as they should.

Cattle lice infest the animals particularly along the shoulders and upper portion of the neck where the blood supply is greatest. The lice multiply very rapidly as cold weather approaches and are usually most abundant on the animals during January, February and March.

Treatment should not be delayed until large numbers of lice appear for this makes control measures more difficult. Cattle should be treated very soon after they are brot in from the pasture for the winter. Treatment should be repeated twelve or thirteen days after the first application, then once each month thereafter. The use of linseed oil is recommended, owing to the fact that this can be applied with a brush at the time when one is cleaning or grooming the animal. About a half pint of raw linseed oil is necessary for each animal, and the cost is about five cents for one application. The oil kills the adult insects, but it does not prevent the eggs from hatching; hence, treatment must be repeated soon after these eggs hatch.

The cow's skin is very susceptible to injury; for this reason an insecticide that is not a skin irritant should be used. It should not be rubbed in too vigorously. The animals should not be covered after an application of linseed oil; they should not be allowed to stand in the sun, nor exercised freely until twenty-four hours after the application. These measures tend to prevent scurfing and burning of the skin, not only with linseed oil, but all other control measures applied to the cow's skin."

Democrat Corn Good Chinch Bug Resister. "More evidence is coming in of the fact that Democrat Corn is making good in many instances this season in spite of heat, draught and chinch bugs." Doerschuk, Randolph Co.

Seed Corn. "Henry County can furnish several thousand bushels of seed corn of early maturing strain of Reed's Plowman and N. W. Dent, from seed bred in Henry County for several years by farmers that put up their own good seed in the fall of 1917." Montgomery.

"New Alfalfa Seeding is 1000 acres strong in Madison County this fall. In no instance was alfalfa sown without applying two tons or more of limestone to the acre and inoculating the seed." J. B. Haberkorn. -

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"The War is over, so they say,
Most welcome news, 'tis true,
But let us not lay down our oars,
There still is work to do."

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. 1. November 20, 1918. No. 37.

Food for Thought. The following figures on the production of the staple food grains should put at rest the apprehension of the people who fear that the accumulated grain in Australia, Argentina and other countries will glut the market.

Where the World's Cereal Crops are Grown

Country	Population	Wheat	Corn	Oats
United States	5%	18.5%	71%	26%
Russia	8	19.1	2	24
India	18	9.7	-	-
France	2	8.5	-	7
Austria-Hungary	3	6.5	5	6
Canada	-	6	-	9
Argentina	-	4.1	6	2
Germany	4	4.2	-	14
Australia	-	2.3	-	-
United Kingdom	3	1.6	-	4

Note- Blanks (-) indicate less than 1%.

These percentages show that the United States is annually producing a total of more than one-third of the world's production of the above crops. This added to the fact that the grain reserve of all North America, Europe and Russia was practically exhausted before the present crop, shows that a bumper crop is needed for one or two years at least to create a national reserve, even though the surplus in some countries at present may (?) meet the crying need for food in many countries this present winter. Another fact is that the present surpluses of food are located a long ways from where food is vitally needed. The distance to the United States is less than half the distance to the countries having appreciable supplies. In spite of the big ship building program the pre-war tonnage will not be reached for some months.

Survey Record Cards. A sample survey record card is enclosed with this issue of the Messenger to all Farm Advisers. It is felt that a record of this character may be of considerable value in counties where the work is being started. We are indebted to a number of the older advisers in the state for valuable suggestions in making out this card. A small supply of these cards will be furnished to any of the counties that desire them.

"Too strong solution of formaldehyde may damage vitality of wheat seed", says Adviser Oathout, in commenting on Adviser W. E. Watkins' item in issue No. 35. of the Messenger. Mr. Oathout says "One of our members treated seed in such a way that there could be no doubt as to the cause of the poor stand. He sowed a few rounds with untreated seed, while most of the field was sowed with treated seed. It was all exactly the same seed sowed in the same way. However, his mistake was in using a quart of formaldehyde when he should have used a pint. It seems to me that it is even possible that Mr. Watkins' man did use too strong a solution and so weakened the vitality of the seed that it could not send the plants up from such a depth."

Oats may be fed profitably to hogs:

WHEN valued at onehalf as much (or less) per bushel as corn.

BY replacing wheat middlings as the additional feed to corn and tankage.

BY making up part of the grain ration for growing pigs and brood sows.

The above conclusions were derived from an experiment conducted by the University of Illinois Swine Division.

"A Successful Pig Club Sale was held in Dixon, Illinois on November 9th. Pigs purchased last spring by the Boys' and Girls' Club members of Lee County were brought back to be sold in a club sale. A total of 34 pigs competed for prizes preceeding the sale. These pigs were then sold to the highest bidders, and the breeders and farmers seemed to appreciate that these animals were first class, both as to breeding and quality, and they bid quite freely. The 34 head of pigs averaged $115.00 each, which, of course, was a neat income for the boys and girls who were members of the Pig Club." - Griffith, Lee County.

"A record sale of one litter was held recently by a member of the Peoria County Farm Bureau. Seven pigs of a single litter farrowed last spring were sold for a total of $5,950.00 - a record sale for a Poland China litter. The top price paid was $1500.00 for a boar pig. With the exception of one gilt, the litter stayed within a radius of 30 miles of the member's farm." - Hedgcock, Peoria County.

"All indications at the present time point to the beginning of a new period in the sheep industry of the United States. For the first time in our history we are attempting to give attention to the whole problem of mutton and wool production. We are awakening as never before to the fact that successful flock husbandry is based upon a careful consideration and attention to breeding, feeding, sheperding and marketing. As a result, farm flocks are emerging from the depraved stage of scavengers, and bands of sheep on western ranges no longer have 'to take pot luck' on the natural feed of the range." So reads the first paragraph of the preface of Professor W. C. Coffey's new book entitled "Productive Sheep Husbandry", published by the J. B. Lippincott Company of Philadelphia.

Galesburg District Conference. The Farm Advisers from twelve western Illinois counties and twenty members of their executive committees met with representatives of the Extension Service of the University of Illinois at Galesburg on November 14th. The object of this conference was to select and determine how to handle the important agricultural problems affecting this districtfor the coming year. Prof. Handschin gave a general discussion on the basis for determining and selecting these problems. Those present suggested the important problems for their district, which were placed on a blackboard and their relative timeliness and importance considered.

Because of the difficulty of reaching all the men individually, Mr. Case took this opportunity to present the new farm account book. This was done by having those present work out and analyze a complete farm record, and determine the taxable income.

The consensus of opinion of those present was that the holding of such a conference is very desirable. A rather informal organization looking towards the getting together of those interested in the agricultural development of this section was effected.

Similar conferences are planned for other districts throughout the State. The one in Centralia will be held on November 25th, immediately following the Chinch Bug Conference. One is arranged for Urbana, November 27th and another for Springfield November 29th. A conference will also be held in Chicago, the date to be decided later.

Seed Corn Should Be Dry Before Cold Weather. "The next six weeks is a critical period in the life of seed corn. Corn selected from the crib on the first of last January germinated 66%, while corn of the same variety selected from the wagon, as it was being elevated into the crib tested 91%, and corn that was selected from the field before the regular time of husking showed a germination test of 99%. This difference was due entirely to time of selection and conditions of storage. The corn selected from the crib had a poor chance to dry out and when the freeze came in December, it was badly injured. According to my experience it pays to get seed corn well dried out before cold weather." Harvey Sconce. Sidell, Ill.

"The Round Barn", University of Illinois Circular, No. 230, is off the press. With the building restrictions practically removed the round barn will again come in for its share of consideration. This circular is a revision of Bulletin No. 143. The new publication includes diagrams and discussions of the new 70 ft. round barn built at the Univeristy in 1912. The circularincludes a large number of excellent photographs. A copy is being sent to each of the advisers.

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"To say little and perform much, is the characteristic of great minds."

The Extension Messenger

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UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. November 27, 1918. No.38

Soil Survey in Illinois. The past summer has witnessed a completion of the soil survey in Lee, Macoupin and Richland counties. The work has also been started in Stephenson, Morgan and Effingham Counties. Due to the taking of a number of the soil survey men in the Selective Draft, the work has gone much slower during the past season than it normally does. There are still thirty-five counties in the State which have not been surveyed, although some work has been done in Fulton, Ford, Logan, in addition to that in Stephenson, Morgan and Richland. It is planned to proceed with the work as rapidly as possible. It is probable that the normal number of parties will be at work again next year.

A list of available soil reports are as follows: The counties of Clay, Moultrie, Hardin, Sangamon, LaSalle, Knox, McDonough, Bond, Lake, McClean, Pike, Winnebago, Kankakee, Tazewell, Edgar, DuPage and Kane. Soil Report No. 18 of Champaign County is being published and will be out in about two months. The report for Bureau County is nearly ready for the press, and that of Peoria County is next in line.

Limestone Freight Rates. We are in receipt of a letter from Mr. Hale Holden, Regional Director, U. S. Railroad Administration, in regard to the proper freight rates on limestone. Mr. Holden says: "The rates in effect prior to the general advance effective June 26th this year as quoted by the Chicago, Rock Island & Pacific Railroad, Buffalo, Iowa, to Rock Island, Illinois, was 30¢ per net ton and that of the Chicago, Burlington & Quincy, Rock Island, Illinois, to Prophetstown, Illinois, was 26¢ per net ton, making a through rate of 56¢. The general increase raised the rates 1¢ a hundred or 20¢ a ton and in disposition of fractions of rates on a per ton basis where amounts of 5¢ or greater, but less than 10¢, to be increased to 10¢, therefore, the present rate is 80¢ per net ton.", This would not include, as we understand it, the 3% war tax. G. N. Coffey.

Proper Selection of Breeding Stock. Considerable interest has been shown by farmers and breeders in the swine demonstrations that have recently been held in several of the counties by the Departmental Adviser in Animal Husbandry. The principles of selection of breeding stock, as well as feeding and management of pure bred and market herds, were discussed. Such demonstrations promise to become more popular as breeders come to lay more emphasis on a closer selection of their breeding stock.

Live Stock Shipping Associations. There are now five live stock shipping associations doing business in LaSalle County. Adviser Brooks reports the splendid success of these associations. One Association has been doing business since the first of last December and in less than eleven months shipped seventy-five car loads of stock. The manager receives, marks and loads the stock for market. Each man's stock stands its proportionate share of the expense of shipping, so that the balance or net value is received by the owner. At the Chicago yards each man's consignment is weighed and sold separately. This system seems to be filling one of the demands for a more economical system of marketing, and is a popular branch of Farm Bureau work in LaSalle County. Mr. Brooks says:- "Organized another shipping association this week. The recent range of prices have forced the local buyers to take such margins that more than usual attention is directed toward these associations."

Second Call for Cow Testers. Eleven men who took the short course for advanced registry and cow testing association supervisers, which closed on November 2nd, at the University of Illinois, are now on the road, either with cow testing associations or in advanced registry work. The Dairy Department is still short of men and proposes to give another similar course in the near future.

This is not the time to quit dairying. France has killed half her cows for food. The same is true of other countries. Many men in the dairy sections are quitting the dairy business. This should not be the case. Now is the time to weed out poor cows and raise or buy good dairy heifer calves. Milk and butter prices are increasing and the demand for dairy products will materially increase with released tonnage for shipment abroad.

Sheep Project in Rock Island County. Adviser Edgerton reports the distribution of one thousand head of breeding ewes in the county. "These ewes were distributed on 66 different farms and should be quite a nucleus for the formation of a growing sheep business in the County. Pure bred Shropshire Bucks were placed with practically all the new flocks," says Mr. Edgerton.

A scarifying machine was recently installed on a farm in Mason County. Adviser Baldwin has assisted in the installation of the machine and also in scarifying fifty bushels of sweet clover seed.

Care of Farm Machinery. At this time when farm implement manufacturers are having such a struggle with prevalent conditions, it seems more important than ever that farmers should use proper care in housing their farm machinery. It is all too common an occurrence to see all kinds of farm machinery standing in the fence corner or in the shade of the old apple tree, where the metal rusts out and the wood decays, until in a very few years, the otherwise thrifty farmer finds it necessary to replace the implement with a new one. Very little effort is required to place implements under shelter, especially during the long period when they are not in use. Let us continue to drive this lesson home.

Chinch Bug Conference. Some 50 farmers from 15 or 18 counties, representatives of the State Farmers' Institute, W. P. Flint, Chief Field Entomologist, 20 farm advisers and representatives from the University of Illinois Extension Service met at Centralia on Monday, November 25th to develop plans for the destruction of the chinch bugs prevalent in southwestern Illinois. This conference was called because of the seriousness of the impending situation. The discussion included methods of control, best means of publicity and the most effective organization for combatting these insect pests.

Under the direction of Mr. W. P. Flint, a number of men have been investigating and mapping the infested area which covers the greater part of 25 counties. On the basis of experiments carried on elsewhere in burning over infested areas it is believed that by thorough organization and as complete burning over of infested areas as possible, the damage done to crops next year can be very materially reduced.

Following this conference, the advisers of southern Illinois, together with representatives of the Extension Service of the University of Illinois, discussed the making of plans for next year and the most important problems that should be taken up by the Farm Advisers. The session was concluded with a discussion of the farm account book by Mr. Case.

Limestone and Phosphate are now being shipped into some of the counties more promptly than during the past few months. The great demand for agricultural limestone in southern Illinois particularly has brought about much interest in two projects, namely, the building of limestone sheds and the installing of local crushers. Adviser Miller of Macoupin County reports having visited a quarry in Eldred, Illinois, which has not been in operation for the last two years. Mr. Miller says this stone tests very high, and plans are being made to have the quarry in operation again by next spring. In other counties many smaller local deposits of limestone are being considered as probable sources of supply where farmers are a considerable distance from the railroads.

Poultry Culling Results. Baumeister of Stephenson County writes as follows: "Flock No.1- Culled Hens have not laid an egg since separated Oct. 29th. Flock No.2- 100 cull White Leghorns have not laid an egg since Oct. 30th. 200 remaining keep up production. Flock No. 3- 2 eggs laid by cull flock - culprit discovered and put with other bunch."

School of Aeronautics Discontinued. The United States School of Military Aeronautics located at the University of Illinois closed on November 23rd. The cadets in this school were given their choice of being mustered out of service or going to Austin, Texas, to complete their ground school work. This is one of three such schools which are being discontinued.

A man's opinion of a landslide depends whether he is on top or under it.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. December 4th, 1918. No. 39

General Pershing's Greeting to the American Farmer. This message of appreciation from General Pershingto American farmers was received by Carl Vrooman, Assistant Secretary of Agriculture:

"American Expeditionary Forces,
Office of Commander-in-Chief, France, **
Dear Mr. Vrooman:-

Will you please convey to farmers in America our profound appreciation of their patriotic service to the country and to the allied armies in the field. They have furnished their full quota of fighting men; they have bought largely of Liberty bonds, and they have increased their production of food crops, both last year and this by over 1000 million bushels above normal production. Food is of vital military necessity for us and for our allies, and from the day of our entering into the war America's armies of food producers have rendered invaluable service to the allied powers by supporting the soldiers at the front thru their devoted and splendidly successful work in the fields and furrows at home.

Very sincerely,

John J. Pershing."

Springfield Farm Adviser Conference. Farm Advisers from ten counties and twenty-five members of their Executive Committees met with representatives of the Extension Service on November 29th in Springfield. The meeting was given to a discussion of the value of a program of work, the basis for selecting the important problems for both immediate and future work, the working out of an outline of problems common to central Illinois, and, finally, the method of developing and working out of definite projects. Time was also given to the discussion of farm account books, the working out of a farm record and its analysis and the discussion of the accounts necessary to intelligently study the farm business.

Nitrate of Soda Supply. Large stocks of nitrate of soda reserved by the United States Government for war purposes will be released in the near future to meet agricultural demands. Nitrate of Soda is a valuable and important fertilizer for apple trees. Apple growers expecting to use nitrate of soda next spring should order early. Information concerning where and how to secure this material and as to the probable price per ton may be had by writing to A. J. Sunderson, Department of Horticulture, University of Illinois.

Hand vs Self-Fed Fall Pigs. The results from last winter's work shown below are representative of a number of tests at the Illinois Station in comparing hand and self-feeding methods. About the same results are obtained when corn and tankage are used, but the gains are more rapid when middlings are added to the ration for the reason that the daily food consumption is greater. The self-feeder is increasing in popularity for the following reasons:

1. Saving of labor in feeding.
2. More rapid gains caused by greater daily food consumption.
3. Economy of gains about the same as in hand feeding.

		Hand-fed	Self-Fed
12 pigs per lot		Corn 14 parts Tankage 1 " Middlings 2 "	Corn 9 part Tankage 1 " Middlings 1.5"
Days required 73 to 225 lbs.		127	110
Daily gain per pig (lbs.)		1.20	1.38
Feed eaten per 100 lbs. gain	Separate:	C. 394 T. 29 M. 58	C. 367 T. 42 M. 62
	Total:	481	471
Cost of Feed per 100 lbs. gain		$11.83	$12.04

Prices used: Corn, $1.25 per bushel; tankage, $110. per ton; and middlings, $50. per ton.

J. B. Rice.

Membership Campaign. Several counties are planning membership campaigns during the coming winter. It is suggested that all new members be taken for a three year period, instead of terminating all memberships at the same time.

Community Centers. Definite boundaries for communities are desirable, especially when it is desired to secure survey information. The school district is an established unit in every county. Each community center may include several school districts.

Local Limestone Crushers. A very complete discussion of the cost of grinding limestone by local crushers was given by Dr. Hopkins in the Orange Judd Farmer under date of June 1st, 1918. Dr. Hopkins estimates that the cost will range from $1.90 to $2.40 per ton.

"A New Cooperative Shipping Association has been organized in Rock Island County", Adviser Edgerton reports. "Nine directors were appointed and also managers at the different shipping points. Shipping will likely be done from five different towns. One car load has already gone out."

Cooperative Purchase of Dairy Cows. Adviser Snyder reports as follows: "Montgomery County Farmers purchased 40 registered Holstein Heifer calves and 70 high grade Holstein cows soon to be fresh, in Sheboygan County, Wisconsin. The shipment filled five cars.

Ear Corn in Carload Lots. "A number of corn buyers from adjoining counties and neighboring states were in Morgan County this week," Adviser Kendall reports. "They wanted to buy ear corn in carload lots and a number of carloads were bought at $1.30 per bushel f. o. b. the nearest station."

Persons in touch with world food conditions say there is no reason why prices of farm products in the United States should decline greatly within the next two years. The burden upon America of filling the world's market basket has not decreased in the least by the signing of the Armistice.

Feed Corn at Home. Adviser Phillips reports that there is a strong demand for corn on the part of those who are feeding cattle and hogs in Green County. He says: "It looks as if we could use all the corn that was raised in the County for our own stock and perhaps it will be necessary to import a number of car loads from the outside. We are also attempting to buy several car loads of barley to supplement our feed supply."

The special need for walnut stumpage ended with the signing of the Armistice and the War Department has discontinued its campaign to urge owners of black walnut trees to sell them to the Government. In the same way it will not be necessary to continue the saving of fruit pits and nut shells or the collection of nuts.

The Short Term Tractor Course given at the University will be resumed December 9th after being interrupted by the "flu" and the government orders to train enlisted men in tractor operation. The plan is to accept registrants in these courses to the maximum number of 25 each Monday from December 9 to March 17. There are no restrictions on admission except that the students must have reached the age of 16. Twenty-two lectures and about the same number of laboratory periods will comprise the course. The term fee is $4.00 payable in advance. Special living accomodations will be made upon request. Applications for registration should be made to J. C. Thorpe, College of Agriculture, University of Illinois.

S. A. T. C. at University Discontinued. Members of the Students' Army Training Corps at the University of Illinois will be demobilized during the period between December 1st and December 21st. The men will be discharged by companies.

Farmers' Bulletin 1000. "Crops Systems for Arkansas" is off the press. While this bulletin itself will have a rather limited circulation it is significant as being the thousandth bulletin issued by the U. S. Department of Agriculture.

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The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol I. December 11th, 1918. No. 40

Spreading Straw on Wheat. Several advisers have asked for the Illinois practice of strawing wheat. In response to our request, Dr. Burlison has made the following statement: "I may say that it has been our practice at the University for the last two years to spread straw on our winter wheat as soon as practicable after the ground freezes up in the fall. As a general rule the ground is frozen so that it will carry a wagon after the 15th of December and sometimes earlier than this. We have not as far as I know put on more than two tons of straw per acre. I believe that this would be considered a good average amount.

In our grain system of farming we put back on the wheat, the oats straw that usually comes from rotation. On all our small plots we put this on by hand but the straw-spreaders are doing satisfactory work. It has been suggested that it would be better to spread the straw as soon as the wheat is seeded. In one case we put a very light coating of clover straw back on the wheat as soon as the grain was seeded and as far as I know no bad results were obtained. There are two reasons why we do not practice spreading straw as soon as the wheat is seeded. The first, is that it seems impracticable or well nigh impossible because of the rush of other work. Our second reason is that we wish the wheat to make as much growth as possible in the fall before cold weather. It is assumed that a coating of straw might retard the growth of wheat and also cause the root system of the wheat plant to develop nearer the surface of the soil than would be the case if the straw were left off until growth ceases in the fall.

Colony Houses for Hogs. Nearly every farmer producing swine can profitably use one or more movable hog houses. On many farms, especially where the winters are mild, movable hog houses will meet all the needs of the swine for shelter both from the hot sun of summer and the dampness and storm of winter.

The movable or colony hog houses are especially suited to the needs of the farmer just starting in the hog business, and also for pig-club members. These houses can be moved from field to field as the pigs are changed from one grazing crop to another. Their use makes it easier to keep the hogs healthy, as the house may be moved as soon as one place becomes unsanitary or unclean. The movable houses can be built much more cheaply than the larger ones; they can be increased in number as the herd gets larger; and if the farmer is a renter they can be taken with him if he should move.

Shepherd's Don'ts.

1. Don't keep sheep on wet land.
2. Don't feed moldy or spoiled hay, roots, silage or grain.
3. Don't forget to keep salt and fresh water before the sheep.
4. Don't neglect the sheep in winter. Keep them in good condition.
5. Don't forget to tag the ewes before breeding and lambing times.
6. Don't forget exercising the bred ewe.
7. Don't let the lamb go too long without sucking.
8. Don't neglect to feed the lamb grain as soon as it starts eating.
9. Don't let parasites kill your lamb for lack of some fresh green pasture.
10. Don't shear your ewes until warm weather comes.
11. Don't tie your fleeces with anything but wool or paper twine.
12. Don't hesitate to ask any questions of the county agent, or write to the College of Agriculture, University of Illinois, or the Department of Agriculture, at Washington, D. C.

Poultry Diseases and Treatment. All diseased birds should be isolated.

Colds and roup. Disinfect the drinking water as follows: To each gallon of water add the quantity of potassium permanganate that will remain on the surface of a dime.

Canker. Sprinkle a little flowers of sulphur in the mouth and throat of the bird and put some chlorate of potash in the water. Also carefully remove the exudate with the aid of warm water and paint with iodine or apply a good disinfectant to the diseased tissue.

Chicken Pox. Apply a touch of iodine to each sore and then cover with carbolated vaseline. If the diseased parts are kept well covered with the vaseline it will usually effect a cure.

Gapes. New ground and vigorous cultivation will often remedy this trouble. A liberal sprinkling of lime around the coops and runs is quite often an effective remedy. 1 teaspoonful powdered asafetida added to 1 quart of dry mash fed to affected birds is one of the most effective remedies.

Scaly Legs. Apply vaseline containing a disinfectant to the affected parts, and after 24 hours soak in warm soapy water. Repeat treatment until cured.

Diarrhea in hens. Low-grade wheat flour or middlings are good for this trouble. Also give each fowl a teaspoonful of castor oil containing five drops of oil of turpentine, or allow birds to have access to sour milk, removing water. This is good for chicks as well as hens.

Cement Tile for Land Drainage. "Cement Tile is as good as clay tile if well made. Good tile give a clear, metallic ring when lightly tapped with a hammer. They should be dense, hard and non-porous. Clay tile should be of uniform texture and hard burned. Cement tile should be made of clean, sharp material, well graduated and well mixed. They should be cured slowly and thoroughly. Cement tile made poorly, or from poor material, tends to disintegrate in acid and strong alkali soils. Both clay and cement tile, if poor, fail under heavy pressure, or under frost action. Buy your tile of a reliable firm and discard any poor specimens. When a tile in a string becomes broken it may become clogged and so destroy the value of the entire line of tile."

War on the Chinch Bug. The campaign is on. In the twenty-five counties which are now dangerously infested a vigorous campaign is being waged to destroy these bugs. Newspapers, bankers, business men and in fact, every one is cooperating with the farmers in a plan to burn the chinch bugs and so save the threatened loss of crops.

Thrips. Adviser Thomas reports that "thrips" are damaging timothy in Jackson County and asks if any other Advisers are meeting with the same experience. The thrip is one of the biting insects and can be controlled by contact sprays. However, this is not practical on a large scale. The best method of prevention in field crops is increased fertility of the soil and better culture. The latter prevents the wintering of the insect on grass and trash. Thrips are worse in hot, dry weather and may be largely destroyed by heavy rains after a hot spell. They ordinarily damage various kinds of grasses and sometimes oats in some parts of Michigan and the Saskatchewan region but are seldom found in Illinois.

Soy Beans. As yet the soy bean is troubled by few serious enemies. In general, it may be said that no insect or fungus disease has assumed any great economical importance in connection with the culture of this crop. The soy bean is being satisfactorily grown in combination with other farm crops to give a balanced ration for hogging down or feeding in the field or in filling the silo. When planted along as a forage crop it yields a large amount of good hay. Although the soy bean will succeed on nearly all types of soil, the best results have been obtained on mellow, fertile, sandy or clay loams. Ordinarily, the requirements of soy beans are about the same as those of corn, except that the seed needs to be inoculated in many cases if soy beans have not been grown on the land before. Farmers should purchase their soy bean seed now and they might well read U. of I. Bul. 198 - "Cowpeas and Soybeans".

Winter Meetings. The season for winter meetings is at hand. These meetings should offer an opportunity for the Adviser to become more intimately acquainted with his members, particularly in counties where the work has recently been started. Such meetings also offer an opportunity to interest local community chairmen in taking an active part in farm bureau work by placing the responsibility for holding meetings primarily upon them whenever possible. Finally, these meetings offer an excellent opportunity for putting on an educational campaign concerning projects the Farm Bureau intends to work on during the coming year. Full use should be made of local demonstration material now in the County. A set of lantern slides or charts is especially valuable. In many cases the socail features of such meetings should not be overlooked. It helps to create good will and develop prospective members.

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Don't let yesterday's blunders or failures darken today's sunlit opportunities. Start your life anew with the starting of every hour.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. December 18, 1918. No. 41

The Two Weeks Short Course, officially called "The Corn Growers' and Stockmen's Convention" will be held at the University of Illinois, January 20 to 31, 1919. An especially strong program is being arranged and all those who attend will carry away enough of learning, enthusiasm and determination, to greatly repay them for the effort. No examinations or fees will be required for this convention. The only necessary expenses will be railroad fare and cost of living. Good restaurants and cafeterias are near the institution and a list of rooming places will be available at the University Y.M.C.A.

Some of the best authorities from over the State, as well as from the University, will speak. Lectures will be given along the line of the most important agricultural interests of the day. The subjects range from "The Germination of Corn", "Livestock on the Farm", "Standardization of Farm Machinery", etc. to "U.S. Government Plans for Agricultural Reconstruction Work", "Highway Improvement for Illinois" and "The Boy in the Game". A detailed program of the course and speakers may be obtained by addressing the "College of Agriculture, Urbana, Illinois". County Advisers are asked to give announcement of this short course the widest possible circulation.

U. of I. Winnings at the International. The Animal Husbandry exhibit of beef, cattle, sheep and hogs at the International Live Stock Show won a total of 59 prizes, consisting of 1 grand champion, 2 champions, 11 firsts, 12 seconds, 14 thirds, 8 fourths, 5 fifths, 1 sixth, 4 sevenths and 1 eighth. The grand champion was won by a Chester White junior yearling barrow in a close contest with the senior yearling Duroc Jersey champion barrow shown by the Pennsylvania State College and the Poland China champion shown by Iowa State College, Ames, Iowa. Champion ram was won on a yearling Rambouillet. The close competitor for this honor was the first prize aged ram shown by King Brothers, Laramie, Wyoming. It was conceded that the International Show in most classes was never stronger than this year. Inasmuch, as all the animals exhibited by the University were bred and developed by the University, the Department of Animal Husbandry is well pleased with the winnings.

Quails Destroy Chinch Bugs. The quail is one of the best factors aiding in the destruction of insects and obnoxious weed seeds. As high as 400 chinch bugs have been found in a quail's crop. These birds are especially active in picking out the bugs from hedge rows, bunches of grass and other covers which are difficult to reach by burning. This makes a strong plea for protecting these insect destroying birds. Adviser Rehling says - "The Agricultural Council of the Clinton County Farm Bureau unanimously adopted a resolution to secure legislation for the permanent protection of Quail and Prairie Chicken. The Agricultural Council took this action chiefly because of the value of Quail and Prairie Chicken in destroying chinch bugs and other insect pests."

"Mating up the Farm Flock of Poultry" for best results in constructive breeding, bids fair to become a popular service of the Poultry Extension Department. In a number of Counties, these mating demonstrations have already been held and judging from the interest shown, this service will become as popular as was that of "Culling out the non-laying Hen". As a result of this work, more attention is being given to the individual in the flock, than to the flock as a whole. Improvement in breeding is based on the selection of the individual.

Six strong, vigorous males in a farm flock of 100 hens that are on the range are sufficient. They will give higher fertility than ten males where six are strong and four are weak. The weak birds are a nuisance for the stronger birds spend part of their energy chasing the weaker ones. Emphasis should be laid on the selection of the stock males. Good constitutional vigor should be a prerequisite. Too many immature cockerels are allowed to reproduce themselves. The masculinity of the male can be determined by

1. Good size and substance. This eliminates narrow bodied, long legged birds.
2. Strong head and large face. Too many males are effiminate in head features.
3. Wealth and burnish of feather. Wealth or development of feather is most typical of the mature, virile male. It gives him masculinity and markably distinguishes him from the female. Scantily feathered birds are usually weak or immature.

In selecting hens give the preference to those that lay early. The farmer who sells his early sitters is selling his best hens. Only the stronger, more active and thrifty hens seek to reproduce themselves early in the season.

This service in "Mating Up of the Farm Flock" is available to the Farm Advisers for an approximate period of two months hence.

"The insect reported as Thrips by Mr. Thomas of Jackson Co. proved to be a common species of "spring-tail". This is not injurious to growing crops, because it feeds entirely on decaying vegetable matter. This is a very common insect at this time of year, and should cause no concern." W. P. Flint, Chief Field Entomologist.

Red Clover Seed. We are in receipt of a communication from the Montgomery County Farm Bureau, Red Oak, Iowa, which says - "Will you kindly inform your County Agricultural Agents that we are in need of a large amount of red clover seed. We will appreciate receiving prices and samples from your agents who have this seed for sale." Frank F. Barker, County Agent.

More Concentrates. "Live-stock production helps to provide profitable employment for unproductive time.

"Animals will save the labor of harvesting crops and when properly managed will pay for the chance."

"Man and horse labor make up from sixty to eighty per cent of the total operating cost in corn belt farming. They must be used economically, if costs are to be kept down." U. of I. Farm Account Book.

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"The world does not dictate what you should do, but it does demand that you do something, and that you shall be king in your line."

Saving Hogs Sick with Pneumonia. - Adviser Hedgcock contributes the following:- "Sometime ago, I reported that Dr. Deuell and myself made a visit on a member's farm where 126 hogs were sick with pneumonia, out of a herd of 138, which this farmer was feeding for market. At that time recommendations were made that he remove all chances for draft, clean out the dusty bedding and that he employ a competent veterinarian to administer one half pint of oil to each individual hog and give them the bacteria for mixed infection. He was also instructed to place Glauber's salts in their drinking water.

Finally, we saw that the farmer felt as though the hogs were so sick that there was little chance of their recovery. Furthermore, he did not have much faith in treating, so I told him I considered it a good business proposition for him to do everything he could to save them - that if he saved half a dozen hogs by treating them it would more than make up his doctor bill. Upon his consenting to treat the hogs, he got his car and we went to the nearest village with him, where he could get the Blauber's salts and we made arrangements by phone to have a competent veterinarian come out and treat the hogs.

Last week this farmer reported that out of 126 sick hogs he lost only 5. I considered that if he didn't lose over 25 he would be doing exceptionally well. All but three of the hogs are back on full feed and are doing well. These three are not making gains very fast. I consid er that this is a good illustration of the results which can be obtained when a man obtains the services of a good veterinarian and follows directions faithfully." - Peoria County

Some New Record Dairy Cows at Illinois. - "A state record for all breeds for both milk and butter fat for the age was just finished by Illini Homestead Johanna, #283015. As a senior 2 yr. old, this heifer just completed a 365 day record with 18,360.2# milk and 579.37# butter-fat to her credit.

An Ayrshire mature cow, Bluebell of the Plains, #25,666 just completed the highest Ayrshire State butter fat record with 15,120.4# milk and 724.47# butter fat for the year. This is also the fourth highest butter-fat record for any breed, any age in the State." - W. W. Yapp.

Selling Wool to Government - Just received a telegram regarding government purchasesof wool, as follows - "W. F. Handschin, Champaign, Ill.- Am Advised that Government will not purchase any wool shorn during year 1918 unless it has been loaded on cars and billed through to an approved dealer in an approved distributing center on or prior to December Thirty one nineteen eighteen and then only in case such approved dealer filed a statement and a copy of the invoice thereof within five days after receipt of invoice. Suggest you inform countyagents concerned to urge all wool growers who have not already delivered their wool to the Government to do so. - C. B. Smith."

J. E. Readhimer, who has been County Adviser in Kane County, Illinois, since June 1, 1913, resigned his position there to take up the duties of Departmental Adviser in Soils at the University of Illinois. He began his new duties on Dec. first.

Calf Club Sale. - $306.00 was the average sale price of the calves in the Bank Calf Club sale held in Fulton Co. last week. The club was considered a decided success in every way. The fact that over half the calves returned to the farms proves that our farmers are interested in better live stock." - Miner, Fulton Co.

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If you are an anvil be patient; if you are a hammer, strike hard."

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I. December 25, 1918. No. 42

The Season's Greetings

Used to think that Christmas was nothin' but a day,
To get a lot o' presents, an' to give a lot away,
Shouted "Merry Christmas" an' helped to trim the tree-
Just a day o' Christmas, was all that I could see.
Since, I found that Christmas is more than a day,
Christmas came to our house an' never went away.

Struck me of a sudden that friendliness an' cheer
Was meant to be on duty more than once a year.
If we're happy Christmas, why not the day before,
An' the day that follows, an' so on, evermore?
Got to think' of it -- an' that is why I say
Christmas came to our house an' never went away.

Lots of us go ploddin' along the road of life
An' think one day o' gladness will make up for all the strife,
But the Christmas spirit can show you how you need
To make each day a Christmas in thought an' word an' deed--
Used to pack the kindness in camphor balls next day
Till Christmas came to our house an' never went away.

We just keep on givin' to strangers an' to kin
An' find that what is goin' out is always comin' in;
Makes the sunshine brighter where we got to live,
To learn that givin's keepin' -- what you keep you give.
Holly in December, an' violets in May--
An Christmas came to our house an' never went away.

Used to think that Christmas was nothin' but a date
Till I learned that truly you would never have to wait
But that it's the spirit that never stays apart,
If you let it find you, an' keep it in your heart.
Since I found that Christmas is more than just a day--
Christmas came to our house -- an' never went away.

Nesbit.

Feed and Care of Pregnant Ewes. "During the period of pregnancy, breeding ewes should be fed so that they will be in rather high condition at lambing time. In getting them in such condition one should endeavor to use the cheapest feeds possible and in the early part of the pregnant period is an ideal time to utilize cheap roughages such as corn stalks, old pastures, and stubble fields. It is possible to run ewes in the corn stalks up until six weeks before lambing, but toward the close of the period, if they are in the stalk fields, other feeds should be given. One of the best sheepmen in the State of Illinois takes feed racks out to some high point in the stalk field and places clover hay and silage in them. By doing this he is sure that the ewes have plenty of good wholesome feed. He gets the manure distributed where it ought to be and he avoids evils which are likely to arise if the ewes were forced to subsist upon the stalks alone. Almost every spring we hear of breeding ewes dying after lying around for a week or two off feed. In most cases the trouble arises from the fact that the ewes were not fed properly and digestive disorders develop. If the ewes are handled in some such manner as outlined above and in addition are given plenty of salt, and plenty of water in liquid form, (not snow or ice) most of the ewes will come thru the lambing period in splendid condition.

As a rule, it is well during the last few weeks before lambing to bring the ewes to the dry lot and feed them liberally on hay of good quality. In addition, they should have 1/2 to 3/4 pound of grain per head daily. This grain can be oats, or corn and oats equal parts by weight, in case good legume hay is fed. This is a good time to start the feeding of silage but I think it inadvisable to feed pregnant ewes more than two pounds per head daily. Some dry roughage should always be used in connection with silage. If legume hay is not available, a roughage such as corn stover, oat straw, or wheat straw must be used, then it would be well to make 20 to 25% of the grain ration linseed or cottonseed oake.

Pregnant ewes should always be given a chance to exercise. During the last week or two before lambing, however, many ewes become so heavy that exercise is taken with difficulty and when this is the case it should not be forced upon them. The best type of exercise is that which is taken at the ewe's own inclination. One good way to induce it is to scatter corn stover along the ground at a distance of 100 yards or more and allow the ewes to walk along the strung-out stover while feeding upon it. During the whole period of pregnancy, ewes should be placed in shelter during the worst storm periods. Some sheepmen succeed without resorting to shelter during this period, but in most cases they are so situated that there are natural protections to storm such as hillsides, woods, etc. Always avoid violent exercise, crowding thru narrow doors, and chasing by dogs. These unusual experiences nearly always bring on abortion." W. C. Coffey, Professor Sheep Husbandry, U. of I.

Two Ears of Corn.

"I'm an ear, full of life and vim,
Picked from the field by Farmer Jim,
Stored in a rack both warm and dry
I'll make a bumper crop by and by."

The other ear spake not at all,
For it wasn't selected in the fall.
In husk it hung thru frost and freeze
That's why 'twas silent- it died by degrees. (G.A.A.)

Which Ear is Yours?

Pruning the Home Orchard. "Now is the time to prune the home apple orchard. If apple trees are worth planting, they certainly are worth caring for. If apple trees remain neglected they are ground wasters and spread insects and disease. All farmers should be interested in pruning their apple trees. The Farm Adviser can assist them in obtaining good pruning saws and shears. He can also direct them so that the pruning is properly done and thus pave the way for spraying the trees next spring and summer.

The following points should be observed in pruning apple trees:

1. Cut out all dead wood and water sprouts.
2. Thin out cross-branches.
3. Make all cuts smooth and close to a branch or trunk. Do not leave stubs.
4. Prune moderately, especially if no pruning was done before.
5. Avoid breaking the fruit spurs because it is on these that the apples are produced.
6. Paint all wounds larger than one and one-half inches in diameter with a mixture of white lead and boiled linseed oil next spring after healing starts.

Pruning apple trees is important for the following reasons:

1. Facilitates spraying.
2. Permits better coloring of the fruit.
3. Stimulates fruitfulness.
4. Improves the general appearance of the orchard and the farm.

Do your part toward making the farm orchard a source of income and a credit to Illinois farms. " - A. J. Gunderson, Associate in Pomology, U. of I.

Success in Burning Chinch Bugs. "A demonstration meeting on chinch bugs was held during the week and a good sized patch of bunch grass was burned off with apparently very good results. Estimates were made of the number of chinch bugs in each bunch before burning and it was agreed that the number ran from fifty to two hundred. After a good burning over, eight or ten bunches of grass were examined being cut off below the ground with the following results: one showed six live bugs; two or three other ones, two apiece; while in several others not a live bug could be found. Mr. Chandler and myself estimated the number of bugs destroyed to be at least 90% in this case." - Doerschuk -Randolph Co.

Branch Offices have been held by a number of the Advisers during the winter. This service is especially valuable in large counties, or in counties where facilities for reaching the Adviser are not the best. A regular office day, once or twice a month, in outlying parts of the county enables many members to see the Adviser for consultation who could not otherwise avail themselves of this type of service.

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Season's Greetings we send you
Season's pleasures attend you
'Tis time of the year
To wish you good cheer,
May Dame Fortune ever befriend you.
Ext. Messenger.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. I January 1st, 1919. No. 43

"Ring out, O Bells, ring silver-sweet o'er hill and moor and fell;
In mellow echoes, let your chimes their hopeful story tell.
Ring out, ring out, all-jubilant, this joyous glad refrain;
A bright new year, a glad new year, hath come to us again."

One-Day Farm Management Schools are Popular. "The one-day school of instruction in the keeping of farm accounts which was held in Adams County on December 14th by Mr. Rauchenstein was a decided success. For the past three years we have been trying to stimulate an interest in the keeping of farm records and have adopted various means of explaining the system to the farmers; but I am satisfied that this plan of conducting a school of instruction is the best yet. There were 30 farmers in the class and one-half day was given to the study of farm accounts. A full day given over to the school would be still better as this would allow time to start the farmers' individual accounts and would allow for more discussion regarding Farm Management problems." -E. W. Rusk.

"Intense interest was shown at the farm management school held in Macon County and a large number of intelligent questions were asked. The school was held on three successive days, about 30 farmers being enrolled each day. The work was ably conducted by Messrs. Case and Rauchenstein. I consider this work has been highly successful and that it has been one of the best things done by the Farm Bureau for those members who attended." Sidney B. Smith. -

Income Tax Law. "The latest income tax information is that the 1918 taxes will be determined by a new law. Each House in Congress has drafted and passed a new bill regarding income taxes. It is now necessary for the Committees from the two Houses to get together andagree upon the differences between the two bills. Congress is expected to reach an agreement upon the new law soon after convening January 3rd. We shall try to forward the final decision as soon as it is available. It is not thought that rates of depreciation, items of expense allowed or items to be reported as income will vary from last year." H.C.M. Case.

Kane County Secures New Adviser. W. B. Richards, formerly County Agent in Cass County, North Dakota, has been selected as successor to J. E. Readhimer of Kane County. Mr. Richards is a graduate of the University of Wisconsin and was for several years head of the Animal Husbandry Department of the North Dakota Agricultural College. Kane County is fortunate in securing a man so well qualified by training and experience as Mr. Richards to continue the work so well started by Mr. Readhimer.

Short Course Called Off. "The Corn Growers' and Stockmen's Convention, scheduled at Urbana for Jan. 20 to 31, 1919, has been cancelled owing to the widespread prevalence of the influenza and pneumonia, the authorities in charge and the officers of the organization have decided it to be the duty of the University of Illinois to sacrifice the benefits and helpful uplift of this meeting in order to safeguard public health. In taking this action to call off the convention it is in line with what is being done elsewhere, as Indiana, Minnesota, Nebraska and West Virginia, have cancelled their winter meetings, and the State Livestock Breeders' Meeting and the State Teachers' Meeting at Springfield have been called off on recommendation of the Director of Public Health." - W. H. Rankin.

Curing Pork on the Farm. W. J. Carmichael, Extension Animal Husbandman, U.S. D. A., recommends that we publish the following reliable methods of curing pork on the farm -

"Brine Cure for Hams, Shoulders and Bacon. - For a very good brine cure take for each one hundred pounds of meat five gallons boiled water, ten pounds of salt, two ounces of saltpeter, three pounds of sugar. Slowly dissolve all ingredients in warm water and allow to cool. Sprinkle a little salt over the bottom of the container, then place the meat in it very snugly, cover with board or earthern cover, weighting it with something that will not rust,(use stones, don't use iron) then pour in the brine. Leave the meat in the brine four days to each pound, that is, forty days for a ten pound ham. Every week take all the meat out of the barrel, then remove the brine. Place the meat back with that which was on the top on the bottom, then put the brine back. When the meat has been long enough in the cure take it out of the brine and soak it in water for an hour, then wash it in warm water and hang it in the smoke house over not too hot a fire, 120 degrees, until the required color is obtained; 48 to 60 hours is usually adequate.

Dry Cure for Hams, Shoulders and Bacon. To each one hundred pounds of meat, use eight pounds of salt, three pounds of warm syrup (any good syrup can be used or home-made sugar syrup may be substituted), two ounces of saltpeter, three ounces of black pepper and two ounces of red pepper. Mix all ingredients together. The mixture will first lump up and darken. When the lumps are worked out, the ingredients are ready to rub in the meat and should make a coating over it. The syrup causes it to stick. The meat can be put into a barrel or box or piled on a clean floor or table. Leave the meat six weeks in the cure and the extra heavy pieces a week longer. If you wish to smoke it, take it right out of the pile and hang it in the smoke house, without washing, and smoke it until the required color is obtained. Be careful not to have smoke-house too hot, not over 120 degrees.

Pure Pork Sausage. To each one hundred pounds of meat, (preferably 60 to 65 per cent lean and 35 to 40 per cent fat) ground thru the finest plate, take one and one-half pounds of salt, four ounces of black pepper, two ounces of sage and one ounce of nutmeg, stir altogether and sprinkle over the meat and mix thoroughly. If the sausage is to be kept for several months it should have two pounds of salt instead of one and one-half pounds. It should also be stuffed in casings or packed in jars and covered with lard. For convenience and to insure keeping it can be made into cakes, fried, packed in containers and covered with lard. " W. J. Carmichael.

Do You Keep the Messenger in Your Files? We find that most of the County Advisors honor "The Yellow Sheet" with a final repositary in the reference file.

The Song of the County Agent.

For farmers we labor the whole year thru'
There's nothing that we're not asked to do.
From doctor the soil to doctor the pig,
There's not a job that's considered too big.

From morn till night we're on the go
Tired out perhaps,- we still run on "low"
For where there's a need for advice or aid
We're supposed to go - for that we're paid.

At break of day we hustle around
Crank the Ford - tear over the ground,
At eventide we drive back home
The wife calls out: "Come answer the phone".

When Sunday comes we plan to stay
Home with the family for one whole day,
Play with the kiddies, talk to the wife,
Rest for a while - get a new lease on life.

But like those "plans o' mice and men"
Dreams are shattered - the phone rings again
For "Farmer Bill is all in a worry
And out to his farm he wants you to hurry."

The pigs are sick or they have a cough,
The army worm's eatin' the oats all off,
The clover's dying, or the corn won't sprout,
Or the winter has heaved the alfalfa out.

And when the war was on full blast,
New duties came both thick and fast,
Reports and blanks and questionnaires,
Brought us naught, save more gray hairs.

And so it goes the whole year thru'
Each day brings on more work to do,
But like Pollyanna we're glad 'tis true
We're glad we can leann and live and do.

To be of service is our motto now
We like to be told just when and how
We can help the farmer, the world to feed
To give him assistance in his every need.

E'en though we are busy, we're happy too
No matter the weather we're never blue
We carry a lot of joy and good cheer,
For all the folk for all the year.

C. A. Atwood.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II. January 8th, 1919. No. 2

"Economy in Wintering Idle Farm Horses may easily be overdone. Hundreds of horses in the corn belt are fed and cared for each winter so poorly as to leave them unfit for hard work when spring comes. Three things are necessary: Sufficient exercise, proper shelter and the right amount of well selected feed. Exercise is necessary to good health. Probabl, the best place to provide this is a blue-grass pasture, which has been allowed to grow up somewhat during summer and fall, where not only exercise may be had but considerable good picking as well. Small lots and straw yards, unless used in connection with a larger area are not satisfactory because horses do not move about enough. While stacks, yards and protected wood lots may furnish sufficient shelter, it is usually more satisfactory to get up the horses in the evening and give them some feed and a dry bed in a barn. Give one feed a day of a legume hay such as clover, coarse alfalfa, sweet clover or soy bean or cow pea hay. It is good practice to feed these in the evening, allowing free access to the straw or other roughage during the day. In some years, corn stalk fields furnish a considerable amount of fairly satisfactory feed, but it is a mistake to assume that they will furnish adequate feed and shelter for an idle horse. Ear corn and oats are the standard grains for mature horses, oats being preferable especially for horses being carried largely on the coarse roughage such as oat straw, corn stover or sorghum hay. The feeding of moldy corn should be avoided since horses are especially susceptible to this source of poisoning, even in the stalk field.

If some good legume hay is used, little, if any, grain is needed except in the case of growing animals and breeding stock. The general condition of the horse as to flesh and general thrift must be the best guide to the feeder in selecting the ration. One or two bran mashes a week is good cheap health insurance for the horse. The mash may be made by mixing three to four pounds of dry bran with hot water and allowing it to cool to feeding temperature in a covered pail. Bran mashes help to prevent much sickness and death due to impaction of the digestive organs. A hand full of oil meal a day may take the place of the bran mashes and will help to keep the bowels regulated. These conditioners are much cheaper than the condition powders and medicated stock-foods so often used. Ten to fifteen pounds of good silage fed in connection with legume hay or carbonaceous roughage will usually give fairly satisfactory results. The greatest care must be exercised in feeding silage to horses, however, as any mold either in the silo or in thefeed troughs is almost sure to cause trouble, and frequently death. Good clean drinking water should be supplied. A tank heater is essntial in the winter time to keep the water trough free from ice. Salt should also be provided either thru' free access or regular salting once a week or oftener. It is neither economical or wise to starve or neglect the work horse during the winter time. His ability to labor in the spring and summer depends largely upon his feed and care thru' the winter months." - J. L. Edmonds, Professor of Horse Husbandry, U. of I.

Feeding Hints For the Dairyman. In making up a ration for a dairy herd one should keep in mind: (1) Physical effect of the ration; (2) Bulkiness of the ration; (3) Palatability of the ration; (4) Reasonably good balance in the ration; and (5) Cost of the ration. The basis of economical milk production is a combination of corn silage and a good legume hay. When this combination of roughage is fed then the grain ration may be simple and composed largely of home grown feeds. The common home grown grains that are suitable for dairy cattle are corn, oats and barley. These grains, however, are not rich in protein so it is usually advisable to purchase some high protein feed such as cotten seed meal or oil meal. All grain should be finely ground.

The following method is a practical way of feeding dairy cows: Feed thirty to forty pounds of silage per day, which amounts to a couple of silage forksful twice a day or a bushel basketful twice a day. Then give the cow all the legume hay she will clean up twice a day. This hay may be alfalfa, clover, or cowpea. A grain mixture of about five or six parts home grown grain to one part cotton seed meal or oil meal will give good results. Feed the grain according to milk flow. For Holsteins feed one pound of grain to three and one-half to four and one-half pounds of milk produced per day. This is about two pounds of grain for each gallon of milk produced. For Jerseys and Guernseys feed about one pound of grain to each three or four pounds of milk produced. A convenience way of feeding the grain is to use a long handled quart dipper. Weigh the quantity of feed which this dipper holds, then simply measure the grain to the cows. - E. M. Clark, Department Adviser, Dairy Dept., U. of I.

"Housing of Fowls, should be given special attention during the winter months. The floor space of the average farm poultry house can be increased by building a droppings-board the length of the house, at the rear, about three feet above the floor, and placing the roosts over it. The roosts may be 2 x 2 inch pieces, slightly rounded at the edges, and should be placed on the same level. The inclining or staircase roosts are old-fashioned and where the droppings fall on the floor, the litter is quickly laden with filth. Dirt floors should be discouraged for if the dirt is dry, the air in the house is laden with dust and if the floor is damp it is equally dangerous to be health of the fowls. Where droppings-boards are not used, it is advisable to provide a separate scratching shed, where the grain feed can be fed in straw litter and the hens and pullets induced to take exercise scratching for their feed.

Sunshine and fresh air should be admitted to the poultry house on the south side. Drafts of course, should be cut off. Healthy chickens that are properly exercised do not suffer from the cold if sufficient sunshine and fresh air enter the house. Nature has not given to any animal a better overcoat than she has given to fowls in the form of plumage. Feathers are an effective insulator of body temperature. Fowls can stand cold much better than they can dampness. They throw off considerable moisture in their breath and if the house is tight, this moisture condenses and makes the walls damp. Colds and roup may develop as a result. Fresh, outdoor air is needed to carry off the moisture laden, vitiated indoor air. More sunlight and fresh air in the average farm poultry house will mean a dryer house, more healthy poultry and better results.

If an Adviser should desire help in planning or designing poultry houses in locating building sites or any other assistance along this line, the Extension Poultry Husbandmen will be glad to answer any such requests." F. L. Platt.

Equipment for Slaughtering Hogs. - The following list comprises all the equipment required for slaughtering hogs and some of this, altho highly advantageous, is not absolutely necessary:

Scalding Vat	Meat Saw	Gambrel
Sticking Knife	Meat Cleaver	Bench or Platform
Butcher Knife	Steel	Place to Hang the Carcass
Hog Scraper	Hog Hook	

The most satisfactory scalding vat is the one in which the whole hog can be scalded at once and in which the temperature of the water can be maintained fairly constant. A barrel is most commonly used on the farm but does not have these advantages. A small galvanized stock watering tank makes a more satisfactory scalding vat and may be used without impairing its future use for watering purposes. By placing a fire under the tank, the water can be heated directly and thus be more easily held at the proper scalding temperature. This is a distinct advantage where a fairly large number of hogs are slaughtered on the same day.

When a barrel is used for scalding, it is leaned against the end of the scraping bench at an angle of approximately forty-five degrees with the ground and is well braced to prevent its slipping away from the bench while scalding the hog. When a tank is used, the bench is placed at the side of the tank. For handling the hog in a barrel, the hog hook is the most convenient tool, while in a tank, altho the hook may be used to advantage and should not be dispensed with, a more convenient and easier method may be provided with about fifteen feet of one-half to three-fourth inch rope. Fasten the rope to the scraping bench at two points about two and one-half to three feet apart; grasp the unfastened ends of the rope in the hands and place the hog in the loop of the rope thus provided. Any size hog can then be easily raised and lowered into the tank. The other items of equipment named above are more or less familiar to every one. E. K. Augustus, Associate in Animal Husbandry.

Labor Service Bureau for Farm Managers. - Many of our Agricultural College graduates are returning from the army, prepared to take up a job in the agricultural world with all the pep and determination which has been instilled into them while clad in khaki, and Illinois is desirous to be of the best service to them. Accordingly, Mr. W. H. Young, Farm Help Specialist for Illinois, has made arrangements to give all possible service in this line. This service will be in the nature of a clearing house between the farmer wanting a good farm manager and the competent man wanting a job. Advisers may be able to assist in this service. Address W. H. Young, College of Agriculture, Urbana, Illinois.

New Adviser for Mercer County. Mercer County has employed Herman J. Kuppers, as successor to I. F. Gillmor. Mr. Kuppers is a graduate of Purdue University and was formerly County Agant in Triggs County, Kentucky. Mr. Kuppers has had excellent training and experience along lines of general farming. For the past year he has been in military service and received his honorable discharge with the rank of lieutenant.

Mercer County will offer Mr. Kuppers a large field of service and opportunity to continue the good work started by Adviser Gillmor.

It is now definitely decided that the annual meeting of the Farm Advisers will be held in Urbana, on January 23rd and 24th. Meetings will be held in Mowwor Hall, beginning promptly at 8:30 A. M. on Thursday.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II January 15th, 1919. No. 3.

Successful Saturday Afternoon Meetings. We have the following reply from Adviser D. O. Thompson concerning winter meetings. "In answer toyour request of January 11th relative to the value of Saturday afternoon meetings, will say that I have found during the four winters since I have been in the work in McLean County that the Saturday afternoon meetings of Farm Bureau members is a very effective method of building up an association spirit. People come to Bloomington to trade on Saturday afternoon. Accordingly, this is our best time for a general meeting. We arrange our programs to start at one thirty and continue for an hour and a half. The meetings are of an informal nature. I usually lead in the discussion of some definite subject and talk about three quarters of an hour. The remaining time is given over to informal discussions that bring out the experiences of our members. Without the informal discussion, the meeting is rather ineffective.

So far, this winter, we have discussed the following subjects: "The Hog Business in McLean County"; "Soil Spoiling"; "Dividing the Spoils"; "Soil Building"; and "Power Farming". Power Farming was discussed by Mr. J. C. Thorpe of the Division of Farm Mechanics, University of Illinois. On Jan. 18th, Dr. T. M. Bayler of the U. S. D. A. will speak upon "Hog Cholera and Necrobacillosis", It is hoped that a good strong sheep meeting can be arranged for the 25th of January. On February 1st, Mr. H.C.M. Case will conduct the third day of the farm accounting schools.

Ouraattendance ranges from 50 to 150 people and is usually very representative of the entire county. Every Saturday brings in some new men. On the other hand, some of the members attend every meeting. In addition to the usual reading announcement, we use display advertising space to announce these meetings. We announce them in the Thursday and Friday mornings paper which has a large country circulation going to practically every member of the Association. During the following week complete reports of the subjects discussed are published in this paper. This creates considerable interest in the meeting and the message goes to a great many people besides those who were present at the meeting." D. O. Thompson, McLean County.

Value of a Luncheon in connection with the annual farm bureau meeting has been demonstrated by the success of this plan in Lee and Macon Counties. The day on which Mr. Griffith held his annual meeting was one of inclement weather, yet a luncheon furnished by the Soil Association attracted more than a hundred farmers and their wives and the afternoon meeting was attended by nearly three hundred members. Mr. Smith of Macon County reports that about two hundred farmers lunched together on the date of the annual meeting and considerable interest was manifested in the program of the afternoon at which the following subjects were discussed: "The Farm Bureau as Viewed by the Banker", "The Farm Bureau as Viewed by the Manufacturer", and "Organized Effort". Eats seem to be one of the best drawing cards for farmers' meetings.

Large Shipment of Seed Forwarded to Greece. "A shipment of three tons of white-blossom sweet clover seed has been scarified, inoculated and forwarded by the Agronomy Department to the American Red Cross Commission in Greece. This seed will be used in attempts to improve the soils of Greece and other Balkan States. It will constitute a part of the agricultural work, which the commission is undertaking along with encouragement in the use of limestone under the direction of Professor C. G. Hopkins of this University." - Dr. A. L. Whiting, Soil Biology, University of Illinois.

Keeping the Boys on the Farm. "At the close of a lengthy discussion of what the Saline County Farm Bureau could do the coming year, Clyde Gates, a lad of about eighteen years, asked if he might unload a few thoughts he had on his mind. The request was granted and Mr. Gates gave the viewpoint held by boys of his generation regarding the possibilities of the Farm Bureau. He told why boys become dissatisfied and leave the farm. After graduating from high school, he had decided to study law, but because of the influence of Mr. Price and the Saline County Farm Bureau, he said: "I have changed my plans and will stick to the farm." I am sure Mr. Gate's father did not realize that his Farm Bureau membership fee would bring such good results. We cannot always measure the Farm Bureau in dollars and cents." J. C. Spitler, Asst. Emerg. Leader.

Regular Monthly Meetings. "We have been holding regular monthly meetings in certain communities since June 1918. We have had a meeting each month with two exceptions, when meetings were cancelled on account of the "Flu". During the busy season we met at nine o'clock in the evening, and altho' the men were short of help we had a fair attendance at each meeting. Every one in the community knows that this meeting comes the first Monday in the month, but to refresh their memories we always send a letter to each member telling him about the meeting and urging him to invite one or more of his neighbors who are not members. This often brings in new memberships.

I am always present at these meetings and give a short talk on the agricultural subject and then we have a general round table talk in which everybody is privileged to take part. I might add that it is usually no trouble to get the men to talk. Some of the men have gone together and built a shed for storing raw rock phosphate. They have had seven cars of phosphate shipped in this summer. A large number of cars of limestone have also been sent into this community. I have found that the round table discussions bring out the ideas of the different farms and do a tremendous lot of good in getting others interested in better farming operations. Last month we organized two additional communities where we expect to hold regular monthly meetings. I might say that these communities were organized at the suggestion of some of the members and not on my initiative." Miller, Macoupin Co.

Increasing Barley Production. "A few years ago Mr. Readhimer in Kane County and myself in DuPage County started to boost the growing of barley. A comparison of the census report of 1910 and the actual yields as reported by the threshing committee of the food administration for four counties in northern Illinois may be of interest. I have selected McHenry and Lake counties with which to compare Kane and DuPage counties, because in the two first mentioned counties no campaign was made in this regard. The comparative figures show that the increase for Lake County was about 3½ times; for McHenry county 3 times; while for Kane County, it was a little over 8 times and for DuPage county 17 times. This gives an idea of what can be done toward changing the agriculture of a County thru campaign work on the part of the Adviser." Heaton, DuPage County

Farm Accounting Work in Illinois. "The plan of conducting one-day farm accounting schools is becoming very popular. A large percentage of the Illinois counties now employing advisers are asking for a series of these schools. From 20 to 30 farmers definitely promise to attend a one-day school and some member of the farm management department conducts an instruction period in which a sample farm account is entered in a book and completely summarized by each farmer in attendance. This is followed by a discussion, led by the instructor, of general farm management problems and income tax rulings. Most schools are conducted for either a three, five or six day period. Mr. Case is desirous, when only a three day school is called for, that the Adviser choose either the first or the last three days of the week, in order that assistance can be given to as many counties as possible. Nearly all dates are filled for practically one month ahead. If such a school is planned, it will be necessary to reserve dates in advance; provide a sufficient number of books for each day's school, in addition to those to be used by each farmer in keeping his account; and to get the definite promise of the farmers that they will attend." Atwood.

Income Tax Rulings. "The Income Tax Bill which was introduced last Friday carried six hundred amendments. It will probably be two weeks at least before any definite action is taken. We will forward information to Farm Advisers just as soon as any definite rulings are received." H.C.M.Case.

A leading feature in the program of the Lee County Annual Meeting was that of a series of questions bringing out the experiences of various farmers who have tried out definite agricultural projects toward improving their soils, crops or livestock. A very animated discussion arose on nearly every subject brought up. It seemed that the men attending the meeting were quite reluctant to bring to an end this part of the program.

Sangamon County Executive Committee and Agricultural Council recently passed resolutions favoring the following: "A Pure Seed Law"; "Permanent Protection of Quails"; "Labeling of all Feeds"; "Giving Guaranteed Percentages of Protein, Carbohydrate, Fat and Crude Fibre;" "Reimbursement of Farmers for Slaughter of Tubercular Cattle"; "Supervision of Commission Men Buying and Selling Perishable Farm Products"; "A More Stringent Blue-Sky Law"; "Asking that the State Furnish a Hundred Dollars a month for the County Adviser's Salary".

Straw Spreading Time. "The peculiar winter conditions that have prevailed so far lead me to believe that the best time to spread straw is immediately after the wheat is sown. During the last week a little straw has been put on the wheat but there have been but a very few days so far this winter when the ground did not get muddy before noon. Before the holidays there was no time to spread straw on the frozen ground." Price, Saline County.

Holstein Association. "Last week we organized a pure bred holstein association. Had a large crowd, nearly 100 farmers being present, most of whom joined the association. Madison County is rapidly coming to the front as a dairy county We also reorganized a cow testing association with 26 members. Haberkorn.

The office of the Madison Co. Farm Bureau has recently been moved from Alhambra to Edwardsville, Illinois. Mr. Haberkorn will appreciate your noting his change of address.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II January 22nd, 1919. No. 4

To avoid criticism, say nothing, do nothing, be nothing - Hubbard.

Community Meetings. We have asked Adviser Tate to report on the success of his community meeting. He submits the following:- "At present, we have only ten communities in Monroe County. An Adviser must study his county and carefully analyze conditions. He must determine the projects which should be worked out first, and then develop the plan to be followed. The ultimate object of Farm Advisory work is to improve the agriculture of the County, and in every County the problems may be different.

It seems to me that the one big problem in this county is education. I endeavor to get the men to thinking, and I believe there is no better way to do this than through community meetings. I have found it is almost impossible to get some of the members to attend a big meeting of the county in general. These same members have never asked for any services from the Farm Bureau in the way of farm visits; they never use the telephone; they never write me any letters and they never use the exchange list. What I want to do, is to get these men interested, and I have found that by having a meeting in their own community they will attend and in most cases will express their opinions on problems which concern them in their own community. I find this is a means for me to get better acquainted with some of the more backward members. It is also a means of getting memberships. We have not had a community meeting that has not resulted in several new memberships.

Our president is very much interested in these community meetings. He went with me to one of them last week and made a talk himself. Of course, if the county and the membership were larger, the adviser would find it more difficult to attend all of these meetings. It may be when we get all of our communities organized that I will find it hard to attend all the meetings myself, but if this should happen, I believe the members will get a lot of good by holding the meetings whether or not the adviser is present. So far, I have been highly pleased with the results we have obtained and I do not believe my time could have been spent in any better way." Alfred Tate, Monroe Co.

"At the Annual Meeting of the Montgomery County Farm Bureau, the subject-matter members of the Executive Committee each gave a report of the accomplishments and plans of their branch of the work. These reports were interesting and valuable as well. It seems to us this is a plan well worth commending." Coffey.

A Livestock Sales Pavilion is one of the most recent projects announced by the Edgar County Farm Bureau. Several other counties are considering the erection of sales pavilions in which to conduct the livestock sales held by the various pure-bred organizations in the County.

Chinch Bug Cinches.

"Weather Bureau reports show that the chances are $2\frac{1}{2}$ to 1 that May and June will be dry - and hence good for the chinch bug family." W. P. Flint.

"A two day survey of Effingham County shows the chinch bug everywhere. Found 1,025 bugs on a space 8 inchs square; enough to have descendants which would destroy 1/10 of an acre of corn." Rucker.

"Chinch Bugs are present in dangerous numbers in the southeast part of Shelby County." Belting.

"Several farmers have attempted burning bugs but find with freezing and thawing weather the grass is too damp to burn to the ground. Need dry freezing weather to burn successfully." Wheelock, Jersey County.

"The chinch bug has first place in our program at the present time." Thomas, Jackson Co.

"In our chinch bug trips we found a piece of card-board lying on the ground in the southeast corner of an orchard and under it we found several thousand bugs. There were too many that escaped to make a fair count, but the ground was gray with them. We visited several schools and took the school-children out helping them to find the bugs and telling them how to burn and get rid of them." Blackburn.

"Chinch Bug Burning campaign carried out in 7 communities this week." Hay.

"Farmers seem to be taking good interest in the burning out of the chinch bugs. The organization of the whole county is progressing well. The weather so far has not been fit for burning. Some men have tried it, but have done more harm than good because they have burned off the top cover which would aid them in later burning and have not been able to burn deep enough to kill the bugs." Rehling.

"Barley Supplement for Corn and other feeds is receiving considerable interest from farmers in Greene County. As this grain is not produced in the County many farmers with years of experience do not know what barley looks like so have little knowledge of its feeding qualities. We have shipped in one car of this grain at a cost of little more than One dollar a bushel. Considering the price paid for corn this is a bargain. We are about ready to order a second car." Phillips.

Dairy Project in Mason County. "Two car-loads or more of pure-bred dairy cattle are to be brought into Mason County. In addition to buying a number of pure-bred holstein heifers a local bull association has been formed by the men in Bath Township. These men expect to cooperate with associations that are being formed north and east of Havana." Baldwin.

Crude Oil. "We are hauling crude oil on a truck in barrels 17 miles from a local oil well. It is the cheapest to be had and hog men are pleased with the service." Gernert, Edgar Co.

Sixtieth Farm Adviser in Illinois. R. W. Dickenson, formally Assistant in Soil Physics, U. of I. has been employed as Farm Adviser for Cass County, Illinois. Mr. Dickenson was born and reared on an Illinois farm. He graduated from the College of Agriculture, U. of I. in 1912 and from 1909 to 1912 he assisted in the State Soil Survey. He was assistant in Soil Physics at the University from the time of his graduation until April 1917, when he entered the air service of the U. S. Army. While in the service he did some special work in scientific aerial photography and was commissioned first lieutenant. With his experience in farming, scientific agriculture, soil survey, soil investigations and his army training, Mr. Dickenson possesses the qualifications which have been sought for by the farmers of Cass County. This county has been organized for some time and has been searching for a man to fulfill the requirements as an Adviser. Mr. Dickenson will begin work February 1st, with headquarters at Virginia, Illinois.

Shrinkage in Shipping. It is evident there is much loss in marketing hogs thru excess shrinkage. Recently, a shipper who has been buying and shipping for 25 years stated that he had 900 pounds shrink in the last carload of hogs shipped a distance of less than 150 miles. From the same station, a feeder who ships his own hogs had less than 1½% shrink in marketing over 2000 head. Upon inquiry it was found the old shipper was still over-crowding the car, having loaded 19,000 pounds of hogs in a 36 foot car, while the other man never puts more than 17,500 pounds in a car the same length, and only 19,500 pounds in a 40 foot car. Where hogs are too crowded excessive shrinkage is the result.

The above feeder prepares his hogs for shipment by sorting out the ones that are finished and ready for market. Others that are thin and out of condition are left for further feeding. The hogs are weighed at home and driven a distance of 4 miles to the shipping station. All the extra fat, chuffy and shortlegged individuals and those that lag on the way are hauled in a wagon. In winter he throws three to four hundred pounds of slack together with three to four bushels of shelled corn in each car. In summer no feed is given during shipment. Finally, one glance over the car is always advisable to see that the wheels are in good shape and the bearingsfull of waste in order to prevent hot boxes which sometimes necessitate the cars being set out along the way." W. H. Smith.

A special lecture program has been arranged in connection with the Short Term Courses in Farm Tractors which is now being offered by the Farm Mechanics Division of the College of Agriculture, U. of I. The special lecture program is entirely apart from the regular course of instruction, but is proving very interesting and valuable. Lectures are arranged as follows:-

Jan. 25,1919.	"The Why of the Small Separator". G. B. Gunlogson, J.I.Case Co.
Feb. 4,1919.	"Heat Treatment of Steel." P. J. Myall - Myall-Wallace Co.
Feb. 11,1919.	"Tractor Hitches." C. T. Heylman, Oliver Chilled Plow Works.
Feb. 18,1919.	"The Farm Power Library." I. W. Dickerson, Charles City, Ia.
Mar. 4,1919.	"Tractor Lubrication". Mr. Gilbert, Rock Island Plow Co.
Mar. 11,1919.	"Kerosene Fuel and Carburetion." W. G. Clark,Wilcox-Bennett Co.
Arranged.	"Possibilities and Limitations of Tractors." F.M.White -O.Judd Co.

Lecture will be given at 4 P.M. on days mentioned, in lecture room of Farm Mechanics Bldg. and are open to the public. Lectures have already been delivered on "Why I use a Tractor", "Farm Accounting", and "Belt Power Mechanics". J. C. Thorpe, Director Tractor Short Course, U. of I.

The Average Farm Bureau Membership. for Illinois counties is 390 paid members. It is generally conceded that a farm adviser can not give satisfactory service to more than about 500 members. However, actual results seem to vindicate an average figure of about 400 paid memberships as the best working basis for farm advisory work in a county.

Just a Few Figures.

"Over 2300 of the 2936 counties in the United States have county agricultural agents" says Director True of the States Relations Service. "During last year approximately 500,00 farmers conducted demonstrations of various kinds in cooperation with the County Agent. The acreage in crop demonstrations covered an aggregate of five million acres. The County Agent held 135,000 meetings, attended by 7,000,000 farmers, made 1,200,000 personal visits for farmers, and had 1,250,000 office calls by farmers for advice.

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All doors are open to courtesy.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II January 29th, 1919. No. 5

Have You Ever Been Asked -

"If we plow under a crop of green clover in the spring, will the succeeding crop of corn get nitrogen from it?

"Which is better to plow it under green or dry?

"In what place in the rotation shall we put a legume, if nitrate production is the chief object in view?"

"At what stage shall we plow this under in the spring?"

"Why is there danger in plowing under a crop of green clover very late in the spring and follow immediately with planting of corn?"

To help in answering just such questions, we are fortunate in securing a series of Articles on "Benefits of Green Manure" written by Dr. A. L. Whiting, Associate Chief in Soil Biology, University of Illinois. These articles discuss the important question of nitrate production in the soil - that form available for use of growing crops (except legumes). This material is really advance information of the whole work which is to be published later in a complete experiment station bulletin. Because of the fact that these bulletins are so long in getting off the press, we are endeavoring to get the cream of just this sort of experimental work and give it out to the farm advisers at the earliest available moment.

The first article of this series is concerned with: "Plowing under green sweet clover for corn", and gives the conclusions reached in this regard.. It is coming out now at just the time when Advisers can make the very best use of it. Succeeding articles will discuss: (1)"The plant food effect derived from plowing under red clover." (2) "Rock-phosphate as influencing nitrate production." (3) "Crop rotations as influencing nitrate production", bringing out especially the effects of order and sequence of crops within the rotation. This series of articles will be in the form of a supplement to the regular issues of the Extension Messenger and will follow in succeeding numbers.

Cost of Handling Limestone. Adviser Rucker gives us the following figures as the average cost of handling limestone in Effingham County — "Unloading, 20¢ per ton; weighing 10¢ per load; loss 5¢ per ton; total 30 or 35 cents per ton, depending on amount weighed per load. The excess cost to non-members has been fixed at 25 cents per ton." It seems to us these figures are a good average.

A Round-Up Dinner and Program is announced by Adviser Madden for January 30th. Let us hear the success of this feature, Madden.

Inventory Time. Just as the progressive farmer and other business man takes an inventory of his stock on hand and summarize his year's business, is it not well for the farm bureaus to take stock at the end of the year? Much of the work of the farm bureau is cumulative, and results are often intangible. This, however, does not detract from their value nor lessen the importance of such a summary. Do our farm bureau members as a whole know what progress has been made in the matter of soil improvement? What are the things needed along this line for the coming year? What changes, if any, are taking place in the relative acreage of different crops in our county? How is this effecting the matter of crop rotation? What new varieties are being grown successfully? What progress has been made in the matter of live-stock improvement? Are farmers of the County learning how to avoid, control and combat animal and crop dieseases and pests? Are farmers, as a whole, beginning to appreciate the economic and business side of farming? Are farm accounts being kept largely for the purpose of studying the farm business and to help in analyzing farm problems? Such are a few of the questions that arise in considering the progress of farm bureau work — a guide for a farm bureau inventory.

Who Should Keep the Farm Accounts, the farmer or the farmer's wife? Adviser Blackburn reports "A school in farm accounts was held at Salem on the 20th. It was attended by 35 farmers or their wives. There was a lot of interest taken in the meeting and I feel that the farm accounts will be kept much better than heretofore." We would like to hear more concerning the keeping of these accounts by farmers' wives.

An Advertising Column in the weekly paper is a new idea suggested by Adviser Longmire. He says: "We contracted for space and allow our members free use of this. This scheme seems to get more results than do our circular letters, because it reaches many more people."

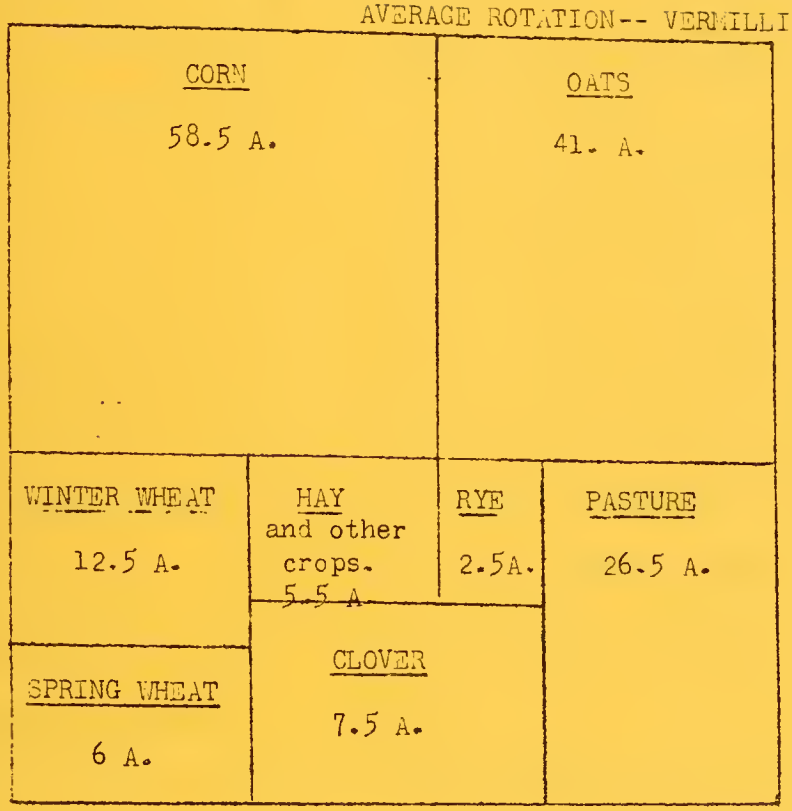
Prospective members are to receive a series of circular letters from the Macon County Farm Bureau. Sidney says: "The first of these letters were sent out January 20th by the Chairman of the Farm Bureau. It is planned to send out these circular letters at intervals and to follow them with a call upon prospective members."

Round-Table Discussion. "At a community meeting at Virden, 65 men were present and we had over an hour of round-table discussion. Even then, the members were loath to leave. This community is very much interested and alive and we are expecting great things from them"-- Miller, Macoupin County. Tell us more in detail regarding the topics under discussion. Perhaps the idea may be contagious.

A Picture Lesson. A good illustration showing how important farm facts can be taught by giving "eye pictures" of the actual materials, was evidenced by Adviser Lumbrick's recent exhibit at the Farmers' Institute in Danville. The exhibit comparing grade and pure bred sows; and that comparing pigs fed corn alone and corn and tankage were very good object lessons. So also, was the exhibit of the mineature farm showing the lack of sufficient acreage of legumes on the average farm. We are reproducing sketches of the farm exhibit on the next page, and by the way, this reproduction is in itself a good suggestion as to how the Farm Adviser can carry a desired idea to his readers more vividly than by means of mere print.

AVERAGE ROTATION-- VERMILLION COUNTY-----

160 Acre Farm



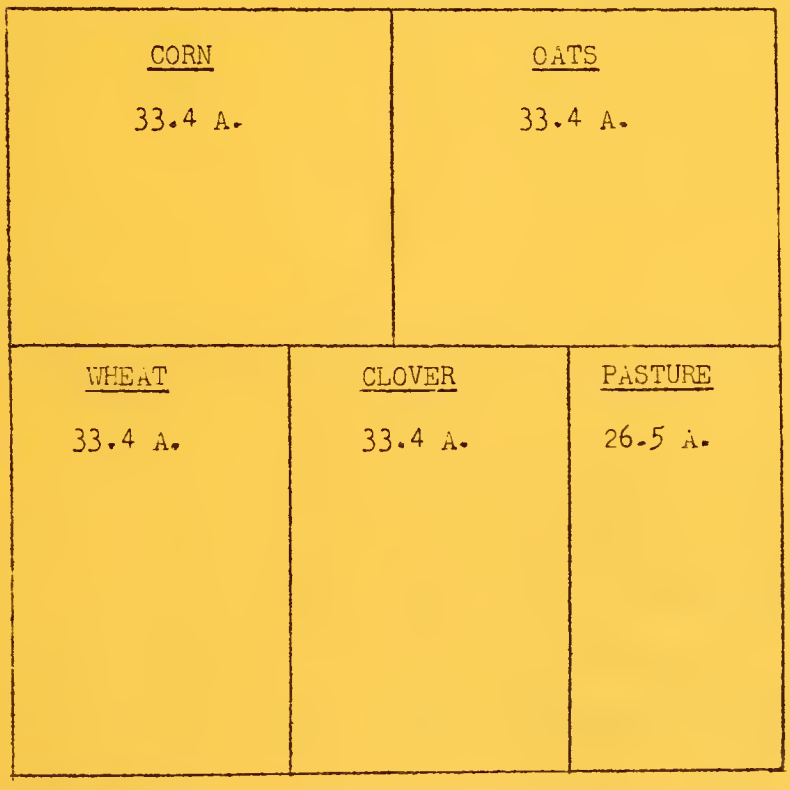
Showing relative acreage in the various crops.

In this system, clover would cover the farm but once in 21 years.

Legume acreage entirely too small to maintain nitrogen balance.

SUGGESTED 4 YEAR ROTATION-----

160 Acre Farm



Showing equal acres in standard crops each year-- (allowing 26.5 A. for permanent pasture).

In this system clover would cover the farm once every 4 years.

Much better nitrogen balance.

PLOWING UNDER GREEN SWEET CLOVER FOR CORN

The practice of using sweet clover as a green manure is rapidly increasing. The question has often arisen, whether the nitrogen contained in the sweet clover plowed under about the first of May will be converted into nitrate in time for the succeeding crop. Information bearing upon the use of green sweet clover for the following crop has been obtained in connection with nitrate studies of field soils conducted by the Agricultural Experiment Station. It is desired to point out before presenting the figures that properly inoculated sweet clover may obtain large amounts of nitrogen from the air, but nitrogen in the form of protein and other compounds that occur in the sweet clover is not available to another crop, until it has been converted into nitrate.

In the course of the studies referred to, sweet clover was seeded in wheat and plowed under the following spring for corn. Stable manure was applied to adjacent plots and both the green sweet clover and the stable manure were plowed under at the same time. Nitrate studies of these plots on which corn was growing were made at the critical period of growth, that is, shortly before, during, and after being laid by.

The table below includes only a part of the typical data obtained in 1918 on the University North Farm. It is not intended to belittle the value of stable manure, but the comparison is indicative of the greater value of green sweet clover for nitrate production. The figures presented show clearly that green sweet clover plowed under in May of 1918 was producing large amounts of nitrate nitrogen for the corn crop that year, and in general was giving about two or

three times as much as ordinary stable manure under similar conditions. At least sixty-three pounds of nitrate nitrogen per acre were obtained directly from the sweet clover on the residue-limestone-phosphate plot by June 17. This would be the equivalent of more than 400 pounds of sodium nitrate, which at the present time is costing between $4.00 and $5.00 per hundred. Analyses of young sweet clover which have been made at this station have shown that it may sometimes contain over 100 pounds of nitrogen per ton. The manure which was compared with the green sweet clover was applied

Table - Showing Nitrate Nitrogen in Soil Growing Corn in 1918,
University North Farm
Pounds per acre (surface soil)

		Date of sampling				
Plot	Treatment	June 10	June 17	June 24	July 2	July 12
302	Res (Sweet Clover)	22.7	52.6	47.8	26.0	40.0
303	Manure	26.6	32.6	38.0	22.2	29.9
304	Res. Lime (Sweet CLover)	62.0	66.3	48.9	16.8	20.7
305	Manure Lime	28.9	33.0	33.0	15.9	15.6
306	Res.Lime Phos (Sweet Clover)	63.6	97.0	61.5	21.4	16.0
307	Manure Lime Phos.	19.0	34.4	33.9	23.0	23.5

during the winter. This undoubtedly accounts for the large differences found. If the manure had been applied at the time that the clover was plowed under, no doubt differences might have been smaller, but the general farm practice is to put the manure on corn land in the winter or early spring. Very noticeable differences in color and height in the growth of corn in favor of the sweet clover plots were rident during most of the season. - A. L. Whiting.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II February 5th, 1919. No. 6

BURN THOSE CHINCH BUGS NOW. Advantage should be taken of every day from now on for burning chinch bugs. Due to the open winter, there is still considerable green vegetation, but much of the cover can be burned at the present time. The weather for the remainder of the winter may be unfavorable for burning. This work must be finished up as rapidly as possible. That means - Do It Now! W. P. Flint.

The Income Tax Bill may become a law about Feb. 10, but it is not expected that the text of the bill will be changed materially. If you do not have a copy of the bill, you probably will be able to secure one promptly by writing to some congressman for a copy of the H.R. 12863 - H. C. M. Case.

Grow Dairy Heifers Well. It becomes obvious as one travels about the state that there is at least one stage in the growth and development of dairy cattle which is too frequently neglected. This might be called the non-productive period of the life of heifers or the time from birth to first freshening.

It is probably true that not more than two out of every three heifers born will develop to the point where they will, under ordinary conditions, be profitable cows. It is, therefore, highly important that the heifers which are kept be developed so that lack of size will not be limiting their capacity.

The following suggestions are intended to be helpful to those who wish to grow out their dairy heifers:

1. See that all heifers grown are of good parentage; that they are from a good sire and from good mothers.
2. Grow heifers well from birth to first freshening, putting particular emphasis on the period from weaning time until first freshening, which is the time at which heifers are most neglected.
3. Do not have heifers freshen too young. From 24 to 30 months is usually the most desirable age for first freshening.
4. See that the heifers are in good physical condition and in reasonably good flesh when they drop their first calves.

It isn't that these things are hard to do, it is that they are overlooked. Let us give our dairy heifers a fair chance.

Conservation of Farm Manure is most essential now. There never has been a time when the making, saving and utilizing of all farm manure was so important. All fertilizing material is high in price and some cannot be had in sufficient quantities at all. The quantity of manure available can be greatly increased and better conserved by keeping live-stock sheds and stables well bedded with straw.

Red Clover as a Green Manure. "Red clover under proper soil conditions makes a satisfactory crop to be plowed under as a green manure. The results of a deatiled study on the University South Farm in 1918 indicate some important facts. Red clover was seeded in wheat and plowed under the next spring for corn. Stable manure on other plots was applied (in January) in proportion to the crops produced on these plots and both it and the red clover were plowed under at the same time. In this case, as with the sweet clover, the green legume crop produced a larger amount of nitrate at an earlier period than the stable manure, however, it has not yet been determined whether the residual effect of the manure would be greater than that of the green manure during the next season.

In most cases, in the nitrate studies, the highest figures were obtained on the residue-limestone-phosphate plots. This serves to indicate the fact that limestone and phosphate are indirectly responsible for a considerable part of the nitrate production. This is brought about by both of these materials making possible a much better growth of the legume.

The relation of the amount of nitrate present to the crop yields, is not yet always direct, owing to other factors besides nitrogen being concerned in the yields. In studying the nitrate needs of crops it has been found that there is a period when large amounts of nitrate are required. In order for the farmers to successfully build up an ample reserve in the soil to tide the crop over this period, it will be necessary to give consideration to the rate of decomposition. The most successful means of obtaining the greatest rate of nitrate production has been found to be directly related to the green crops.

An experiment conducted with green and cured red clover demonstrated the much greater rate of nitrate production from the green than from the cured red clover.

Seed should not be planted immediately after plowing under a green manure crop, as the large ammonia production that occurs, injures the young seedlings. It is best to wait from ten days to two weeks, depending somewhat upon the amount of green material plowed under." - A. L. Whiting.

Every farm should have a business office. It may consist of only a small table or desk and a simple book of accounts, but it will aid materially in keeping the farm business straight and up to date. Strictly speaking, the farmer is one of the busiest of business men and he needs a business office where all records and accounts are kept in a business-like way.

When asked the first thing a farmer must do to increase his crop yields, a farmer in one of our central Illinois counties gave this answer: "He must first tile-drain all of his land". In some sections it is surprising to find the large amount of undrained land, especially when the small areas in the various fields are taken into consideration. These wet areas in cultivated farm lands are usually the most fertile when the surplus moisture is properly controlled. This is true because generally they are the depressions into which more or less of the richest soil from surrounding fields has been washed. Drainage of these unproductive spots increases the profitable area, the acre yield and decreases the time and effort required for farm operations.

-From a Farm Bureau Round Table Discussion.-

Preparing for Lambing Time. "The proper time to begin preparing for lambs is five months or more before they are born. If the ewes are properly cared for during the pregnant period a "whole lot" will be contributed toward a successful lambing period.

One very necessary factor in a successful lambing is proper attitude on the part of the person who is to take care of the ewes and lambs, an attitude which is the product of two motives. One of these motives is the desire to make profit out of the sheep business; the other, is that great big kindly feeling which prompts man to do his very best for helpless, new-born creatures. A Shropshire breeder in this State once said to me, "I turn all of the weak lambs over to my wife; she never loses one. You would think they were her children." Enough said. He explained her success.

What about the profit motive? Whoever takes care of the ewes and lambs must realize that in a sense, lambing time is harvest time. The opportunity for profit is greatly increased if all of the crop is saved. Let anyone who does not fully comprehend this do a little figuring. Contrast the returns from two flocks of 100 ewes each, one flock having 80 lambs, the other 125 lambs. It will be easy to realize a good profit on the 100 having 125 lambs, but very difficult to get satisfactory returns from the 100 having only 80 lambs. While it would seem that this is perfectly obvious, I am sorry to say that many flock owners do not act so. The man who says, "I am going to handle my flock so that I shall be able to save all the lambs born alive", will be the fellow who will make good money.

Besides having the ewes in proper condition, there are other things which go to make up preparedness for lambing, such as quarters, shelter and supplies. Ewes about due to lamb (period of pregnancy approximately 146 days) should be kept away from other classes of live stock, especially hogs. Horses and cattle may injure the ewes and hogs greedily devour young lambs. A hungry old sow may destroy a lamb ten days old.

Comfortable, well-bedded pens should be provided. The wooly coats of new-born lambs are wet and hence are a poor protection against the cold. There should be no holes or cracks for the lambs to creep thru, for when they first get to their feet and begin wobbling about they are very skillful in finding their way thru such openings. Sunshine is so good for little lambs that whenever possible their quarters should be located where the maximum amount of it can be had.

Twelve to sixteen square feet of space should be allotted to each ewe. She and her lambs will need this much, and a number of portable pens 4 ft. x 4 ft. should be in readiness for use. These will more than pay for their cost in handling ewes with twins because it is very necessary to keep the lambs from drifting apart for the first few hours after they are born. These pens are also valuable in handling ewes that are disinclined to own their lambs. Four to six pens will be adequate for a flock of fifty ewes.

A few simple supplies should be on hand when the lambing begins. There are Epsom salts and castor oil to be used as physic, the salts for old sheep and the oil for lambs; a metal syringe provided with a large nozzle and also a small one suitable for giving injections to young lambs; tincture of iodine to be used on swollen udders and on navel cords to prevent "navel ill"; Swan bill nipples for feeding young lambs, and a good disinfectant. These supplies should be laid in ahead of the time that they may be needed because the proper moment to treat a sheep effectively is just as soon as symptoms of abnormal conditions are noticed. - W. C. Coffey.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II February 12th, 1919. No. 7

Farm Cost Accounts Not the Magic Wand. "Farm Cost Accounting has been brought suddenly into the limelight by the war and the resulting price fixing policy. With price fixing by the government - either directly or indirectly - in its purchase of munitions, ships and military supplies; with the price of wheat fixed by Congress and the price of pork practically fixed by governmental agencies, we have come to think almost unconsciously of price fixing as a permanent and normal state of affairs.

In the fixing and stabilizing of prices for farm products as in the fixing of prices for other commodities, the general basis used has been the cost of production plus a certain margin of profit. In working out these adjustments the scarcity of farm-cost figures has been brought suddenly and strikingly to the attention of the farming public. Because of this lack of comprehensive cost data, farmers were at a disadvantage at some points in dealing with governmental agencies in their price fixing work.

These facts have led many of those unfamiliar with cost accounting work to assume that a thoro knowledge as to what it cost the farmer to produce his various crops and animals was all he needed to insure his being paid a price which would net him a fair profit on his products. As a general proposition, nothing could be farther from the truth.

An exact knowledge of what it cost to produce wheat, corn, pork or any other farm commodity can not determine directly what it will sell for, any more than an exact knowledge of how much energy it takes to lift a brick can prevent it from falling to the earth the moment you let go of it.

What then is the value of farm cost accounting data? Very briefly stated it is this: Cost accounts enable the farmer to judge more intelligently as to whether his various crop and animal enterprises are being carried on at a profit or loss. What is fully as important, it helps him to determine whether he is producing the various crop and animals as cheaply as are the most efficient farmers working under approximately the same conditions. If his profits in producing a given crop or a certain class of animals are not satisfactory, he has three alternatives: he may be able to reduce his costs thru improving his methods of production; he may be able to influence selling and distribution and in this way secure a somewhat higher price for his product; if he fails in these two he has no choice, other than to discontinue this particular crop or animal enterprise, or to continue its production without profit.

At first thought, products without profit for any considerable number of farmers may seem impossible, but this is just what is constantly being done by a considerable proportion of farmers as well as every other large group of producers. It must be so. Prices are fixed not on the basis of the producers who have the highest costs, but rather on the basis of those whose costs are average or below. Those who can produce at the lowest cost make the largest profits, those whose costs are highest must accept less profit or be driven out of the business whether they are engaged in farming, manufacturing, or

merchandising. It is important to keep in mind that price fixing is not a normal activity of modern industrial society, nor is cost accounting the magic wand which shall insure every farmer a profit on his product. Cost figures merely represent another important class of knowledge which will help the more efficient producers to so organize their business as to insure the greatest profits. From this standpoint they offer much, and because of this, cost finding activities shall be greatly extended at the earliest possible date." W. F. Handschin.

How About that Seed Corn? Are you sure yours will all grow? This has been a good seed year, we admit, but you cannot afford to plant your corn without a pretty thorough ear test of your seed. Don't take our word alone. Read what Billy Riegel and Harvey Sconce say about it:

"In reply to your letter of Jan. 30 we have been storing our seed corn in a furnace heated basement. Last year we had some stored also in the barn. The basement corn tested 90% and that in the barn 18%. Both were selected under similar conditions. Two years ago a composite sample showed about 60% germination. This was stored where it drew dampness. By the ear test we are able to get plenty of good seed corn for our crop. Ear testing will probably not be absolutely necessary this year but we shall test ours because we don't plant everything that germinates, but select the ears that germinate strongest-e.g. if we take six kernels from an ear and it has five strong and one weak sprout, we discard it and choose only the ear that gives six strong shoots." W. E. Riegel, McHarry Farm, Tolono, Illinois."

"Answering yours of the 30th will give you a little about the germination of our seed corn. The corn selected from the standing stalk before frost, germinated 99.2%. The same corn from the same field selected at husking time, at the elevator germinated 91.4%. The corn from the bcrib of the same corn after the zero weather of early December germinated 64.0%. The corn from the same crib but selected in February after all of the heavy 23 below zero weather, germinated but 10.0%". - H. J. Sconce, Sidell, Ill.

Great Danger of this Spring's Pig Crop becoming infested if kept in old contaminated lots and shelters. "During the past year a large number of farms throughout the state have become infected with hog cholera, swine plague, hemorrhagic septicemia, necrobacillosis, pneumonia, and other diseases, due to the recent epidemic that has been termed mixed infection among swine.

"To protect the pigs that will be farrowed on these premises this year it will be necessary to observe extraordinary sanitary precautions, for in all diseases the most simple and effective method to adopt is prevention. The germs of disease must be destroyed in order to prevent the ailment. Clean, light, well-ventilated sleeping quarters should be provided.

Frequent and thorough cleaning and disinfection of all pens, troughs, feeding floors, sheds, hog houses and hog lots, rotation of pastures, plowing and cultivation of all hog lots and pastures, liberal use of quick lime on lots that cannot be plowed, are all essential as preventive measures.

Sows and litters should not be allowed to run and feed on ground where diseased animals have been kept, as disease germs are thrown off by the animals through the excretions and lie in the soil, in the litter of stables and upon floors, walls, in crevices, and remain there and maintain their virulency for an indefinite period unless destroyed by thoro disinfection.

Direct rays of the sun are inimical to many forms of bacteria, either destroying them entirely or lessening their virulency.

Compound cresol solution (U.S.P.) is a satisfactory disinfectant for most of the germ diseases and is used in a three per cent solution for disinfecting; that is, one gallon of cresol to 32 gallons of soft water. Other disinfectants may be used and the efficacy of disinfectants largely depends upon the mode of application. Efforts aiming at prevention of disease on contaminated premises must be thorough in order to be effective." Dr. James McDonald, Bureau of Animal Industry, Local Office, 404 Spring Street, Springfield, Illinois.

Wool Situation for 1919. "Counting the raw wool owned by the Government when the armistice was signed and conservatively estimating the 1919 clip, it seems that there will be 700,000,000 pounds of wool at the disposal of our manufacturers for this coming year. Our annual consumption of wool in normal peace times is between 500,000,000 and 600,000,000 pounds. Therefore, we have enough wool in the country for early future needs.

The Government has already marketed some of its wools thru auction sales in Boston. In buying, the manufacturers have been bearish and the Government has refused to sell any more of its wool below the British Issue price for similar wools. (To both the grower and the manufacturer Great Britain fixed the price on its home and its colonial wools from Australia and New Zealand for the period of the war and one year after. The price to the manufacturer is what is known as the British Issue price).

Between July 1 and November 1, 1919, our Government has also decided not to sell any of its remaining store of wool that would compete with America grown wool. It is thought that these two decisions will aid materially in stabilizing prices for the 1919 clip, but prices will likely be lower than they were last season, for the British Issue price is considerably lower than was our own issue price under the price fixing regulations of last year. For our best Illinois wools within the grades given below, it seems now that the prices in Boston should be about as follows:

Grade	Shrinkage	Value per Scoured Lb. Boston	Value per Grease Lb. Boston	Value per Grease Lb. at Farm
Fine Delaine	65-66	1.51	.525-.53	.45-.48
Fine Clothing	64	1.43	.515	.44-.47
1/2 Blood Staple	58	1.45	.61	.53-.56
1/2 " " Clothing	60	1.30	.52	.44-.47
3/8 " " Staple	49	1.19	.605	.53-.56
3/8 " " Clothing	49	1.12	.57	.49-.52
1/4 " " Staple	45	1.01	.555	.48-.51
1/4 " " Clothing	46	.94	.5075	.43-.46
1/4 Low	44	.86	.48	.40-.43
Common and Braid	44	.74	.414	.32-.35

The values forecasted for the wools at the farm are arrived at by deducting 5 to 8 cents per pound from the Boston Grease price. This deduction is intended to cover all dealer's commission, freight, insurance, and storage." W. C. Coffey.

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Watch for our next issue! "FARM ROTATIONS". Nuf Sed.

INFLUENCE OF ROCK PHOSPHATE ON NITRATE PRODUCTION. "In an earlier article it was stated that rock phosphate was indirectly responsible for a considerable increase in nitrate production. One benefit from the rock phosphate is brought about by its causing an increased growth of the legume crops. It is believed to have a direct influence due to the fact that the base, calcium, is available for nitrite production from raw rock phosphate, and at the same time, the phosphorous is made soluble.

In the studies conducted on the University South Farm in 1918, a large amount of data was obtained, which bears on the value of rock phosphate in increasing the amount of nitrates present for corn and soybeans. The table below shows the increased nitrate production where rock phosphate was applied.

Influence of Rock Phosphate on Nitrate Production

Nitrate Nitrogen Pounds per acre

Crop	Rotation	Increase over check plots up to June 24 on phosphorus plots
Soybeans	N. W.	18.1
Soybeans	S. W.	19.0
Corn	N. W.	23.4
Corn	S. W.	45.4
Corn	S. W.	12.1

It has been pointed out in these articles that organic matter is the source of nitrogen out of which nitrates are made, while limestone and rock phosphate furnish the necessary base, calcium, for the process. Each of these materials exert a beneficial influence where they are needed and all three together produce the best crop yield and the highest nitrate.

In conclusion it may be said that nitrogen is the most expensive and at the same time, the most difficult plant food element to control. It requires first, that the soil must be wisely farmed to have the nitrogen in available form at the proper time for the succeeding crop and second, that it must be protected to prevent large losses from leaching in fall and spring. Maintaining a large working reserve of nitrogen in the form of active organic matter either by application of stable manure or green manures, will approach the first object and tend to solve the nitrogen problem. The second is concerned with keeping a crop on the soil as much as possible and especially with returning to the soil, crop residues, such as straw, stalks, etc. Green manures are as big a factor in the solution of the nitrogen problem and sweet clover particularly, is considered one of the best crops for this purpose." A. L. Whiting.

The Extension Messenger

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UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

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C R O P R O T A T I O N N U M B E R

The "Why" of the Farm Rotation. The Farm Rotation has been recommended perennially in and out of season. It has been the chorus to the song of the Agronomist, the Animal Husbandman, the Dairyman, and the Specialist in Farm Management. To consider the various aspects of the problem, representatives of these different departments in the college were recently called in conference with a view to formulating a plan whereby we might study this and other interrelated problems in a unified way rather than from the standpoint of a number of separate and disconnected interests.

The Messenger has attempted in this issue to answer very briefly, the question: "Why the Farm Rotation" from the standpoint of the most fundamental factors involved in the problem: i.e. (1) Soil Factors; (2) Insect Control; (3) (3) Distribution of Labor; and (4) Maximum Profit Combinations. In dealing with so complex a problem in so brief a space, we cannot hope to do more than "touch the high spots". If we can contribute something toward a better appreciation of the relationship of the rotation problem to the whole farm economy we shall feel amply repaid.

We hope to print in later issues items dealing more specifically with the rotation problems from the standpoint of special interest, such as live stock, dairying, and horticulture. Some order for a three page sheet you say? Shakepeare says: "Brevity is the soul of wit". Handschin says: "Be humorous". Ye Editor.

SOIL FACTORS.

Effect of Rotation on the Plant Food Content of the Soil. "The primary reason for rotating crops is to increase production. In many instances it would be more desirable to grow a single crop continuously but experience has taught that this cannot be done profitably. The mere alternation of two grain crops will produce better results than if either should be grown continuously. This is demonstrated very clearly by the results from the Morrow Plots on the University Farm. These results extend over a period of 30 years and are extremely suggestive. The yield from Plot 3 which has grown corn continuously averages only 34.0 bushels per acre. The yield of corn on Plot 4 which has grown corn and oats in alternate years is 40.9 bushels per acre. Of course, only half as many corn crops have been produced on Plot 4 as on Plot 3, but by taking the years when corn was on both plots we have a direct comparison of 33.6 bushels and 41.0 bushels respectively.

By introducing a third crop (a legume, clover) we have still larger yields. On Plot 5 the average yield of corn for 30 years is 52.1 bushels. If we take the years when corn grew on all three plots we have a direct comparison of 28.8 bushels, 36.9 bushels, and 47.2 bushels respectively.

While crop rotation is primarily for the purpose of increasing crop yields, it does so because of the effect it has upon the soil. This effect should be two-fold, chemical and physical. Chemically speaking, crop rotation should add plant food to the soil, and no rotation should be considered that does not do so. As legumes are the only crops that can in any wise add plant food to the soil, no rotation should be considered that does not contain at least one legume among the crops grown.

Legumes vary greatly in their ability to add plant food (nitrogen) to the soil. The clovers, including alfalfa and sweet clover, are perhaps superior to any others for this purpose, especially under Illinois conditions. The amount of nitrogen which a legume may add to the soil will depend upon how long it is permitted to occupy the land during the rotation, upon the amount of growth made, upon the disposition made of the crop, and upon the condition of the soil itself. All of these factors should be considered in planning the rotation." J. E. Readhimer.

Effect of Rotation on the Physical Condition of the Soil. "The physical condition or tilth of the soil depends upon the physical composition, tillage, content and kind of organic matter, and the soluble compounds in the soil. Good tilth is indicated by mellowness and granular or crumb structure. In sand soils, change in physical condition are largely dependent upon changes in the amount and kind or organic matter, while in soils containing much of the finer constituents, as silt and clay, in which granulation is important since it affects moisture movement - capillarity, evaporation, percolation - temperature, aeration, and the working qualities of the soil, many soluble compounds as well as the amount and kind of organic matter have an important modifying effect.

The form of organic matter that is most valuable in producing good tilth is that such as legumes, which decomposes most readily and contains large amounts of mineral elements such as potassium, calcium, and magnesium, which go to form soluble compounds in the soil. The total effect of the organic matter is to unite the individual soil particles into granules.

The proper rotation with its legume crops brings about the best conditions for physical improvement. The residues, straw, and corn stalks and farm manures furnish slowly decomposing material, while the legumes, the clovers particularly, provide the quick-acting material that brings about rapid granulation. Continuous growing of cereals produces poor tilth, as is well shown on the Morrow plots at the University that have grown corn, or corn and oats, continuously for thirty-seven years. The plot with the rotation of corn, oats, and clover is in fairly good tilth, even tho all of the crops have been removed. By using the residues not need for feed, and the manure, an excellent condition of tilth may be maintained." - J. G. Mosier.

INSECT CONTROL

Crop Rotation as a Means of Controlling Insect Damage. "Crop rotation is one of the best means of controlling many of the most serious insect pests which attack our field crops.

Some of these insects, e. g. the northern corn root worm, feed only on one crop. Severe damage by this insect nearly always results from growing corn on the same field continuously for a number of years. Where corn is alternated with any other crop the damage from this source is entirely eliminated.

A number of our most destructive grain insects feed only on crops belonging to one botanical family. Damage by them may be avoided by including in the rotation crops of different families. We have all seen numerous cases of injury

to corn planted on sod. Both corn and sod are grass crops. Non-grass crops would generally not be injured. In 1912 and again in 1915 hundreds of acres of corn were destroyed by the white grub in the northern counties in Illinois, where corn followed sod, or small grain. No injury occurred where corn followed clover.

It is possible to avoid serious injury during the years when certain insects are abundant by rotating with the crops on which that insect will not feed. In this way crop losses are not only prevented, but insects are reduced in number.

Insects that can be largely controlled by proper rotations include such widely destructive ones as the white grubs, corn root-aphis, bill-bugs, northern corn root worm and the hessian-fly." W. P. Flint.

DISTRIBUTION OF LABOR

Distribution of Man and Horse Labor. "A good rotation of crops and the raising or feeding of some live stock is essential to the most economical production on Illinois farms. Economical production is important, because profits are determined by expenses as well as by gross income. In the production of ordinary corn belt crops on land valued at $200. to $300. per acre, man and horse labor make up from 35% to 45% of the total cost. Interest on the investment (i.e. rent mainly) represents about an equal proportion. All other items, such as, machinery charge, seed, twine and threshing, represent usually not more than 25% of the total cost. That is, man and horse labor costs represent from 60 to 80 per cent of the total operating costs in producing crops.

Since the fixed charges, such as rent, cannot be reduced, any economies in production must be made in the costs of operation. Man and horse labor costs, especially the latter, can be most favorably influenced by crop rotation which distribute labor most evenly thruout the year. Largely because of a good crop rotation, some farmers are able to work from 1½ to 2 times as many crop acres per horse as others. This often results in a reduction in cost per unit of work done of from 30 to 50%. Man labor is also much more evenly distributed thru the use of a good rotation. This often makes it possible to do a much larger part of the crop work with the regular force. Without a good rotation, work piles up at certain times of the season and much extra help must be hired at high wages to carry the peak load.

Naturally, we cannot separate the results of the influence of a good crop rotation on the unit cost of man and horse labor, from similar results secured thru the production of two or more classes of live stock. Both go hand in hand. In general, crop rotation exerts perhaps a greater influence on horse labor costs, while live stock production is relatively more important from the standpoint of reducing the unit costs of man labor. This is true because much the largest proportion of all horse labor is used during the cropping season. On the other hand, where no live stock is kept relatively little man labor is required during the winter months. This not only results in getting a much poorer distribution of man labor, but also results in lowering the quality of such man labor, since the best men insist on having an all year round job rather than one that lasts only eight or nine months.

It is important to note, however, that the difference in the unit costs of man and horse labor somewhat commonly found on Illinois farms are responsible for differences in cost of production ranging from $5. to $6. per acre for corn; $2. to $2.50 for oats, and $3.50 to $4.50 for wheat. Since the farm rotation is in a large measure responsible for these differences, it is apparent that the rotation itself may influence profits from the standpoint of reducing cost as well as increasing production." H. C. M. Case.

MAXIMUM PROFITS

"Maximum Profit Combinations. In general, the farmer has relatively little choice as to what crops he will grow in any given region. This is true because only a small number of ordinary farm crops are especially adapted to a particular region, as compared with other competing regions. From the standpoint of special adaptation a region is usually limited to not more than three or four non-leguminous and about the same number of leguminous crops. Even these usually vary considerably in their relative profitableness.

Thus we have a certain area which is especially adapted to corn, and in which corn is relatively the most profitable crop. The same is true of cotton, It is also true in a large measure of both spring and fall wheat, of potatoes, of kaffir corn and sorghum, and of almost every important farm crop.

In planning a rotation which shall yield the maximum net profit, several factors need to be taken into consideration. The net result must necessarily be somewhat of a compromise between the various elements which tend to compete to some extent. For example, in the corn belt there is a tendency to grow corn more or less to the exclusion of all other crops, since corn is the most profitable. As has already been pointed out, however, growing corn somewhat exclusively has serious disadvantages. Such a practice reduces fertility and consequently lowers yield. It also tends to increase insect damage. It would be especially bad from the standpoint of using man and horse labor effectively. The practical solution, therefore, is to grow enough legumes in the rotation to maintain the nitrogen and organic matter of the soil; and to introduce enough other crops to control insect damage and insure a reasonably good distribution of labor. The aim is to grow the maximum proportion of corn consistent with the other two factors, since this will likely give us the greatest permanent profits.

It is too early as yet to say definitely just what the proportion of corn to other crops should be. Naturally, the question can never be decided with mathematical accuracy, since prices, costs of various items and other elements in the problem are constantly changing. The following illustration for central Illinois will serve to bring out the general principles involved. First of all, we must grow enough legumes to maintain nitrogen and organic matter. This will require as a minimum from 1/5 to 1/4 of the rotation area, depending on the type of farming, the character of the legumes grown, the methods of handling manures and other factors. We should need next to introduce some other crop or crops to assist in insect control, but primarily to insure reasonably good labor distribution. Oats meet these requirements to some extent. Wheat perhaps even more so, especially from the standpoint of labor distribution. As a result, we should likely have under the plan some such rotation as follows: Corn 40%, oats 20%, legumes 20% and wheat 20%; or corn 50%, oats 25% and legumes 25%. All studies indicate that in the real corn belt section from 40 to 50 per cent of the rotation area should be in corn for largest profits.

Thus the problem must be worked out for each region, on the basis of the best experience and information available. The final basis for working out the most profitable rotations will no doubt be determined thru a comprehensive system of farm accounting, which shall give the results of various rotations on a large number of farms at the end of each season." W. F. Handschin.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

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Cattle Breeding and the Crop Rotation. "Many students of the beef cattle industry insist that beef production in the corn belt must, for economic reasons, be largely restricted to the finishing of cattle bred elsewhere. They call attention to the fact that cattle-breeding in the United States has always been associated with large areas of relatively cheap land and argue that the ever-increasing land values in the corn belt will preclude any extensive breeding operations on these lands.

The fallacy of this argument arises from the mistaken viewpoint they have persisted in taking of the relation of cattle production to the general farm operations. So long as they persist in looking upon cattle-breeding as something separate and apart from the general farm operations and of necessity eliminating relatively large areas of tillable land from such operations, just so long will the problem of land economy present an apparently unsurmountable obstacle to cattle-breeding on high-priced lands. If, on the other hand, the problem is studied from the standpoint of its relation to the general crop rotation, and the maintenance of the breeding herd so correlated with the crop rotation as to utilize the by-products of the grain-growing industry, and not eliminate any considerable area from this rotation, then the problem of land economy not only ceases to operate against cattle-breeding but becomes an asset in its favor.

Results secured in a recent series of experiments on the maintenance of breeding cattle at the University of Illinois indicate that one of the first steps in fitting cattle production into our crop rotation will be a more extensive use of legume pastures. These results lead to the belief that legumes grown in the regular crop rotation will yield practically as much pasturage per acre as our average blue grass pastures. Every rational system of crop rotation will contain a legume as a means of maintaining the nitrogen content of the soil. Professor Handschin, in a recent issue of the "Messenger" states that this will require a minimum of from 1/5 to 1/4 of the rotation area. The use of these legumes for the summer maintenance of the breeding herd does not defeat their purpose in the rotation, and obviously does not eliminate any land from the cropping system. That a little study of the rotation with the idea of fitting it to the needs of cattle production might lead to the general acceptance of a more rational rotation, is indicated by the report of a survey made by the Adviser of one of our best counties, which shows less than 5% of the cultivated area in legumes.

Results from this same series of investigation indicate that it is entirely possible and practicable to make the by-products of the corn crop form the basis of the winter maintenance ration for the breeding herd. Silage made from the stover of shocked corn and liberal amounts of water has proved an efficient and economical roughage for this purpose. Breeding cows wintered on all the stover silage they would clean up and one pound of nitrogenous con-

centrate per head per day have come through the winter in strong breeding condition and dropped strong, vigorous calves. This ration entailed an average daily feed cost of only 7.8 cents.

When our live stock farmers fully realize that practically 50% of the total nutrients of the entire corn plant are in the stalk and leaves; that the feeding value of vast areas of this by-product can be conserved through the silo, and utilized for the maintenance of the breeding herd without limiting in any way the disposal of the grain; and when they learn the value of legume pastures, there will be no question about where we will secure our calves for baby beef, or about the economy of beef cattle in the corn-belt crop rotation." H.P. Rusk

Joint Stock Land Banks. "Loans are now available to farmers in several sections of Illinois thru joint stock land banks. These banks were authorized under the Federal Farm Loan Act. In many localities where no federal farm loan associations have been formed, loans may be made thru joint stock banks, or their agents. There are now two joint stock banks in the State, one in Chicago and one recently opened in Monticello.

A forty years amortized loan, with interest at six per cent can be carried for $66.46 for each $1000. borrowed. Borrowers under this plan may loan up to 50% of valuation of property and 20% of value of improvements. The maximum loan to any one borrower is not limited to $10,000. The Monticello bank is loaning as high as $125. per acre on best farms.

Provisions for repayment of loans before maturity are the same as for loans made thru Federal Farm Loan Banks. In making loans thru joint stock banks, the borrower is not required to invest any portion of his loan in local or central banks." J. D. Bilsborrow.

Development of the Chinch Bug Campaign in a County was well worked out Adviser Blackburn. He says: "The County Superintendent of Schools and I visited all the country schools in Centralia Township one day and held a chinch bug demonstration at each school. We explained the habits of the chinch bug and the methods of burning out the places of infestation. Then we took the children out in the fields and had each one bring in a bunch of grass and count the number of bugs. The children were much interested. At each school we announced that we would hold an organization meeting for the farmers of that township at the Central School at seven-thirty P. M. that evening. Accordingly, we met at the school house in the evening with about sixty or sixty-five farmers and after explaining the method of combatting the chinch bug by burning, we organized the township by electing a man from each school district as Chairman to appoint a Committee consisting of one man for each section of land to see that the burning is done as completely as possible. The men present seemed to be much interested and wanted to have regular monthly meetings in that community. It is planned now to organize a community center at that school-house and hold a meeting there each month hereafter. Other townships were organized in the same way." Marion County.

At a "Live Stock Day" meeting in Saline County a Live Stock Breeders Association was formed with a charter membership of 51. Other counties recently organizing live stock associations are Morgan, Coles, Moultrie and Williamson.

"The two carloads of high-grade pure-bred Holstein Fresian cows recently purchased in Wisconsin and the pure-bred and registered bulls from Centralia, Illinois, were distributed to Mason County farmers Monday. These cows, heifers and bulls were an exceptionaly good lot and we feel they will prove entirely satisfactory." - Baldwin.

A Pasture Mixture recommended by J. H. Lloyd, Adviser in Hancock County, consists of one and one-half bushels of oats, four pounds of red clover, four pounds alsike clover, four pounds of timothy and five pounds of rape per acre. "For emergency pasture, sow this mixture on a well prepared seed-bed at oats seeding time. When the oats are five or six inches high stock can be turned on the field. This pasture does best if enough stock can be kept on it to keep the oats down so they will not seed. If handled in that way, the oats remain green and furnish pasture much longer than if allowed to head. Later in the season the rape, clovers and timothy furnish good pasture for all kinds of live stock. Sweet clover seed may be added to the above mixture with advantage where the soil is sweet enough to grow this crop. If the soil has been limed use four pounds sweet clover and four pounds alfalfa per acre instead of the red clover and rape. This mixture will make a good permanent pasture. The rape will increase the amount of feed secured the first year. These mixtures have been tried out in Hancock County and have proven a success."

"Silage and Oil Meal for Steers. - Two and one-half pounds oil meal supplement produced best gains. That cattle will make good gains on a full ration of corn silage supplemented with oil meal is shown by an experiment now in progress at the University. One lot of steers fed a ration of corn silage and linseed oil meal made an average daily gain of 2.35 pounds per head the first 116 days. They were placed on feed August 27, 1918 weighing 675 pounds per head and were fed a ration of 44 pounds of silage and 2 1/2 pounds of linseed oil meal except the first thirteen days when they were fed only 40 pounds of silage daily per head. Two other similar lots were fed the same amount of silage one getting one pound of oil meal daily per head, the other four pounds of oil meal. The steers getting one pound of oil meal made an average daily gain of 1.85 pounds per head while the lot receiving four pounds of oil meal made a gain of 2.25 pounds or practically the same gain as the steers that were fed only 2 1/2 pounds of oil meal daily per head." - W. H. Smith.

"Personal Work is the foundation on which successful County Advisory work is laid. In my estimation the big reason for having a County Farm Bureau with an employed adviser is that farmers may have some one with whom they are acquainted and with whom they can talk over their problems, who is in a position to give them definite information.

In my experience the following are some of the essentials to a satisfactory personal interview:

First - If the farmer has not made a definite request for the interview, have some definite problem or purpose in calling on him.

Second - Meet him with a smile and a hearty handshake.

Third - If not already well acquainted with the man, break the ice by a few brief generalities.

Fourth - State your business clearly, get the information wanted, or give the information asked for as plainly and quickly as possible.

Fifth - Get away when you are through, leaving the man with another smile and expression of desire to be of further service." M. L. Mosher, Woodford Co.

A window exhibit consisting of all kind and colors of corn, oats, rye, barley, wheat, a large number of garden seed, some bundles of wheat, oats, rye, and milo maize has been arranged in the window of the Macoupin County Farm Bureau office. Everything in the window was grown in Macoupin County this year. It is planned to have later exhibits along other lines of agriculture. These are very attractive and stimulate considerable interest in the Farm Bureau and its work.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS URBANA, ILLINOIS

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The Hog and the Crop Rotation. - The hogging down of corn and the use of leguminous pastures in pork production are steadily gaining in popularity in the corn belt. These practices decrease materially the cost of feed which makes up in general from 75 to 90 per cent of the total cost of production. Labor requirements, next in importance, from the standpoint of cost, are also materially reduced.

While we seldom think of the hog as a consumer of roughage, the greater use of pastures may reduce the amount of grain required 10 to 15 per cent. Since grain and purchased protein supplement make up the greater part of the cost of production, any reduction in the amount of grain required, or any provision for growing the protein requirement on the farm is a most desirable improvement in the rotation plan.

If we agree that our rotation plan is to be composed of, say, 50% corn, 25% oats or wheat, and 25% legumes, this will still fit in with the requirements of the swine grower. Soy beans in corn help provide the protein requirement, and experiments show that little, if any, additional protein is required to produce rapid and economical gains. This method of harvesting corn and soy beans is profitable as a labor saving plan. It provides protein cheaply. It better conserves and distributes the manure than does the practice of dry lot feeding.

Alfalfa or clover makes a good year-round leguminous hog feed. These crops produce desirable feed during the pasture season and can be fed somewhat as a hay in conjunction with dry-lot feeding.

A catch crop of rape affords an additional pasture which is both economical and desirable. It may be seeded in corn to be hogged down; in the oats field for late summer pasturing; or in the barn lots that might otherwise be idle during the summer.

Pastures also provide exercise and do away with small quarters which greatly increase the danger from contamination and disease. This assures more vigor, greater development, and better health of the animals.

To summarize, -- The use of more leguminous forages for hogs fits in well with a good crop rotation. It provides a profitable market for at least a portion of the legume roughages grown. The use of these legumes makes possible a reduction in the grains and high priced protein concentrates required. It also results in a distinct saving of labor. It effects a better conservation and distribution of manure. It assures greater health and vigor in the herd. The combined influence of all of these advantages constitutes the most important improvement made in pork production in recent years."J.B.Rice

Multiple Hitch Demonstration. "Edgar County will have a field demonstration with multiple hitches in April and we want the neighboring counties of Illinois and Indiana to visit with us that day." - Gernert.

Do not fear 17-year locusts. - "A number of reports have been published in local newspapers stating that this was a year in which the 17-year locust, or periodical cicada, would be abundant in Illinois. The records of our office show that the last time this brood of the insect appeared, in 1902, they did no damage, and were confined to the east and southeast counties of the State. No damage whatever from this ineect is to be expected this year." - W. P. Flint.

To stimulate testing of seed corn this spring, Adviser Losher of Woodford County, is carrying out a community testing plan. He says, "Practically my entire time has been taken up this week in working over the samples of seed corn with the men who have brought in bushel lots for the county corn test. This opportunity to work with 125 men in a definite personal way is well worth a considerable part of the effort required. We are getting in the samples in about the numbers we had expected. I am finding more and more in county work, that if it seems best to get people together in a group for any special work, it is absolutely necessary to put forth considerable effort in some way or other to call the attention of individual men to the meeting."

Shall Farmers Plant Spring Wheat? "Farmers are thinking seriously these days of the advisability of putting in a large acreage of spring wheat. Most of them are beginning to realize that the fair thing to do is not to seed a large acreage, due to the fact that they have a larger acreage of fall wheat than usual. Since farmers have been talking of organizing for the purpose of getting a square deal with other industries, it would scarcely seem consistent for them to take advantage of this system to make money." - Thomas, Coles County.

The Wheat Price. - - We have had some inquiries concerning the Pomerene amendment which endeavored to limit the guaranteed price on spring wheat to only those growers who produced it last year. A wire assures us that this amendment failed. As we understand it, the guaranteed price will hold for all wheat produced in 1919. - G. N. Coffey.

The Income Tax Report will teach the farmer to "know his business". "The principal work of the past week has been in central and branch offices, helping the farmers make out their income tax. This has caused a great deal of discussion among the farmers in regard to the inventory part they make out. All in all, I believe it will be a good thing, as it will force the farmers to do more or less cost accounting, which will be to their interest in time, from the fact that it will help show the farmer that he is entitled to a fair profit on his time and money invested, a thing which he has not been able to show with any degree of accuracy in the past." -- Collier, Kankakee County.

Let the Boys Keep the Farm Account. "For our three days farm accounting school, we made a special effort to get farm boys and girls to attend. Out of a total attendance of 117 there were 34 farm boys and girls. These young people will largely have charge of keeping the accounts on their fathers' farms. Every one at the meetings registered so we have the names of all. Some farmers sent their sons instead of going themselves, some came with their sons and daughters, and one brought his wife. Members of the same family generally sat at the same table and sometimes used one book." - Rehling, Clinton County.

Growing Crops to Feed live stock rather than chinch bugs is the plan of many Monroe County farmers. Adviser Tate says: "There will be more oats and spring barley sown this spring than usual. This is due to the fact that farmers feel that they cannot depend entirely upon the corn crop which is liable to be destroyed by chinch bugs."

State Leaders' Conference. -- A conference of State Leaders and Assistant State Leaders of eleven north central states and representatives of the U. S. Department of Agriculture was held in Chicago, February 25th and 26th. Much time was devoted to the discussion of the scope and nature of the work of the Farm Bureau and the federation of these Bureaus into state and national associations. In many states the Home Economics work and Club work and Agricultural work are all included in the Farm Bureau. This has been termed the "family type" of farm bureau. It was also brought out that the farm bureaus are becoming more and more concerned with economic problems. They are looking at farming as a business and are endeavoring to deal with it as such. It seemed to be the general opinion that neither the farm bureaus nor the state and national federations should themselves undertake to carry on commercial business, except in very special cases. Rather they should encourage the formation of separate organizations such as shipping associations, marketing associations, and other organizations for the various lines of work. This enables the cost of such operations to be borne entirely by those receiving the benefits thereof. Under this plan, the farm bureaus would act as a fostering agency to such organizations, which after all, can handle a larger part of the work locally. When the problem affects such large interests as transportation or legislation, they must necessarily be handled by the state and national organizations. G. N. Coffey.

The extreme interest in the Illinois Agricultural Association has recently been shown in a number of the organized counties. At the annual meeting in Hancock County 72 men walked up and signed individual membership pledge cards for the Illinois Agricultural Association. Adviser Lloyd says: "These men were fully informed as to what they were doing and took this action because they wanted to boost the state organization. This is bringing new members into our local farm bureau."

Prefer the Community Plan of Organization. "We are holding a series of community meetings for the purpose of organizing the county by communities instead of townships, as the plan has been in the past." - Henry County.

Over 700 people were present at a luncheon held in connection with the annual meeting in Vermilion County. Adviser Lumbrick writes; "Our annual meeting this year contrasts strikingly with last year's meeting, in both the attendance and members represented. Last year 25 men were present and the total membership was 290. The report this year shows an attendance of, at least 700, with actual membership turned in of 860, with ten or twelve townships not yet reported. We can easily figure 1000 members."

Splendid interest was shwon in the agricultural short course meetings in Kankakee County. Adviser Collier says: "We have had a daily average attendance of over 400 and on Monday, Wednesday and Friday, the attendance ran as high as 1000. There was no hall in Kankakee large enough to hold the people." Mr. Collier has organized a Young Men's Country Club, which has been a most successful and exceedingly interesting feature of this work during the past few years. These young men are live wires and are continually "doing things". This Club had charge of the Short Course and was responsible for its success.

Live stock day a Prize Winner. "I am pleased with the plans of Mr. Smith in having three or four men for two-days meeting such as we held in two communities. It makes possible better advertising, and results in a more interesting meeting. Our Farm Bureau Hall was crowded to the doors, and 53 real live stock men signed up to cooperate in making this a real live stock county." E. H. Walworth, Clark County.

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UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

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"Dairying and the Crop Rotation. A legume roughage is the basis of an economical ration for the dairy herd. One essential feature of a good crop rotation is the inclusion of a certain percentage of legume crops. In this particular, therefore, and in a qualitative way, dairying fits admirably into a good crop rotation scheme. In a quantitative way the practice of dairymen has been to provide the herd with a ration somewhat as follows:

Yearly Ration for Dairy Herd - EXCLUSIVE OF PASTURE
Expressed per Cow in Milk

Concentrates	2750 pounds	Area to grow,	1.63 acres	41%
Silage (Corn)	13250 "	" " "	1.20 " " "	30%
Hay	3150 "	" " "	1.17 " " "	29%
Other Roughage (By-product of Grain)	2500 "		4.00 acres	100%

This ration may be accepted as satisfying the herd requirements. The acreage required is estimated on the basis of average crop yields. To supply all the feed for the herd requires the acreage to be divided approximately 30% hay, 30% corn for silo, and 40% grain. If it is desired to have 20% of the rotation area in legume crops to satisfy fertility standards, then by making all the herd hay a legume, it would be necessary to devote two-thirds of the rotation area to dairy herd crops. The remaining one-third could be utilized for other live stock crops or cash crops. This scheme, then, would require a herd in the proportion of one milk cow to six acres of rotation area. The total rotation area would be divided 20% legume for herd hay, 20% corn for herd silage, 27% grain for herd concentrates, 33% any crop for other live stock or cash sale.

The practice of dairymen, as expressed in the above ration, has been to purchase about 55% of the concentrates fed. The purchase of concentrates is a matter that turns largely on two points: First, prices of dairy products, of the purchased feed, and of farm grains; second, the nature of the roughage available. Corn as a desirable crop is beyond question. Its use for silage as a roughage-concentrate to about the extent indicated may be taken as a standard practice. The hay in the ration is the one big thing that varies widely in quality and consequent effect on the balance of the ration. Likely it will always be desirable for the dairyman to purchase some high-protein mill feed. The amount of purchased feed can be held to a minimum only by the use of good legume hay in the ration.

Evidence of the great value of legume hay in the ration is afforded by the results of work at this station. Cows were fed continuously for six years on a ration consisting almost exclusively of corn silage and alfalfa hay, with no pasture. The yearly consumption of silage was 13,650 pounds and of hay, 5,300.

(Dairying and the Crop Rotation Con'td.) The average yearly production was 7469 pounds of milk. The average production of the herd on the ration mentioned in foregoing table was 6717 pounds of milk. While the averages in the two cases are not directly comparable, for various reasons, still it is evident that alfalfa in the ration produced remarkable results. The use of corn as a silage has come into high standing in the dairy ration. The large, if not exclusive, use of legumes for the hay of the dairy ration is likewise coming into high standing, more slowly because of greater difficulties in production.

Pasture is indispensable to economical dairying. Rotation pastures can readily be arranged to meet this requirement, but the major portion of the state does not have a market for dairy products which warrants the use of fertile and tillable land for pasture to any considerable extent. In general, therefore, any great influence of dairying in crop rotation is limited to those localities having either natural and cheap pastures, or high markets, such as is afforded by the whole milk demands of condensaries and cities." - W. L. Gaines.

New Farm Advisers. - "McDonough County which has been working for a man for several months has employed Mr. R. E. Doneghue as Farm Adviser for that county. Mr. Doneghue expects to begin work March 15th. He was brought up on a farm in Loraine County, Ohio. He was graduated from the Ohio State University in 1906 and secured his Master's degree from the University of Missouri in 1908. He assisted on the Soil Survey work in Illinois in 1906 and in Missouri in 1907 and 1908. Since 1908 he has been connected with the North Dakota Agricultural College and Experiment Station and was head of the Agronomy work in this institution when he was secured for work in McDonough County. His headquarters will be Macomb.

Menard County has employed Mr. Garfield J. Wilder as Farm Adviser in that county. He started work immediately in the office at Petersburg. Mr. Wilder was brought up on a farm in north Ohio and graduated from Ohio State in 1906. He was manager for several years of the Cleveland City farms, which consisted of 200 acres. For the last four years he has been Secretary of the National Agricultural Limestone Association and has had general charge of the organization and publicity and trade extension work of this organization.

Piatt County has been fortunate in securing the services of Mr. Arthur E. Burwash as Farm Adviser in that County. Mr. Burwash expects to begin work April 1st, with headquarters at Monticello. He graduated from the University of Illinois in 1912 and since that time has been farming in Champaign County.

Mr. Herman J. Kuppers, who was recently employed as Farm Adviser in Mercer County has tendered his resignation and Mr. P. S. Richey has been employed to take his place. Mr. Richey graduated from Purdue University in 1912. After graduation he spent four years farming. In 1916 he became Assistant in Animal Husbandry Extension work at Purdue University, which position he has held until the present time. Mr. Richey expects to take up the work in Mercer County within a very short time. The office is located at Aledo.

"The business men of St. Clair County have been advising the organization of a Farm Bureau in the county for several years and have had several meetings where it has been discussed. The farmers got behind the movement in January and an organization of 431 members was completed Feb. 17. The office will be located in Belleville."-- Vaniman.

"Fight the Chinch Bug with Crops" the last Chinch Bug circular off the press has been sent to the Regular Station Farmer's List and to Bankers' list of Farmers in the Chinch Bug Counties. Total lists vary from 400 to 1800 farmers to a County. This information is given to advisers to prevent undesirable duplication of mailing lists.

Limestone Conference at Centralia.- "A meeting of more than usual importance was held at Centralia on February 27th, when the farm advisers and representative farmers from about twenty counties of Southern Illinois met in conference with the representatives of twelve of the principal limestone producers of the State and representatives of eight of the leading railroads traversing this territory. It was a get-together meeting of all interested parties for the purpose of ironing out misunderstandings and removing difficulties in the way of providing an adequate supply of limestone to the farmers of Southern Illinois.

It was made clear by the county advisers and farmers that the need for limestone is most urgent and that the demand is practically unlimited. It was estimated that a minimum of 400,000 tons would be used this year if it could be had and that this amount is only the beginning.

The producers pledged themselves to do everything possible to meet the demand and the railroadspledged themselves to move the material with the least possible delay. Many of the producers are not only enlarging their plants to produce more crushed stone, and thereby have an increased amount of screenings for agricultural purposes, but are actually installing machinery for crushing agricultural limestone directly. The producers feel that they are now in a position to take care of any increase in the demand and will be able to ship it on very short notice.

The greatest difficuly from the standpoint of the producers and also from the standpoint of the railroads is the practice of bunching orders for shipment only a comparatively short period during the spring and fall. It was agreed by all that local storage facilities should be provided so that shipments could be made at all times and the product stored for the use of farmers when needed. The producers encouraged this by stating that they might be able to sell at a slightly reduced price, if they could load directly from the crushers, and the railroads went on record as favoring the leasing of storage space along the right of way to local farmers' organizations at a very nominal rental charge. The county advisers and farmers heartily endorsed this proposition and many storage plants are already under course of construction.

Altogether the meeting was a very happyaffair and all went away feeling that the ice was at last broken and that from now on there would be real cooperation among all parties concerned. The next problem will be that of getting a reduced price." - J. E. Readhimer.

One Year Old Tomorrow. - What is the Future? - On March 13, 1918, "that long contemplated publication of Handschin's and Coffey's" became a reality and the first issue of this three page sheet started out to greet Mr. County Adviser. The youngster came unnamed and unknown, but through personal appearances such as size, color, and other remarks, it soon became a familiar and easily recognized caller. In a contest to determine the best possible name for the new arrival, Dr. W. L. Burlison was awarded the prize for the best name, and at the age of three weeks it was christened "The Extension Messenger". After a year's acquaintance, you, Mr. Reader, have doubtless had excellent ideas and constructive criticisms. Will you favor us by submitting these? The future service which the Extension Messenger can give hangs in the balance. It lies in the power of our readers to help mold the future policy. We solicit your aid in criticisms, suggestions and contributions. Let us strive for 100% of interest, efficiency and service. - Ye Editor.

"Income Tax Primer for Farmers--1919" is the latest publication relating to the income tax as it applies to Farmers. If farm advisers have not received a copy, they may do so by writing the Treasury Department, U. S. Internal Revenue. - H. C. [illegible] Case.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II March 19, 1919. No. 12

The Sheep and Crop Rotation. - "A crop rotation in which one-fifth to one-fourth of the rotation area is given over to legume crops, presents the following distinct advantages to sheep raising. First, sheep are very fond of legume feeds. That they thrive upon them is indicated by the fact that the most successful sheepmen under modern farm conditions have come to look upon legume roughages as indispensable in feeding suckling ewes. Experiments at the Illinois Station on the protein requirements of lambs until they reach the age of ten months show, that from the standpoint of producing growth and maintaining thrift, there is little likelihood of overfeeding on protein. With alfalfa forming the roughage in each instance a ration in which the concentrate part consisted of linseed cake 50 per cent, corn 50 per cent, made more growth than one in which the concentrate part was linseed cake 5 percent, corn 95 percent.

Second, sheep kept on land given over to a regular crop rotation are likely to be much more nearly free from internal parasites than if they are kept on permanent pastures. Plowing the land tends to destroy the parasites, and changing the summer pasture each year, which happens in a rotation system, prevents constant reinfestation of the land with the parasites.

While no reliable figures are at hand it is fairly safe to say that from 15,000 to 20,000 sheep and lambs die each year in Illinois from disease. Most of the deaths are due to parasitic diseases. In addition to death losses, there are further losses thru thousands of lambs being cut down in market value because they are infested with parasites and cannot be fed out to desirable market condition and weight.

Third, if soy beans and rape are seeded as intercrops on a part or all of the corn area in the rotation, an abundance of relatively cheap feed will be produced for the flock. Rape seeded on the area from which the corn is to be removed for silage will produce splendid fall feed, and lambs can be pastured on the soy beans in standing corn without danger of a heavy consumption of the corn.

The advantages enumerated above are from the crop rotation to the sheep, but those which follow are from the sheep to the rotation. First, sheep can handle to advantage the aftermath and cheaper roughages involved in a crop rotation. Experiments at the Illinois Station show that the feed from corn stalks together with the feed on an old clover field replaced .7 pound silage and 1.6 pounds clover hay per head daily in maintaining pregnant ewes, and that 1.25 pounds oats straw replaced about .75 pounds alfalfa hay.

Second, sheep outrank all other farm animals in destroying weeds. In eating weeds they also destroy many insects that prey upon crops. We know that weeds and the insect pests that they harbor constitute a real problem in a system of crop rotation. At this point we can well afford to give sheep favorable consideration.

There is little hope of efficiently utilizing sheep in any crop rotation with out first solving the fencing problem. The seriousness of this problem is somewhat mitigated by the fact that sheep are easily restrained by temporary fences. But most is obtained from the flock if, in the course of a year, it is worked over the entire cropping area. A few years ago a successful Illinois farmer who practiced a rotation of corn, oats, and clover, and who also fed sheep was asked by his neighbor: "How can you afford to fence your farm?" The reply was: "How can you afford not to fence yours?"--W. C. Coffey.

"Test Every Ear" is a good motto, even in a good seed year. The following frank reports prove the truth of that statement.

"We have just finished testing twelve 10-ear samples of corn selected and saved for seed by Grundy County farmers. Most of the corn is good, but some ears show they are unfit for planting. Two samples germinated 100% strong; six germinated between 90% and 98%; two samples germinated 82½% strong; one 75% and one only 27%. This last sample had 49% of kernels dead and 24% weak." - Adviser Longmire.

"Corn picked in a sack last October and hung from the rafters of a dry, well ventilated corn crib, is testing 85% perfect germination. We are discarding every ear that does not show 6 good strong sprouts out of 6 grains placed in test. We do not want any weak stalks or empty hills if we can prevent it." Member Peoria County Farm Bureau.

Seed Corn Test Spring 1918--(Answering inquiry)--"Corn stored in the Soil Association store-room in the court-house (non-freezing temperature) before hard freeze in fall of 1917, germinated 85% and the same man's corn stored on farm in freezing temperature tested 10 to 35%." --Collier.

Morse Soy Beans. -- "Could any Illinois Advisers use about sixty bushels of Morse soy beans. For information in regard to variety, write E. W. Rusk, Quincy, Illinois. This is one of the best varieties that has as yet been brought out. Will make attractive price of $3.50 per bushel in burlap bags, f.o.b. Rush Hill, Mo. Alton R.R." -- G. H. Morthland, Newborn, Ala.

Soy Beans and Corn. -- There are some benefits from soy beans and corn which are not ordinarily considered, according to a statement made by Mr. Reigel of Tolona. In a talk that he recently made in Champaign County he said that they grew soy beans and corn in a part of the field and the corn alone along side. In the rows without the beans the corn suffered fully 50% more and wherever there was a hill without beans this was also true. During the hot dry weather the corn without beans fired to the ear, while that with beans was green to the ground.-- Adviser Oathout, Champaign County.

Tankage at $107. a ton! Can we afford to feed it at such a price? Hogs have gone up 2½ times in a period when tankage has about doubled and corn more than doubled. The best swine feeders feel that tankage is a necessary part of a good feeding ration even at present prices.

"Some Soil Treatments for Mature Apple Orchards", U. of I. Cir. No. 233, B. S. Pickett is a little 8-page publication just off the press. Cultivation, mulching, and fertilizing are discussed. This circular has been sent to county advisers, horticulturists, and newspapers, but not to the general mailing list. County Advisers wishing copies for distribution may get them from the Illinois Experiment Station, Urbana.

Value of a good farm account. "Some interesting results were secured in going over one of our member's farm account book for the past year. He had bought two lots of steers, of 26 each, for feeding purposes during the year, having sold one lot, the second lot having been fed a month or so by the close of the year. He had made an inventory of everything at the beginning of the year, but aside from that, had not completed the inventory at the close of the year and kept only a record of actual receipts and expenses. This receipt and expense record showed a net cash income of over $3000. However, after completing the inventory at the close of the year, it was found that there were 960 bushels less corn on hand than at the beginning of the year, due to the almost complete failure of the crop and after completing inventory of cattle and all other live stock, it was found that the actual farm income was $1315 instead of over $3000. The corn had all been fed to cattle and hogs, making quite a large decrease in the feed and supplies in the inventory. This shows clearly that there is more to farm accounting than the mere records of cash expenses and receipts." -- J. J. Doerschuk.

Limestone and Phosphate Storage plan adopted in Stephenson County. "An agreement has been reached with eight elevators by which the elevators contract with the farm bureau to keep on hand, limestone and phosphate which will be sold to Farm Bureau members under the following conditions:

1. Limestone
   (a) Payment of cash for material when received.
   (b) If material is taken direct from car farmer to pay 10¢ per ton above cost.
   (c) If material must be unloaded and stored by the elevator the farmer to pay 30 cents per ton above cost.
   (d) If material is not under cover, some allowance to be made for moisture.
2. Phosphate.
   (a) Payment of cash for material when received.
   (b) If material is taken direct from car, farmer to pay 50 cents per ton above cost of material.
   (c) If material is unloaded and stored by elevator, farmer to pay $1.50 per ton above cost if material comes in bulk, and $1.00 above cost if material is sacked." - G. F. Baumeister

Johnson County has secured Mr. O. M. McGhee to act as Farm Adviser. Mr. McGhee began work March 1st. Before coming to college Mr. McGhee was Assistant Manager of a three hundred acre farm in Southern Illinois. During his vacations he assisted in the soil experiment station fields in connection with the High School at Carmi, Illinois, and also acted as Emergency County Club Leader in Whiteside County. For almost a year he has been Emergency District Demonstration Agent in Gallatin, Hardin and Pope Counties.

From Cream to Milk Production. --"The problem of clean, sweet milk production was taken up in the series of meetings led by E. M. Clark in Stephenson County. About 175 men attended these meetings and we feel that these series of meetings did a world of good because the county has recently changed from cream and cheese to whole milk production in some sections. Farmers did not yet understand the proper care and handling of milk."- Adviser Baumeister.

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If we are going to get the things done that ought to be done, we must know what those things are.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II March 26, 1919. No. 13

The Farm Horse and the Crop Rotation. -- "A good rotation cuts down the cost of horse labor because it enables the farmer to use his horses to better advantage. The more even distribution of horse labor brought about by proper rotation makes possible a greater amount of labor per horse during the year; hence, fewer horses are needed.

Legume roughages not only help to maintain the fertility of the soil, but because of their high protein and mineral content, are of prime importance in economically growing and feeding good quality, rugged drafters.

Legumes help to use up the coarser roughages because with legume roughages it is advisable to feed corn stover and oats straw during the winter and timothy or prairie hay during the summer.

Corn may be used as an important part of the grain ration when legume hays make up one-half or more of the roughage fed. Such practice has, in many instances, not only cheapened the ration but made it more effective in the case of horses at hard work." -- J. L. Edmonds.

See Those Tandem Hitches at Work! - The several field demonstrations of the multiple horse hitches perfected by Prof. E. A. White and the Percheron Society have been arranged for the benefit of all county agents and farmers who are interested in more effective utilization of horse power on our farms.

No. 1 - Dunham's farm, Wayne, Ill. DuPage County, Saturday, March 29th. Prof. White and Mr. Dinsmore will be present. The four and six horse hitches will be shown on single bottom and two bottom plows and the system of tying-in and bucking-back, which simplifies the handling of teams so greatly, will be shown in connection therewith. Wayne can be reached from Chicago, Aurora and Elgin on the electric line. The demonstration farm is one mile west of the station at Wayne.

No. 2 - Demonstration near Paris, Ill., on April 5th. This will include four horse, six horse and eight horse hitches on single bottom, two bottom and three bottom plows, and will be held on the farm of Mr. Will Dennis, three miles east of Paris on the Paris to Terre Haute interrurban which will stop right at the field.

No. 3 - Demonstration near Decatur, Ill. on April 19th under auspices of Macon County Farm Bureau. Definite arrangements as to place will be announced later. Four, six and eight horse hitches will be shown at work.

No. 4 - Demonstration at Homeridge Farm, H. L. Chapman, Prop., Jerseyville, Ill., on Saturday, April 26th. This will include the four and six horse hitches on single bottom and two bottom plows. The field where the demonstration will be held is in comfortable walking distance from either of the Jerseyville stations.

We feel that these demonstrations will be of much interest and value to every farm adviser and farmer. If more demonstrations are wanted by any county adviser or farm bureau members, arrangements can be made with Mr. Dinsmore. All the printed words ever used will not begin to carry home the conviction of the value and practicability of these hitches that one field demonstration will carry. - G. N. Coffey.

We are after the Barberry Again! "The United States Department of Agriculture in cooperation with the Illinois State Department of Agriculture are renewing the campaign of last year for the complete eradication of the Common Barberry and all its varieties including the Purple Barberry and Mahonia from the State of Illinois.

Dr. F. E. Kempton, Plant Pathologist, of the office of Cereal Investigation has arrived as Assistant State Leader in this campaign. Already three scouts L. L. de Flon, R. E. Curtis and Sarkis Boshnakian are in the field.

Thanks to the cooperation of last year some counties are reported entirely cleaned up and many bushes were removed. There are still many bushes remaining in the State. These must be removed before the state is entirely free from this pest and the danger of Black Stem Rust of Grains is past.

Lets all get together behind this campaign which not only is being waged in our own state, but in all our sister wheat growing states.

We ask your cooperation and help." - Dr. F. E. Kempton.

Mixed Seeding versus Seed Clover. -- "More grass seed mixtures are being used than ever before. This is due to a large extent to the failure to consistently give a stand of clover during the past few years. The mixed seeding looks like the logical thing until more limestone can be put on the ground. Even then it may have advantages that will warrant retaining the practice to a large extent." Adviser Thomas, Coles County.

Grimm Alfalfa Seed. -- "Grown in North Dakota by the Grimm Alfalfa Seed Producers' Association. Very nice seed at 60¢ a pound in small lots; 50¢ a pound in ten pound lots or more, sacks extra." -- W. R. Porter, Supt. Demonstration Farms, Agricultural College, North Dakota.

"Much interest was shown at a series of oats smut demonstrations held this spring. Many farmers are treating their oats this year because most of them had more or less smut last year. The total attendance at eight community meetings was 117 farmers." -- Adviser Rehling, Clinton County.

"When the Boys Come Back some of them will want to work on the farm. County Advisers are urged to do all they can to aid the returning soldiers who want jobs as farm hands or farm managers. In most cases, the soldiers wanting work will correspond with the County Adviser or the Farm Help Specialist, L. H. Young, College of Agriculture, Urbana, Illinois. This is a very important service in which the States Relations Service, Washington, D. C., and the Army Y. M. C. A. is asking our hearty cooperation." -- W. F. Handschin.

Four hundred sixty four members in ten days is the record that the farmers of Piatt County have established in organizing a Farm Bureau. A representative from the State Leader's office addressed a Farmer's Institute meeting in Monticello on February 11th and assisted in getting an organization committee appointed. All actual canvassing for members was done by local people and the farm bureau was permanently organized on Feb. 22. Splendid interest prevailed at this meeting. Mr. Arthur Burwash will take up the work April 1, as Farm Adviser, with headquarters at Monticello.

Program of Work a Good Idea. Cass County which has only recently begun its work has adopted the following outline of work. 1. Better seeds and treatment of smut. 2. Soil improvement: (a) prevent washing of soils; (b) grow more legumes,- alfalfa on sand land and sweet clover on hill land. 3. Rotation of crops. 4. Community meetings. 5. Membership campaign by communities.

? ? ? OUR QUESTION PAGE ? ? ?

"That Crop Rotation Series is bringing forth some interesting questions from the Farm Advisers. We are asking the best qualified men at the University to answer these. Here is one from a "near Egypt" County.

"CAN WE BE FAIRLY SURE OF A STAND OF CLOVER ON OUR POORER SOILS AFTER OUR LAND HAS BEEN LIMED AND PHOSPHATED?"

"Six of the soil experiment fields are located on gray silt loam on tight clay. This is a most formidable type on which to secure a stand of clover and see it thru to the production of a crop.

On four of these fields alsike clover is seeded in the oats to occupy the land and produce a crop the following year. No late variety of oats is used. In this way, a combined total of 22 seedings of clover have been made during a period of several years. Out of this number, on the limestone-phosphate plots ten crops have been secured. The remaining 12 seedings produced no crop. In nearly every case good stands were secured; about 3/4 of the failures were due to the hot and dry weather effects so common to growing plants on this type of soil; the remaining 1/4 of the failures were reported to be in such poor condition in the spring following the year of seeding that they were not allowed to stand. This loss is usually due, both to injury from dry weather and added injury from "pulling" or "heaving" as a result of severe late winter conditions.

On five of these fields, in the residue system, sweet clover is seeded on the wheat to be turned for corn the following year. Twenty-five seedingsof sweet clover have been made in this way. Two, only, were complete failures. In both cases, these were the first seedings on each of two different new fields. Concerning the stand and condition of the remaining 23 crops, after they had survived the summer and winter, 20 were reported as good or excellent; two as fair, one as poor. During the severe dry periods so common during July and August the sweet clover apparently closes shop, but it is simply waiting out a bad proposition. Usually after the first rotation period has passed, the limestone-phosphate plots show marked improvement in production of this sweet clover. This is noticeable in the more luxuriant growth, greater uniformity of stand and freedom from weeds.

Perhaps, we should add that, in the above type of soil, in practically every case, where no limestone was used, the clover was a complete failure."Fahrnkopf.

Here is another from the land of Egypt. - "IS IT TRUE THAT BY REMOVING BOTH CROPS OF CLOVER THAT THE SOIL IS LEFT NO RICHER IN NITROGEN AND DO LEGUME CROPS ADD MORE NITROGEN TO A POOR SOIL THAN TO A RICH SOIL?"

"Removing both crops of clover adds very little nitrogen to a soil. In fact, in a practice of this kind and on soils that have a reasonably good nitrogen content, nitrogen is apt to be lost or at least, is not increased to any appreciable extent. The clovers have a large root system and the soil is benefitted by having incorporated with itself this newly formed nitrogenous root material and stubble and for this reason, after growing a leguminous crop, altho it be entirely removed, better conditions for the crop following are noted.

Other conditions being equal, per unit of crop grown, legume crops add more nitrogen to a poor soil than to a rich one. If a soil practically devoid of nitrogen has all conditions made favorable for growing clover, with exception of adding the nitrogen, this element will be taken from the air by the well inoculated plant. Then, the both crops be removed, we shall find an increase in supply of soil nitrogen." - H. F. J. Fahrnkopf.

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Shall a man decide on what work is to be done, or shall the work decide what the man shall do?

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II April 2, 1919. No. 14

The Hen and the Crop Rotation. - "Poultry on the average Illinois farm is not kept extensively enough to be a factor of any importance in the farm rotation. However, a rotation of the ground on which the poultry commonly runs is of primary importance to poultry production. Where the hens are concentrated about the farm house over a series of years, and the chicks are grown continuously on the same ground, we are apt to find certain areas of the ground contaminated and dangerous to the health of the birds. Where such conditions obtain, we cannot be surprised to find any of our common poultry diseases. In Rhode Island and eastern Connecticut, where turkey growing was once an important source of income on the farms, but where the turkeys were kept on the same ground near the homesteads year after year, the ground became "turkey sick" and a disease known as "Blackhead" broke out. The accumulation of adverse influences over a series of years had at last gotten the upper hand and turkey raising today in a great deal of this same area, is a source of loss and disappointment.

Where the manurial influence becomes excessive, the continued presence of fowls is almost certain to induce disease and many of the failures and some of the disastrous epidemics in poultry history have been due to a lack of understanding of the danger of tainted ground. The exclusive poultry plant that is designed on an intensive plan without due consideration of the proper quantity of plant life necessary to maintain the yards in a permanently fit condition for pasturing fowls is a common type of failure. It is well to set down as a maxim, the fact that: A balance must be maintained between plant life and the amount of poultry that is grown and kept. In other words, the farm hen should be linked withvegetation and the growing of crops. There is no valid reason why poultry on the farms of Illinois should be yarded. The birds should forage on range. The green food that they eat is juicy and palatable and in addition to its food value, seems to be of mechanical value in providing the bulk that is necessary to proper digestion and economical maintenance.

Contaminated poultry ground can be reduced to a satisfactory and safe condition by cropping and plant life, but the earth floors of poultry houses present a problem of the same kind which can only be handled by removing the top of the old dirt and putting in fresh earth. If this "rotation" is ignored, the floor may become a fertile bed of contamination. Especially when the dirt becomes wet and the birds eat on it, there is danger of intestinal and respiratory troubles." F. L. Platt.

"Pull up and Burn all Common or Purple Barberry before leaves appear, and prevent Black Stem Rust of Wheat and other grains. The Common and Purple Barberry carry and spread Black Stem Rust of Wheat, Oats, Barley, and Rye. Do your part by pulling out any that you have and by reporting to the Barberry Eradication Headquarters, Botany Annex, University of Illinois, all plants or hedges not yet destroyed in your vicinity. We need your aid! Give this your immediate attention! The Japanese Barberry is harmless and should not be destroyed". - F. E. Hempton.

"Labor Saving Hitches to be Shown. Increases Efficiency Farm Teams. -- The farmer who can do twice as much plowing in a week as his neighbors without increasing his labor costs is an object of interest in these days of high priced labor. When he also eliminates side draft on plows and enables his teams to work more efficiently and more comfortably it is a proposition which is certain to arouse attention. The Percheron Society of America, in studies made in the fall of 1917, found that New Englad farmers were plowing about 1 acre per day, Pennsylvania and Ohio farmers about 2 to 2 1/2 acres per day, Illinois and Iowa farmers from 4 to 5 1/2 acres per day per man, and the farmers in the Palouse country in Oregon and Idaho were found to be plowing 8 1/2 acres per day per man. The difference was found to lie almost entirely in the number of horses used and the manner in which they were hitched. The Illinois Experiment Station was persuaded to take this matter up in 1918 and Professor E. A. White, Head of the Farm Mechanics Department, carried out most exhaustive tests last year. He found that where four horses were hitched abreast, the side draft, which is absolute waste, amounted to 15% to 35% and that it averaged around 25% in the ordinary type of plowing found in Illinois. It was found that hitching the horses one pair behind the other eliminated this side draft as it was possibleto obtain a perfectly true line of pull on a true line of draft. Subsequent experiments, in which every type of hitch ever used was tested, finally brought about the invention of the multiple pulley hitch, which gives a perfect equalization between the teams, and makes it possible to use four or six horses on a two bottom gang plow, or eight or ten horses on a three bottom gang plow. These hitches are adaptable and an eight horse hitch can be used for a six or the six for a four, by merely dropping off the rear units in each case.

The first multiple hitch demonstration was held at Dunham's Farm, Wayne, Ill, Saturday, March 29th. Other demonstrations are scheduled for Paris, Ill. April 5; Serena, LaSalle County, April 12th; Decatur, Ill. April 19th; Jerseyville, Ill. April 26th. (See last week's Messenger) The four, six and eight horse hitches will be shown on single bottom, two-bottom and three bottom plows and the system of tying-in and bucking-back, which simplifies the handling of teams so greatly, will be shown in connection therewith. Horsemen who attended the first at Dunham's Farm last fall came there to scoff, but left convinced, so much so, that they immediately ordered the equipment for their own use. It is worth while to save labor and to increase the efficienty of your teams. Come out and learn how to do both." - Wayne Dinsmore, Sec'y. Percheron Society of America.

Hog Forage Crops. -- "Much interest is being shown in soybeans and forage crops for hogs". - Adviser Thomas, Jackson County.

Soybeans Popular. -- "We find the demand this spring is larger than usual, but we fear somewhat smaller than it should be, in view of the chinch bug menace." Phillips, Greene County.

Community Organization. - "We have just completed 15 community organizations in Knox County. This work went forward nicely, and the response was decidedly encouraging. We do not hesitate to say that we believe this work will be of great value to the Farm Bureau". -- Bracker.

Farmers Organize Own Limestone Concerns. "At a meeting at Clarksville, farmers interested in a local limestone deposit took the first steps toward forming a stock company of men interested in getting ground limestone. They intend to incorporate and install a limestone crusher." - Walworth, Clark County.

? ? ? OUR QUESTION PAGE ? ? ?

"WILL YOU PLEASE GIVE BRIEF INSTRUCTIONS FOR SPRAYING FRUIT TREES NOW AND AT OTHER TIMES OF THE SEASON?"

"It is difficult to put it in the brief space the Messenger allows. Because spraying rules vary somewhat in the several sections of the State, we have compiled this about as briefly as possible in Circular #212, College of Agriculture, University of Illinois. Copies will be mailed upon request." A. J. Gunderson.

"WHAT IS THE BEST METHOD OF INOCULATING LEGUMES?"

"The method of inoculating legumes is pretty well standardized. There is only one real good way and that is the glue method." W. L. Burlison.

Sweet Clover at Toledo Field. -- "I have looked up the matter of sweet clover catches on the Soil Physics field at Toledo, and I find that since 1915 we have had good catches of sweet clover that held over all right. The 1914 seeding was killed by the extreme drouth in that region, and too, the limestone and phosphate had not been thoroly mixed with the soil up to that time, so that this may account in part for the failure." - J. G. Mosier.

Controling Potato Diseases. Adviser Durst calls our attention to the fact that some farm advisers are making recommendations in regard to treatment of potatoes for scab and other diseases, which are not the best methods known. He says: "The formaldehyde method has been most commonly used, tho' it is not the best one. Within recent years, corrosive sublimate has been found more efficient than formaldehyde, for the reason that it controlls scab fully as well, and is more effective against some other diseases carried on potatoes. Four ounces of sublimate are dissolved in 30 gallons of water and the potatoes should be soaked in this for 1½ hours." Probably the time could be shortened by heating the solution, for the Iowa Experiment Station has found that the time of exposure in case of the formaldehyde treatment can be cut from two hours to five minutes, if the solution is heated to 122°Fahrenheit.

"Have you any questions which you wish answered thru' the Messenger? We shall be glad to have you submit them." - Ye Editor.

Franklin County completed its Farm Bureau organization last Saturday, March 29, with almost 300 members which they expect to increase to 400 within a short time. The campaign covered a period of three weeks, and its success is an excellent tribute to the faithful work of the local leader who carried it on.

Changes Name. - At a recent meeting of the members of the Rock Island County Agricultural League, the name of the League was changed to "Rock Island County Farm Bureau." - Adviser Edgerton.

Illinois County Advisers were busy in March with Income Tax Reports, Community meetings, limestone and seed orders, oat smut demonstrations, planning limestone sheds and phosphate bins, testing seed corn, burning chinch bugs, orchard spraying demonstrations and organization of live stock shipping associations.

Editor's Note. "What shall we do in case of clover failure?" is one of the questions which was sent to us by a County Adviser, for answer in the Messenger. Mr. Readhimer has given us an excellent discussion on this subject. This item could not be satisfactorily answered in our regular pages, so we are submitting it in this form. -

WHAT TO DO IN CASE OF CLOVER FAILURE.

In discussing this question, I think we ought to clearly understand the importance of clover in the cropping system of Illinois and the chief causes of failure.

Farmers are realizing, as never before, that it is absolutely essential to include clover as one of their farm crops. They know now that without clover; it is impossible to permanently maintain their crop yields. This is the experience of every farmer who has farmed his land for fifty years, regardless of where this land is located. The man who has failed to grow clover systematically has dearly paid for the failure in constantly decreasing crop yields. No better proof is needed of the absolute necessity for growing clover than is furnished by the results for the past thirty years on the University Morrow Plots. During this time the yield of corn has decreased from an average of 52.1 bushels per acre under a corn, oats, and clover rotaion to an average of 40.8 bushels per acre under a corn and oats rotation. During this same time the yield of oats has come down from 44.6 bushels per acre to 35.3 bushels per acre. These results are abundantly borne out by the experience of thousands of farmers who have followed the same practice throughout Illinois. It is not overstating the facts to say that the growing of clover on somewhere near one-fourth of the tillable land is absolutely essential in the permanent maintenance of productivity in this State.

We hear much these days about clover failure. As the necessity for growing clover becomes more and more apparent, more and more will be heard of the failures of clover. Clover is failing quite regularly on a very large number ofIllinois farms, even on the farms of the corn belt. The growing of clover in thirty or forty of the southern counties of Illinois is almost a lost art. It is certainly time that every one interested should take cognizance of these conditions and every effort should be made to determine the causes of these failures. As I see the problem the causes may be grouped under three headings: first, soil conditions; second, methods of seeding; third, lack of winter protection.

Under soil conditions more failures are probably due to the lack of limestone than to any other one cause. The shortage of phosphorus is another cause and the lack of organic matter is a third. In the thirty or forty counties of southern Illinois it is practically impossible to grow clover without limestone. With limestone it is possible to grow clover successfully in a large majority of the cases. It is easir to grow clover the second time than the first and still easier the third time than the second, and as the soil acidity becomes corrected and the soil thoroughly inoculated, it is less and less difficult to grow clover. The addition of active organic matter produced by turning under some of the clover and also farm manure, and the addition of phosphorus greatly adds to the growth of the clover. We have definite data now extending over a considerable number of years upon which we can base the statement that it is possible to secure good stands of clover nine times out of ten. In twenty-five seedings of sweet clover made on five different soild experiment fields in southern Illinois, there were only two

complete failures and both of these were on land that had only recently been limed and on which clover had been seeded for the first time. In twenty cases out of the twenty-five the stand was reported excellent and in the other three cases the stand was good enough to leave.

What has been said as to the conditions in southern Illinois is also true in almost all parts of the state only to a less degree. Clover failures are much more common in the corn belt on land that has been farmed longest and where least attention has been paid to the maintenance of soil fertility. Failures are much more common on the higher lands than on the low lands. It is a common experience to find complete failures on the knolls and elevated parts of the field, while the stand is good on the lower and more fertile parts. This is due to the fact that the higher lands are more acid, more deficient in organic matter, and shorter in phosphorus.

In the second group of causes for clover failure might be included a poorly prepared seed bed, a rankgrowing variety of nurse crop, and the too heavy seeding of the nurse crop. Clover responds to a well prepared seed bed as well as any other crop. Because the clover seed is very small it is even more necessary to have a well prepared seed bed and it is also necessary that the seed be not covered too deeply. The seed bed should be fine and firm. A good practice where a good seed bed cannot be prepared, and in case of dry weather in the spring, is to roll the ground immediately after seeding with a heavy corrugated roller. This is not only beneficial to the clover, but is also beneficial to the small grain crop as it firmly packs the soil about the seeds and causes much quicker and more uniform germination. It is a common experience among farmers and it is also abundantly borne out by tests at the experiment stations that early maturing varieties of small grain provide much better nurse crops for clover seeding than late varieties. This is due primarily to the smaller growth of the early varieties and secondarily to the earlier harvest. The earlier varieties produce much less shade permitting the sunlight and the warmth to reach the young clover and thus accustom it to the hot sun before the nurse crop is taken off. The harvesting of the nurse crop ten days to two weeks earlier may mean the difference between success and failure, due to hot, dry weather at the time of harvest. A light grain seeding, especially of the early varieties, still further enhances the chances of securing a stand of clover.

An increasing number of farmers are finding it profitable to sow clovers and alfalfa seed with a regular grass seed drill. This saves seed and insures its being covered to proper depth. Where clover is drilled in winter grains such as wheat and rye, there is evidence to show that the cultivation brought about by the drill was beneficial to the grain crop as well.

The matter of seeding a mixture rather than a straight seeding might also be mentioned under this heading. Many farmers are doing this and believe that it is a practice to be recommended. The different clovers vary as to hardiness and habits of growth, and in many cases one variety will succeed where another variety will fail. By sowing a mixture the chance of failure is considerably reduced.

will succeed where another variety will fail. By sowing a mixture the chance of failure is considerably reduced.

Under the third group of causes for failure might be mentioned too close and too late pasturing in the fall, thus leaving the ground bare and the young clover without protection. Only under exceptional conditions should the new seeding of clover be pastured and then only very lightly. A considerable growth should be left on the land for winter protection. It is also good practice to top dress the new seeding with manure in the fall and even mulching with straw will often prevent winter killing. A large number of farmers are now mulching their winter wheat with straw and their experience with it shows that the practice is a good one. Applying straw to the young clover would serve the same purpose and the practice should be recommended and encouraged.

Now as to <u>what should be done in case of failure</u>. In the first place we should be very certain that the clover has failed before plowing it up and often this can only be determined after vegetation has started well in the spring. Clover may look very badly in the fall and even early in the spring and still come out and produce a splendid crop. There is no doubt but that many fields are plowed up prematurely. In many instances the stand is spotted and rather than have a field of this kind it is all plowed up. As a general proposition where there is as much as half a stand evenly distributed over the field the crop should be left. In cases where the stand is good on parts of the field and poor on other parts the good parts should be left, provided they are in such shape and size that it can be economically done. The use to which the clover is to be put will determine very largely the procedure in case of thin stands and also in case of spotted stands. In case the clover is wanted for hay alone about the only thing is to leave the thin stand and get what hay it will produce. In the case of the spotted stand the good areas should be left and the very poor ones should be plowed up and put into something else. Where the clover is to be used for pasture both the thin stands and the spotted stands might well be thickened by working up the soil with a disk and drilling in a light seeding of oats and some more grass seed. A bushel of oats per acre together with a mixture of four pounds of sweet clover, two pounds of mammoth clover, two pounds of alsike, and about four pounds of timothy will greatly add to the amount of pasturage, in fact, it will produce about as much forage as the clover itself. A procedure like this will not only give a large amount of pasturage, but it will also save the rotation. Where the seeding is a complete failure and some hay is needed on the farm, perhaps soybeans are the bet substitute. Soybeans are a legume and will make splendid hay if harvested for that purpose, or they will produce a profitable crop of seed if harvested for that purpose. The substitution of soybeans for clover also preserves the rotation. In case pasture is needed where there is a complete clover failure about the only thing to do is to seed oats with the mixed grass seeding mentioned above.

This whole question of clover growing must be considered a problem in itself and must be studied from that standpoint. If the farmer has been failing, it is his business to find out why and then remove the cause. If the failures are due to soil conditions it will be profitable for him to correct these conditions not only because it will enable him to grow clover, but also because it will be profitable for other crops. If the failures are due to a too heavy seeding of the nurse crop, then the nurse crop must be partially sacrificed, if necessary, to secure a stand of clover. If the causes of failure are due to the treatment of the young seeding during the fall and winter, these causes must be remedied. The clover crop should be one of the profitable crops in the system and should be given every consideration not only to grow it for its own sake, but also for the sake of the land.

J. E. READHIMER.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II April 9, 1919. No. 15

Don't forget that multiple hitch demonstration!

The Community Meeting. -- After a series of meetings this winter and discussing various phases of farming the outcome has been that five carloads of rock phosphate has been ordered by members who have not previously used phosphate. One of the best things that could happen to Illinois agriculture would be for the people in the various communities to organize themselves into clubs of this kind. There is no use in an outsider going in and trying to organize a club, for unless there is a desire on the part of the people in the community for such it will not succeed. When it is organized by the people themselves it proves to be a valuable asset to the community.

"Farmers in various parts of the county have told me recently that despite the fact that clover seed was never higher in price than this year there was going to be more sown than probably ever before. This, I believe, is one of the best indiciations of the attitude the farmers are now taking toward improving their soil conditions. It shows that they are going to quit the "hit or miss" plan of seeding and sow clover regularly each year. In this dairy section it will mean that the farmer can get along with less mill feeds." - Heaton, DuPage Co.

"Top dressing wheat with straw has some disadvantages when it comes to using a harrow on the wheat field in the spring. However, one of our farmers, who spread the straw thinly over the ground harrowed his wheat without any great difficulty. He says he could not do the work when the straw was wet without it bunching up, but that he did get along very well when the straw was dry." Kendall, Morgan County.

Mutton and Wool. "An effort is being made to get our wool growers together to sell their goods to better advantage, back up a good doglaw and try and popularize mutton among American people, particularly in the central, west, as a food. For some reason we are not mutton eaters. Mutton is one of the best and healthiest meats we have and more of it could be used to good advantage." Hay, Christian County.

"The local Milk Producers have organized and joined the Co-operative Milk Marketing Association of Chicago, thru which they will sell all their milk for the present year. We won a great victory over Morrison business last Saturday when 600 farmers met in the Auditorium and demanded that Libby, McNeil & Libby recognize the Marketing Association and pay Chicago prices." - Craig, Whiteside Co.

"The second cow testing association in this County started work on Monday, March 31. With two cow testing associations working we now have a basis from which to work for genuine dairy progress along any lines necessary." Rehling, Clinton County.

"Our limestone club has reached an agreement with one of our elevators whereby the elevator will handle limestone for 8¢ above cost off the car and 25¢ above cost through the shed. Phosphate to be sold for 40¢ above cost off the car and $1.40 above cost through the sheds. An extra charge is made for three months time on payments and also an extra charge for farmers not farm bureau members. The directors of the Jersey Soil Club are all farm bureau members and are to assist in constructing the shed and getting the proposition under way. The Farm Bureau is also responsible for the quality of material sold." - Wheelock, Jersey County.

Limestone Sheds. "Another meeting was held at Kell for the purpose of getting together on building a limestone shed there. Mr. Filson of the C. & E. I. was there and said that the men could have all the room they needed along the track to unload the lime and that they could put up posts and build a wall along the switch, This would be of very little expense. The men decided this would be the cheapest and best until they were ready to use phosphate and then they could build a shed for storage of the rock phosphate and perhaps a covered shed for lime." - Blackburn, Marion County.

Woodford County Farm Bureau has issued a little 16 page pamphlet, concerning the plans and policies for 1919. It also includes a Woodford County directory of farmers according to working groups. Each community center has a leader and an assistant leader with from three to seven additional men who make up the working group. This form of organization is a real working success. This has been demonstrated in a number of campaigns which Adviser Mosier has instituted.

"In preparing a sale catalog for a breeders' association, I find a great deal of time can be saved by sending special forms to the breeders to be filled out. Then the stenographer can take the material and make up most of the catalog without any assistance."- Hedgecock, Peoria County.

"Those farmers who are testing seed corn in DuPage County are finding in many cases that 10% or more fails to grow. A county census shows that many men are failing to test at all. I am urging that all seed corn be tested. The records also show that practically all of the farmers who have cows and hogs will grow sufficient barley to use as a feed substitute for corn." - Heaton.

Seed Corn Tests. "I have just completed several composite germination tests of seed corn which was secured from different localities in this county. The corn that was sound and solid at husking time and dried out thoroughly germinated as a rule better than 95%. Corn that was green and sappy when cribbed germinated very poor. The lowest sample was 79% in germination." - Belting, Shelby County.

During the week 296 bushels of Democrat seed corn were received from Champaign county where it had been grown by Mr. R. E. Schmidt from seed sent north last spring through the Seed Corn Administration. There is a strong demand for seed corn in the county and we were not able to secure enough of this variety to supply the demand but are thankful for the work of the Seed Corn Administration so that we could locate this corn and have it sent back." Doerschuk, Randolph County.

Soy Bean Seed. "We have a lot of good Black Beauty or Ebony soy bean seed for sale by members of our Farm Bureau at $4.00 per bushel, F. O. B. here." - Adviser Tate, Monroe County, Waterloo, Illinois.

The Food Supply and Crop Rotation.- "The growing of a larger amount of legumes will increase the live stock carrying capacity of corn belt farms. Carbonaceous farm crops are now often fed very inefficiently because of the failure to properly balance them. With high protein feeds Henry's and Morrison's summaires of experiments comparing "balanced" and "unbalanced" rations show that from 20% to 30% less feed is required to make the same gains with the "balanced" rations.

At present it is impossible to properly balance allof our carbonaceous feeds because the supply of nitrogenous concentrates and roughages is inadequate. To illustrate, corn 9, tankage 1, is a standard ration recommended for hogs, but the available supply of tankage is only about 1/140 of the amount of corn normally fed to hogs. Therefore, only 1 hog in 16 can receive corn 9, tankage 1.

This same condition exists, though in a less degree, throughout our whole feed supply. We have only about half enough legume hay, bran, middlings, oil meal, cotton seed meal, gluten, feed, tankage and other high protein feeds to balance our immense supplies of carbonaceous feeds such as corn, oats, grass hay, corn silage, corn stover and straw. The corn belt is in worse shape than the country as a whole, because it has such a large proportion of the carbonaceous feeds, while the West used large amounts of the legume hays and the city dairy districts and the South use much more than their share of the protein concentrates.

The only possibility of greatly increasing the amount of protein feeds available is through the increased production of legumes. Merely from a feeding standpoint, it is fortunate that this is the case sincelegume roughage besides being high in protein, also contains liberal quantities of mineral and other substances in which many of the common farm feeds and commercial protein concentrates are likely to be deficient; and since legumes are farm grown and consequently available at the lowest possible cost. Under some conditions freight and handling charges make the cost of any commercial feeding stuffs almost prohibitive.

An incr ase in legume production will probably increase the production of other feedingsstuffs. It will certainly greatly increase the efficiency with which they are used." -- J. W. Whisenand.

More Barley for Monroe County. -- "Apparently there will be more barley planted in this county this spring than every before. This is largely due to the danger of chinch bugs taking the corn. There will also be a large amount of oats planted." - Adviser Tate.

At a meeting in Eureka, 85 Farm Bureau members voluntarily signed pledges to the Illinois Agricultural Association and more pledges are coming in nearly every day. Reports from other counties indicate that the same interest is being shown all over the state.

Farm Account Book and income tax work took up considerable time, but the aid we have given seems to be quite popular. Many farmers advertised the fact that we were assisting members in making out schedules for income tax and have sent their neighbors for similar help. We have found that this work has been a means for bringing in new members. The membership now totals over 450."- Griffith, Lee County.

Did You Have the Flu? Are you interested in helping to maintain the health in your community? The Departmentaof Public Health, Springfield, Ill. is particularly anxious to have the cooperation of Farm Advisers in the matter of rural health problems. The department is prepared to make surveys of communities, furnish lectures, send out printed matter and furnish the assistance as desired. Communicate with Mr. Paul Skoog, Dept. Health, Springfield, Illinois.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II April 16th, 1919. No. 16

Nitrate of Soda shipments have been ordered by a number of orchard men in Randolph County. These shipments have been slow in coming. This fertilizer is wanted very soon because in the experience of some of our men it was a great help in aiding the apple trees to set fruit. Where 1,000 lbs. of nitrate were used in an orchard near Chester over 900 bushels of apples were produced, while on most of the orchards which were not fertilized, less than 50 bushels were produced. In this case, of course, the trees were badly in need of nitrogen. The experience indicates that where nitrate was used, fruit set a great deal better after blossoming and did not fall off to nearly the extent where nitrate was not used." - Doerschuk, Randolph County.

"Due to considerable friction between the dairymen of Sangamon County and the Board of Health of the city of Springfield, a meeting is being called for the purpose of organizing the dairymen. both producers and dealers, in such a way that we may cooperate with the Springfield Board of Health in producing a fit quality of milk for Springfield." - Madden.

A New Experimental Field. - "Almost a year ago we made an effort to secure an experimental field in connection with the township high school at Palestine. In this work we encountered a host of difficulties, but are glad to announce that we have received the deed for this plot of ground from the Board of Trustees and we hope that work may be commenced on it at once. The soil is mapped as yellow gray sandy loam which is a common soil type in the second bottom along the Wabash river in southeastern Illinois. The Board of Education and the Board of Trustees of the Palestine Township High School deserve great credit for their efforts in promoting the establishment of this field to be operated by the University." - C. C. Logan, Crawford County.

"Orchard Demonstrations arouse great interest. - Fruit prospects are good and Henry County is fortunate in having farm orchards planted in good varieties for summer use and winter storage." - Montgomery.

Reducing Corn Acreage to Combat Chinch Bugs. - "Think there will be practically no corn shipped out of the county this year as the farmers in the chinch bug section of the county are reducing their acreage and a few are planting no corn at all." - Wheelock, Jersey County.

Sweet Clover. "At least 16 different farmers are sowing some sweet clover under the right conditions this spring. Much of it is up now. Most of this will be used for pasture, some purely for soil improvement, and a little of it for seed next year." - Rehling, Clinton County.

To promote the sheep industry of Illinois, Mr. J. Z. Frazier, Bureau of Animal Industry, U.S.D.A., with headquarters at the U. of I., willgladly cooperate with the Farm Advisers in giving demonstrations on docking and castrating lambs and shearing and tying wool. There are an average of about 10,000 sheep in each county of the state; only a very small percent of lambs are docked or castrated, and our best authorities on sheep husbandry advise docking and castrating. Ram lambs over 5 months of age usually sell from $1 to $1.50 per cwt. less than wether lambs; wool carelessly sheared and tiedsells at a discount; and it is estimated that over 50% of our wool is tied with binder twine or other undesirable twine which reduces its value from two to ten cents per pound. Farm Advisers desiring the services mentioned above, can communicate with Mr. Frazier.

Legume Inoculation. "I presume that the questions and answers in the Messenger are open to discussion. I have noted the question with referenceto the inoculation of legumes and the unqualifiedanswer favoring the glue method. My own observation and experience in this county would not lead me to the same conclusion. I have examined numerous fields of alfalfa and sweet clover inoculated in this way where a good stand was obtained at the start, but the plants soon began to dwindle and die except here and there one which grew up strong and vigorous. Examinations showed these strong plants to be inoculated, but not the others. Of course, these fields were failures. I think the work of inoculating was done as nearly as possible according to directions given. In fact, in one case it was done by a graduate of the College of Agriculture. In other cases, I have done it myself. I should be glad to know just where the trouble is with us. If the Messenger will give the exact process used, amount of glue per gallon of water etc., I will appreciate it very much. I know of no other method that can be used practically on fields of considerable size and my experience here has led me almost to give up recommending this method.- C. H. Oathout.

"Do you want some additional pages for membership list to paste in your Farm Bureau Account Book? The State Leader's office is considering having some of these pages printed to be used in books where the membership list has outgrown the pages originally provided. A page can be pasted in between any two pages where the space is already filled. If you wish any of these pages please write us at once, stating the number of pages that will meet your needs." - Atwood.

"I d-d no- tak- tim- -o -est -y see- -orn an- th-s is the -esult. Do you want to find as many blanks in your field of corn as there are in the above sentence/ Twenty-five bad ears means 2 acres of idle soil in my field. If on every 8 acres I should leave 2 unplanted I would be considered a very poor farmer. If I sow seed which is 25% bad, I will have 2 idle acres just the same, but it will be scattered over the field so I will not notice it so much. Can I afford to do this, or shall I test my seed corn?" - Adviser Dickenson's Circular letter.

"A great many farm bureau memberships are coming in coupled up with an order for a car of limestone. This is an indication at least that these men believe that they can be taken care of by the Farm Bureau organization. People are following the advice to order their limestone early this year. So far 80 cards have been ordered. Last year at this time the orders were just beginning to come in." - Price, Saline County.

"Fire blight is the most destructive disease of pears and quinces and in certain seasons is extremely serious on apples. Blight, pear blight, blossom blight, twig blight, and fire blight are some of the names given to this disease. Fire blight is perhaps the most appropriate name. It fits the characteristic symptoms of this disease which resemble scorching by fire of blossoms and leaves.

The most conspicuous injury is to the blossoms and ends of new wood growth. When attacked, these parts of the tree die resulting in complete loss of the fruit crop and a severe check to the growth of the fruiting parts of the tree.

Blossom and twig infection on pears and quinces may spread into the large limbs where cankers form. These cankers may also be formed by the disease gaining entrance thru mechanical wounds on the bark. On most varieties of apples, excepting crabs, fire blight infection does not extend very far into the larger branches but is more or less confined to the fruit spurs or new growth.

Fire blight is caused by bacteria which when introduced to pear, apple, and quince blossoms or young shoots multiply rapidly, feeding upon the tissues and secret poisonous substances which kill the infected parts.

Cankers on spurs and limbs are the source of annual infection from fire blight. During moist, warm weather of spring a milky to amber-colored substance containing the bacteria oozes from these cankers. The bacteria are carried by insects and wind to other trees where blossom and twig infection occurs. Rains also carry the organisms to different parts of the same tree.

The fact that fire blight of pears and apples is a bacterial disease attacking internal tissues makes it a difficult one to control.

No means of spraying has been discovered as yet which will effectively control fire blight. The following recommendations are offered as the most satisfactory for reducing infection from this disease.

1. Remove seriously diseased apple, pear, quinc, and crab-apple trees within one-half mile of the orchards to be protected.

2. Remove blighted spurs and branches. Such treatment is practical only in young pear or apple orchards. For large trees the cost and time required would prove prohibitive.

3. Cut out and disinfect large cankers. Such work is proving practicable in certain states. The practice, however, is expensive. Cankers should be scraped or pared back to live wood and the wounds disinfected with corrosive sublimate (bichloride of mercury), at the rate of 1 to 1000 parts of water.

After sponging the wounds with this solution, a mixture of white lead and linseed oil containing two tablespoons of crude carbolic acid should be applied. All pruning tools should be disinfected.

The success of the above treatments will depend upon everyone in a community doing his part." - A. J. Gunderson.

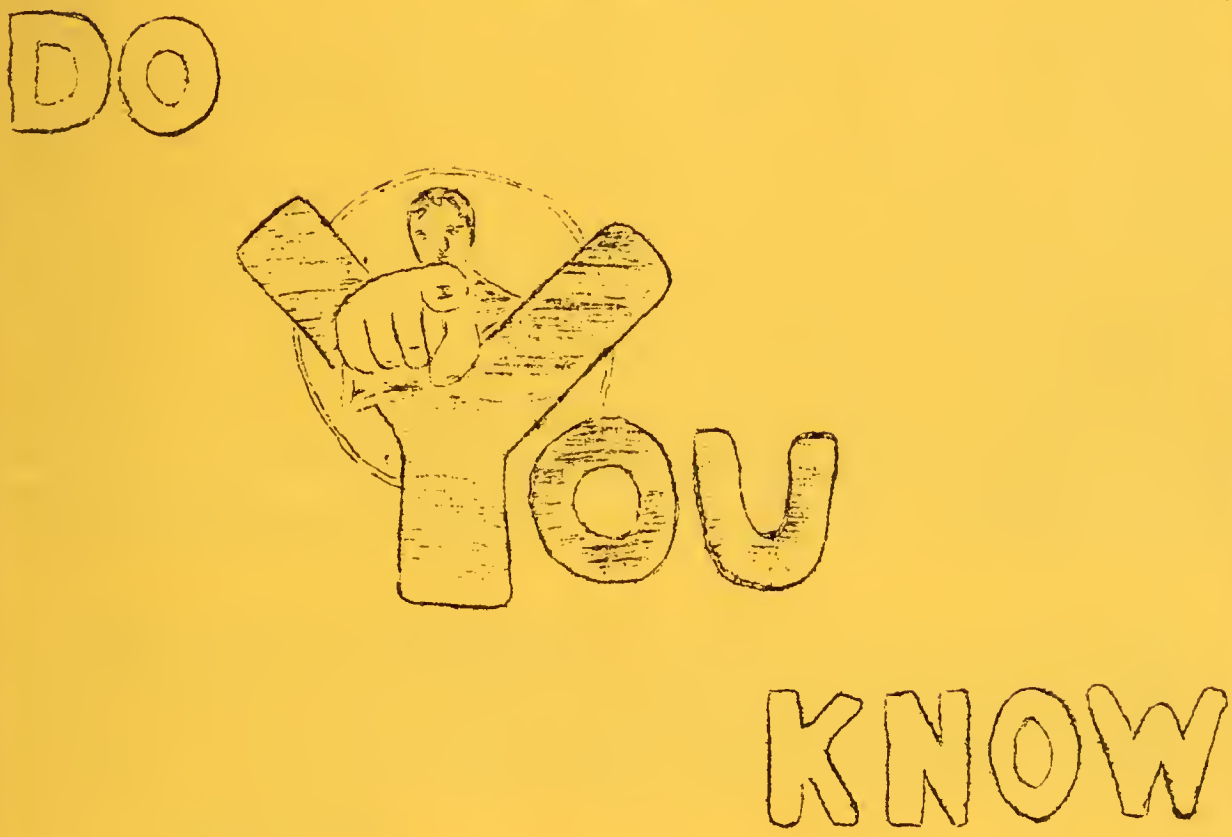
"Concerning the apple aphids referred to in recent reports from Jackson and Marion counties, you may be interested to know that there are three kinds of apple aphids which infest the tree in spring in the same way and with very similar effect. They are the apple leaf-aphis, the rosy apple aphis, and the apple bud-aphis respectively, the last being also known as the oat aphis since it migrates, usually in May, from fruit trees to grasses and cereal grains, including wheat, rye, and oats. This oat aphis is, as a rule, less injurious to the apple than either of the other species. The rosy aphis also migrates, but the apple leaf-aphis stays on the tree throughout the year, causing the leaves to curl and injuring the young fruit in a way to produce a dwarfed and misshapen growth. These distinctions have no great practical importance, since the treatment must be the same for all. This is a thorough spraying with 40-percent nicotine sulphate, commonly known as Black Leaf 40, at the rate of 1 part to 800 parts of water. A thorough covering of the twigs is necessary, as the aphids must be hit with the spray to kill them." - S. A. Forbes.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II April 23rd, 1919. No. 17



WHY there were 1500 people at the Multiple Hitch

Demonstration in Decatur on April 19th?

- - - - - - - - - -

GOOD JUDICIOUS PUBLICITY

is the answer.

If you have a good idea to sell,
give some thought in the selling.

"Swine Plague, Hemorrhagic Septicemia and Hog Cholera.- Swine plague is a specific infectious disease resulting from the invasion of B. suisepticus. The disease is generally of a chronic character, accompanied by pneumonia and pleurisy. It may occur in conjunction with hog cholera and in infected herds where swine plague is suspicioned it is advisable to use the serum alone treatment to avoid losses which might follow the administration of the double treatment in such instances. It is very difficult if not impossible to accurately differentiate between the symptoms and lesions of hog cholera and swine plague. In cases of doubt it is always advisable to use anti-hog cholera serum and follow with injections of swine plague bacterins if the losses are not successfully checked by serum. At the prevailing price of pork, it seems advisable to vaccinate all pigs immediately following weaning on premises where disease prevailed last year. Hemorrhagic septicemia and contagious pneumonia are identical with swine plague and may occasionally occur independent of hog cholera.

"Preventing Swine Diseases. While hog cholera serum is being used more freely in the control of hog cholera, such valuable aid as sanitation in combating this disease should not be neglected. This is the year of all years for vigorous disinfection of hog houses and rotation of pastures if progress is to be made in checking the occurence of last year's swine infection. Pasture rotation should be more urgently recommended as a step in swine hygiene. Especially is this applicable on farms where disease has prevailed year after year. The soil becomes impregnated and the application of chemical disinfectants are of no avail. Many of the pastures of the State have been used for feeding and raising swine for 10 or more consecutive years, and the fundamental laws of health and hygiene have been disregarded in this procedure. Judging from the various inquiries being received, relative to the diagnosis and treatment of pig diseases, there is no more practical or urgent message of conservation at this time than rotation or hog pastures. This seems to agree with the observations of all County Agents and Veterinarians so far consulted." - Robert Graham, Professor of Animal Pathology.

Rules for Tractor Demonstrations. "The American Society of Agricultural Engineers has prepared and printed a set of rules to use in connection with Tractor Demonstrations held under the auspices of County Agicultural Agents, Agricultural Institutions, Dealers and Manufacturers. Perhaps Farm Advisers will be interested to know that copies of these rules may be secured from Prof. F. W. Ives, Secy. of the American Society of Agricultural Engineers, Ohio State University, Columbus, Ohio.

Ford County Farmers have organized a Farm Bureau and now have three hundred or more members and are ready to employ an adviser. These members have been secured for both the local Farm Bureau and Illinois Agricultural Association. The organization work was done entirely by the local people.

Did you notice that last circular letter from Adviser Brooks? It was right off the bat - attractive, concise and all on one page. It is labeled "Coming Events - Members be Present".

We had a meeting with the County Fair Board at which they agreed to let the children of the clubs into the Fair without getting an exhibitor's ticket. They also agreed to do their part toward having a Duroc Futurity Show at the Fair." - Oathout, Champaign County.

"Our farmers are aware of the chinch bug danger and are preparing to grow cowpeas and soybeans." - Piper, Richland County.

More About Legume Inoculation. - Adviser Baldwin says - "I note in the Extension Messenger that Adviser Oathout has come to about the same conclusion in regard to the glue method of inoculation of legumes as we have. In fact, we have almost abandoned this method, as the method we are now using seems to give far better results. We merely get a silt soil, if possible, from around inoculated plants and after sifting it through a fine sieve add water to the soil and mix to a thin batter. This is added to the seed to be inoculated and by merely stirring and rubbing thoroughly, you will find that each and every seed becomes thoroughly coated with the puddled soil, and seems to stick far better than where the glue is used."

Adviser Griffith comments as follows: - "I note in the April 16th issue of the "Messenger" that Mr. C. H. Oathout discusses "Legume Inoculation". We have had somewhat the same experience Mr. Oathout has had from the fact that the inoculating is often poorly done and even where it has been done carefully and thoroughly we have found failures in the resulting stand, especially in so far as finding nodules on the roots, is concerned.

About 3 years ago, we used an entirely different method. To a quart of water we would add a pint of starch solution, then add from a pint to a quart of inoculated soil. We would then pour from a pint to a quart of the muddy water solution over a bushel of seed, depending somewhat on the kind of seed. For soybeans we find it takes but one pint of this solution to thoroughly moisten this seed. For clover seed it probably takes from a pint to a quart of the muddy water solution. This makes one operation of mixing do the work and the seed drys very quickly and will be found to be coated with a thin film of muddy water which dries to a thin coating of soil on each seed. We now even leave out the starch and use equal quantities of water and inoculated soil. We have samples at the office which were treated the latter way a month or more ago, and except for the labels we cannot tell the difference between the samples treated with a starch solution and those treated with the muddy water solution. We have, therefore, recommended the use of the muddy water solution entirely."

"Wheat and Rye in County best in years, although wheat on land where cowpeas or clover had been plowed under or disced into soil shows much heavier growth, than where no legumes had been grown." - Baldwin, Mason County.

"Monroe County Farm Bureau completed its first year of work March 31, with all membership dues paid in with the exception of one member." - Spitler.

"The first Annual and Get-Together Meeting of the McDonough County Farm Bureau was held on April 11th. About 175 farmers were present at this meeting. Although this County was organized more than a year ago, it was not possible to secure an Adviser to begin work until the middle of March when Mr. Doneghue took up the work there. A drive for increasing the membership was completed at this meeting and there are now more than 400 members in the organization. Mr. Rusk, Farm Adviser in Adams County and representatives of the State Leader's office were present at the meeting which was a very successful one.

A Get-Together Meeting of more than 175 members of the Menard County Farm Bureau was held on April 15th. Mr. D. O. Thompson, representatives of the State Leader's office, and Farm Advisers Baldwin and Dickenson addressed this meeting A banquet was held at noon, at which nearly 200 farmers were present. This meeting gave an opportunity for the members to meet Mr. Wilder, the Adviser in this County, who began work there on the 6th of March. Although this is one of the smallest counties in the State, they now have more than 400 enthusiastic members.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II April 30th, 1919. No. 18.

"Spring seedings of Alfalfa last year in this county seem to have all come thru the winter in good shape and are looking fine now. Last fall seedings are partial or complete failures in practically every case. We are keeping a definite record of alfalfa seedings this spring. Also the manner of seeding, whether in wheat or oats, or without a nurse crop. We are also planning on keeping a similar record on all seedings made next fall and hope to have some fairly good data on this problem within a year or two. From our observations so far, it seems like the spring seeding is best under our conditions. The trouble with the fall seeding is that it is often put off too long. This is often due to dry and unfavorable weather in the fall, and sometimes to grasshoppers, like last fall. There also seems to be more heaving from frost on fal sown alfalfa than on the spring sown. The spring seeding, if made before June 1st, usually gets enough moisture to produce a fairly good top and enables the roots to penetrate to a good depth beforethe summer drouth sets in. It will then push thru this period in good shape. In the fall it makes some additional growth and goes thru the winter in good condition." - Rehling, Clinton County.

"We have purchased soy beanseed for more than halfof our members this year and the amount we have bought is only a fraction of the amount to be used this year. Practically all of the beans will be planted in corn. We have succeeded in interesting two of our members in producing soy bean seed and hope to develop a local source for seed. Several lots of beans we have examined this year will not grow and it looks like a lot of these beans have been distributed already. All lots of soy beans should be tested for germination." - Lloyd, Hancock County.

"We have ordered one hundred and seventy-seven and one-half bushels of soy beans for the farmers. A large part of these are going to be planted with the corn to be cut for ensilage and for hogging down." - Miller, Macoupin County.

Soy Beans Make Big Yield. "One of our men reports a yield of 25 bu. per acre of Ebony soy beans last season on limed soil. Investigation seemed to support his statement, as he had the beans, and showed me the land he had grown them on." - Doerschuk, Randolph County.

"A quantity of soy beans was shipped here and resacked and rebilled by the County Agent to members of the Farm Bureau. Soy bans are rapidly gaining popularity in this County. - Edgerton, Rock Island County.

Sale of Union County Orchards. - "A Chicago Commission firm has recently purchased about 1000 acres of the best bearing orchards in Union County at about $500. per acre. Some of the best growers in the county have been bought out. These men are being hired to stay on the places for 18 months. H. H. Lamer, one of the largest Union County growers, is to be general manager at $5000. per year." Durst, Union County.

New Wheat Disease. Adviser J. B. Haberkorn writes us as follows: "We have had several thousand acres of diseased wheat in our American Bottoms and the following telegram was received from the U. S. Dpt. of Agri.:- 'Mr. J. B. Haberkorn, Edwardsville, Ill.- Disease in wheat examined on Troeckler and Soechtig farms on April 21, is almost certainly the serious Australian disease known as "Takeall" not previously found in America. Letter follows.- A. G. Johnson.' "

Wool Prices Higher. - "Bradstriet's comments under date of Apr. 26, 1919, show that various Government auction sales of wool in the U. S. have been successful. High prices realized at these sales have greatly strengthened western growers in their ideas of the value of their wool and dealers complain that their chances for getting the new clip at reasonable figures have been dashed by the way the mills and the trade are competing at the Government auction. Prices in the west are materially higher than they were a fortnight ago. Considerable activity is noted among the mills and a very large volume of wool is going into consumption.

The above showing that the wool market is daily gaining in strength is food for thought to some of our farmers who are apparently getting high bids for their wool." - W. C. Coffey, University of Illinois.

Lake County is now putting on a two weeks membership campaign to increase membership in local Farm Bureau and State Association. Mr. J. C. Sailor, Asst. Secy. Ill. Agr. Assn., is in charge of the campaign for the State Association and Mr. Ralph Rouse for the Farm Bureau. Three other men are working with Mr. Sailor. The campaign is progressing satisfactorily and as a result, Lake County will have a larger, stronger and more united membership than ever before.

About 100 farmers met in Albion on April 25 and organized the Edwards County Farm Bureau. This is one of the smallest counties in the State, but they had 243 members pledged for three years at $10. per year and expect to increase the number.

Federal Banks Co-operate. Recently it was my privilege to spend a day in the field with one of the federal land bank appraisers, who passes on applications for loans thru both the Farm Loan Associations as well as the Joint Stock Land Bank of Chicago. I was very favorably impressed with the conservative estimate placed on the farms examined and the same, sensible and constructive interpretation of the entire rural credits problem by this gentleman.

Practically all of the borrowers were planning on using a good share of the loan for farm improvements, such as tiling, buildings and improvements in the farm home. Small borrowers, that is those needing $10,000. or less are encouraged to borrow through their local Farm Loan Association, where one is available. Large borrowers, those wishing from $10,000. to $50,000., the latter being the maximum loan to any one borrower from the Joint Stock banks, are encouraged to place their loan thru the Joint Stock Bank. It would seem that this kind of co-operation and service should take care of the long term credit needs of any agricultural community in the State." - J. D. Bilsborrow.

File your copies of the Extension Messenger. - We are continually getting calls for "all the back numbers of the Messenger if you can supply them". Of course we keep the original stencils, but it involves an appreciable amount of labor and time to put these back on the mimeograph to obtain back copies. If all our readers will keep a file of every copy, they will find it a valuable reference to have on hand.- Ye Editor.

Office Callers in McHenry County are greeted with this sign in large letters "Are You a Member of The McHenry County Soil Improvement Association? If Not, Why Not?"

Legume Inoculation. The following information is not offered as a defense of the glue method of inoculation, because its successful use is common, but is offered to assist if possible, in solving the difficulties which some may have in its application.

The success of any method of legume inoculation, in which soil is used as the carrier of the bacteria, depends first, upon the soil itself; second, upon the distribution of the infected soil on all seeds; third, retention of the soil by the seed during handling and seeding, so it will adhere to the seed until germination.

It matters not whether one prefers the glue or the muddy water method. In either case the soil used must be well supplied with the proper bacteria as soil without them it is of no value. The greatest error has been at this point. Collect soil which has legumes on it that possess nodules. Include in the sample some nodules. One nodule, I have found ample to inoculate a large amount of seed.

Make the soil as fine as possible, if used dry, otherwise it cannot be evenly distributed, which it must be, to avoid uneven inoculation. The use of glue insures the soil remaining in contact with the seed until time of germination. There is no objection to placing the soil in the glue solution before applying it to the seed. It requires more of the solution as the soil takes up some of it.

The success of the muddy water method depends upon the soil collected. Any advantage it may have over the dry-soil glue method, is being studied as well as any disadvantage it possesses with certain soils that will not adhere sufficiently to the seed. A series of experiments under field and carefully controlled conditions, are being conducted by the division of soil biology, on the glue method, its value in feeding the bacteria, strength of glue solution, amount of soil, reinforcements with chemicals, sugar, starch etc. The muddy water method is also being studied. The duration of inoculation on the seed before planting and under field conditions, together with the influence of sunlight are being tested. The value of any inoculation for common red clover on corn-belt soil is a part of this study

This phase of the question is being tested on a field basis, several acres of both uninoculated and inoculated are being grown on a number of Champaign County farms and at the University. An opportunity to examine poor or complete failures of soil inoculation methods, where inoculation possessed the proper bacteria, would be appreciated by the division of Soil Biology." - A. L. Whiting, U. of I.

Hog House Disinfection.- Hog housesshould be cleaned of dirt and other loose material, which should be burned or spread on pastures not used for swine. Any reliable disinfectant should be applied to the floor, side walls, troughs, and every available space. Sanitary measures are economical before disease appears, and if conscientiously applied, may be relied upon to greatly reduce swine losses. Unclean hog houses are centers of infection for such diseases as necrobacillosis in its various forms, i e., sore mouth, bull nose, necrosis of the ears and tails, as well as swine plague or contagious pneumonia, which may develop in sucking or weanling pigs. All of these diseases are preventable in a large measure and the practical method at hand consists of cleaning and disinfecting hog houses and rotating hog pastures. These measures are furthermore efficient against cholera and other infectious swine diseases. The greatest losses are due to hog cholera virus, tho it should be remembered in a small percentage of cases swine plague may prevail in connection with this disease to constitute an independent factor of death. The specific bacterin treatment is recommended in swine plague at the time serum is given on premises recently infected, as specific bacterins are indicated following the injection of hog cholera serum if the disease is not checked. On last year's infected farms where serum did not efficiently check the infection, the writer would prefer to immunize pigs at weaning time against hog cholera and swine plague simultaneously." - Robert Graham.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II May 7th, 1919. No. 19.

"NEW TAKE-ALL" WHEAT DISEASE Becomes a Serious Problem. It has been thought best to permit the county advisers in the wheat growing district of Illinois to see this disease in its incipiency. Accordingly, the following telegram is being sent today to the Advisers in this District. We are reproducing it because some other Advisers may wish to attend -

"Emergency meeting Farm Advisers, Lauff Hotel, Granite City, 10 o'clock Saturday morning, May 10th, to discuss serious "TAKE-ALL" Disease of wheat, and see infested field. Come if possible. Coffey."

"Experience with Crimson Clover - It is generally conceded that crimson clover cannot be expected to live over winter in this section. One Jackson County farmer not knowing this fact, seeded some crimson clover last fall. Some of it has survived a mild winter, but we have seen enough to convince us that fall seeded crimson clover is decidedly risky in southern Illinois." - Thomas.

"A small quantity of winter barley which we shipped down from Michigan last fall and tried out at two different places in the county came thru the winter in very good shape,, and showed every prospect of making good here. The chinch bugs, however, show a special liking for it, and are now completely killing it out. We can regard this barley as a complete failure as long as we have the bugs to contend with." - Rehling, Clinton County.

Window Display. "We have just put a dairy display in our windows and altho' it has not been completed more than six hours it has attracted a large number of people. The display shows the value of a pound of butter, a quart of whole milk, a quart of butter-milk, a pound of cream-cheese, and a pound of cottage cheese as compared with some of the more common foods; such as beef-steak, eggs, oranges, bananas, cabbage, etc. We also have a display of corn silage, alfalfa hay and other things which go to make up the cost of producing a quart of milk on the farm. We have already had a great many compliments regarding the display and we feel that it will be of great educational value to all who see it."Miller.

Display windows greatly increase the interest of farmers in the work of the the Farm Bureau is doing. Adviser Bracker in Knox County arranges a new window display nearly every week, and it is very interesting to watch the number of people who drop around to study the lessons which are being taught in this way.

"The apple crop was badly damaged by the frost. Good apple-men estimate there will be much less than half a crop" reports Riper, Richland County. "We still have a good deal of fruit left in spite of the very heacy frost a week ago." Tate, of Monroe County. "Fruit in this section was not far enough along to get caught by the recent frost." Baumeister, Stephenson County.

Potassium Cyanide for Fruit Trees. - Adviser Durst reports the detrimental results obtained by several Union County fruit growers, who had read an article in a Belleville newspaper advocating that potassium cyanide would stimulate the growth of the tree and destroy San Jose scale and codling moth. The treatment consisted of boring a hole in the center of the tree, filling it with potassium cyanide, corking the hole and repeating the application when the first cyanide had disappeared.

Examination showed the bark and sap wood died above and below the holes for about 10 or 12 inches and about 3 inches wide. These fruit growers now think the cyanide will materially shorten the lives of their trees. Durst says:- "Experimentation is too expensive for the average farmer and should be left for the experiment station."

New Advisers. - St. Clair County has decided to employ Mr. B. W. Tillman, as Farm Adviser. Mr. Tillman is a graduate of the University of Missouri and is at present extension specialist in soils in that institution. He expects to begin work in St. Clair County, Illinois, June 1st.

Mr. H. O. Allison has been secured by the Livingston County Soil & Crops Association, as successor to Mr. Bishop. Mr. Allison is a graduate of Illinois and was instructor there in Animal Husbandry 1906-1910. He is now engaged in similar work at the University of Missouri. He will take up his new work as adviser in Livingston County about the middle of June.

No Threshing Reports this Year. - We are in receipt of a letter from Mr. Charles J. Brand, Chief of the Bureau of Markets, containing the following information:

"We have received a number of inquiries recently in regard to the plans of this Department for obtaining reports from threshers concerning the amount of grain threshed. Work of this character during the past year was conducted under war emergency appropriations which will not be available after June 30, 1919. The Bureau of Markets will, therefore, not attempt to obtain from threshermen reports of grain threshed this coming year. Thankingyou most heartily for your cooperation in the 1918 thresher inquiry."

We have received a number of inquiries recently in regard to the plans of this department for obtaining reports from threshers concerning the amount of grain threshed. - Coffey.

Many Farm Bureaus are counting on the cooperative marketing of their wool according to the plan of the Illinois Agricultural Association. We quote a few of these reports as follows:-

"Macon County wool growers adopted the cooperative marketing plan. 505 sheep were represented by the owners present at a meeting April 29." Smith.

"Much interest has been aroused over the county among the sheep men in the cooperative shipment of their wool." - Adviser Burwash, Piatt County

"The pooling of the county's wool clip was heartily approved at the Board of Directors' meeting." - Richey, Mercer County.

"Preliminary plans for handling the wool by the Illinois Agricultural Association plan were worked out this week. We expect to ship at least one car-load from Hancock County." - Lloyd.

"Quite a number of our farmers are interested in the contemplated pooling of wool. However, I find that some prefer to have the wool graded locally than to allow this to be done in Chicago." - Logan, Crawford County.

"Whiteside County Farm Bureau Directors made provision for buying feeds etc thru a local dealer instead of having carlots shipped in to the Farm Bureau."p Craig.

Among our Queries we find:- "HOW MUCH DOES A MAN LOSE WHEN HE BURNS HIS CORN STALKS?" Here is the answer in a nut shell. "On two of our corn belt experiment fields, one a black clay loam soil, the other, a brown silt loam soil, the check on untreated plots, for a period of seven years, have averaged 1.56 tons of stover per acre. This is the average from thirty-one plots. The corn which was husked from these plots averaged 41.8 bushels per acre.

In the corn belt, considering the fall and winter pasturing that is done, it is safe to assume that in the spring one ton per acre of corn stalks are left to be worked into the soil or burned. Analysis show that stalks which have remained in the field over winter contain 14½ pounds of nitrogen per ton. Thirty cents per pound is a low figure for commercial nitrogen, but at this figure the nitrogen lost by burning a ton of stalks is worth $4.35.

No definite figure can be placed upon the organic matter value of the stalks. However, some authorities state that this is equal to one-half of the nitrogen value. H. E. F. Fahrnkopf.

Blue vs Brown Phosphate.- Several Advisers have received quotations on blue and brown ground rock phosphate with comparative prices differing as much as one dollar per ton. Inquiries are reaching us asking for information regarding any real difference. According to the best information we have at hand, based on various experiments and trials comparing blue and brown phosphate, the mere color makes no difference in the relative values. There are but two factors which need to be considered. These are (1st) - the phosphorous content, and (2nd) the degree of fineness. Upon these factors depends the value of the phosphate.

The brown phosphate comes from or near the surface of the ground and the iron compounds contained therein have been oxidized which causes the brown color. The blue phosphate comes from a more remote depth and is unoxidized. The blue phosphate may contain a small amount of calcium compounds, but if one wishes to buy calcium he can buy it far cheaper in the form of crushed limestone than in the form of blue rock phosphate." - J. E. Readhimer.

Should We Have a New System of Marketing Wool in Illinois? "In Edgar County during the last ten days in April two farmers having essentially the same kind of wool, sold their product one to a local dealer at 43 cents a pound; the other to a Boston firm for 53 cents a pound. The man selling to the local dealer lost $173. Doesn't this case look like it would pay to form county wool pools in Illinois in order to market wool according to an intelligent and uniform plan?" W. C. Coffey.

Eggs in Waterglass. During the past two years, fresh egg prices from August 1st to March 1st have averaged twice as high as the lowest spring prices. Cold storage reports from 1918-19 show that eighty-four per cent of all the eggs stored went in between April 1 and May 31. This, then, must be the season of lowest prices. Eggs are also in better condition at this season. They should be collected soon after being laid and not be allowed to lie in the nests and become warm and unfit for use.

The cost of preserving eggs at home should not exceed three cents per dozen. Waterglass (Sodium Silicate) can be purchased at any drug store for twenty or thirty cents per quart, or less in quantity. Use one quart of waterglass with nine quarts of water which has been boiled and cooled, for each fifteen dozen eggs preserved.

Those who have put down eggs in water glass say that eggs with brown shells are best because they have thicker shells and keep better. The eggs are used for cooking and eating. The yolk breaks so easily after having been kept in the solution that they are not generally used for poaching. They are just as good for cooking purposes as eggs bought in the market.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

May 14th, 1914. No. 20

"Further experiments in the treating of binder twine to prevent injury by insects have proved very inconclusive and it will be necessary to continue this work for another season. As some of the men who used the twine treated with creosote last season report injury, this method of protection cannot be relied upon." - W. P. Flint.

"The clover-leaf weevil has been reportd abundant in many counties in the state and several inquiries have been received as to the advisability of plowing under infested fields. Injury by this insect will decrease rapidly from now on as the larvae are becoming full grown and are spinning their green lacy cocoons at the bases of the clover plants. They are also being killed in large numbers by a fungus disease. There will be some feeding by the beetles later in the season, but I feel sure that it will not be necessary to plow up infested fields unless they have already been seriously damaged. This insect feeds only on clover and alfalfa so there is no danger of injury to other crops."-W.P. Flint.

New and Serious Potato Disease. - The Potato Wart Disease has recently been discovered as having found its way into the United States and becoming fairly well established in Luzerne Co, Pennsylvania. This is without a doubt one of the most serious and virulent diseases of the potato. It spreads rapidly and ruins the entire crop when once it gets started. It is hoped the disease may be checked in its present location. We call your attention to a complete history and description of this disease in Bulletin No. 156 of the Pennsylvania Agricultural Exp. Station.

Stomach Worms in Lambs.- "Fast the animals from 16 to 18 hours before dosing by keeping them entirely away from feed or drink of any kind. For mature sheep mix one-half oz. of gasoline in about one-fourth of a pint of sweet milk, (and for lambs one-fourth oz. of gasoline) and drench from bottle or large syringe. After drenching fast 2 or 3 hours more. It is well to drench again in 3 or 4 weeks after the first time and about every 6 weeks thereafter during the summer. Liberal feeding and constant access to salt and clean water will help keep down the evidence of the stomach worm infestation." - W. C. Coffey, Ill. Exp, Station.

"A good mineral mixture to have before pigs at all times is - charcoal 5 parts, salt 1 part, rock phosphate 1 part, and limestone 1 part." - J. B. Rice.

"Canker sore-mouth is causing some losses in pigs - intestinal form of Necrobacillosis is causing trouble also - one man lost his entire crop. Where there was necro in the herd last year there is every likelihood that spring pigs will pick it up. Several are treating their pigs as a precaution." - Baumeister, Stephenson County.

"Soy beans are of interest to Illinois farmers chiefly for their value as legumes or for their seed. It seems quite possible, however, that there will be a commercial demand for this bean as an oil crop. At the present time soy bean oil is used in the manufacture of paint, varnish, butter and lard substitutes, soap, linoleum, explosives and foodstuffs. The growing demand is indicated by the rapid increase in the imports; in 1915, 21,000,000 lbs., in 1916, 145,000,000 in 1917, 265,000,000 and in 1918, 336,000,000. The value of the oil in 1918 was 11½¢ a lb. A sixty-pound bushel contains about twelve pounds of oil." - A. W. Jamison, College of Agriculture, Urbana, Illinois.

Visitors to the College of Agriculture. - County Advisers are already arranging for trips to the College of Agriculture this summer. From now on until fall, there will always be something to see on the farms. The College welcomes visitors, and plans to furnish guides so that the time of the visitor may be conserved. County Advisers contemplating a trip with their friends will help matters greatly if they will write as far in advance as possible stating when they wish to make trips. With this information at hand, it is possible to schedule a large number of visitors without interference and so give much better attention to guests. A schedule is maintained in the office of the Assistant Dean, and dates reserved as rapidly as decided on. Write to A. W. Jamison, Col. of Ag, Urbana, Illinois, giving a first and second choice of day, the probable number making the trip, and whether by train or automobile. Details will be arranged promptly, and guides provided. It has been found in the past, more convenient for parties to take their dinner in the restaurants, rather than bring lunch from home.

Cattle Sale. - "Tazewell County Shorthorn Association's first sale was a huge success. Notwithstanding a week of rain and mud over 700 people were present at the May Day sale at Morton. 28 females, mostly young heifers, brought $9,905. an average of $359. Top was $700. 21 bulls sold for $5340., an average of $250. Top was $600. Entire 48 head brought $14,945., an average of $311. Had 19 consignors in sale." - C. G. Starr.

"The second annual sale of the DuPage County Holstein Breeders was held last Wednesday. The attendance was very large and the cattle sold at satisfactory prices. One feature of the sale which was very gratifying was the fact that the biggest share of the cattle went to DuPage County farmers; the most of them to men who are just starting in the pure-bred business, or to breeders with small herds. The top prices for bulls were $775 and $750; for females was $500 for each of two cows. Breeders are now considering a fall sale and the building of a sale pavilion in Wheaton to take care of all pure-bred sales including those held by beef cattle and pure-bred hog breeders."- Heaton.

"The dairy business in Morgan County is on the decline. In spite of all of our efforts to boost it and interest men in cow testing associations, the dairymen are going to shift to other lines of work. There is plainly a revival of interest in beef cattle production." - Kendall.

"Cooperative Spraying. - "Eleven men have formed a spraying ring and purchased a two hundred dollar machine and the necessary spraying material. This rig has been mounted on a truck and at the demonstration where nearly all of the members were present, the work of the sprayer was entirely satisfactory. Three directors are responsible for the management and operation of the sprayer."- Longmire.

, "DOES THE ORGANIC ACID FORMED BY THE DECAY OF ANY GREEN CROP WHICH HAS BEEN PLOWED UNDER TEND TO MAKE IT UNFAVORABLE FOR THE GROWTH OF NITROGEN FIXATION BACTERIA?"

"DOES PLOWING UNDER GREEN CLOVER, GREEN COW PEAS, OR HEAVY GROWTH OF WEEDS TEND TO MAKE THE SOIL SOUR?"

"Decomposition of Organic Matter. - All nitrogenous organic matter, whether green or dry when attacked by soil bacteria and molds, undergoes at first an alkaline stage in its decomposition. The large amount of ammonia that is split out of the amino acids and acid amides unites with the carbon dioxide and the result is ammonium carbonate, a strong alkaline substance. Most of the common farm crops and manures are about fifty percent carbon and any carbon dixid that does not unite with some base passes into the air. Soon the ammonia is oxidized to an acid stage and all the other elements such as phosphorus, sulfur and carbon also pass through an acid stage; finally further oxidation yields a neutral salt if bases are available. Green material goes through these stages faster than the dry, owing to its succulent nature and the instability and greater solubility of its compounds of carbon and nitrogen.. Thus all organic matter tends to sour soils as the carbon dioxide, nitrogen, sulfur and phosphorus remove the soil bases. Herein lies the advantage of liberating phosphorus and potassium from mineral sources by decomposing organic matter. Rarely does organic matter become so wet in a soil as to decompose to an acid stage at first as it does in a silo. When such conditions occur if limestone or phosphate are present, no injury will result.

Many organic acids may arise in the course of the decomposition, but they are weak acids and their calcium salts are excellent sources of energy for bacteria, so they are rapidly attacked and split to carbon dioxide and calcium hydroxide. Azotobacter, the most vigorous nitrogen fixer living, outside the legume nodules is able to use organic acid salts, sugars, and cellulose as a source of energy to fix atmospheric nitrogen.

The organic acids from green crops are not different from those of dry crops, when both are under normal conditions. The difference between the green and dry lies chiefly in the rate of decomposition.- " A. L. Whiting.

A special meeting of the Farm Advisers from the principal wheat growing counties in Illinois was held at Granite City last Saturday. The object of this meeting was to discuss the disease that is attacking the wheat near this place and to see the wheat in the field in order that the advisers might get some idea of the appearance of the wheat when attacked by this fungus which is thoughtto be the "take-all" disease as known in Australia and to a less extent in Europe. Seventeen advisers, representatives of the United States Department of Agriculture and of the University of Illinois, as well as several other people interested, were present." - G. N. Coffey.

"1000 head of sheep were distributed in Rock Island County last year. We have arranged to have a shearer in each end of the County to shear all of these sheep and any others that the farmers may have. We are also planning to ship this wool cooperatively again this year." - Edgerton.

Wool Sacks and Twine - According to a statement from D. O. Thompson, Secy. of the Ill. Agr. Assn., wool sacks and wool twine can be secured from the National Wool Warehouse and Storage Co., Chicago, Illinois. Sacks cost 60¢ each and twine about 27¢ per pound. A wool sack will hold from 300 to 350 pounds of wool, depending upon the packing. One pound of twine will tie about forty fleeces.

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A handful of common sense is worth a bushel of learning.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. II May 21, 1919. No. 21

"The Army Worm. - The moth of the army worm have been more abundant than usual this spring and it is possible that we may have some damage from this insect this season. It would be well to be on the lookout for them as they have already made their appearance in one or two counties. They can best be controlled by the use of the poison bran mash made by mixing twenty-five pounds of dry bran with one pound of paris-green and to this adding enough water to make a mash in which has been stirred two quarts of cheap molasses and the ground fruits of six oranges or lemons. This should be sown broadcast at the rate of about eight pounds per acre in the fields where the worms are working. The best results will be had if the application is made just at dusk as the worms do most of their feeding at night." - W. P. Flint.

"The New Wheat Disease "Rosette" or "Take-all", has been definitely located in three counties of Indiana, and in Madison and Sangamon counties of Illinois. It has not been reported to be present in Missouri. In Illinois it has been found in the bottom land wheat only." - G. H. Dungan.

"Wheat in the Mississippi bottoms continues to look worse. A few fields havealready been plowed up and many others will be plowed within the next week or so. Taking the bottoms as a whole, there will not be more than half a crop and there may be less. It was the opinion of Mr. Dungan that the trouble was due to frost injury." - Tate, Monroe County.

"We hear a good many complaints of trouble in the wheat, but my investigations lead me to conclude that most of the trouble is due to a combination of cold weather and low state of fertility." - Higgins, Moultrie County.

"Flag Smut disease of wheat has been found in many fields in the American bottoms of Madison County. This is a serious Australian disease which has never been reported to have occurred before in this country. This smut attacks the upper blades of the plants and is particularly characteristic on the flag leaf. The black smut spores develop in long slender areas just under the epidermis of the leaf. Soon, the smutted leaves wither and dry, whereupon the thin veily epidermis covering the smutted interior breaks, releasing the spores for distribution. This disease in Australia is propagated thru the infection of both the seed and the soil. This renders seed treatment alone an unsuccessful method of control, although it does seem to reduce the abundance of the disease to some extent." - G. H. Dungan.

"Investigation in the Nauvoo Vineyards shows that the Grape Root Worm Control Campaign put on last year was of great benefit in controlling this insect pest." - Lloyd, Hancock County.

"An outline plan for the year's work was developed by the Board of Directors at a recent meeting. The program is as follows: "It features soil, crop and livestock improvement and farm accounting, club work, community organization, and development, and individual service to members. Increased use of limestone and legumes, stimulating the increased use of better seeds and a more general practice in the rotation of crops were included in the program. Additional plans are for individual breed organizations and live stock shipping organizations. An attempt will be made to stimulate increased use of homegrown feeds and concentrated protein supplements. Educational campaigns will be conducted on subjects related to the use of silos and corn silage, and the better selection of all purchased feeds. The pooling of the county's wool clip was heartily approved. Endorsement of continued and increased cooperation with the Illinois Agricultural Association was given. Plans of work for a re-organization of the county association were discussed." - P. S. Richey, Adviser Mercer County.

Advisers' District Conference. - A conference of the Advisers in the Southwestern district and representatives of the State Leader's office was held in Springfield beginning at noon on May 13 and continuing until noon the following day. "Putting Across an Important Project", "Community Committees", and "The Executive Committee and the Adviser" were the principal subjects discussed. A question box was also an interesting feature. Mr. Howard Leslie's talk on "A Salesman" at the banquet Tuesday night contained many valuable suggestions. Mr. Phillips' statement in his weekly report that "The interest at Springfield meeting seemed greater than usual, Mr. Vaniman having arranged an excellent conference"; apparently expressed the general feeling of all those who attended.

Side Lights from Springfield Conference. !!!???###%%%&&&///

Vaniman was heard to remark - "Now I want your honest and frank opinion." He got it.

"I have a man who is an honest to goodness salesman" and he was.

Leslie said:- "Be a motor not a cog."

Brooks remarked - "Every community organization should be equipped with a self winder." He speaks from experience!

Sweet Clover Pasture. - "Held a demonstration at the McNeill farm for the purpose of seeing sweet clover pasture where 14 acres of such pasture is supporting 32 head of cattle and 200 head of hogs. These cattle receive no other feed but the sweet clover and are in very good condition. The hogs receive shelled corn and tankage from a self-feeder. The demonstration also included the inspectio of 107 cattle fed on a ration of ensilage, straw, and cotton seed meal. The advisers from Mason and Menard counties were also in attendance." - Dickenson, Cass C

"A limestone crushing and distributing demonstration will be held by the Edgar County Farm Bureau during the week of June 9-14 which we hope to make a State Demonstration for Illinois and we will also invite Indiana. At this demonstration we wish to show that home ground limestone is cheaper, more available, and therefore, more popular than "shipped in stuff". If any man thinks wet limestone can not be spread easily - one of the distributers in the demonstration will show him that it can be done - as easily and more satisfactorily than dry stone."

After a year of operation our Limestone Associations are thriving better than ever. Some minor changes are being made for improvment. Rucker, Effingham County

"FEEDING YOUNG PIGS - (From Recent Results, Ill. Agr. Exp. Station)

1. One hundred pounds of pork can be produced from 375 to 425 pounds of feed with pasture - without pasture 425 to 475 pounds on 1/3 to 1/2 more protein supplement.
2. Full grain rations on pasture require the smallest amount of feed to produce a hog of marketable weight. This may not always be the most economical method.
3. The least protein supplement can be used in producing a 225-pound hog when a medium grain ration on pasture is fed. A medium grain ration on pasture also produces a pig of a desirable weight (100 to 150 pounds) for handling the new corn crop.
4. The kind of forage used does not make so much difference in economical pork production as the furnishing of forage thruout whole crop-growing season.
5. The most rapid gains have been produced by feeding corn, tankage, and middlings (or ground oats) in the self-feeder. Corn and tankage have produced as economical results, however." - J. B. Rice.

The opportunity for pooling the wool clip is being eagerly grasped in some counties. In others, farmers are slow to show interest. Some prefer to take 40 or 45 cents from local buyers because they are sure of the cold cash on the spot.

"Arrangements have been practically completed for the shipment of a carload of wool from Disco and it is our intention to ship by local freight from other parts of the County." - Lloyd, Hancock County.

"Enough of the wool growers of the County have already signified their intention to pool their wool thru the Farm Bureau to insure a large shipment." - Thomas, Coles County.

"At the wool growers' meeting theother day, the general attitude seemed to be to follow the old method of selling to buyers closer home, rather than stick together and try a new method entirely new to them." - Hart, Williamson County.

"Farmers are not taking hold of the wool pool as I had hoped they would. Buyers are paying 40 to 45 cents per hundred forwool in Shelby County."- Belting.

Farmers' Elevators form the topic of conversation in several communities in Fulton County. Adviser Miner reports:- "Farmers' elevator organizations have been started in Cuba, Ipava, and Astoria. There is very little difficulty in getting sufficient funds to finance these organizations. Farmers are very anxious to put their funds in a business that will benefit them directly."

Have been steering the farmers' elevator company at Marseilles, which began taking subscriptions last Saturday and on Monday night had $27,000. subscribed and made a deal for three elevators." - Brooks, LaSalle County.

The carload of registered Jersey heifers which were bought by 24 of the best dairymen in Williamson County are looking better to their owners every day says Adviser Hart. "These men are wanting another carload of springers. Most of the heifers went to members of the Carterville Bull Association and a tremendous stimulus has been added to the dairy industry in the County.2"

A little "feed" gets 'em out, says Adviser Phillips of Greene County. "We had practically every township represented at a meeting of ou township committeemen where we tried the experiment of putting on a little banquet to attract a good attendance. Every man present talked on the subject of the meeting." The "eats" surely help to liven up the spirit and interest of a meeting, and many advisers have reported their success with such gatherings.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

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"Take-All has been found in fields representing approximately 250 acres on the sandy land in the western part of Mason County. It is also known to occur with certainty in Indiana, in Porter, Laporte, Tippecanoe, and Jasper counties. Flag smut has been identified only in Madison County, Ill." - Dungan.

Wheat Reports. - "Much anxiety has been expressed during the last few days in regard to wheat in Saline County. The rainy weather has continued and a great deal of wheat is not growing well. Even where heads are being formed, they are very short." - Price.

"More Wheat was damaged by recent frosts than was apparent at first. The cold wet weather seems to have had a very bad effect and many fields will not make as large a yield as was anticipated. The wheat upon the poorer types of soil has suffered most severly."- Adviser Burwash, Piatt County.

"Wheat has shown considerable improvement in the last two weeks but very little or none on soils which have been farmed for a long time and on which there is little available nitrogen. It seems that wheat shows a lack of available nitrogen in the soil more this year than ever. On untreated, worn out land it will not make more than five to eight bushels per acre and possibly not that much. On the other hand some fields show prospects of 35 to 40 bushels to the acre." - Doerschuck, Randolph Co.

"Wheat in general is looking good. Wheat on corn ground is looking much better than that seeded on stuble ground." - Miller, Macoupin Co.

"WHY DO WE CULTIVATE CORN?""Chiefly to kill weeds. Killing weeds is the most important factor in cultivating corn on brown silt loam. No weeds gave an increase over weeds of 38.6 bushels per acre." (Illinois Bulletin 181)

"WHAT ARE THE INFLUENCES OF ROOT PRUNING ON THE GROWING CORN PLANT?" "Root pruning cuts the yield. Three-fourths of the corn roots are in the plowed soil. Since plants develop no unnecessary roots, any injury to them results in lower yields. Four inch pruning, six inches from the hill reduced the yield 16.9 bushels." (Illinois Bulletin 181).

"WHICH IS BETTER, RIDGING OR LEVEL CULTIVATION?" Level cultivation is better. Results from well conducted investigations where these two methods are compared are in favor of level cultivation." - Crop Production Dept. U. of I.

University Students Want to Work on farms during summer. Some of these students have farming experience, others have little or no experience, but wish to make good if only given the opportunity. Advisers knowing of any places open to University students, are requested to write A. W. Jamison, College of Agriculture, U. of I., who will put them in touch with applicants wanting such positions.

That limestone crushing and distributing demonstration which is being arranged by Edgar County Farm Bureau is scheduled for June 10th. It is planned to have various makes of limestone crushers and limestone distributers at actual work showing how local deposits of limestone can be worked up to advantage, and how wet limestone can be spread on the field just as easily as can dry stone. There will be a number of the best speakers available on the scene of action to help enlarge one leaf of Edgar Counties Four Leaf Clover idea - i. e. "Limestone Legumes, Phosphorus and Livestock". Mr. Gernert is making great plans and is especially anxious that all his neighboring advisers attend and bring along a few carloads of limestone? No, - of interested farmers.

"Black Stem Rust of grains (Puccinia graminis) has appeared on the common and purple barberries (Berberis vulgaris), in various counties in the state. It will spread to the wheat and may cause serious losses unless those barberries are pulled out immediately. We have personally inspected seven counties this year, but have not enough men to visit every county before the rust will do damage. Get busy. Look your place over and pull out these pests. The common barberry (Berberis vulgaris) has either green or purple leaves with saw-tooth edges, thorns in threes, blossoms or berries in bunches, tall upright bushes. SAVE the Japanese barberry, (Berberis thunbergii). It does not carry the rust. It has smooth edged leaves, blossoms in ones or twos and usually single spines. It is a low spreading bush. If in doubt send a sample to F. E. Kempton, Urbana, Illinois."

"A Big Corn Cultivator demonstration has been arranged in Macon County for June 4 and 5. The following companies will demonstrate their corn cultivators under actual field conditions at that time. Motor driven: Avery, Emerson-Brantingham, Moline, Toro, and Triangle Motor Co. Horse drawn: Deere, Emerson-Brantingham, Moline, Janesville, Pattee, Racine-Sattley, and Tower. The demonstration will be held one and one-half miles east of Blue Mound, on the W. M. Perrine farm. Professor E. A. White will be in change of the field work. Professor J. G. Mosier will speak on "Why Cultivate Corn". - Smith, Macon County.

"Special Dairy Grain for Southern Illinois. Arrangements have been made for the operation of a special dairy train over the C. & E. I. lines June 2 to 7, starting at Danville and running south through central Illinois. This train will stop at about six towns per day and evening meetings will be at Tuscola, Shelbyville, Salem, Mt. Vernon and Marion. Four railroad coaches will make up the lecture rooms and a flat car the exhibition ring for teaching these lessons in better feeding, better care and management, better breeding and judging of dairy cattle. The chief speakers on this trip will be Mr. J. P. Mason, President Illinois Dairy Association, Professor R. E. Caldwell, formerly of Purdue University, E. B. Heaton, Adviser DuPage County, E. T. Ebersol, Adviser Logan County, J. E. Readhimer, U. of I., E. M. Clark, C. S. Rhode and H. A. Rhue of the dairy department, University of Illinois.

"There seems to be more of a tendency than ever on the part of our dairymen to diversity their farming operations. The city of Chicago is continually demanding cheaper milk and this, despite the fact that the farmers here are getting less for their milk than farmers in creamery sections this month. These two facts are driving many a dairyman from the dairy business and driving others to diversify to make this sort of farming profitable. I have always advocated diversified dairy farming, because it is the only system under which the dairyman can play safe." Heaton, DuPage County.

"WHAT ACID PRODUCES SOIL ACIDITY? - Several advisers have submitted this question, so we have asked Dr. Stewart to answer it. Read what he says about "What Acid Produces Soil Acidity". "This is a very much debated question. The term 'soil acidity' refers to a condition widely prevalent in the soils of humid America. In general, this condition is brought about by the leaching action of rain water, which with the aid of the carbonic acid obtained from the atmosphere, dissolves out the readily soluble compounds of calcium, especially the carbonate, and this leaves a deficiency of limestone in the soil. The condition may be intensified by the application of certain fertilizers such as Ammonium Sulfate. This condition of the soil renders the growing of certain crops difficult if not impossible and may be readily recognized by the action of the soil on blue litmus paper, which changes from blue to red by contact with the soil for a few minutes.

Three theories have been presented by technical writers on the subject to explain these facts. Hopkins, Truog and others maintain that this condition in the soil is caused by true acids. Certain objections have been presented to this point of view. An extraction of the soil with water gives a solution which is alkaline and not acid and all attempts to extract acids from acid soils have resulted in failure, consequently, no one has been able to determine the kind of acid which produces this condition. It is true that certain organic acids such as acetic, propionic and di-hydroxstearic acid have been isolated from soils by Schreiner and his colleagues, altho there is some question whether these acids actually existed in the soil as such, or whether they occurred there in the form of their salts. The advocates of this point of view hold that the acids or acid salts which produce this condition are insoluble in water and cannot, of necessity therefore, be readily isolated from the soil, otherwise they would have been lost in the drainage water. Such substance as the orthosilicic and aluminic acids may exist in the soil and would fulfill these conditions quite well.

Cameron maintains that the common conception that many soils are acid is a mistaken fallacy, and that the condition found in certain soils whereby the color of blue litmus paper is changed to red is due not to the presence of a free acid, but is due to collodial absorption. According to his view, blue litmus is the salt of a red acid dye. The soil, being deficient in bases, has a greater absorptive capacity for the base than does the paper and consequently absorbs the base while the paper having a greater absorptive power for an acid than does the soil, retains the red dye which accounts for the change in color.

A more recent view regarding soil acidity has been presented by Hartwell and Pember of Rhode Island. According to their view readily soluble aluminum occurs in so-called acid soils and readily soluble aluminum has a toxic influence upon the growth of certain crops. This toxic influence varies, of course, with the different kinds of crops grown. It is quite possible that this view has certain merits. Aluminum, in the readily soluble condition, does exist in acid soils. Aluminum is an amphetoric substance, that is, a substance which may act both as a base and as an acid. In the absence of necessary amounts of limestone, the soluble aluminum may function as a base for the neutralization of the nitrous acid produced in the decay of organic matter in the production of nitrates, and nitrate of aluminum as is well known is toxic to crop growth,, the toxicity depending upon the amount present and the kindof crop grown.

Whatever may be the true explanation regarding the nature of soil acidity, the important fact to keep in mind is that whenever soil conditions are such that blue litmus is changed to red by a few minutes contact with the soil, that such a condition is detrimental to the economic production of many of our important farm crops and theremedy, of course, for such a condition is the application and utilization of limestone." - Robert Stewart, Prof. of Soil Fertility University of Ill.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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Produce Infertile Eggs. - "Fertile eggs when exposed to summer heat undergo chick development. It has been found that if a fertile egg is kept in a temperature of 86° to 91° for one week, the development of the embryo is equal to that found in a fertile egg that has been incubated under a hen for three days. Heat is the great enemy of fertile eggs throughout the summer months. It takes but a relatively short time for the germ to become a blood ring. It is estimated that 5% of the total annual egg production is unfit for human consumption because of heating. This is equivalent to 5,000,000 dozens of spoiled fertile eggs in the State of Illinois. The producer always bears the loss, either by the buyer candling the eggs and putting the bad ones back on the farmer, or by paying a sufficiently low price to cover the average loss. The summer production of eggs can be saved by killing, confining, or selling the male birds. Their function is to make eggs fertile; they do not increase egg production to any known extent. This is an especially important phase of poultry production in central and southern Illinois. Care should be exercised, however, that those who sell all of their male birds are able to secure well-matured stock birds for breeding purposes with which to reproduce their flock another season." - F. L. Platt U. of I.

Oats and Barley for Pigs. - "With corn and middlings as high as they are, one can afford to use some oats and barley in growing pigs this summer. Barley has a feeding value of about three-fourths as much per bushel and 90% as much per pound as corn; oats are worth nearly one-half as much per bushel and about 85% as much per pound as corn. Barley can be used in place of corn, while oats (due to their bulk) can be fed to better advantage as a partial substitute in obtaining maximum gains. Both feeds, particularly barley, should be ground, and soaking from feed to feed will increase their palatability as well as digestibility." - John B. Rice U. of I.

The barley acreage is a little larger than it was last year. As late as spring is this year and the difficulty in getting the corn crop planted, the DuPage County farmers are very thankful that they are growing as much barley as they do. - Adviser Heaton, DuPage County.

"The Sheep shearing in both ends of the county is progressing nicely. The shearers are in all cases, where the owner will permit, docking and castrating the lambs. It looks now like we would send out three carloads of wool. Local bids for wool have been as low as forty cents. The 1000 head of western yearling ewes distributed last fall by the Farm Bureau and the Chamber of Commerce are giving an especial good account of themselves, shearing eight to nine pounds of wool and showing a good one hundred percent of lamb crop. They are splendid mothers and good sucklers."- Advisor Edgerton, Rock Island County.

WHAT WILL A TON OF LIMESTONE DO? The first question farmers usually ask regarding the use of limestone is what will it do? This is the natural question to ask and the object of this discussion is to answer it. I shall try to answer it in terms of performance in increasing crop yields rather than in terms of dollars and cents. A bushel or a ton is a constant factor while the price fluctuates. To say that a ton of limestone will produce 16 bushels of corn or 10 bushels of wheat gives a better idea of its value than to say it is worth $15.

What a ton of limestone will do will depend upon several factors - first, the soil itself, how deficient in limestone it is; second, whether the limestone is used alone or in connection with organic manures, third, the length of time it has been used. In the present discussion only the soils of southern Illinois are considered. The limestone has always been used in connection with either farm manure or green manure, and the time factor varies from 16 years in some of the older tests to only 5 years in some of the more recent tests. The results are based on the yields from 11 different soil experiment fields located in as many different counties of southern Illinois. The final results from all the fields are the averages of a great many tests with each crop. Because the results are the averages of so many tests extending over so long a time and from so many fields scattered over so wide a territory, they are exceedingly significant and trustworthy.

In the following table I have grouped the fields according to the time the tests have been running. If any one should desire the results from a particular field they will be gladly furnished.

Experiment Fields	In bu. of Corn	In bu. of Oats	In bu. of Wheat	In tons of Legume Hay	In bu. of Legume Seed (Soy Beans)
Odin - Cutler-DuBois 1902-1917	Av. of 44 crops 13.05	Av. of 14 crop 10.92	Av. of 38 crops 16.00	Av. of 43 crops .48	Av. of 17 crops 6.88
Ewing-Raleigh 1910-1917	Av. of 16 crops 18.86	Av. of 17 crops 13.71	Av. of 15 crops 12.12	Av. of 15 crops .63	Av. of 1 crop 6.81
Unionville-Oblong 1911-12-1917	Av. of 13 crops 10.86	Av. of 6 crops 8.45	Av. of 13 crops 5.54	Av. of 13 crops .34	Av. of ------ ------
Newton- West Salem- Enfield Toledo 1913-1917	Av. of 20 crops 6.99	Av. of 17 crops 8.56	Av. of 18 crops 6.02	Av. of 14 crops .134	Av. of 11 crops 2.81
Average of All Fields	Av. of 93 crops 12.44	Av. of 54 crops 10.78	Av. of 84 crops 11.55	Av. of 85 crops .43	Av. of 29 crops 5.33

If we figure the corn at $1.00 per bushel, oats at 50 cents, wheat at $1.50 hay at $15.00, and beans at $1.50, every ton of limestone on the Odin-Cutler-DuBois group has paid back $13.85; on the Ewing-Raleigh group $13.19; on the Unionville-Oblong group, $7.66; on the Newton-West Salem-Enfield-Toledo group $5.62, and as an average of all fields, $10.00

If one wishes to know whether the use of limestone on southern Illinois soils is profitable let him figure from the table. A ton of limestone can now be delivered to almost any point in the State for $2.00. If it will produce 12 bushels of corn, 2 of the bushels will buy it and the other 10 can be charged to the hauling and spreading. It will take 4 bushels of oats to buy a ton of limestone, but there will be 7 bushels left to pay for the hauling and spreading. In

case of the wheat 1½ bushels will buy the limestone and the other 10 bushels will be left to pay for the hauling and spreading.

To the question, therefore, "what will a ton of limestone do", we may answer without hesitation that in southern Illinois it will produce 12 bushels of corn, 11 bushels of oats, 11 bushels of wheat, half a ton of hay, or 5 bushels of beans. J. E. Readhimer, U. of I.

"Necrobaccilosis. We are having considerable trouble in the county with necrobaccilosis. One day during the week was spent with Dr. Douell, visiting some of the infected herds at which time he suggested removing all the pigs to a clean pasture, that were showing disease. They were to be given a copper-sulphate solution in their feed. The reason for giving them this solution was to help prevent the germ from entering the intestinal tract of the pig." - Hedgcock, Peoria County.

"The copper sulphate solution mentioned by Mr. Hedgcock is usually made up by adding eight ounces of bluestone (or copper sulphate) to one gallon of water as a stock solution. Add one pint of this stock solution to every eight gallons of thin slop. Feed this slop every day. This is really an intestinal antiseptic and checks the development of unfavorable bacteria.

Necrobaccilosis in its various forms is being reported from various sections of the State and it seems highly desirable that more effective measures should be employed in the prevention of this disease. The key to success is clean premises. Any indication of the development of the disease should be the warning for changing of pasture and disinfecting of hog houses.

The very chronic nature of some types of the disease makes it impracticable to cure, yet certain types of the infection such as 'sore mouth' and 'bull nose' should be vigorously combatted by cleaning the parts involved and applying antiseptic solutions." - Dr. Robert Graham, U. of I.

"Feeding Thin Sows and Stags. It does not pay to hold thin sows and stags in the feed lot too long. It costs practically as much to put flesh on them as it is worth on the market with corn at the present price. However, one should at least get them in medium condition to obtain the increase in price over very thin stuff. The difference in value of the boar and stag makes it advisable to castrate the boar and hold him for a short feeding period." - John B. Rice.

"Get Those Sheep on New Pasture. Now is the time to get the flock onto entirely fresh pasture. Those who continue to run their sheep on the same pasture given over to them during last fall and winter are in danger of getting a bad infestation of stomach worms. This parasite is very injurious to young lambs, and to avoid it, the flock should be rotated over the fresh pastures as much as possible until the lambs are old enough to market. The weather was so mild last winter that many of the stomach worms hatched out last fall doubtless lived through it. This is a condition which increases the probability of infestations in our flocks unless adequate precaution is taken." - W. C. Coffey.

600 Western ewes with lambs are for sale by Mr. C. C. McClain, of Batavia, Iowa. These ewes are about 3 years old. Any one interested may get in touch by correspondence.

"Although we have a few less than a thousand fleeces consigned to the wool pool, we feel that we already have been repaid for our efforts as the local dealers have raised their prices from 5 to 10¢ per pound for wool. - Adviser Burwash, Piatt County."

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. II June 11, 1919. No. 24

"If you wish Success in life, make Perseverance your bosom friend, Experience your wise counsellor, Caution your elder brother, and Hope your guardian genius." - Addison

"Wheat conditions are much improved as result of abundance of rain during the past few weeks. I have examined some of the fields which were damaged by the freeze of a month or more ago, and find that the wheat in these places probably will make better than a half crop. This is giving farmers in those localities much encouragement. Implement dealers are selling lots of new machinery. One firm has sold upwards of 100 new harvesters." - Phillips, Greene County.

"Most wheat fields show some damage through being infested to a greater or less degree by the Hessian Fly. So far, only one or two fields have been found where the damage will be severe. One field has been found which is badly infested by the joint-worm." - Burwash, Piatt County.

"Visited a number of wheat fields and find some chinch bugs in nearly every one. The young red bugs are just hatching out in large numbers and apparently the rainy weather has not injured the second crop very seriously except to perhaps reduce the number of eggs laid by the old ones as the eggs that were laid seem to be hatching out all right. In most cases the better the wheat the less the number of chinch bugs, but there are several exceptions. It was especially noticeable in one field we visited, one side of the field having received lime and manure and was badly infested, the other side had received rock phosphate in addition, and the wheat was much better with only a very few bugs." - Blackburn, Marion County.

Chinch Bugs Killed. - "The rains that we have been having seem to be getting rid of the Chinch Bugs. I have been in several fields and have not been able to find any young bugs at all, and hundreds of the older bugs are being killed by the white mould which attacks them." - Miller, Macoupin County.

Not Take-All in Morgan County. "Mr. G. H. Dungan spent one day with us inspecting wheat fields in Illinois bottoms in Morgan County. We investigated every complaint, but did not find any Take-All or Flag Smut. At the present time, it looks as though Morgan County was in for another big wheat crop." - Kendall.

The warm weather of the past few days has made remarkable change in the appearance of the corn fields. Most of them have been plowed once, altho' a few fields are getting pretty weedy, due to an excess of local rains." - Lumbrick, Vermilion County.

Strawing Wheat. - "Two wheat fields, parts of which had been covered with straw last winter were examined this week. In each case only parts of the field were covered, and that the poor part of the field. One of these fields was covered right after sowing and the other late in winter. In each case the wheat on the parts of the field covered with straw is poorer than on the rest of the field. We do not, however, blame this on the straw because the part of the field straw covered would probably have been poor. I have examined both of these fields several times this past winter and spring and have been especially careful to note whether there were more chinch bugs in the straw covered parts than in the others. No more bugs could be found in these straw covered parts, but we shall have to try this strawing wheat for several years more before we are entirely satisfied that it is a good practice in this county on gray silt loam on tight clay, and where chinch bugs are plentiful in the chinch bug year.

The recent heavy rains seem to have killed nearly all young chinch bugs, or prevented the old ones from laying eggs. Not many young bugs can be found in previously badly infested fields." - Rehling, Clinton County.

Nitrogen Starvation.- "It is plain to see that in many cases, oats, wheat and meadows have suffered seriously, especially on poorer soils from nitrogen starvation. We would like to see a discussion of this problem in the Extension Messenger, together with citations of experimental data on the subject. The specific problem is this, to what extent is ammonification and nitrification retarded by low temperature and excess moisture which prevailed through most of April and May." Logan, Crawford County.

Insects.- "This spring the farmers have had to contend with a great many insects which are injurious to their crops. Among those which did the most damage was the clover leaf weevil, the corn flea beetle, and to some extent, the wire worms. Recent favorable corn weather has materially reduced the danger from serious injury by the flea beetle." - Bracker, Knox County.

"Army worms have made their appearance on several farms in the southeast part of the county. In spots they have appeared in considerable force, but farmers are attempting to isolate infested areas. I communicated with Mr. Flint and hope to have his cooperation in fighting this unexpected pest." - Phillips, Greene County.

"On Thursday, in making my usual farm visits, I stumbled on a badly infested area of army worms. The army worms seemingly come out of a side drainage ditch, which had been allowed to grow up in weeds and infested and almost completely destroyed a ten acre field of rye that was being used for pasture; from this they were going into the wheat and corn and were doing considerable damage. Ditches were thrown around the ten acre rye field, with post holes for traps and large numbers of the army worms were being trapped. Poison bran mash is being used in the corn." - Baldwin, Mason County.

"The C. & E. I. dairy train which passed through our county did considerable good, although the farmers were too busy to attend the program. Rain in the evening also reduced the size of the crowd. The Farm Bureau gave away a pure-bred Jersey heifer calf at the night meeting." - Belting, Shelby County.

Please mail your weekly report to us Saturday morning. Some reports have very good items, but they come trailing along from one to five days late. The messenger goes to press Tuesday morning. We want your report here on Monday. You can include your Saturday's work on the following week's report. - C. A. Atwood.

Of course you knew Sidney's cultivator demonstration had been postponed to June 12 and 13. Sid says:- "You gotta' have some corn to cultivate before you can stage a cultivating demonstration." Thursday, the 12th, is "Farm Bureau Day" and we meet one and one-half miles east of Blue Mound. Let's go.

A colt breaking demonstration was an added feature at the multiple hitch demonstration which was held in LaSalle County. William T. Newell of Washburn, Ill., showed how to break a young colt and work him in the harness successfully. Adviser Brooks reports the incident as follows: "A two year old which had never been handled before, was brought in from the pasture, harnessed, hitched to a wagon, then left secure while the old horse was brought up to hitch with it. After driving the team around a little the bridle was pulled off the colt and he still worked well.

A number of different ways of handling nervous and green horses were shown. Every farmer who saw this part of the demonstration was highly pleased. It produced more real enthusiasm and gave more information which every farmer could take home than anything else shown. It was just careful common sense means of handling young horses successfully. Mr. Newell, while doing his regular farm work, has broken over thirty colts for neighbors this spring. He handles about that many every spring." - Brooks, LaSalle County.

"Farmers so busy that only a few, thirty in all, were present at the Experiment Field meeting, June 6. However, the best farmers of the county attended and we had an extremely good meeting. Professor Mosier explained the treatment and results of the Experiment Field and also made an excellent talk on soil improvement. We have ordered two more cars of limestone this week, making 56 cars ordered in the county this spring." - McGhee, Johnson County.

A carload of wool was shipped out of Aledo this week and two more cars will go out next week. Tho' not essentially a sheep or wool growing county, over 60,000 pounds of wool has been pooled. The pool caused buyers to bid up 10 to 15 cents per pound above what they were bidding before the pool was organized." - Richey, Mercer County.

"Necrobaccilosis and mixed infection are spreading alarmingly in this county and we have a great deal of canker sore mouth and Dermatitis in the spring pig crop this year. Some herds have been entirely cleaned out." - Edgerton, Rock Island County.

"The problem of getting rid of the milkweed is a serious one. I saw a man and four boys who were hand pulling the milksweeds on thirty acres of oats. By this plan he says they do not appear in the bundles when he cuts his oats, but he is really not making any headway in controlling them. If any of the Farm Advisers have been successful in cleaning up a badly infested field of milkwees, I should like to have him tell me how it is done." - Kendall, Morgan County.

What is your problem?- Ask the "Messenger" and if it can find an answer it will. Querry, suggestion, contribution, or criticism - send it. - Ye Editor.

Army Worms! Are you on the lookout for them? As we go to press reports are coming in that army worms are doing much damage in quite a number of places. Adviser Tate says that he saw a bunch of pigs making quick work of them. See Messenger No. 21, of May 21, 1919, for dusty furrow and poisoned bran mash control. Flint says the poisoned bran mash is very effective of eradication.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. II June 18, 1919. No. 25

Army Worms. "Work of the Farm Bureau has been confined entirely to combatting the army worm. The situation in Manito and Crane Creek Township is extremely critical. Army worms seem to have hatched in the rye and down wheat on our swamp lands. Farmers are doing everything possible to save their corn and wheat by the use of ditch traps and the poison bran bait. As soon as a field is discovered where the army worms are numerous it is surrounded by a furrow six to ten inches deep with a straight side opposite to the way the worms are traveling. At frequent intervals post holes are dug in the bottom of the ditch to serve as traps, and each evening after the worms begin to travel poisoned bran is scattered over the field. Both methods seem to be quite effective, although in several instances quite a lot of grain was damaged before the worms were discovered. In places as much as ten acres would be taken in one night." - Baldwin, Mason County.

Army Worms have been reported in certain localities in most of the counties thruout the central part of Illinois. They have been quite successfully controlled by the use of poison bran mash scattered over the ground in the fields where they were working and by a dust furrow plowed around the field. The pastures at the University which are used by the beef cattle division were very much damaged by army worms last week. The damage was stopped by the use of poison bran mash.

Joint Worm. "One wheat field has been found, part of which has been badly damaged by joint worms. On two or three acres 75 percent of the stalks were damaged. This area adjoined a clover field on which wheat was raised last year and was infested to some extent with the joint worm. Mr. Flint pronounced this field the most badly damaged he had seen in Illinois." - Burwash, Piatt County.

"'What's the matter with the Oats' seems to be the question of most interest to the farmers just at the present time" says Adviser Higgins of Moultrie County. Many samples of oats with reddened leaves have been sent to the crop pathologists for examination. Mr. Dungan discusses this subject on page 3 of this issue.

Experience with stinking smut. "One farmer in Clinton County whose wheat was very badly infected with stinking smut last year wanted to keep this seed for sowing. I helped treat most of it by the sprinkling method and a small part of it with the soaking method. About an acre in the same field was sown with untreated wheat. We have not been able to find a single head of stinking smut in either of the treated parts of the field. The untreated acre is full of stinking smut.

In another field last fall I found a man drilling wheat which contained stinking smut grains. The man did not know he had this smut in the wheat when he was sowing it. This field was examined this week and shows a large percentage of stinking smut. We feel these are good demonstrations of the need of the formaldehyde treatment." - Rehling, Clinton County.

"A field of the famous Rosen Rye which we were trying out this year until recently gave considerable promise. It is now practically a total loss. To all appearances the trouble is the same as the scab in wheat. It was on corn ground. The wheat fields showing the most extensive damage were also on corn ground."- Thomas, Jackson County.

"The big feature of the week's work in Macon County was the corn belt cultivation demonstration near Blue Mound. The demonstration was very satisfactory and has opened the eyes of many farmers to the possibility of economy in labor in the cultivation of corn. County Agents from 7 counties with delegations of farmers attended the demonstration and indicated their interest and approval." - Sidney B. Smith.

"Iowa 103 oats are showing up fine. The carload of Iowa 103 seed oats which the Steelville Farm Bureau members shipped in this spring is showing up very well These oats have made a fine growth and are headed out very uniformly. The difference between them and other varieties can very easily be noticed." - Doerschuk, Randolph Co.

"The oat crop in general is not looking very good. Medium and late oats seem to be a little short and yellowish in color. Several of the fields of early oats inspected the past week are the best oats that have been seen in the county. They are now heading and promise to make good yields." - Longmire, Grundy Co.

Don't forget Edgar County's big Limestone Crushing-Distributing Demonstration - 7 miles N. E. of Paris, Ill., June 18, 19, 20. June 18 is setting up day. June 19 is Good Roads Day and June 20 is Limestone or Farm Bureau day. Gernert says "Come and Learn how to sweeten up."

Hauling Limestone by Truck. Adviser Logan of Crawford County reports that they are trying to interest farmers in the vicinity of the Illinois Limestone Company to haul limestone to their farms in motor trucks. In one day's trip, 14 men were interested in the proposition and tentative orders for 785 tons of limestone were given in case someone can be engaged to haul this material with motor trucks. The hard roads in this section of the county make the plan a feasable one, says Mr. Logan.

Pooling Wool. "We loaded our wool Tuesday and Wednesday of this week. We had a carload consisting of clips from 68 wool growers in the county. In only two cases, did farmers who promised to pool their wool fail to bring it in. One sold to a local buyer and the other had not yet clipped his wool. We find that our local buyers bid from 35 to 50 cents a pound. We are convinced that the price offered for wool would have been much lower had it not been for the wool pool."- Wise, Iroquois County.

The above seems to be the general experience of the Advisers in most counties where a wool pool was attempted. Several counties have collected enough wool to make up from 1 to 3 carloads within the county.

A new kind of demonstration. Bracker tells us that he finds different communities have been very much interested in rope splicing and knot tying demonstrations. He says: "Several of these demonstrations have been held and others are scheduled. It is possible to get farmers to attend such a demonstration when it would not be possible to get them out for a soils or crops talk." We are wondering if any other advisers have featured some unusual demonstration of this kind, and what success they have had with it. If so, tell us about it.

That letter - "What questions do you wish answered in the Messenger" is bringing results. Here is one from Lumbrick. Others will follow. Watch page 3 of each issue.

"WHAT CAUSES THE LARGE NUMBER OF RED BLADES IN THE OAT FIELDS?" This trouble is seemingly due to a physiological condition caused by the unusually cool, wet weather of about a month ago. The hot sunshine following this cool period has had a scalding effect on the tender blades. However, some of the trouble may be due to nitrogen hunger. Many of the blades showing the reddened appearance are colored only on the tip half, while the lower half is of a normal green color. The oat plant produces its leaves by growth at the base, and since the lower half of many of the blades are green it indicates that this portion of the leaf has grown since the injury." - George H. Dungan.

A Mistake! What a difference one little word does make sometimes. In quoting Adviser Hedgcock in issue #23 of the Messenger under date of June 4, the word Not was omitted. Dr. Duell's recommendation was that "All pigs not showing a symp ton of the disease be removed to a clean pasture." The copper sulphate was to be fed as an intestinal antiseptic as an additional precaution against infection.

Winter Vetch in Union County. Adviser Durst reports that in his circular 182, written while he was on the staff at the University of Illinois he amphasized very strongly the value of hairy vetch as a source of nitrogen for vegetable growers. Some very convincing data was presented. Since going to work in Union County he has viewed the situation from the field. Here is what he says: "I do not know of a single truck grower in Union County who grew winter vetch before last fall. At that time I recommended it very strongly and about 20 acres were planted. This gave excellent results. One man planted 17 acres and pastured 78 pigs on it all winter and he has had 50 brood sows with their pigs on it all spring. They were just taken off the other day, so that the crop may go to seed. The vetch is still high enough in most places to cover a hog despite all this pasturing. The small quantity plantedlast fall has attracted a great deal of attention and to date we have purchased about 7000 pounds of seed for sowing in July and August. If this seed gives as good results as that planted last fall it will take from the air, according to data collected a short time ago, over 42,000 pounds of nitrogen. At $90. per ton for nitrate of soda, this nitrogen would cost $12,600.

Mixed Silage. "One farmer is today filling his silo with rye and vetch. It is making more silage than he had expected. Where the vetch was good it will probably make 8 to 10 tons per acre. Part of this field was limed. On this part the vetch showed good inoculation and was grown over the top of the rye. The other part of the field had a good stand and no inoculation and some of the vetch never grew higher than six or eight inches. One-half bushel of rye and seven pounds of vetch were sown per acre. This seems to make a stand plenty thick enough under the right conditions." - Rehling, Clinton County.

"Clover Bloat was serious in one herd of cows. 1/2 ounce of formaldehyde in 1 quart of water as a drench and a gag in the mouth is an effectual remedy." Lloyd, Hancock County.

"If there is any drudgery in our work, we make it as we go along."
Hubbard.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. II June 25th, 1919. No. 26

"Damage from the Army Worm is practically over in all the central Illinois counties, due to the fact that the worms are becoming full grown and to the attacks of parasites. While there will be two more broods of this insect this season it is extremely unlikely that further damage will occur. As in all cases of which we have any record the parasites have controlled the late brood when the first brood has been abundant.

If the poison bran mash is scattered evenly at the rate of not over 10 pounds per acre there is no danger of poisoning stock if the pasture is used the next day." - W. P. Flint.

Time to Spray for Second Brood of Codling Moth. "The cool wet weather of the first part of May was very unfavorable to the development of the codling-moth. Moths of the over-wintering brood emerged in small numbers up to the last few days of May, at which time a heavy emergence occurred thruout the southern two-thirds of the State.

Since the young worms entered the apple the weather has been more uniformly warm than usual thruout the large orchard districts.

There will be a general hatching of worms of the second brood during the first week of July. In southern Illinois the first spray for this brood should be applied not later than July 4; in central Illinois, not later than July 7; and northern Illinois, about July 25.

Due to the fact that cool, wet weather retarded development and permitted moths to emerge over a long period, it would be advisable to apply an additional spray for second brood larvae about July 20 in southern Illinois and July 25 in central sections.

The materials should consist of arsenate of lead at the rate of four pounds of paste or two pounds of powdered in 100 gallons of solution. In sections where bitter rot is expected, 8-8-100 Bordeaux should be used; in all others, eight pounds of freshly slaked lime should be added to the arsenate of lead." Departments of Entomology & Horticulture.

"The interest in the use of limestone is growing every day. During the present year, orders for 151 cars of limestone have been placed through the Farm Bureau. We are planning to have a trainload of some 45 to 50 cars brought in during the month of August." - Piper, Richland County.

"McLean County now has the largest paid Farm Bureau membership of any county in the United States. Of the 4500 farmers in the County the organizers for the State Agricultural Association have secured about 2500 as members of the local farm bureau and the State Association."

"Get right with yourself first of all", says Leslie.

Army Worms were at work in the majority of counties last week. Where they were serious the poisoned bran control was used and is generally reported as successful. We will give two or three of the reports below:

"This was the second week of our army worm campaign. The first pupae of the army worm appeared June 19th and the majority of the worms will be through feeding in a few days from this date (June 21st). Where no control measures were practiced the damage done by these insects has been quite extensive, but not so serious as we had expected. In some rye fields the damage amounts to one-half of the crop, while a few cornfields have entirely disappeared. Wheat has not suffered a great deal, but some fields of timothy and a larger number of blue grass pastures are practically stripped of foliage and the clover and alfalfa fields in a few localities have been seriously injured by the worms. The poisoned bran method is an unqualified success in controlling these army worms and where they were migrating the deep furrow and postholes did good work." - Lloyd, Hancock County.

The Community Plan of Army Worm Control a Successful One. "Last week was spent in an active campaign against the Army worm. It's presence was not reported until Sunday, June 22. As reports came in from each township an eradication demonstration was staged in that township with the first farmer who was willing to cooperate. The director from that township would name a committee, who gave the demonstration meeting publicity. The poisoned bran bait has been a howling success. The cooperating farmer from that township then is used to give the recommendation to other farmers from that township who call in." - Richey, Mercer County.

The Pigs Got 'Em. "The army worms have been showing up in the past week in many places over the county. They are found in rye fields principally, but in some places in timothy meadows and pasture lots. They have damaged a few fields of rye considerably, but are not traveling in large numbers anywhere that I have seen. In a number of places hogs are being turned into the pasture lots to clean them up and in other places hogs are watching along the fences for them as they come out of the rye fields." - Brooks, LaSalle County.

Now that the dust has settled after all this furore about army worm control Van says- "Why were formulas recommended so variable? Didn't you give Flint's exact formula in the Messenger?" Surely we did give it - in the May 21st issue but a few busy men forgot to read this worthy sheet and they didn't know it was all prepared for them. Even Sid forgot to add the water and he had one sweet mixture when he had used all the molasses in Decatur.

The Lake County Guernsey Breeders' Association recently published their constitution and by-laws in booklet form. They have adopted as their motto "Tuberculosis Free Herds."

The Executive Committee of the Lake County Farm Bureau recently worked out a program of work under the guidance of Adviser Watkins. The problem of milk production as representative of the chief source of income of farmers in the county was considered. The Committee went at the problem earnestly and worked out a number of the most important limiting factors in relation to this particular problem. It is planned to work out other problems in a similar way at later meetings.

Most farms have some corn planted, but some of it went in in pretty sorry shape. It seems almost like a case of "now or never" with corn planting this year (June 21st). Adviser Hart, Williamson County.

"HAS A DEFINITE SUCCESSFUL SCHEME BEEN WORKED OUT FOR CLIPPING CLOVER TO PRODUCE SEED IN SUBSEQUENT CROP?"

"A series of experiments have been started this season with the object of getting more definite data on the effect of clipping or cutting on the yield of seed. Bumble bees and other insects that fertilize red clover have been much more abundant than usual this season. Largely on this account most fields of red clover show a good set of seed in the first crop." - W. P. Flint.

Red clover seed in the first crop. "So good are the prospects for production of seed in the first crop of clover that the University of Illinois is planning to cut for seed all of the red clover on the grain system fields. Some farmers are also reporting their plans to harvest a seed crop of clover in July." - Dr. Burlison.

"WHICH IS BETTER FOR GRINDING, EARLY OR LATE OATS?"

"Several of our farmers who have been growing the early oats, Iowa 103 and Iowa 105, have maintained that when ground they make a better quality of ground oats than do the later varieties. To test this out, I took a two ounce bottle full of each of five different varieties; the Iowa 103 and Iowa 105, early oats, and the O.A.C., Big Four and Funk's Great American, late varieties. This two ounce quantity of oats by measure was hulled and the hulls and meat weighed separately. The results showed that the Iowa 105 had the least per cent hull or 22.1 per cent, while the Great American had the most, or 33.8 per cent. The following is a table of the yields per acre and the per cent of hull and meat.

Variety	Yield per Acre.	Per Cent Hull	Per Cent Meat
Iowa 105	120 bu.	22.1	77.9
Iowa 103	111.7 bu.	24.4	75.6
O. A. C.	120.2 bu.	27.0	73.0
Big Four	94.0 bu.	29.5	70.5
Funk's Great American	80.0 bu.	33.8	66.2

Heaton, DuPage County.

Peoria County Duroc Breeders ship hogs to South America. "One day the first of the week was devoted to driving with Dr. Douell and finishing the Government inspection of the hogs which we were planning to ship to South America. One farm was barred due to cholera found within the five mile radius. This cholera was brought about by the owner doing his own vaccinating, losing over 300 head of hogs. On Tuesday we shipped from Alta, 51 head of pure bred Durocs, 16 boars and 35 sows. 7 sows and 3 boars were to go to Argentine, S. A. The other 41 head were to go to Brazil. Armour and Co. accepted the hogs at Alta and were to pay the freight from Alta to the sea port. One of our men made the trip with the hogs and his expenses were to be paid both ways, by Armour & Co. - Hedgcock.

"Rock Island shipped 23,000 pounds of wool in the cooperative shipment this week. This does not nearly represent the amount of wool in the County for a number of men were willing to sell their wool to local buyers for as low as 38 cents." - Edgerton.

"Causes of Low Grade Wool." The foregoing was the label on an exhibit of wool mounted under glass that Adviser Brooks used with good effect to call attention of wool shippers to different grades of wool. The exhibit contained samples of fleeces containing chaff, grease, tags, paint and burrs.

The Unsuccessful believe in luck; the successful believe in work.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. II July 2, 1919. No. 27

Sez Farmer Bill:-

Its one darn thing, or its three or four,
There's worms and flies and bugs galore,
And smut and blight and anthracnose,
And take-all, scab and other foes.
Some of them fly, and some just crawl,
And some don't even move at all,
But whato'er their shape or name may be,
They manage to ruin our crops, by Gee!

Excessive rainfall thru' central Illinois caused some loss of crops. Creek and rivers overflowed their banks destroying fields of corn and small grains. Adviser Miller of Macoupin County reports some fields where floods had previously destroyed the wheat and the last flood destroyed the corn which had been planted later on the same ground.

There is still a chance to grow a crop where the army worm took the corn, or the floods washed away that wheat. The Crop Production Department of the University is advocating that 90 day corn, buckwheat, soybeans, or millet be seeded rather than leave such fields unproductive. Dr. Burlison says soybeans will make a good hay crop, and buckwheat or millet will mature a seed crop. Probably buckwheat is the most preferable crop to grow in the present emergency.

The Illinois State Veterinary Medical Association will hold a two day's session at the University of Illinois, July 7 and 8. The veterinary meeting will convene in the University Auditorium, while the ladies' program will consist of visiting different points of interest and attending special lectures relating to Home Economics.

"Scab of rye and wheat is particularly serious this season and in many fields will cut the yields more than fifty per cent. Black stem rust of wheat has developed in several fields of fall wheat, and one field of spring wheat. In those fields the grain is scarcely worth harvesting. If Professor Johnson owned one of these fields he would be able to see the doughnut's hole all right." Lloyd, Hancock County.

Business men assist in Harvest. "The business men of Vienna, are organized as they were during the war to help furnish emergency help to the farmers in taking care of their crop. They are rendering their services without pay. All they want is to create a better spirit of cooperation between themselves and the farmers." - McGhee, Johnson County.

High Grade Beef Calves for Baby Beef Feeding will be for sale in Mississippi this fall. We have a letter from Professor H. P. Rusk, asking us to call your attention to a communication which he received from G. L. Cleland, Beef Cattle Specialist for the U. S. D. A. Mr. Cleland says: "My estimate is that we shall have between six thousand and eight thousand head of beef calves for sale this fall. For some years before the Texas Fever Tick was cleaned up in Mississippi, and more rapidly since then, some of the cattle men here have been grading up their beef cattle herds and in the last two years a large number of Texas cows and heifers have been imported into the State. These cattle men have found it more profitable to market these high grade calves at weaning age than to grow them to maturity. Just a few of our cattle men feed their calves out as baby beef. More will be produced than we can hope to finish in this section. A list of calves for sale is being prepared by counties and sections to furnish any one interested. I should like a list of the probable baby beef feeders in Illinois. Address me, Agricultural College, Mississippi."

Market Lambs Early. Owing to the fact that we have an abnormally large crop of lambs this year, we believe that farmers should market their lambs just as soon as they reach marketable weight and condition. The west reports a heavy crop of spring lambs which will be thrown on the market this summer and fall. Dry weather conditions in certain western states will bring heavier runs, causing the market price to work towards a lower level." - J. Z. Frazier.

Rural Motor Routes are being made the subject of study by the Goodyear Tire & Rubbr Company, Akron, Ohio. This firm is prepared to send speakers upon this subject at the request of the Farm Advisers of Illinois. Any one desiring a speaker on this topic should write to Mr. Judd Colwell, of the Chicago office, at 1544-54 Indiana Ave.

For those fields where Take-All or Flag-Smut was found in the wheat, the State Department of Agriculture has recommendd that "Owing to the presence of "flag-smut" and "take-all", as reported to this office, I would recommend that you disinfect your wheat as threshed and wherever practical have the men burn all the straw and stubble on all such infected fields, as it would seem from the information that has come to this office that spread of flag-smut and take-all will be a menace in the future to the wheat growing interests of the State. Also, all threshing machines must be disinfected after threshing a field of wheat infected with either of these diseases." - Chas. Adkins.

"Yields of alfalfa are exceptionally large for the first cutting this year. There is no doubt but what there is a larger total tonnage of alfalfa cut in DuPage County this year than ever before. Farmers are growing good alfalfa because they are putting it on their good land instead of on the poor land. 85 tons of field cured alfalfa hay were harvested from 25 acres on the County Farm. This land has had both limestone and phosphate treatment." - Heaton.

"There were 128 wool growers who joined our wool pool. A total of 23,150 pounds were shipped." - Brooks, LaSalle County.

The Adviser's Conference at Urbana, June 24th and 25th was attended by nearly all of the Farm Advisers in the State. The two day's program seemed to be heartily appreciated. The meeting was in charge of W. E. Hedgcock, President of the Association of Illinois County Advisers.

Many a man's reputation would not know his character if they met.
Hubbard.

Question Page

"WHAT CAUSES THE DEAD HEADS IN WHEAT?" "HOW CONTROL WHEAT SCAB?"

"Dead heads may be caused by scab, stem maggot, anthracnose, physiological blight and probably other things. What I have termed physiological blight is an early yellowing of the head before normal maturity without any apparent cause for this behavior. The reproduction period of a plant is a critical time in its development and any severe unfavorable condition during this time may result in the death of the plant.

So little is known concerning wheat scab that no one is ready to make any definite recommendations for treatment. The usual suggestion when this question is asked is that clean seed - free from scab - should be obtained. If this is not practicable, the seed containing scab should be rigidly fanned to blow out all the light scabby grains and to secure seed having as high specific gravity for seeding as possible. Since the relation between corn root rot and wheat scab has been definitely proven, it seems that the practice of following corn with wheat should be discontinued, if possible." - George H. Dungan.

"GIVE A CONCISE REVIEW OF TRACTOR vs HORSE FARMING COSTS, AND A REVIEW OF TRUCK vs HORSE HAULING COSTS."

"In 1918 it cost $156.85 to keep a work horse and $428.87 total expense for maintaining a three-plow tractor. According to this, if a farmer can displace three horses, other things being equal, he can afford to own a tractor. According to the tractor survey on 100 Illinois farms, the average farm of 246 crop acres displaced 2.4 horses, which is not quite enough to make the tractor a success financially. Better adaptation of the tractor will permit a larger displacement of horses. Better farm management will make better use of the horses already on most Illinois farms and also of the tractor if one is purchased. Thus, the success of the tractor in the future, depends largely upon its development and the ability of the farmer to operate it successfully. Complete information concerning the economic adaptation and use of horse labor and tractor will be published at an early date by the Department of Farm Organization and Management.

The only figures available for cost of operating motor trucks are for those used in the city. These would not be representative for the farm because of the size of the truck, the nature of the material hauled and the kind of roads. The article of Mr. W. J. Suor of Wilson & Company, Chicago, Illinois, in the May 15, 1919, number of the Breeders' Gazette, gives a good idea of the comparative costs for city hauling." - J. B. Andrews.

"GIVE SPECIFIC DIRECTIONS FOR TREATING SKIN INFECTIONS IN SWINE."

"It is difficult to give directions for treating skin infections without having some general idea of the disease prevailing. To prescribe in a general way, it would be advisable to dip all animals affected." - Graham.

"HAVE ANY DISASTROUS RESULTS BEEN REPORTED FROM THE USE OF NATIONAL HOG CHOLERA REMEDY?"

"We have not had any such disastrous results reportd to us. This remedy, however, belongs to the class that stockmen are hardly warranted in using." Robert Graham.

Wheat scab has been reported very generally over the State. Some Advisers have estimated that from one-half to three-fourths of the crop is infected. The scab has developed very rapidly during the past week or ten days, and the loss will be much greater than was anticipated a week ago.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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FARMERS and VETERINARIANS ARE COOPERATING TO CONTROL SWINE DISEASES.
(Which are now causing a Loss of thousands of dollars each Year.)

Veterinarians recommend the application of practical measures of sanitation to avoid disease. The following fundamentals of animal hygiene, aid in maintaining healthy herds and farms free from infection:

1. CLEAN hog houses free from manure, dirt and dust. 1 pound of commercial lye dissolved in 40 gallons of water applied with a spray pump, followed by hand brush or broom, facilitates cleaning of hog houses, troughs and feeding places.

2. DISINFECT once or twice a year.

3. ROTATE pastures, provide clean drinking water, eliminate dirty hog wallows and dusty houses. Feed wholesome, balanced rations together with mineral mixtures.

4. DESTROY lice by spraying animals with crude oil.

5. CONSULT a competent veterinarian at the first indication of a contagious disease. Do not buy cure-all remedies. Sick animals should be killed and examined by a veterinarian to establish cause of illness.

6. IMMUNIZE pigs against cholera. The proper use of good serum and virus before disease develops, is good hog insurance.

7. DON'T delay treatment and allow disease to spread. Serum will not cure sick pigs.

8. SECONDARY DISEASES, such as necrobacillosis, hemorrhagic septicemia and other infections of swine, may be checked in the early stages by sanitary measures and medication. Intestinal antiseptics are recommended for the treatment of diarrhea accompanying this disease. For this purpose, use 8 ounces of powdered copper sulphate (blue stone) dissolved in a gallon of water. One pint of this solution to each 8 gallons of thin slop may be given in the feed or in the drinking water daily. Secondary infections resembling hog cholera have caused losses in many herds, yet may occur independent of hog cholera on unclean premises.

9. HOG CHOLERA SERUM is of little value in checking losses from diseases other than hog cholera, yet the existence of this disease in association with other swine infections must be carefully combated.

10. THE BACTERIN TREATMENT for swine disease, such as hemorrhagic septicemia, is recommended in herds together with change of quarters and disinfection of pens, lots and houses where evidence of this disease prevails. It is important for the best results that anti-hog cholera serum precede or accompany the bacterin treatment.

11. CONFINE sick hogs, burn all those dying of disease, clean up and disinfect all surroundings following disease.

12. AVOID spreading disease from farm to farm by men, dogs, pigeons, streams or other carriers. Disinfect shoes, wheels of vehicles, confine dogs and prevent visitors from entering hog lots. Too much care can not be exercised in this regard." - Robert Graham.

"Fifty-one head of Durocs were recently shipped to South America by Duroc Breeders of Peoria County. Adviser Hodgcock assisted in selecting the individuals and getting them O.K'd. for shipment. Hodgcock says: 'There were 15 boers and 30 gilts in the shipment. They go to Argentina and Brazil. The South American Government requires of our Government that no hogs be shipped from any farm on which cholera has existed within a five mile limit in the past six months. This required a survey of over 80 square miles for each farm.

In the inspection trip with the Government veterinarian, preliminary to shipping the Durocs to South America, we discovered a case of hog cholera, caused by a farmer doing his own vaccinating. He lost several hundred head of hogs. At another time we checked up two herds of sick spring pigs. In one herd we found necrobacillosis and hog cholera. It looks as though the farmer will have a chance of saving about 10 out of 65 spring pigs, besides the spring sows.'" - Hodgcock, Peoria County.

Swine diseases are present in several sections of the State-

"A good many losses of young pigs have been reported, probably caused by mixed infection, whatever that is." - Lumbrick, Vermilion County.

"Necrobacillosis and Mixed Infections are spreading alarmingly in this County and we have a great deal of canker sore mouth and Dermatitis in the spring pig crop this year, some herds have been entirely cleaned out." - Edgerton, Rock Island County.

"Three new cases of mixed infection in hogs were diagnosed this week. We are having fair success with vaccination." - Lloyd, Hancock County.

"There has been more than the usual complaint of partial paralysis among hogs, causing them to break down in the hind quarters." - Mosher, Woodford County.

Live Stock Breeders' Association successful in Union County. "We organized a live stock breeders' association sometime ago, but have not said anything about it as yet, because we wanted it to get to working well first. We now have about 65 members and the officers and committee are at work. We will complete the organization of two pig clubs in a few days, one for the Poland China breed and one for the Duroc Jersey. We also have a committee looking after the cooperative shipping of live stock. Two cars of hogs were shipped a short time ago, and notwithstanding the fact that they arrived in St. Louis late and were put on the market at noon, they sold for $20.20 to $20.40 per 100 pounds. This was 2½ to 3 cents higher at the time than the local buyer at Anna was paying." - Durst.

Holstein Sale. The Rock River Valley Breeders' Sales Company which was formerly the Tri County Holstein Breeders' Association, held their fourth sale, selling about 75 head of cattle at an average of almost $500. per head. The highest cow bringing $2,600. The sale was held in the new sales pavilion built by the Rock River Valley Breeders' Sales Company, and was conceded to be a first-class pavilion in every way. The only criticism is the lack of room for stock, and it is planned to build other buildings on the nearby lot. The building is fitted with opera chairs and will seat something over 300 people. Just recently the local Holstein Breeders have purchased a half interest in Rag Apple Korndyke 8th, the $100,000 bull and the sire of Rag Apple the Great, the $125,000 bull which was recently sold at the Cavana sale in New York. These same breeders also bought the dam of the $125,000 bull and also the dam of the King of the Rag Apple owned by the Woodlawn farm of Sterling." - Griffith, Lee Co

"One hundred and six grade Holstein cows and heifers which had been bred and raised around Shipman in this county were shipped out last night to Mexico City, Mexico. These averaged about $150. a piece at Shipman." - Miller, Macoupin County.

TO WHAT EXTENT MAY THE COUNTY AGENT ENCOURAGE LIVE STOCK SHIPPING ASSOCIATIONS?

"Probably we have very definite notions in Henry County, but we have not made a very considerable stir in orgnizing shipping associations. We have not fought other folks about it, or attempted in any way to force a shipping association on any community. We have published the success of the shipping association and waited for the communities needing the organizations to take the initiative. Our associations are all working successfully. I think there are but three stations that have no organization at present. We believe this plan makes for permanency after the association is once established." - J. T. Montgomery.

"Relative to shipping associations, I will say that I believe that there is no one thing that a County Farm Adviser can do that will reflect as much credit on the Farm Bureau as the organization of live stock shipping associations; I say this because since our County has been organized, a great number of men have been using that argument in getting farmers to join the Farm Bureau. Whether we like to admit it or not, yet the fact remains, I think, that the strongest appeal to a farmer is the one where you save him some money; this the shipping associations have been doing very consistently.

Furthermore, I believe that the successful establishing of these smaller cooperative movements will have a very benefical effect on the whole cooperative movement. Farmers will first learn to cooperate in a small way, if that succeeds, then larger things may be expected." - Edgerton, Rock Island County.

The development of cooperative live stock shipping associations in Illinois can be pretty definitely marked by the beginning and development of the county agent movement. As near as can be ascertained by careful investigation there are 58 cooperative live stock shipping associations operating in Illinois today. Only three of those are over three years old; 8 have operated between 12 and 24 months; 1 more has operated 8 months and the remaining 46 were organized in 1919.

These associations are distributed over the state as follows: LaSalle county 15, Rock Island 9, Henry 6, Stephenson 5, Mercer 4, Knox 3, Clark, Grundy, Ogle, Tazewell, and Whiteside each 2, and Bureau, Christian, Coles, Fulton, Greene, and Montgomery each have 1 association.

The associations which have been in operation 6 months or more have an average membership of 143. All but 2 of the 58 associations limit the voting privilege to one-man-one-vote regardless of amount of association stock held.

Each association which was organized before January 1, 1918, handled for its members during the year 1918, an average of 329 head of cattle, 97 calves, 4137 hogs, 188 sheep, and each one of these associations turned back to the farmers an average of $238,612.09 for this stock after deducting the cost of operation.

The object of the cooperative shipping association is today pretty well understood; its success lies on the fact that quality in the finished animal will under the eye of more buying competition, receive nearer its true worth than where purchased at the farm, and giving this service at the lowest possible cost to the producer." - R. H. Wilcox, Associate in Animal Husbandry, U. of I.

Carroll County completed their farm bureau organization on June 28. The bureau starts off with a membership which is representative of the progressive farmers of Carroll County.

Mr. M. J. Wright, who has been serving Carroll and JoDavies Counties as Emergency Demonstration Agent for the past year is very largely responsible for the organization of the County.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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Threshing is well under way and wheat yields are rather disappointing according to reports from practically all counties. Scab in the wheat is very bad, especially in the smooth varieties and in spring wheat. The following are but a few of the reports:

"Scab in wheat is very bad and doubtless will reduce the yield by one-half. Bearded wheat does not seem to be as badly affected as smooth varieties."-Ogle Co.

"A yield of 29 bushels per acre was secured on one of the five acre wheat contest fields on sweet clover sod, on one of the best soil types of the county. This yield was rather disappointing as there were 200 shocks of wheat on the five acres. This shows there is plenty of straw, but not enough wheat this year."-Randolph County

"Spring wheat in this county will probably yield less than 50% as much as was anticipated a month ago and probably not more than 50% of the yield of last year. A great deal of scab is present, but there is additional damage caused by hot sultry weather during the time of filling." - Grundy County.

"Investigation shows that the spring wheat of the beardless varieties has been seriously injured by scab and blight. Scab is quite general, affecting from 5 to 30% in different fields. The bearded varieties show but very little injury of any kind." - Kane County.

"Spring wheat has been damaged from 25% to 50% on some farms by the scab. I have only discovered one or two fields of winter wheat that had any damage and this was not large. My estimate at the present time is that winter wheat will average from 30 to 40 bushels per acre, while the spring wheat will do well if the best of it yields over 25 bushels. We had recommended that farmers seed at least half their wheat acreage to winter wheat. This was apparently good advice."-DuPage Co.

Look out for these Army-Worms again: "The parasites which generally infest the eggs of the second brood of the army-worm and prevent their hatching are apparently very scarce this season. This is certainly true in the vicinity of Urbana. Moths of this brood of army-worms are exceedingly abundant, and have been, over the southern two-thirds of the state for the past two weeks. While it is not likely that the second brood will appear in dangerous numbers, it would be highly advisable to keep a close watch, during the next two weeks of any field where there is a rank growth of grass or other crop.

Worms have been hatching for a week in the latitude of Madison and Clinton Counties, and are just beginning to hatch in the latitude of Urbana, and will be coming out about a week to two weeks later through the north-central and northern part of the state." - W. P. Flint.

New Potato Disease. "A very serious wart disease of potatoes had made its appearance in Pennsylvania. An effort is being made to discover if this disease exists in Illinois. Literature concerning this subject is being sent to County Advisers, and they are kindly requested to report all suspicious cases."-Geo.Dunga

Feeder Cattle and Sheep. "Drouth conditions in Montana, unless immediately relieved by rain, will necessitate the movement of Montana cattle and sheep in large numbers", says Mr. W. L. Beers, Field Agent in Marketing, University of Montana, Bozeman, Montana. County Advisers in Illinois, are asked to refer this information to their local feeders and in case they wish to buy Montana livestock direct from the pasture, detailed information can be had from Mr. Beers. - W. F. Handschin.

"Potassium Cyanide injures apple trees. One of the most interesting demonstrations seen on the tour of Union County last Friday was the injury done to the apple trees by the use of potassium cyanide. A strip of dead wood from one-half inch to three inches in width extends up and down the trees from the holes where the cyanide was applied. Many of the smaller trees are ruined while all of them have been severely injured. Four trees overlooked when the orchard was sprayed this spring for the scale, showed that the cyanide treatment does not prevent scale as had been claimed. This orchard furnishes an excellent illustration of the advisability of letting the Experiment Station do the experimenting and of following its advice rather than that of some unautheritative person or publication. It also shows the advisability of consulting the County Adviser concerning matters about which the farmer himself has no definite information." - G. N. Coffey.

Ford County has employed Mr. Frank C. Hersman as Farm Adviser. He expects to begin work about July 25th. Mr. Hersman was reared on a farm in Brown County and graduated from the University of Illinois in 1909. After graduation he returned to the farm and remained there until 1912, when he went to California where he taught agriculture in a high school until 1916. He then returned to Illinois and has been farming in Brown County since that date. The Ford County Farm Bureau which was entirely organized by local people has about 300 members, all of whom joined the Illinois Agricultural Association, as well as the local Farm Bureau. Mr. C. W. Knapp is President, and Mr. W. E. McKeever is Secretary. The office will be located at Gibson City." - G. N. Coffey.

If Agricultural Limestone will make Richland County live up to its name Adviser Piper is on the right track. Here is what he says: "We have ordered 160 cars of limestone to date and there are more in sight. We haven't unloading track enough to accomodate all the orders desired to be delivered by the special limestone train."

GIVE METHOD OF ERADICATION OF THE SHOESTRING VINE.

The plant known as shoestring vine is also called swamp smartweed. It is known scientifically as Polygonum muhlenbergia and belongs to the Smartweed family. This pest propagates both by seeds and by rootstocks. Although this weed seems to prefer moist soil, yet it has been known to grow at the crest of a hill. It will not be found in solid masses over the field unless it is of long standing, but instead it grows in small round patches. These areas increase in size each year until the whole field is finally covered.

If the soil is wet it will be necessary to drain it before attempting to eradicate the Shoestring vine. The real work should begin after some rank growing, early maturing crop has been harvested. Plow six or eight inches deep during the latter part of July or the first part of August. Harrow the land thoroughly with a spring tooth harrow in order to rake up as many of the long tough roots as you can. Pull out by hand as many of the rootstocks as possible and load on a wagon and haul off the field. These should be burned later. Every effort should be made to get as many roots as possible since this reduces the later work greatly. Now prepare the land in the best possible condition by double disking, probably

both ways, and then by harrowing. Prepare as well as you can all the conditions for growth. As soon as shoots and leaves appear disk again so as to destroy all growth above ground. If the rootstocks have been cut up into small pieces by the disking, each one of these will be attempting to send up a shoot and produce a plant. As these new plants reach the surface they are killed by disking, while the short root-stock is called upon to make another attempt to establish a plant in order that the rapidly deteriorating rootstock may be supplied with food from the air. Continued disking as often as shoots appear will so weaken the root-stocks as to cause them to die. The work should be continued until cold weather. If at any time the young plants cannot be controlled by disking, plow and then continue the disking as before. At any rate plow the land just before freezing. The land should be thoroughly prepared the next spring by double disking and then planted to some cultivated crop. Frequent cultivation with sharp scraper type shovels should eliminate the remaining plants. It may be necessary to go over the fields with a hoe in order to get the last and most persistent plants.

The success of this method will depend upon the fineness to which the root-stocks are cut at the beginning, the preparation of the seed bed in order to stimulate growth, and the efficiency with which leaf growth is prevented. - J. W. Pieper, Assistant in Crops Production, University of Illinois.

WOULD IT BE ADVISABLE TO BURN ALL STALKS AND STUBBLE NEXT SEASON TO KILL INSECTS?

"Of the ten most destructive corn insects that occur in Illinois, only one, the chinch-bug, over passes the winter in the corn stalks. Counts made in many fields in the chinch-bug-infested area last winter showed an average of one bug to two hills of corn, while along fence rows, hedge rows, etc., averaged 235 per square foot. Of the several hundred insects known to attack corn only two or three, and these of minor importance, pass the winter in the stalks. This does not apply to shock fooder, as a number of insects may shelter in this. So far as preventing insect damage goes, there is no reason for burning stalks this winter.

As to burning stubble, there may be some cases in which this should be done where the joint-worm is abundant. As a rule, nothing will be gained by it. It is mainly along the overgrown and weedy fence-rows, hedges, roadsides, etc., that most of the hibernating insects shelter. These are the places to burn over and clean up." - W. P. Flint.

TO WHAT EXTENT HAVE OLD STRAW-PILES CONTRIBUTED TO THE INSECT OUTBREAK THIS SEASON?

During the present season several of our common species of injurious insects have been more abundant than usual. Of these the flea-beetle is important, but it never shelters in old straw-piles, and the straw-piles could in no way have contributed to their abundance.

The army-worm occasionally deposits its eggs around old straw-piles, but if the straw was not there it would undoubtedly lay the eggs in some other place, so I would not consider that the straw in any way contributed to the outbreak of the army-worm.

Joint-worms pass the winter in the straw, and straw stacks have in some cases contributed to the unusual number of these insects this season.

Concerning the other injurious species of insects that have been abundant this spring, I do not know that any of them would have been any less numerous if there had not been a straw-pile in the state." - W. P. Flint.

"So let us still stick to the slogan,- "Don't burn corn stalks, stubble or straw-piles." It can avail but little in any case and it does destroy much valuable fertility", says Ye Editor.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. II. July 23, 1919. No. 30.

"Underpaid- Business is stripping our Agricultural Colleges of their Best, Young Men," is the title of an article by Dean Davenport, published in the July 19 issue of The Country Gentlemen. This article merits the attention of every Farm Adviser and farmer in the County.

Oats smut bad this year where untreated seed was used. "Counts have been taken for oats smut and we find that as an average oats treated with the formaldehyde method shows no smut or only a trace. The same oats not treated average 20 per cent smut." - Rucker, Effingham County.

"In making a count on oats for smut we found that some fields have as high as 17 per cent of the grain destroyed." - Blackburn, Marion County.

The dry method of treating oats for smut did not give the results anticipated. One field which was sown with dry treated seed had so much smut that I would not hold a follow-up demonstration meeting because the results were too negative. I am wondering whether this method is really giving as good results as the wet method of treatment." - Kendall, Morgan County.

More about the Sweet Clover Field in Cass County. "This field of sweet clover contains 14 acres and is located on brown silt loam over gravel. One hundred head of hogs had access to this field all winter. On April 11th, an additional 100 head of hogs and 32 head of pure bred Shorthorns were turned on to this field. The cattle received no other feed than the pasture. The hogs received tankage and corn from the self-feeder. This sweet clover kept these animals in excellent condition. On June 2d, all but 40 head of hogs and all the cattle were taken off the field. July 6th, this field shows a very strong growth of tops full of bloom and promising a very good seed crop." - Dickenson, Cass County.

Increased Crop from Phosphate. The yields from a test plot of clover treated with acid phosphate were weighed and showed an increase of nearly one ton per acre. This was on brown silt loam. The results show very plainly the need of phosphate. The field meeting on this plot and the weight results are convincing one of the disbelievers. Two carloads of phosphate were ordered this week." - Baumeister, Stephenson County.

"How long does it take to rid a field of corn root lice?" Investigated corn fields this week that had had a rotation of oats, wheat, and clover. It was put back in corn this year, being the fourth year since corn was raised. The stand was quite uneven and upon examination several of the corn plants were found infested with a number of corn root lice. According to the owner this field had been cleaned of weeds and grasses other than what was seeded. This confronts us with the problem as to whether the corn root louse will live three or four years between corn crops." - Hedgcock, Peoria County.

Illinois Veterinary Medical Association Meets. "On July 7th and 8th between two and three hundred members of the Illinois State Veterinary Medical Association held their summer meeting at the University. The prevailing sentiment of the speakers on Swine Diseases questioned the practical application of the term "mixed infection" to diseases other than hog cholera existent in swine. Secondary diseases, or even more specific names, such as hemorrhagic septicemia, necrobacillosis, salmonellosis, etc., were preferred to eliminate the confusion which has prevailed during the last two years in connection with swine diseases nomenclature. It was forcefully mentioned that virus cholera is the most important disease of swine and that early immunization, rotation of pastures, and disinfection of pens, greatly reduce the losses incurred from secondary diseases.

An important contribution to the program was made by members of the Bureau of Animal Industry in bringing out the economic importance of ascarid infection in pigs. This subject was discussed by Dr. Raffensperger and Dr. Bayler. The anatomical lesions induced by this parasite in the lungs of pigs, as well as the clinical picture of the disease, was demonstrated in animals that had been artifically infected.

The ladies in attendance at the meeting enjoyed a separate program including lectures on home economics, inspection of the various University buildings, followed by a visit to Chanute Field, where upon presentation of proper credentials, several veterinarians looped the loop and enjoyed a rare experience in flying stunts." - Robert Graham.

Black Leg is reported in southern Illinois. We have the two following items from Johnson and Williamson Counties: "Black leg has broken out on two farms in Johnson County. Many of the farmers are having their young cattle vaccinated. The Farm Bureau is encouraging the use of filtrate and aggressin for vaccination and discourgging the use of pellets." - McGhee.

"In one township in Williamson County several head of young cattle have been lost from Black leg. A number of the leading farmers have been interviewed regarding the importance of vaccination against Black leg. Most of these have now vaccinated their young cattle." - Hart.

Edwards County has secured Mr. H. R. Pollock as Farm Adviser. Mr. Pollock is a native of Clinton County, Illinois. He graduated from the University in 1914, and since then has been teaching agriculture in high school, his last position being at Oblong in Crawford County. Mr. Pollock expects to begin work August 1st. The offices of the Farm Bureau will be in Albion.

The summer meeting of the Illinois State Horticultural Society will take place July 30 and 31 at Anna, CUnion County, Illinois. The meeting will start on Wednesday at 6:15 P. M., July 30 with inspection of vegetable fertilizer experiments and evening program at Union Club. An all day inspection tour to orchards and gardens will be conducted on Thursday, July 31. Dinner, refreshments, fruit, and automobile transportation furnished by Union County people. The Union County Farm Bureau and Illinois Horticultural Society are cooperating in staging the meeting. An invitation is extended you to attend.

"Are our Farmers growing enough Horses?" Wayne Dinsmore and Professor Edmonds spent a day in the County sizing up the horse situation. They found that even our best horsemen are scarcely producing their own replacements." - Brooks, LaSalle County.

A similar report comes from other counties visited showing that not enough good drafters exist to supply the demand. It is to be regretted that farmers do not adopt and stick to a system of having their best mares bred to foal each year.

HOW MAY A COUNTY AGENT ENCOURAGE THE DEVELOPMENT OF LIVESTOCK IN HIS COUNTY?

"There are two general lines in livestock development: (1) Feeding for market, and (2) the pure bred business. While both are livestock questions, they differ considerably. As a rule, the general livestock system of a county is fairly well fixed prior to any farm bureau activities. The system founded upon the instincts of the people, upon marketing facilities, upon soil type, crops or general customs is, as a rule, a pretty good policy. Generally, such an established system should be dealt with carefully. No general change can be expected and usually it would be a mistake. That is, if a community or a county is rather set toward feeding for market, a plan for changing to pure bred production is usually unwise.

Before endeavoring to carry out any new system of live stock development in a county, the Farm Adviser should thoroughly acquaint himself with existing conditions and ideas. These cannot be radically changed in a day and perhaps they should not be changed at all, but rather used as a foundation on which to build future constructive development of live stock policies.

If feeding for market is the chief interest, the following points must be worked out: (1) Better rations followed by feeding demonstrations. (2) Better equipment, good shelter, and dry convenient feed lots. (3) Assistance in buying right. (4) Better marketing conditions, perhaps, furthered through the organization of livestock shipping associations.

If a county is interested in pure bred livestock, the Adviser's problems can be summed up about as follows: (1) Study existing breeds. (2) If there are enough breeders of a certain breed of livestock, help them form an association which shall promote their interests. (3) Improve foundation stock by bringing in better sires and females. Teach fundamentals of good breeding and development of individuals. (4) Promote leading breeds, but not to the exclusion of others. (5) Stimulate a good and profitable market for good pure breds. Assist in advertising and in developing public sales, see that good profits are made without disposing of best foundation stock. (6) Keep up enthusiasm, but do not allow over-development which might bring a reaction. (7) Keep all breeders cooperating with each other and with the Farm Bureau." - C. G. Starr, Tazewell County.

WHAT IS THE REAL VALUE OF THE CAMERA AND LANTERN PICTURES FOR USE IN FARM ADVISORY WORK?

"Good clear pictures of local farm scenes thrown on the screen by good lanterns gives the local touch to the illustrated talk which vitalizes it. Among the county pictures shown in any locality should be a number from that locality. The results of demonstrations can be actually shown all over the county through the medium of a camera, pictures, and the lantern. This is perhaps the real value of this part of the Adviser's equipment." - D. O. Thompson.

"The people are very much interested in lantern slide pictures. It gets a much better attendance than do meetings without them. Pictures of the local field are more attractive and they are more effective in teaching the desired lessons. I have not as yet, purchased a camera, but have tried out several machines and have decided to order a Graflex 5 x 7 with attachments that use any size of film desired." - J. H. Miner.

State Forester. Mr. R. B. Miller took up his work as State Forester of Illinois July 1st in connection with the Natural History Survey. Mr. Miller will study forestry and woodlot problems in the state and his services will be available to farmers and owners of timberland. His services will concern planning, thinning, and improvement work in woodlots. Mr. Miller is a graduate of the Yale Forestry School. His present address is 223 Natural History Building, University of Illinois.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II July 30, 1919. No. 31

Exhibits for County Fairs. "The Department of Animal Husbandry will loan some general illustrative material to the County Advisers who desire to make exhibits at their County Fairs. This material includes charts and photographs, illustrating some of the more important lines of investigational work carried on by the Department. It is obvious that it will be impossible to provide a sufficient number of sets for all the men, as many of the Fairs are held at the same time. However, we shall accommodate as many of the advisers as possible. Last year material was furnished to the Advisers for exhibits at twenty Fairs and practically the same number can be accommodated this year. To accomplish this it will be necessary to prepare four sets of material and keep them circulating from one county to another during the Fair season." - W. H. Smith.

"The Natural History Division can make up one exhibit of about six or seven cases, which will be packed in a wooden shipping case, and will show about 250 of our more common injurious insect species with, wherever possible, specimens of both adult and immature stages, and specimens of the work of the insects. There will be one special case featuring the army worm, and another of the European Corn Borer. An additional smaller exhibit will be made up also." - W. P. Flint.

"Any Adviser contemplating the use of one of these exhibits should correspond with Mr. Smith or Mr. Flint respectively, giving the exact date and place exhibit would be wanted." - G. N. Coffey.

Feeder Lambs for sale this fall. Due to the shortage of feed on the ranges in Oregon there will be nearly 75,000 medium fine wool feeder lambs for sale near Bend, Oregon, according to a communication from Mr. R. A. Ward, Vice-President, First National Bank of Bend. Mr. Ward says these are range lambs of good quality and in the very best of health. They could be secured directly from sheep men of that country. Further information can be received from Mr. Ward.

Cooperative shipping of wool successful. "The County Adviser of Fulton County gives the following report concerning their consignment of local wool. "I was at Chicago Tuesday when our car of wool was graded. Weights are practically the same as those made when loading the car and the method of handling appeared to be very satisfactory. With the present market the consigners should net ten to fifteen cents more per pound than they were offered before shipping." A. W. Miner.

Not Many Colts being Raised. - "Recently the Adviser and Assistant accompanied Mr. Wayne Dinsmore and Professor J. L. Edmonds on an inspection trip visiting a number of the Percheron herds of the county. One point brought out on this trip was the extremely small number of colts being raised this year and the small amount of breeding being done by horsemen over the whole county." - Shaffer, Woodford Co.

Wheat yields over the state are low. Judging from all reports the average of the spring wheat crop will be between 5 and 10 bushels to the acre. Moultrie County reports a spring wheat yield as high as 22 bushels, grading No. 1, while Cass County reports a field of 40 acres that threshed out only 80 bushels of wheat. Many reports indicate yields of 8 to 10 bushels. Winter wheat is yielding from 5 to 30 bushels with an average of about 18 bushels to the acre.

"Considerable wheat smut has been found in fields in which untreated seed was sown last fall. In some cases the prices have been cut as much as 3 or 4¢ a bushel, and in one case the wheat would have graded No. 1 if it had not been for the smut. Without exception the fields in which the seed was treated are practically free from this injury." - A. E. Burwash.

"Smut is showing up in untreated wheat and oats. Last fall the adviser made a farm visit where the farmer was sowing wheat seed full of smut balls. It was suggested at the time that treatment of the seed would pay. Yesterday it was found that this farmer got only $1.75 per bushel for his wheat because of the smut content. Neighbors who had cleaned seed obtained $2.08 per bushel." - Hay, Christian Co.

"The take-all wheat disease is being cared for in a very satisfactory manner through the assistance of the State and U. S. Departments of Agriculture. "Take-all was present on 28 farms in Mason County. Farmers in this locality are co-operating with government men in a splendid manner and should the rules adopted by the department stamp out "Take-All", Mason County should be freed from the disease next year." - Baldwin.

Many new small threshing outfits are being brought into operation this year. Several farmers in the same neighborhood will purchase a small outfit and do their own threshing. The results seem to be generally satisfactory and much less labor and time is required. Small gas tractors are used to supply the power. This has resulted in bringing about a congested situation at local elevators because of the lack of sufficient cars for shipping the wheat to the central market. While farmers were warned to provide storage space at home it seems that very few have done so, and this has resulted in the standing idle of a number of threshing machines waiting for the local elevators to ship out their present supply.

Grasshopper catchers do the work. The following reports indicate the success of the grasshopper catchers.

"One of our members made a grasshopper catcher and caught 20 bushels of grasshoppers on a 40 acre field of clover. This man's neighbors were at first sceptical but before the demonstration was over several men decided to use the catchers themselves." - Miller, Macoupin County.

"Grasshoppers are becoming a serious menace to the clover crop. We have been advocating the use of the hopperdozer and poisoned bait. One farmer near Shelbyville caught 12 bushels of small hoppers in a 25 acre field of clover. - Belting, Shelby County.

"The first half day's catch of the grasshopper catcher was 10 bushels. We found that the grasshoppers slide down the tin better if it is kept rubbed off with a cloth soaked in kerosene. Unless oiled frequently the surface of the tin seems to get sticky so the hoppers can crawl up and escape." - Wheelock, Jersey County.

Beware of that patent "hog dope". Advisers continue to report cases where farmers are losing hogs as a result of feeding some patent cure-all to hogs.

One of the largest picnics in the state was held at Fairview Farm near Sidell Illinois, July 16. The picnic was arranged by Mr. Harvey J. Sconce, assisted by the Vermilion County Farm and Home Bureaus. It was estimated by the newspaper men present that there were between 7,000 and 8,000 people in attendance.

"The Galesburg District Fair has set apart one of the best days as Farm Bureau Day; not just Farmers' Day. In these, and many other ways, we believe that the Farm Bureau has come to occupy a place of influence and usefulness in the County as a whole." - E. M. D. Bracker, Knox County.

Farm hands supplied. "From June 23, 1919, to July 25, 1919, 440 men have been placed on farms through the Farm Bureau office." - I. A. Madden, Sangamon County.

Two local crushers are now located in Johnson County and there are prospects of two more. To provide for additional source of limestone we are organizing a lime stone association to erect storage sheds so that limestone will be available to the farmers at all times." - McGhee.

"Several carloads of apples have been shipped out butthe peaches are not so plentiful this year. A number of peaches have been sold on the local market but none have been shipped out that I know of. I have been trying to get the local buyers to take the early peaches around here rather than have them shipped in." - F. J. Blackburn.

In connection with the eradication of the Japanese Barberry, or the tall growing green and purple leaf varieties, which are the host plants for the black stem rust of wheat, a public hearing has been called in the Department of Agriculture office in the Capital Building at Springfield, August 9th, 1919, at 10 A. M. At this time any one who may be affected by it or have any interest in the proposed action of the department in eradicating the barberry, may be heard either by person or attorney.

"Soybeans in corn are showing up exceptionally well for the time they were planted, that is, those which came up at all. In many cases our yellow beans did not germinate. The black bean seems to stand more adverse conditions." - E. H. Walworth, Clark County.

Hog Cholera reported in several counties. Through cooperation with state veterinarians, local veterinarians and wide publicity, it is hoped to prevent the spread of the disease, particularly during the threshing season when conditions are especially favorable for its dissemination.

"A $10,000 Sales Pavilion is being planned by the McDonough County Livestock Breeders' Association. Twenty-four dates have already been claimed for sales."- Doneghue.

A novel advertising scheme was carried out by members of the Warren County Farm Bureau who shipped several carloads of cattle to North Dakota. Large signs were made for display on the outside of the cars advertising the Warren County Shorthorn Breeders' Association.

Running a Matrimonial Bureau is the latest accusation of a Farm Bureau office but since one of Jersey County's own farmers is depriving the farm bureau of Mr. Wheelock's office assistant, perhaps, there is no room for complaint. Who knows, this may be the initiative toward originating a Home Bureau in Jersey County.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. II August 6, 1919. No. 32

"Third brood larvae of the codling moth will be hatching from the egg and entering the apple in Southern Illinois about Aug. 15 and in Central Illinois about Aug. 17. Eggs will probably continue hatching up to the last week in September. Where the codling moth is abundant it would probably be advisable to apply a late spray about Sept. 5 - 10." - W. P. Flint, Natural History Survey, University of Illinois.

Keep Records Now for 1920 Census. - "The Agricultural Statistics for the regular decennial U. S. Census, which will be taken next winter, will include data for the 1919 cropping season. Farmers should be particularly interested in having these statistics just as accurate as possible. The schedules will cover the acreage and yield of all crops, including orchards and gardens; the number, kind and value of domestic animals; the number slaughtered on the farm, together with the total dressed weight and amount of meat sold; the pounds of milk produced and amount sold; the number of sheep shorn and the weight and value of the fleeces; chicken and eggs produced and sold; and such other data as is ordinarily included in the census. This data will apply to the farm upon which the operator is living on January 1, 1920. It would seems desirable to call the attention of the farmers to the advisability of keeping such records as will enable them to furnish the enumerator with the desired information." - State Leader.

"Clover on limed land is looking as well as I have ever seen it. In a few instances men are going to get a good seed crop from this year's seeding." - Miller, Macoupin County.

"Iowa 103 Oats has not lived up to its reputation in this county. When last year it lodged badly we attributed it to continued wet weather in the spring, most of our oats did lodge. But this year with the straw generally short Iowa 103 has gone down worse than our late andmedium oats. The flattest field of oats I ever saw was a field of103 this year that went down July 4th and never came up. We are waiting to compare the yields. Even where the Iowa 103 went down, however, we have a fine clover stand." - G. F. Baumeister, Stephenson Co.

In that Barberry announcement last week, the word "Japanese" was an intruder. The Japanese barberry is not to be eradicated. The item should have said - "The tall growing, green and purple leaved varieties", which are the only ones harboring the rust. Public hearing is called at Springfield, Aug. 9th and any one interested in the subject should attend.

100 bushels of certified Red Rock seed wheat is offered for sale by L. B. McPherson, Lowell, Mich. recommended by County Agent Carr, of Grand Rapids, Mich.

Samples of Scab make Good Demonstration Material. "I have found that a collection of wheat and rye affected with scab, and an ear of corn having the disease which affects the rootlets of the corn plant and a number of dwarfed corn plants which almost invariably showed diseased roots make the basis for interesting demonstrations. Now while the damage the scab has caused is fresh in the memory is a good time to call the attention of the farmer to the nature of the disease, its relation with root-rot in corn and the best means of lessening the damage." - Thomas, Jackson Co.

"Alfalfa in this county is in very bad shape. According to my observations the wet weather and consequent delay of the first cutting is mainly responsible for this condition. Alfalfa that was cut at the right stage regardless of the unfavorable weather for hay making is generally in good condition. Several alfalfa growers have said that never again will they ruin their alfalfa by waiting for favorable weather conditions." - Thomas, Jackson County.

Early Oats. "Early Oats are turning out fairly well with the Iowa 103 leading as usual. Our Iowa oats seem to be growing larger each year, and we are wondering if that is due to the influence of soil and climatic conditions, or if it is because the oats are becoming mixed." - Lloyd, Hancock County.

Window Display. - "We have been having a display of noxious weeds in the office window the past few weeks. This display has attracted a good deal of attention and we find that it stimulates an interest in the identification and eradication of bad weeds." - Bracker, Knox County.

"Results from the spraying demonstrations held this spring and the individual spraying by farmers which followed those demonstrations are being secured. Sprayed orchards are yielding a good supply of nice, smooth fruit, while neighboring orchards that were not sprayed have very little fruit which is badly attacked by insects." - Thomas, Coles County.

AVAILABLE PLANT FOOD - IN THE SOIL AND IN COMMERCIAL FERTILIZERS. "Available plant food is that part of the total plant food of the soil, which the plant may obtain during a given growing season. Plant food may not be available when the seed is planted in the spring, but may become so during the growing season. For example, there may not be sufficient available nitrogen in the soil in the early spring to meet the entire needs of the crop, but by proper systems of farming, nitrogen may be made available during the spring and summer to meet the needs of the growing plant if proper conditions for nitrification are provided.

Various methods have been suggested by Agricultural Chemists to determine the available plant foods in the soil - however, without much success. It is probable that no success will ever be achieved along this line fortwo very good reasons: (1) The available plant food varies from day to day and, therefore, the determination of available plant food in the soil on any one day may be very different from the following week or month; (2) The chemist in making the analysis of a sample of soil works only with a single spoonful of soil, while the plant roots have an abundant foraging range. In a word, there is no possible chemical laboratory method of imitating the action of plant roots in the soil.

We should not concern ourselves so much with the question of the quantity of available plant food, as we should with the total amount of plant food in the soil and methods of making the plant food available. If we have sufficient amount of plant food in our soil and proper methods of farming are followed, the plant food will be made available in accordance with the demands of the growing crop. There is a very good way of approximating the amount of plant food, which will be made available each year under good systems of farming, which it would be well to keep

in mind. It has been determined that the equivalent of 1 percent of the total phosphorous, 2 percent of the total nitrogen, and 1/4 percent of the total potassium of the surface soil may be made available each year for the growing plant, by good methods of farming. A 100 bushel crop of corn requires 148 pounds ofnitrogen, 23 pounds of phosphorous and 71 pounds of potassium. Of these amounts, 48 pounds of nitrogen, 6 pounds of phosphorous, and 52 pounds of potassium may be returned in the stover. In order to provide, therefore, the necessary 100 pounds of available nitrogen for such a crop, provision should be made to build up the total nitrogen content of the surface soil to 5000 pounds 2 percent of which is 100 pounds. Likewise, the phosphorous content should be built up to 2000 pounds, 1 percent of which is 20 pounds, which makes ample provision for any loss, which may occur. In case of potassium, however, there is an abundance of this element in all our normal soils to meet the needs of the growing crop. For example, the common gray silt loam soil of Southern Illinois contains 2500 pounds of potassium per acre in the surface soil. 1/4 of 1 percent of this may be made available, or 62 pounds, which is three times the normal demands of a 100 bushel crop of corn.

The commercial fertilizer agent emphasizes the availability of the plant food in the fertilizer. Just what does he mean by availability? The plant food in commercial fertilizer may be water soluble as sodium nitrate, or acid phosphate, or readily acid soluble as in basic slag or insoluble as in dried blood. The fact that the plant food is in this condition before addition to the soil is no assurance that it will long remain in that condition after being added to the soil. Sodium nitrate will so remain until it is either removed by the growing plant or lost in the drainage water. Dried blood is insoluble but is readily converted into available form by nitrification in the soil. Acid phosphate, however, immediately changes or reverts to the insoluble form. If limestone is present in the soil, the acid phosphate changes back immediately into the original form in which it occurred in raw rock phosphate. In an acid soil there is an abundance of easily soluble aluminum, which reacts immediately with the applied acid phosphate and converts it into aluminum phosphate, a form of phosphate, which those who concern themselves so much with available plant food regard as utterly unavailable. That these reactions take place in the soil when acid phosphate is added, was fully realized by Liebig when he originally proposed the treatment of bones with sulphuric acid for the production of acid phosphate. He made the proposal not for the purpose of producing an "available" form of plant food at all, but for the purpose of getting the bones into a finely divided state so as to secure an intimate mixing with the soil, realizing fully that the above reactions would take place, but confident that the insoluble compounds so produced would give up their phosphorous to the roots of the growing plants, if the mixing of the soil and the applied phosphorous had been complete. Since Liebig's day, however, we have had remarkable developments in high power machinery for grinding bones and rock so why not use finely-ground, natural material instead of the acid treated product?

It must be realized fully also, that plant food cannot be purchased in accordance with the demands of the common farm crops because of the high cost. A common application of high grade fertilizer is 100 pounds per acre. Such an application would add only 4 pounds of nitrogen and 3.7 pounds of phosphorous, i.e., only enough nitrogen is added to produce 4 bushels of corn. What provision is being made to meet the demands of the remainder of the crop? It may thus be readily seen that commercial fertilizers act as plant stimulants and really assist in the more rapid depletion of the soil. Any benefit, therefore, which may be derived by the availability of the plant food in the high priced commercial fertilizers is more than offset by the inability of the farm to purchase sufficient plant food in this form to meet the needs of the large crops." - Robert Stewart, University of Illinois.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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Lake County Breeders Employ Professional Veterinary Adviser. "Twenty Lake County dairymen and breeders have completed arrangements to employ a veterinarian as Veterinary Adviser. It is the object and aim of these men to maintain their herds in a healthy condition and reduce to a minimum, their losses from sterility, abortion and other diseases. The general conditions covering the service are as follows:

1. One or more herd inspection to be made each month during the year.
2. Each breeder is entitled to five hours time each month.
3. A year's service fee per farm shall not be under $50. or over $100.
4. Members, as an organization, contract to use 1/2 the entire year's time of the veterinarian or 160 days of 10 hours each.
5. A record of the date and the exact time given individual members shall be kept by the veterinarian.
6. Services given to members of the association over the specified time shall be figured at the rate of $1.00 per hour including time spent on the road. Night calls paid for at the rate of $1.50 per hour.
7. Not more than 20 herds shall be included under this agreement.
8. All members pay veterinarian for medicines used monthly.
9. For emergency calls or special calls the members shall be given preference over non-members.
10. This agreement shall in no way interfere with the services of other local veterinarians when desired.

Lake County breeders have taken a progressive step in controlling animal disease and as far as we know they are the first in this field. The Lake County Farm Bureau and Adviser W. E. Watkins are chiefly responsible for this new project." - Bilsborrow.

The Illinois plan of permanent agriculture has been followed by the manager of the Sibley Estate at Sibley for about 6 years on his poorest farm. This tenant farm was so poor it would hardly raise any corn at all - the stalks only grew about half as high as good corn. The washed out points were very light and gravelly. Since starting the treatment the rotation has been corn, oats, wheat, clover. The clover has all been turned under. An initial application of a ton of rock phosphate per acre was made and other smaller applications since. The farm that they have always considered the best on the estate of 13,600 acres yielded 34 bus. of wheat this year, while this treated farm yielded 39 bus. of wheat and 47 bus. of oats this year. This was the largest yield on the estate. The neighbors and other tenants on the estate say they will use rock phosphate in the future." - Hersman, Ford County.

About 450 people attended the joint meeting of the State Horticultural Society and the Union County Farm Bureau; 200 were from outside the county, including experiment station men, farm advisers and members of farm bureaus, etc. At the demonstration meeting on Thursday 90 autos took part in the tour." -

Another County Employs Adviser. "The Pike County Farm Bureau has decided to employ Mr. Otis Kercher as Farm Adviser in that County. Mr. Kercher is at present Leader of Club Work in Kentucky, which position he has held since 1915. He was reared on a farm near Goshen, Ind. After graduating from the University of Illinois in 1914, he was Agriculturist at the Louisiana Industrial Institute for one year before taking charge of the club work in Kentucky. Mr. Kercher expects to assume the duties of his new position about the 1st of October. His headquarters will be at Pittsfield. This County has a strong organization, with a membership of approximately 500." - G. N. Coffey.

Assistant Adviser. "The Logan County Farm Bureau has employed Mr. J. Milton Birks as Assistant Farm Adviser for that County. Mr. Birks was reared on a farm and is a graduate of the University of Illinois." - G. N. Coffey

"A standard capsule for worming hogs contains 2½ grains each of santonin and calomel and 4 to 6 grains of sodium bicarbonate. One capsule can be administered to a 50-75 lb. pig and two capsules to larger pigs. The principal thing in the worming of hogs is to starve them properly before administering the vermifuge." H. K. Schwarze.

"A swine disease clinic was our 'feature' this week. Dr. Schwarze of U. of I. directing the work. Two hundred and fifty men and seven veterinarians of the county made post mortem examinations on diseased pigs brought in from infected herds by farmers. Unless farmers give greater attention to farm sanitation, they must 'close out' the hog business." - Richey, Mercer Co.

"A car load of shorthorn cows and heifers was purchased by Farm Adviser Price of Saline County. These cattle were bought for Farm Bureau members in his County. I consider that Price made an excellent purchase for the men and believe they will be highly pleased with his selection. In the lot he bought 5 cows with calf at side, which will make a total of 20 head he is taking back to Saline County. The cows are all High Top Scotch cows which are bred to Scotch bulls showing some of the best blood lines in the United States. These cattle were bought from members of the Peoria County Shorthorn Breeders' Association." - Hedgcock, Peoria Co.

"The entire week has been spent by buying and handling of a car load of 15 purebred shorthorn females and 5 calves. These cattle were bought in Peoria Co. with the help of Advisor Hedgcock and shipped to Saline County for breeding purposes. They have been bought by 7 different farmers." - Price, Saline County.

"The 5 farmers' elevators that we organized last spring are paying from 5 to 7 cents per bushel more for wheat than was paid at those stations last year. One dealer who paid $2.05 last year, and said he lost money, has been offering $2.13 this year. Two weeks ago today, he received 4 loads of wheat, and the Farmers' Elevator got 110 loads." - Snyder, Montgomery Co.

Tractor demonstrations were held in 5 counties during the last few days. McDonough County reports 19 models entered; Jersey County 9 models with 450 people in attendance. Knox County reports the District Tractor Demonstration, with an attendance of 6000; Moultrie County, 2000 attendance, and Williamson County 600 in attendance.

Grasshoppers are reported as doing considerable damage in Crawford, Morgan, St. Clair, Richland and several other counties. Hopper-dozers and poisoned bran mash are being used.

WHAT SHOULD BE THE RELATION OF THE FARM BUREAU TO VARIOUS COMMERCIAL PROBLEMS AND AGRICULTURAL ORGANIZATIONS?

In answering this question I can only indicate what in my judgment would be the best procedure.

"I believe the farm bureau should be vitally interested in the development of such business organizations as are necessary to the best solution of the farmers' problems. Good illustrations of this I should say are the cooperative grain elevators, the cooperative shipping associations and the farm loan banks. I believe one of the valuable services that the farm bureau and the farm adviser can render consists in giving assistance in the organization of these various cooperative concerns. Naturally, it has been difficult sometimes for the farm adviser to keep from being made the secretary or treasurer of such organizations when they are formed. While there may not appear to be any harm in the farm adviser becoming an officer of the first one of such organizations when it is formed, it is evident that the policy is wrong.

There may be ten or fifteen, or even more cooperative elevators, shipping associations, grain or similar organizations in a county. While the number of farm loan associations is as yet small it is quite possible that we shall finally have an equal number of these in a county. From these illustrations it is apparent that while the farm adviser can render a valuable service in the organization of these cooperative concerns, especially in the beginning when the movement is new and farmers are unfamiliar with the best procedure, it is plain, however, that the farm adviser cannot be the "Secretary Universale" for all cooperative farmers' organizations which may be formed in the county.

As far as the farm bureau is concerned it can naturally take on, on its own account, many commercial activities. In so far as it does this, however, it appears to me that it will be in the main only making ready for the more definite organization of the thing it undertakes. We should not think of having the farm bureaus be responsible for the live stock shipping associations, nor for the cooperative farmers' elevators.

In the past the farm bureaus have usually purchased fertilizing material, such as limestone, raw phosphate and sometimes other fertilizers, also seeds of various kinds. Under certain conditions it may be desirable to continue this procedure. Since the county wide organizations does not lend itself particularly well to distributing materials bought in less than carload lots, I look to see a development in the direction of handling many of these materials thru local organizations. As I suggested last winter, fertilizers, particularly phosphates, need to be handled in less than carload lots by local elevators or other concerns fitted to handle such materials.

The seed business as I see it will need to be developed thru the improvement of the present agencies where this is possible, or where this cannot be done, thru the development of an organization which can handle this business, perhaps, on the county wide basis. Where this business assumes any great proportions it is plain to me that a separate cooperative organization should be formed and that the farm adviser should not devote any large proportion of his time to conducting the routine business of a seed purchasing association.

While the Grange and the Farmers' Union are frequently active in commercial activities, in general they emphasize the social and educational phases of agriculture. Since both of these organizations are secret organizations it would, perhaps, not be possible for the farm bureau or the farm adviser to have any formal cooperation with them. It would be desirable, of course, to have an understanding with these organizations and to cooperate as fully as possible in the way of meetings and other activities." - W. F. Handschin.

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UNIVERSITY OF ILLINOIS--URBANA, ILLINOIS

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New Associate Veterinarian at the University. Dr.H. R. Schwarze has recently come to Urbana to take up his duties as Associate in Animal Pathology in connection with the establishment of the pathological laboratory which is to be transferred to the University from the State Department. Dr. Schwarze is a graduate of the Western Veterinary College and the Chicago Veterinary College. He comes to the University from his work as assistant State Veterinarian and Bacteriologist at the State Biological laboratory. Both Dr. Graham and Dr. Schwarze will cooperate with farm advisers and veterinarians in helping to control animal diseases in the State of Illinois.

Forty-two counties now hold membership in the Illinois Agricultural Association. Strong links in a mighty chain.

"The 4th Annual Better Community Conference postponed from last spring on account of the flu and other conditions will be held here at the University October 2 to 5. The detailed program will be mailed to you about September 1. The emphasis will be laid in this conference on the Educational development of the community. The nature and scope of the Community Councils and the ways in which the public and private agencies may cooperate for the common good will be fully discussed. Every County Adviser should have a deep interest in this meeting and plan if possible to attend it." - R. E. Hieronymus, Community Adviser.

Stocker and Feeder Cattle. "The Department of Agriculture is attempting, thur offices at Billings, Montana, and on the various stocker and feeder markets drawing from the northwest, to keep prospective buyers in as close touch as possible with the stocker and feeder situation. This service is attempted for the mutual benefit of the Montana stockmen and the Corn Belt farmer intending to purchase stocker and feeder cattle. No attempt will be made to influence the price of such stock or predict prices. Actual conditions will be reported as accurately as possible, and buyers will have to be guided by their own judgment and personal conditions in regard to the best time for them to fill their feed lots. The Bureau of Markets at St. Paul is preparing a special report each Monday and Thursday covering the stocker and feeder situation on this market. Similar reports will probably be sent out from the other markets handling stock from the northwest. These reports will be sent to County Agents, farmers and others desiring same."- C. J. Goodell, Leader in Animal Husbandry Extension, South St. Paul, Minnesota. --- Mr. Goodell has been furnished with a list of Illinois Advisers and will send them all available information.

"One of the interesting features of the program at the first annual picnic of the Clark Co. farm bureau was a testimonial meeting on 'What the Farm Bureau has done for me'. Many farmers voluntarily rose to their feet to tell their valuable experiences as a result of the Farm Bureau." - Spitler.

"Reports of the yields of Rosen and Wisconsin Pedigreed rye indicates some advantage for these varieties over the common ryes, but most of our rye was so badly damaged by the scab and hot weather that it is difficult to draw definite conclusions. Some of the men believe that the Wisconsin Pedigreed rye matures too late as it was seriously damaged by hot dry weather this year." - Lloyd, Hancock Co.

"The Iowa 103 oat has proven to be the best yielding variety in the county this year. The highest yield thus far reported of this variety yielded 52 bushels to the acre." - Heaton, DuPage Co.

Eighteen tractors were entered in the demonstration held near Macomb on August 6 and 7. It was estimated that between 4,000 and 5,000 people attended during the two days. Each outfit plowed three acres and a record of the time and fuel required for each was kept. They were also scored on the quality of plowing. Adviser Lloyd comments as follows: "I attended the tractor demonstration at Macomb. The McDonough county farm bureau should be congratulated upon their very successful demonstration."

"This year has been a good time to point out the value of shallow cultivation as compared to deep cultivation. The deep cultivated corn has fired much worse than where shallow cultivation was practiced." - Wise, Iroquois Co.

Silo filling has become the order of the day in Randolph and Clinton counties. Doerschuk reported the filling of silos as early as August 9 due to the dry weather which caused the corn to fire and stop its growth. This is especially true of the up-land soils. Corn in the river bottoms is much better.

A combined exhibit is being made up by the Advisers of Henry, Knox, Warren, Mercer, Fulton and Rock Island Counties, which will be sent thru the circuit of the various county fairs. Considerable time and effort is being devoted to an exhibit by each county and no doubt the combined exhibit will be an exceptionally good one. It seems that this idea is worth considering by other counties.

Window Exhibit Attracts Interest. "A number of varieties of soybeans were planted in the County this spring. In order to make a comparative study of the different varieties, we planted about 10 different varieties in one plot of ground on May 16th. The past week our window exhibit has consisted of 7 of these varieties, all properly labeled with some additional explanatory matter. The habits of growth, stage of maturity, and other features can easily be studied. We have found that a great many people have stopped to look at this exhibit, and also to inquire more about soy beans." - Bracker, Knox County.

"Soy beans in rows and cultivated only once are doing splendid while a few right beside them drilled solid are much smaller and yellow in color. Considering the grass weeds we have to contend with, I do not believe it practicable to plant soy beans closer than 28 to 32 inches." - Walworth, Clark Co.

"I have examined some fields of corn in which soy beans were planted and my observation has been that the soy beans have withstood the wet weather in the spring and are doing better in the dry weather than is the corn. On some of the fields the soy beans will be the only thing of value to harvest. Most of the beans planted were put on unlimed soil and not very many of them have nodules on the roots altho they were inoculated." - Blackburn, Marion Co.

Douglas County is perfecting plans toward organizing a farm bureau in the near future.

Limestone is a topic of much interest. The following items are but a few from various counties showing the increased interest in application of limestone thruout Illinois.

"A meeting with the directors of the Bluff Springs Elevator resulted in plans being made for the construction of a limestone shed as soon as possible. These plans were drafted by men, who two or three months ago, were said to have hooted at the idea of using mineral elements to enrich the soil." - Dickenson.

"Just received word from limestone quarry that no more orders could be filled before the last of September. This brings about the same conditions we had last year. It seems the only solution is to get more portable crushers. We have seven working in the county now, and orders in for three more." - Tate.

"Over 200 cars of limestone this year for Richland County. The special limestone train will arrive August 27." - Piper.

"The hills of Johnson County produce good clover where limestone has been applied. This clover is enduring the dry weather in good shape, while on the fields where limestone was not used the clover has died." - McGhee

"A limestone deposit was found in Edwards County three miles from Albion. It is located in the heart of the poorest farming district of Edwards County and we believe it will prove to be worth working. Samples of the stone will be analyzed before any action is taken." - Pollock.

"We have some of the best demonstrations of the results of limestone that I have ever seen. The farm on which the tractor demonstration was held in Jersey County has 94 acres in clover, all of which was covered with limestone last fall and winter. On one 20 acre field a successful stand of clover had not been previously grown for eighteen years." - Wheelock.

"Yields on the Sparta experimental field have just been reported and they average two and one-half bushels of wheat with no treatment and twenty bushels with manure and limestone." - Doerschuk.

"Arrangements were made at the Farmers' Elevator to handle limestone and rock phosphate as they are handling coal. This enables the farmer to buy a small quantity of stone or a car load as he chooses." - J. H. Miner.

Farm Grown Feeds Make Records. Adviser Heaton reports: "An interesting feature of a world's record cow owned by one of the farmers in DuPage County, is the fact that of all the total grain feed of about 8,000 pounds, 5,774 lbs. was composed of a mixture of barley and oats ground in equal parts. When it is found possible to make world's records with home grown grain feeds, it would seem that all farmers could afford to take this into consideration in feeding their dairy cows."

"One of the best get-together meetings I have ever tried," is the report from Adviser Richey regarding a meeting of sheep men in Mercer County. Richey says: "The sheep men of the county left their work on Thursday and came to town to hear Prof. W. C. Coffey and to eat roast lamb sandwiches and drink lemonade. A keen interest in sheep management was shown and the judging of five classes of four breeds of sheep commanded the attention of all."

Fifty-three bushels of grasshoppers caught on a young orchard of 40 acres with a hopperdozer is the record of a farmer in Macoupin County. Adviser Miller says several farmers have tried out the hopperdozer and without exception they are well pleased with the results.

"Pulling a grasshopper catcher with an automobile and a Ford" is the latest inovation reported by Sidney Smith. He says: "With cars for power the forward stick or rope to 'make em jump' should be about three feet ahead of the iron in order to get the hoppers up in time."

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. II August 27, 1919. No. 35.

Sunflower Silage. "One of our members cut sunflowers into his silo this past week. They were about 1/10 in bloom and made very good looking and good tasting silage. The variaty was Mammoth Russian. Six average rows that were weighed yielded at the rate of 15½ tons per acre. The seed was planted at the rate of about 4 pounds per acre. It is well to remember, however, that corn in an adjoining field on practically the same soil will make 10 to 12 tons of silage per acre, or 50 bus. of corn. On the other hand, this same man has another field of sunflowers that were planted late and never cultivated. Corn under such conditions with the drought and chinch bugs will make practically nothing this year. The sunflowers will yield at least 8 or 10 tons per acre. It seems that under very adverse conditions sunflowers are a promising silage crop. The silage weighs heavy and fills up slower than that from corn indicating that a silo will hold more tons of sunflowers than of corn.

We are planning to have an exhibit of both rye and vetch, and sunflower silage at the County Fair. Rye and vetch silage seems to work somewhat opposite to sunflowers in that it weighs light and fills up very fast indicating that a silo will hold less tons of rye and vetch than of corn." - Rehling, Clinton Co.

"The Peach Crop has practically all been harvested and the orchardists who had peaches this year were very fortunate in selling their fruit from $2.50 to $3.00 per bushel. Practically all peaches could have been sold locally, as people of the county went to the large orchards and bought peaches faster than pickers could get them off the trees. The fruit was of good quality and of good size in the orchards that had been sprayed." - Blackburn, Marion County.

"The Union County peach crop is now harvested. The peaches were a little undersize due to the dry weather, the rains having arrived too late to do any good. The price ranged from $2.50 to $2.90 a bushel and on the whole, growers are very well satisfied. The prices received for peaches and apples will act as an incentive to orchard planting this fall and next spring. Thousands of trees will be set out." - Durst.

"Sweet clover sowed with red clover appears to have withstood the drought much better than where seeded alone. Sweet clover after alfalfa and years after application of limestone is showing up the best. This indicates that limestone and inoculations well distributed are important features in sweet clover production.

Soy beans in corn are showing up well. In one place soy beans are producing two or three times as much feed as the corn." - Price, Saline County.

"A drainage company was organized among our river bottom farmers. We expect to straighten the Little Wabash River in order to save crops. It is hoped to carry this out, not only in this county but onward to the mouth of the river." - Rucker, Effingham Co.

"Investigation of soy bean plots seem to indicate that the beans do have a repellant effect on chinch bugs due to the shading. A very weedy field had fewer bugs than one where clean cultivated." - Wheelock.

"Most of the demonstration fields where soy beans have been planted in the corn for the purpose of helping to keep out the chinch bugs are not showing up very well because the soy beans have not done well. Part of the time it was too wet and in most of the corn the weeds are so thick that there is no difference in the amount of shade where there are soy beans or no soy beans. In one field, however, where the soy beans and corn were planted early and kept clean results can be seen very plainly. Beans were planted in only part of the field; here the corn is not fired as badly and there are not nearly as many bugs as in the rest of the field. We believe that in southern Illinois it is a good practice to plant soy beans with all corn, because in this section nearly all corn should go into the silo. This year is the same as last year, men who have silos will get returns from their corn crop, while those without silos will get practically nothing." - Rehling.

Fruit to Exchange for Grain. County Agent, E. M. Hunter, Purcellville, Va. writes: "We are buying a lot of feed cooperatively in carload lots and our farmers' organizations desire to deal directly with producers of oats, hay, and mill feeds in your State, thru the County Agents. We are in a position to exchange products like apples, etc. for carlots of oats, hay, bran and other feeds. Will receive sight draft or bill of lading attached, payment guaranteed by the bank." Any adviser interested can write Mr. Hunter directly. - State Leader.

"The clover seed crop is demanding some attention. Some fields have only a limited amount of seed and farmers find it difficult to decide whether or not it would pay to cut it for seed. The seed crop will be limited, but appearances are now that there will be some seed harvested." - Longmire, Grundy Co.

"There is quite a large demand over the county for good clover seed. The farmers want to buy this fall. The local supply will be entirely inadequate."- Hersman, Ford Co.

State Fair Exhibits. - "Peoria County was represented at the State Fair by exhibits from 10 Duroc Jersey herds, from 3 Poland China herds, from 2 of Shorthorn cattle, and 1 of Percheron horses. In several instances, this is the first year that these men exhibited at the State Fair. Every man was a member of the Peoria County Farm Bureau and also of the respective breed associations. Due to failure of the railroads in providing necessary cars, thirty-two head of hogs from three of the best aged herds were left in the County at the last minute. Some were sent by express, freight or auto truck. Two Grand Championships and a larger number of other premiums were won by these exhibitors." -Hedgcock.

"Several men from Macoupin County had exhibits at the State Fair and won a large number of ribbons. One breeder got first on the Duroc Boar Pig under 6 months of age in a class of 142 entries. In the Boys' and Girls' Club Work we won third and sixth on Durocs, second and fifth, on Poland Chinas, second, fourth, fifth, and sixth on Spotted Poland Chinas. One breeder of seed corn won $546, as premiums on his corn exhibits and two other members from the same neighborhood together won about the same amount on corn." - Miller.

The Bureau of Markets has a number of the threshers' report books left over. These are the same as were used in securing the records for the1918 harvest. A supply of these books has been received at our office, which will be furnished free to any Adviser or thresherman upon request." - G. N. Coffey.

"Hogging-Down Corn. More corn than usual should be harvested by pigs this fall on account of the scarcity and price of labor. October and November, in general, marks the time limit for this work. Pigs weighing 125 to 150 pounds that have been carried through the summer with a moderate grain ration on pasture are the most suitable for hogging-down. By having the field fenced hog-tight and running a cross fence, fastening at either end, through large fields so that 10 to 20 pigs have access to an acre of corn, better results are obtained than by allowing them the run of the whole acreage. Approximately 8 pigs are required in cleaning up an acre of corn in as many days as it yields in bushels per acre. After having been made accustomed to the new corn for one to two weeks, such pigs may be expected to make gains of about 1½ pounds per head daily in the field. It is nearly as essential to furnish a supplement to corn for pigs in the corn field as in the dry lot in order to make the most economical gains. Where they do not have access to a crop such as rape, soy beans, alfalfa, or clover, a feed such as milk, tankage, oil meal, or middlings should be used." - John B. Rice.

About two-fifths of the forest area of the United States is contained in farm woodlots and so important is the management of these small tracts considered by the U. S. Forest Service that Austin F. Hawes, former State Forester of Illinois, has been made Extension Specialist in Forestry, representing the States Relations Service, as well as the Forest Service. Mr. Hawes not only wishes to get in touch with the county agents thru the state forester by personal visits, if possible, some time this year, but he is publishing a series of Forestry Extension leaflets containing examples of where private owners in different parts of the county have made forestry on woodlots pay a profit. He will appreciate any contributions giving exact information about plantations or timber tracts which have been made a paying proposition by their owners. His address is U. S. Forest Service, Washington, D. C.

Keep Rough Land in Timber. According to theseil reports being compiled by the Bureau of Soils for the State of Illinois, there is quite a percent of yellow silt soil near the smaller streams where the ground is rought and rolling that should be kept permanently in forest. This land when cultivated is subject to washing and gullying and soon becomes worthless when it might grow a profitable crop of timber. The grazing of stock on such land is a mistake as this dries out the soil, leads to erosion, and to the drying up of streams and springs. It is a well known fact among foresters and others that a forest cover is the best thing to hold these slopes against erosion and that forest growth, even if small and worthless, acts as a veritable sponge in soaking up water in heavy rains, preventing floods and paying out this water during dry seasons. Advise farmers wherever possible to keep such land permanently in forests.

A new circular, No. 779, which is a reprint from the Yearbook of the Department of Agriculture, has been published by the Forest Service on "Farm Woodlands and the War", which will be sent on request by addressing the Forester, Forest Service, Washington, D. C. It contains some valuable points about the farm woodlot and its products during the war, especially the part played by black walnut, black locust for tree nails, hickory, ash, oak, etc., for army vehicles and other purposes. According to this circular county agents in counties, part of which are too hilly or rough for cultivation may do good work in disseminating information about the raising of timber, both for profit and for the prevention of gullying and washing of such lands.

Despatch is the soul of business - Chesterfield.

The Extension Messenger

SEP 6 Rec'd

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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National Dairy Show. "The National Dairy Show will be held at Chicago, Ill. October 6 to 12 inclusive. The management expects this to be the biggest and the best of its kind ever seen in this or any other country. As Illinois has not had this show for five years and may not have it again before the lapse of a similar period, every farm adviser should arrange to visit it if he can possibly do so. He should also call the attention of farmers, and dairymen particularly, to the great educational opportunities which it offers." - G. N. Coffey.

The day spent at the Funk Farms this week was not only one of very great profit but was also much enjoyed by the large number of Advisers present. We regret that some of the men were unable to attend. More than one adviser said it was the "greatest day ever". A summary of the main lessons learned will be given next week. Watch for them. - G. N. Coffey

Franklin County has employed Mr. H. A. deWerff as Farm Adviser. He began work September 1, with headquarters at Benton. After graduating from the University of Illinois, he worked on the soil survey until he entered the army. He spent 18 months "over there". During the last 3 months in France he taught in the American Expeditionary University. Mr. deWerff was brought up on a farm in Fayette County and is well acquainted with farming conditions where he is to take up his new work.

McLean County Employs Dr. Center. After several months search for a man, the McLean County Better Farming Association decided to employ Mr. O. D. Center as Farm Adviser in that county. Mr. Center is at present Director of Extension in Oregon, and expects to take up the work in McLean County about October 1. He is well known to many people in Illinois as he graduated at the University of Illinois, and was for several years on the instructional staff of the College of Agriculture. McLean County expects to employ two assistant advisers also, as soon as satisfactory men can be secured.

Mr. E. A. Carncross, now County Agent for Brown County, Wisconsin, has been employed as Assistant Adviser in McHenry County.

Mr. F. D. Baldwin has tendered his resignation as Farm Adviser in Mason County to engage in active farming. The Farm Bureau was very loath to part with the services of Mr. Baldwin and it was only upon his repeated insistance that they agreed to accept his resignation, to be effective as soon as another man could be secured to take the place. Mr. T. R. Isaacs, now County Agent in Benton County, Ind., will succeed Mr. Baldwin. He will begin work as soon as he can arrange for his release from Indiana. We join the Mason County Farm Bureau in expressing our regrets at losing Mr. Bladwin, but believe they are fortunate in securing so good a man to take his place.

DO SOYBEAN NODULES FURNISH NITROGEN TO THE CORN CROP WHEN GROWN WITH CORN?

"The growing of a legume with a non-legume for the purpose of favoring the latter with a greater nitrogen supply has been the subject of considerable controversy. There have been some field experiments reported and some work done in pot cultures, but results have usually been erratic and untrustworthy.

We assume that in order for the corn to receive nitrate (in which form the nitrogen must be supplied in order to be available for corn) from soybean nodules, the latter must have sloughed off, decayed, and the resultant material nitrified to nitrate. It is not likely that this occurs to the extent that the corn is benefited thereby." - Roy Hansen, Associate in Soil Biology.

Alfalfa growing increases. "A great number of our members are putting out patches of alfalfa for the first time. It has been successfully demonstrated all over the county that it is a very profitable crop to grow. I can see an increase in the acreage of sweet clover also. Red clover seed is so high in price that sweet clover will replace it in a few instances in our county." - Belting, Shelby County.

"A great deal of interest is being taken in alfalfa this fall and the largest acreage ever seeded at one time in Mason County will be seeded this fall." - Baldwin.

Conditions for planting alfalfa were right after 2 good rains. Helped a good many farmers inoculate their alfalfa seed ready for planting." - Tate, Monroe County.

Clipping Clover. "Observations covering a great number of young clover fields, some clipped and some left unclipped, lead us to favor clipping'. This is the sentiment of our best farmers and it seems to be amply justified according to my own observations this year." - Thomas, Coles County.

"Plans are under way for the first Annual McHenry County Holstein Sale to be held at Woodstock on October 24 and 25. Breeders are putting in their best cattle and are doing everything possible to put McHenry County Holsteins on the map. About 150 head will be put into the sale. A 90 day Retest will be given on all cattle". - Gafke, McHenry County.

"The Farm Loan work is increasing each week. During the past week, four loans were closed, the total sum received by the applicants being $36,000. making a total of $75,000 received during the past six weeks. One new application was filed and acted upon by the officers of the Association.

A county wide campaign will be carried on within the next two months so that farmers may become informed as to the general working plan of the Federal Farm Loan." - Gafke, McHenry County.

"On a demonstration tour in the southeastern part of the county the first part of this week, several sweet clover and alfalfa fields were visited. On one farm, 10 or 12 acres of sweet clover had yielded 3½ bushels of clean seed per acre last year and the land had then been plowed and sown to wheat. Limestone and rock phosphate had also been used. Volunteer sweet clover from seed lost in handling the crop was so tall that it was hard to harvest the wheat. Since cutting the wheat the sweet clover has grown up nearly waist high and being a very thick stand is fine in quality. Indications are that this volunteer sweet clover would give three tons or possibly more, of excellent hay per acre if cut now. Getting 3½ bushels of seed per acre and a splendid seeding in addition, makes it look as though sweet clover would be one of our most profitable crops." - J. J. Doerschuk, Randolph Co.

WHAT IS A SAFE TREATMENT FOR STINKING SMUT OF WHEAT? "The concentrated formaldehyde spray for the prevention of stinking smut is not entirely satisfactory because there is often some difficulty in thoroly distributing the gas thru the grain. This results in injury to the grain in the areas where the gas concentration is high. The sprinkling or the dipping and skimming method, using one pound of formaldehyde to 35 or 40 gallons of water is effective and absolutely safe." - Geo. H. Dungan.

"Short Time Credit to Encourage Use of Limestone. - John O. DeLap, Cashier of the First National Bank, Norris City, Illinois, is encouraging the use of limestone in White County by offering his customers an opportunity to purchase limestone on three year's credit. The bank takes the note of the purchaser for one year with interest at 7%, the note to be renewed at the end of the first and second year with interest added.

Mr. DeLap requires those securing stone in this way to use it on good land and to use it at the rate of four tons per acre. He recommends that it be used on land intended for wheat, that the wheat be followed by red clover, the second crop of clover to be plowed under for wheat. If the purchaser desires to use rock phosphate with clover, money will be furnished for its purchase upon the same terms as for limestone.

Eight carloads of stone have so far been purchased under this plan for distribution to as many farmers. To make this proposition absolutely safe and to further encourage farmers to try it out, Mr. DeLap offers to refund the entire interest charge at the end of the three year period, provided the purchaser is not satisfied in every way with the results he has secured. How is this for Banker-Farmer cooperation?" - Bilsborrow.

GIVE A LIST OF GOOD REFERENCE BOOKS ON "FARM SANITATION".

There are only a few books at the present time on farm sanitation. None of these are as complete or up to date as they might be. The best one to my knowledge is "Rural Hygiene", by Ogden Macmillan Company, New York. There is quite a large number of bulletins and circulars on the subject of which the following are a few:

Illinois State Board of Health, Springfield, Ill.
Bul. No. 127, Col. of Agriculture, Univ. of Arkansas, Fayetteville, Ark.
Bul. No. 57, U. S. Department of Agriculture, Washington, D. C.
Sanitation and Sewage Disposal for Country Homes, Uni. of Mo., Columbia, Mo.

Several companies manufacturing one or more farm convenience outfits also issue some very valuable information along the line of farm sanitation. I will be glad to send a list of the same to any one who desires it.- W.E. Jahr, Div. of Farm Mechanics, University of Illinois.

Circular Letters should be primarily educational. A majority of the letters reaching our office now feature some leading project, line of work, or subject matter in each issue. Farmers, as a rule, have not studied the fundamental principles underlying soil improvement, crop production, live-stock husbandry, or farm management. The circular letter offers an opportunity to present the fundamental principles along the lines of work that the Farm Bureau expects to carry out during the coming year. Good publicity and the dissemination of real information among Farm Bureau members is a service worth while. Use local illustrative material whenever possible. Above all, give your letters farm color and make them readable. Strive for quality rather than quantity.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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The great value of Limestone and Phosphorus is markedly shown by the following results from Southern Illinois Experiment fields:

Yields of Wheat from 10 Typical Southern Illinois Soils, in 1919, with Nature's Fertilizers.

Soil Treatment	Enfield	Ewing	Newton	Oblong	Odin	Raleigh	Sparta	Toledo	Unionville	West Salem	Average
None	9.2	4.8	.8	16.1	16.4	9.8	2.8	4.5	8.8	2.7	7.6
O M.	9.3	3.8	.9	21.1	16.8	11.8	2.8	5.6	10.6	10.8	9.3
O M L	20.8	20.8	7.9	27.2	30.1	22.6	20.1	16.5	21.3	13.3	20.0
O M L P	25.1	23.2	14.6	31.7	35.2	24.4	21.3	20.9	26.5	20.6	24.3
Gains for O M.	.1	1.0	.1	5.0	.4	2.0	0.0	1.1	1.8	*8.1	1.7
Gains for L	11.5	17.0	7.0	6.1	13.3	10.8	17.3	10.9	10.7	*2.5	10.7
Gains for P	44.3	2.4	6.7	4.5	5.1	1.8	1.2	4.4	5.2	7.3	4.3

* One application of limestone applied to O M. plots. This accounts for high yield on those plots and small increase due to limestone.

In the soil treatment O M = Organic manure. (Crop residues and farm manure.) L = limestone. P = phosphorus. -J. E. Readhimer.-

"Indications point to an early run of feeder sheep and lambs. - Instead of the heaviest receipts in these classes of sheep occurring in late September and early October as usual it now seems that the heavy run is on now and undoubtedly it would still be heavier if cars could be obtained. The early run is due to scarcity of feed in the National Forests where the sheep graze in summer and early autumn. Nearly all of the west is dry and in certain sections the drouth conditions are very bad. With the supply of feed in the mountains exhausted there are regions where the sheep are being brought down to the plains where they are being kept on very high priced feed. Such conditions make sheepmen very anxious to get to market. If the general financial situation remains fairly stable, prices on feeder lambs and sheep, also breeding ewes, will probably reach their low level in a few days." - W. C. Coffey.

Some red clover which was clipped early so as to have a good seed crop, is much poorer than other fields nearly which were cut later for hay. - Brooks, LaSalle Co..

WHEAT SCAB AND CORN ROOT ROT.

"Plow the Fields to Prevent Wheat Scab." - Winter wheat east of the Great Plains was generally heavily infected with scab. Spring wheat likewise was even more generally infected. Many spring wheat fields thru this area were left uncut, due chiefly to the ravages of scab. The states suffering the greatest losses of both spring and winter wheat include Missouri, Illinois, Iowa, South Dakota, Minnesota, Wisconsin, Indiana, Michigan, Ohio, Kentucky, Tennessee, North Carolina Virginia, West Virginia, Maryland, and Pennsylvania.

This disease of wheat known as scab or blight is caused by fungi which attacks the wheat at various stages of development. (1) The seedlings are blighted, the roots rotted and the plants weakened to such an extent that they are apt to winter kill. (2) The heads are blighted, the diseased parts die and prevent the formation of well-filled kernels. The head blight is the most evident and in most cases causes the most damage. Wheat from fields with only a moderate scab infection is light in weight and, therefore, grades as No. 3 or 4 wheat. The farmer then not only loses from a reduction in yield, but from a dockage as well.

Scab fungus attacks corn. - The fungus causing most of the scab also attacks corn. One of the ways it lives over winter is on the decaying corn stalks left on the ground in the fields. Wheat is often sown on the corn land with these corn stalks left on the surface. The fungus spreads from the infected corn stalks to the wheat heads and causes blighting.

Scab attacks wheat, oats, rye and grasses. - In addition to wheat and corn, the disease attacks rye, oats, barley, and many grasses. The fungus also lives over winter on the infected stubble and decaying straw left on top of the ground, and on infected grass stems left around the edges of the field. The fungus spread from this material to the next season's crop.

Clean straw, spread late is advisable to prevent winter killing. - The best farmers thru the winter wheat belt spread straw on the winter wheat after the ground is frozen to hold the snow. The clean straw from winter wheat spread on the fields late in the winter after the ground is frozen is not dangerous in spreading the disease to the next year's wheat crop. This straw holds the snow and moisture and prevents the plants from being broken by the wind. When plowed under the next summer it adds humus to the soil. Turn the stock into the straw piles from the badly diseased spring wheat and spread the manure on the ground the following year instead of spreading the badly infected straw on the fields this fall.

Control wheat scab by clean seed, seed treatment and good plowing, and general clean-up methods. - No entirely satisfactory control of wheat scab has been developed because the scab fungi develops on such a great abundance of material. Two things are important in the control of the disease. Clean seed on clean soil. (1) The best wheat obtainable should be used for seed. This should be thoroly cleaned and treated by the formaldehyde method. (2) This wheat should be sown on clean plowed land; land where the old corn stalks, wheat stubble and grass straw has been carefully plowed under. All grass and straw should be removed from the edges of the field and nearby waste places. These places should be either plowed or burned off.

Investigations are in progress by the United States Department of Agriculture in cooperation with a number of State Experiment Stations and individual farmers to learn more about wheat scab and methods of controlling it." - A. G. Johnson and J. G. Dickson.

In succeeding issues of the Messenger, some additional information regarding these investigations will be published.

Illinois First in Wheat Increase in 1918. - It is of interest to note the comparative increases of wheat in Illinois and bordering states in 1918, due to the Government call for "More Wheat". The following figures taken from the 1918 Year-Book just issued by the U. S. Department of Agriculture give the comparative increases in acres and bushels.

State	Area in Thousands of Acres 1917	1918	Increases	Production in Thousands of Bus. 1917	1918	Increase
Illinois	1650	2774	1124	30850	60991	30141
Missouri	1896	3092	1196	28971	53154	24183
Indiana	1807	2353	546	33432	49427	15995
Iowa	420	1050	630	8350	19650	11300
Ohio	1870	2290	420	41140	43547	2407
Michigan	857	754	-103	15422	10716	-4706

"Richland County holds the record for the largest single shipment of limestone for agricultural purposes. 47 cars consigned to 42 farmers arrived in Olney August 27th, and were unloaded without a single case of demurrage. Agricultural representatives from the Illinois Central Railroad, Prairie Farmer, State Department of Agriculture, and the Brownell Limestone Company were present to celebrate the event. Moving pictures were taken of the incoming train, the unloading and other interesting features. These will be shown in the 'local movies' everywhere." - J. C. Spitler.

Do You Want Feeder Hogs? J. B. Rice submits the following letter from the Memphis Stock Yards, Memphis, Tennessee: "We understand that there are numbers of hog feeders and farmers in your state who would like to get in touch with those having feeder hogs for sale. There will be a large number of feeder hogs to move from this section of the country during the fall.

The new stock yards just opening up here will make a feature of feeder hogs, having this department under a trained veterinarian who will supervise the immunization. The hogs of this territory have been bred up to the high quality necessary in profitable feeders. If you have lists of farmers and buyers in your territory who would like to secure feeder hogs we would be glad to have you put us in touch with them as we are in position to furnish them with what they want." - H. O. Pate, Secretary and Manager Memphis Stock Yards." -

"A meeting is called at the Jefferson Hotel, St. Louis, Sept. 23, at 10 A. for the purpose of interesting Shipping Associations in adjacent territory, in the National Federation of Farmers Cooperative Live Stock Shipping Associations. A temporary National Federation was formed August 12th and Mr. Earl J. Trosper was appointed as Organizing Secretary. At the St. Louis meeting a State Federation will also be considered. It is especially desired that Managers or Presidents of Live Stock Shipping Associations and Farm Advisers interested, be present at this meeting." - D. O. Thompson.

"The foresters of three states, including Charles C. Deam, of Indiana; Edmund Secrest of Ohio, and R. B. Miller, of Illinois, met at Indianapolis on Aug. 29th, to assist in formulating a program for the Tri-State Forestry Conference at Indianapolis to be held in October. The conference will last two days and there will be present foresters from several states and the U. S. Forest Service scientists, lumbermen, farmers and representatives of the various wood using industries of the three states to listen to papers and join in the discussion of what can best be done to increase timber production and work out sound forestry policies for these three states. Full notice of the conference program will be sent out later. It is hoped that all county advisers interested in this subject will attend." - R. B. Miller.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II September 17, 1919. No. 38

Large attendance at the University anticipated this fall. On September 9, 1919, there were 2169 permits to register in the hands of the Registrar. This is approximately 1000 more than one year ago on the same date. While there will no doubt be large classes and a possible lack of proper housing facilities, the advance information now coming in is aiding the University materially in its plans to take care of the large attendance anticipated. From some indications it is known that many students who left school to go into the army are coming back to complete their courses.

Mr. E. W. Rusk has resigned his position as Farm Adviser in Adams County to take up the management of a 3000 acre tract of land in Missouri. "Farmer Rusk" has been a much appreciated leader among the farmers of Adams County and they are sorry to lose him. Mr. F. A. Gougler, who has been County Adviser in Johnson County, Missouri, since 1915 (with headquarters at Warrensburg, Mo.) is to succeed Mr. Rusk. We join the Adams County Farm Bureau in expressing our regret at the loss of Mr. Rusk, but congratulate them on their being able to engage the services of so well qualified a man as Mr. Gougler. He will take up his work at Quincy about October 1.

Wool Pool in Pike County very successful. - "We are receiving words of appreciation from all sides", says H. C. McCarrell. "The highest price paid was 63¢ and the bulk of the wool brought 60¢ and up. Burry wool clotted or fleece grown and wool of weak staple were hit hard, while fine wool or wool with a merino cross was top. The expense of handling was considerably less than a cent a pound. There were 63,056 pounds consigned by 128 men in the Pike County pool, bringing total cash returns of $37,431.04. Mr. Gragg and I for the growers and Mr. Silberman for the buyer, saw practically every sack of wool cut open, examined and weighed."

"Both multiple hitch and tractor demonstrations have been given in Morgan County within a month. The larger attendance at the tractor demonstration seems to indicate that people are more interested in tractors than they are in any method of making a more efficient use of horse power." - Kendall.

Twenty-three acres of sweet clover produced over twelve bushels of seed per acre on a farm in Ford County, while a twelve acre field of red clover hulled out a total of only three bushels; and another field yielded only two and one-half bushels from seven acres, according to a statement from Frank Hersman, Adviser in Ford County.

Mr. Price of Saline County tells us we did not correctly state his item regarding sweet clover in Messenger #35. He corrects us as follows: "Where sweet clover and red clover were seeded together in wheat, the sweet clover is surviving the drouth which is killing the red clover."

A very interesting feature at the Woodford County Fair was a soil map of the county about 10 by 15 feet in size. The principal soil areas of the county including the prairie soils, timber soils, Illinois river bottom and terrace soils were shown with typical soils from those areas. Additional samples for people to handle and examine were furnished near at hand, with placards giving the approximate pounds per acre of organic carbon, nitrogen, phosphorus, potassium, calcium, and magnesium. Visitors took great interest in this exhibit.

Another exhibit was made up of 118 ten-ear samples representing the corn which is being used in the county test. This is an actual field test in the breeding of the best type of corn for Woodford County. It is being carried out by local farmers on their own farms. Each sample shown had the name of the owner attached. A third exhibit of growing samples of common noxious weeds with additional seed samples of these and other weeds also attracted much attention. Mr. Mosher says:"It would be hard to decide which of the three parts of the Farm Bureau exhibit attracted the most attention. Miss Jarman and I spent nearly all the time in the tent explaining the exhibits and Mr. Shaffer half to two-thirds of the time, spending the rest of his time with the livestock man. I feel that we made a mistake in not arranging for three or four of the officers and directors of the Farm Bureau to be there all the time to help explain the exhibit."

Executive Committeemen in charge of Farm Bureau Exhibit at County Fair. The very idea expressed as a regret by Mr. Mosher, was tried out at the Hancock County Fair and Mr. Vaughan expresses the splendid success resulting. The executive committee had entire charge of the Farm Bureau exhibit and at all times there was at least one executive committeeman at hand to explain the various parts of the Farm Bureau exhibit and to point out any lesson that the visitor might learn.

A cooperative exhibit was made up by Fulton, Knox, Warren, Henderson, Mercer, and Rock Island counties which is being circulated at the respective County Fairs. According to reports this exhibit has received favorable comment from fair visitors and local papers.

Vermilion and Lee counties featured a model farm exhibit at their county fairs. One miniature farm was made up representing the average acreages of the common crops grown on the farms in the county. Right beside it was another miniature farm showing the acreages that should be devoted to certain crops according to a good crop rotation. The lesson pointed out was that entirely too small an acreage of legumes is actually being grown at the present time. Lee County also exhibited placards telling the number of various farm animals at present on Lee County farms and a corresponding set of cards showing the number of animals which would be kept on a model farm.

The sweet clover field at Chandlerville of which we reported some weeks ago, has yielded a crop of seed. Adviser Dickenson writes us as follows: "The final report of this sweet clover field is 75 bushels of unhulled seed. This was threshed out the last week in August. The way this field has been handled this year would indicate that sweet clover may be worked into the rotation very successfully. To use sweet clover as a pasture it is necessary to have two fields each year. The second year's growth may be pastured early in the spring until about the middle of June. The first year's crop should be coming on in the small grain crops and can be used for fall pasture as soon as the grain is taken off. The second year's growth will then produce a seed crop. The seed crop can be removed in plenty of time for plowing for winter wheat or the field can be used for corn crop the following year."

"Some Things We Learned at the Funk Farms About Fusarium.

1. Fusarium produces wheat scab and corn root rot; injures the wheat seedling and the corn seedling; and infects oats, rye and some grasses.

2. Fusarium is more serious in Illinois than has heretofore been recognized.

3. The roots of diseased plants may be almost wholly destroyed by fusarium.

4. Fusarium is a seedling parasite in wheat and may cause excessive loss which is usually attributed to winter killing.

5. Scab on the head is the result of secondary infection and occurs at the time of flowering of wheat.

6. Spring wheat is injured more by scab than is winter wheat.

7. Scab in wheat can be materially reduced by cleaning out trash, etc., along fence rows as it lives over winter on various grasses.

8. Scabby wheat stubble when entirely plowed under will do no harm toward infecting the following crops.

9. It is suggested that winter wheat be seeded rather late. Spring wheat should be seeded as early as possible.

10. Scab is an internal as well as an external seed infection.

11. Treatments with formaldehyde will help.

12. The fungus causing scab of wheat produces Fusarium in corn.

13. Inoculation of corn with wheat scab fungus materially injured the young corn plant.

14. The ear to the row test of corn must be studied with more care.

15. The germination test is invaluable in eliminating diseased corn.

16. The falling or lodging of corn is largely caused by Fusarium.

17. Barrenness in corn is thought to be due to fusarium to some extent."

W.L.Burlison and G.H.Dungan.

Echoes from the Bloomington Meeting.

"On September 3rd I attended a meeting on the Funk Farms at Bloomington, called by the State Leader's office, and I am quite sure that this meeting is the most valuable meeting I have attended during my seven years as a County Agent, and a meeting of this sort alone is worth the entire expense of a central organization in bringing the truths learned at a place of this sort where they can be made use of by us in our respective counties." - Eckhardt.

"Attended meeting at Funk Farms to study the effect of the wheat scab on the wheat and corn. I consider this a valuable trip." - Hedgcock.

"A very profitable trip. I think some of the trouble with corn falling down which has been laid to chinch bugs or root worm is likely due to corn root rot." - Wheelock.

"I considered the trip to Mr. Funk's Farm a very profitable one. It was instructive to me." - Belting.

"We were much interested in the work which is being done by the Funk Brothers in cooperation with the Department of Agriculture along the line of corn and wheat diseases and also hog diseases." - Mosher.

"One of the most practical and beneficial State meetings that I have ever attended. The importance of the scab disease as a factor in destroying farm yields was shown by the different phases of the work exhibited." - Price.

"One of the best meetings that the Advisers have ever been permitted to attend. The practical side of the Demonstration appealed to me." - Miller.

"One cannot attend a conference without forming a deep conviction that the farmers of the country owe a debt which they will be unable to pay, to the trained men who are devoting all their time and energy to the task of finding out about crop and livestock diseases, soil problems, etc. Farmers should think twice before speaking lightly of the work these men are doing." - Bracker.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. II September 24th, 1919. No. 39

University Crowded - With over 6000 students registered in the University at the end of the second day of registration and more coming right along, we hear on every side - "Where will we put them all?" Class sections are filled, nearby rooming houses are unable to accomodate more, and students are going out in Urban and Champaign residence districts for a mile or more from the University to find rooms. The registration already reported in the Agricultural College is above 1000 and all the cards are not yet in as we go to press.

Seed Corn should be carefully picked and stored now. Many farmers have already selected their seed for the next two years, but there is always that other fellow who needs another prod or two. The Crop Production Department suggests the following rules as good ones to guide the man who wants to do the job right:

1. The whole corn plant should be fully developed and well matured before the time of selection of the ear for seed.
2. Seed corn should be selected and gathered from the field before the first frost.
3. Ears of medium size only should be selected.
4. Select ears of good quality with respect to shape, filled butts and tips, and firmness of corn on the cob.
5. Select pendant ears only.
6. Select ears of medium height on the stalk and of convenient height from the ground.
7. Consider well the vegatative growth of the stalk.
8. The shank should be of medium length.
9. The shank should be of medium diameter.
10. There should be at least two good stalks in the hill from which ears for seed are to be taken.
11. There should be no missing hills surrounding the one from which a seed ear is taken.
12. Select seed corn from a field having only the normal amount of fertility for the locality.
13. Do not select seed corn from fields where special methods of tillage have been practiced.
14. Do not select ears from stalks that have fallen over, or that have been killed or injured by disease.
15. Select sufficient seed corn for two years.

Limestone supply is not meeting the demand at the present time in many Illinois counties. With the crops removed and the ground solid, farmers are anxious to spread the limestone at this time of year. Quarries are behind with their orders and as a consequence some advisers are stimulating the work of local crushers. Mr. Wheelock reports the purchase of a crusher last week with good prospects for two more.

"Junior Club Work Suggestions for Farm Advisers. - Many farm advisers are desirous of inaugurating some work with the young people of their membership, and are asking for a short summary of principles based upon the experience of other advisers. The following brief statements form a logical chain of suggestions for undertaking Junior Club Work:

1. The goal of all junior club work should be a County Junior Farm and Home Bureau. It will, therefore, be well to bear in mind the following aims of this County organization of young people, the youngest member of the Smith-Lever family:

To interest and enlist young people in the movement for better agriculture and a better country life.

To assist in directing the activities of young people in carrying on a definite farm and home-making enterprise according to approved practices.

To help young people to realize that farming is a business that offers opportunity for reasonable profits as well as a life of public service and personal enjoyment.

2. The county organization is best preceded by one or more years of work with a few local clubs of young people.

3. It has been found that the communities in which these clubs succeed best are those that can provide a good adult leader who knows how to work with young people, and enthusiastic parents who will back up the young people and the leader.

4. It has been found by several advisers well worth while to put time and thought into a survey of the county to carefully select these communities and their leaders and to determine the type of projects best suited to them.

5. Fall or early winter is conceded to be the best season for organizing these clubs.

6. Where more than one such club is to be organized in a county, a little county plan upon which the local club can base its plan of work has been found to be of great assistance. This plan should be in accord with the farm bureau plan of work.

7. The Junior Extension Service will be glad to arrange to have a representative meet with the farm adviser and farm bureau committee to make such a plan and give any necessary assistance in the organization of the clubs." - J. H. Greene.

Some local elevators have been accused of having scales which did not weigh correctly during the wheat marketing season. We have written the director of the State Department of Trade and Commerce and he informs us that the primary duty of this department is to test the weights and measures of the various institutions, and while enroute upon this service the inspector will call at any place where complaints are made, and test scales, weights or measures. In addition to State Sealer of weights and measures, the law provides that the county clerk of each county may be the county sealer and it is the duty of county sealers to provide themselves with testing weights and measures at the expense of the county, and upon request to attend to the weighing and testing of scales, balances, etc. Equipment for this work can be purchased from W. and L. E. Gurley, Troy, New York. Henry Troemer and Sons, Philadelphia, Pa; Fairbanks, Morse & Company, Chicago. Outfits two years ago cost about $187. This information was furnished by W. H. Boys, Director of the Department of Trade and Commerce, Springfield, Illinois.

Talking of membership campaigns, Higgins says it was gratifying the way old members took hold of this proposition and a satisfying feature was that the largest number of new members were signed up in those communities where the largest present membership existed.

"Much limestone is going into Southern Illinois even tho the Limestone Companies are not able to keep up with all orders just now. The other day there were 16 cars of limestone on track at one time in the little station of Whittington, Ill. Franklin County. 36 wagons were loading simultaneously, hauling this limestone to nearby farms. At the field meeting held at Ewing Experimental Field, Sept. 18, two hundred and fifty or more farmers came to see the marked demonstration showing the value of limestone on that soil. Every township but one in Franklin County was represented. Another example of the amount of limestone coming into Edwards County was shown by the following figures from 4 consecutive stations along the Illinois Central Railroad. At Grayville the station agent has ordered about 100 cars of limestone for nearby farmers. 60 to 80 cars have been shipped into Browns, about eighty cars into Bonegap and probably more than 80 cars have been received at West Salem. This has been partly due to the demonstration at the Enfield and West Salem Experiment Station, and also to the missionary work conducted by Logan, Hoskins, and others within recent years." - Readhimer.

"The second annual community fair held at Bellair in Crawford County Sept. 18th, was well attended, the exhibits good and great interest was manifested in the discussion of the exhibits. Mr. Logan has used these Fairs to an excellent advantage in getting outlying communities interested in farm bureau work."-Spitler

"Segregate the ram lambs. "Because of cool nights during the last four weeks, breeding ewes are coming in heat earlier than usual this year. Apparently some of our flock owners are not aware of this, for in many cases ram lambs are still with the ewes. They should be removed at once." - W. C. Coffey.

An agricultural association has been formed in Woodford County for the purpose of securing good seeds for Woodford County Farm Bureau members. It is planned to get the seed in so far as possible from farmers within the county. Heretofore local seeds were bought up by dealers in nearby cities and by the time farmers were ready to buy, inferior seeds had to be shipped in from elsewhere. Farmers have felt the need of this sort of an association and have subscribed enough stock to finance it. A large sized seed cleaner has been purchased and a building rented to take care of the business. For the present year Mr. Mosher has been asked to manage this work. It is the intention to turn it over to some one later, who can devote his entire time to the various phases of the seed work within the county.

Sales Pavilion. "Between $3000. and $4000. have been subscribed in the last few days towards a $15,000. sale pavilion to be built by a newly organized pure bred livestock sales company in DuPage County. A number of pure bred breeders in the county are back of this proposition which will insure its success." -Peato

Are you satisfied with that circular letter? Let us strive to make them better, particularly in appearance. Answer these questions to yourself.

1. Is my circular letter neat and attractive?
2. Is it clear and easily read even by the old kerosene lamp?
3. Is cheap paper, poor ink and inferior work justified by a"lack of funds"?
4. Is it snappy and full of good live information?
5. Is it too long to be read from beginning to end at one sitting?
6. Do I think it the best one in the State?
7. Can I make it better?

We could criticize but we would rather let you do it.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. II October 1, 1919. No. 40

Percherons to England. "Tazewell County recently shipped a consignment of 14 Percheron mares to England. This is the first shipment of this sort ever made from the United States. Every mare was a select individual." - Starr.

The value of a balanced ration was markedly demonstrated by an exhibit at the Grundy County Fair. Mr. Longmire reports it as follows: "The director of the swine department in our association showed two pigs at the Fair that he had fed for 110 days. These pigs each weighed practically 50 pounds on June 4. They were pure-bred, March pigs and in good thrifty condition. No. 1 was fed in a dry lot on corn in a self-feeder. It was given worm treatment and mineral mixture and plenty of good water. After 110 days it weighed 108 pounds. Counting the corn at $1.15 a bushel, and the pig worth $10. to start with, and the value of the pig at $17.50 per hundred at the present time, there was a loss of $1.15 besides the work in caring for the pig. Pig No. 2 was fed the same length of time and finished with a weight of 223 pounds. This pig was fed on corn, tankage in a self-feeder and had the run of a mixed clover pasture. After counting the feed cost and valuing the pig at $17.50 per hundred, the profit was $22. This exhibit attracted a good deal of attention at the Fair."

Knox County Communities Develop Program of Work. The following is Bracker's report of the success of his meetings along this line: "During the past week two meetings of the Community Committees, which were appointed last winter, were held. These community meetings were held for the purpose of planning a definite program of work for each community. Practically a full attendance of each committee was present at each meeting and the farmers entered heartily into the discussions. I am sure that the farmers present felt before the meetings were over, that there was some real definite work to be undertaken and that the Farm Bureau could play a real part in putting the work over. Altho but two meetings have been held, I have personally come to have a deeper and better conception of the work."

"The limestone quarries are far behind with their shipments. Many of the farmers who ordered their limestone with the intention of spreading it this fall are complaining about not getting it. It looks as if the local crusher will be the solution of the limestone problem in Johnson County. We have two of them in the county and the farmers are well pleased with the results. We have prospects of putting in three more crushers in the near future." - O. M. McGhee.

"Many farmers are disappointed in not getting their limestone delivered, yet practically none talk of canceling orders. We realize we must have more limestone available. Small local crushers can not solve this problem for us, but one large plant at Grand Tower would relieve the situation. We are considering the organization of a Farmers' Stock Company for this purpose. Grand Tower is one the Illinois Central branch, and has plenty of excellent limestone." - C. J. Thomas, Jackson Co.

"Several fields of alfalfa seeded during the dry weather in August and September and thought to be lost are now coming in good shape since the rains we had last week. A great deal more alfalfa would have been seeded this fall if weather conditions had been more favorable. As a result there will be much more seeding of alfalfa next spring than usual." - Melvin Thomas, Coles Co.

"Wheat ground is being prepared late and I am inclined to think that will help to hold wheat planting till fly-free date. Much less wheat than usual will be planted, due to presence of the chinch bug, and lateness of the season.

The rain last week was very favorable for preparation of seed bed for wheat. Farmers certainly have no complaint to make now. I think the continued dry spell was to their advantage, because no volunteer wheat grew during that time and still there was plenty of time left for getting the ground in shape. I understand that there are some farmers who are not farm bureau members who have already started wheat seeding. I have been trying to hold them off until the fly-free date, but it seems to be impossible, as many are getting anxious to begin seeding."-Tate, Monroe Co.

Need more Feed in Clinton County. "Most farmers in the county will be short of corn, oats and hay for feeding purposes. The dealers seem to be making no effort to relieve the situation. Instead they are inclined to sell mixed feeds of all description, but they are not meeting with very much success. The Farm Bureau, thru the two cow testing associations is shipping in four carloads of Black Strap Molasses and 19 cars of alfalfa hay." - Rehling.

"The first sale held in our new Livestock Sale Pavilion was held Friday, September 26. The stock breeders of the county are delighted with their new pavilion, and it has been a great inspiration to them in their work." - Collier, Kankakee County.

A profitable gilt. "A year ago a farm bureau member bought a pure bred Poland China gilt of a local breeder. This gilt farrowed 9 sow pigs on February 3rd. By good management all of these were saved. At the sale on September 26 the sow and 9 gilts were offered for sale. The gilts averaged 262 pounds each and the sow weighe 450 pounds. The gilts brought a total of $1,325. and the dam sold for $255. making a total of $1,580. as a return from the $50. original inve cont."-Kendall,Morgan C

Dr. Huggins takes up work at St. Louis Yards. We believe the following letter will be of interest: "I am writing to inform you that I have resigned from my position with the United States Bureau of Animal Industry to take charge of the Vaccination & Sanitation of stocker and feeder hogs going out of The St. Louis National Stock Yards, National Stock Yards, Ill., to take effect October 1st. I have enjoy d my work at the Springfield office and havefound the co-operation of the various county agents with whom I have worked to be very pleasant. I do not know who will take my place, but assure you that Dr. McDonald will continue to give you the very best service possible, and I shall arrange to have the interest of the farmers at heart in my new work. I found the Extension Messenger very interesting and full of information, and thank you for sending same to me". - M. J. Huggins, Veterinarian.

During the Sparta Fair the Farm Bureau had a tent which contained some exhibits from the University and also some local material. The directors of the Farm Bureau put up the tent and placed the exhibit, which a large number of our members visited. It proved to be too small, however. Next year we will plan to have a larger tent and an extra table so that every one may register. It is estimated that nearly 10,000 people attended the Fair on Thursday." - Doerschuk,

Phosphorus on Brown Silt Loam. The effect of phosphorus on brown silt loam of the Illinois corn belt is very strikingly shown by the results from the Bloomington Soil Experiment Field. This experiment field was started in 1902 and has been running continuously since. During this time a definite crop rotation, consisting of two crops of corn, one of oats, one of clover and one of wheat has been practiced. The phosphorus used has been in the form of steam bone-meal and has been applied at the rate of 200 pounds per acre per year or a total application of 1.8 tons during the 18 years. The phosphorus has been applied in four different combinations so that the results are the average of four trials each year.

During the eighteen years eight crops of corn, four crops of oats, three crop of wheat and three crops of clover have been grown. The total increase due to the application of phosphorus has amounted to 124.87 bushels of corn, 59.63 bushels of oats, 70.65 bushels of wheat, and 4.03 tons of clover hay. The average yearly increase has been 15.61 bushels of corn, 14.91 bushels of oats, 23.55 bushels of wheat and 1.34 tons of clover hay. Reducing this to the basis of increase per ton of steam bone meal, we have 69.37 bushels of corn, 33.13 bushels of oats, 39.25 bushels of wheat and 2.24 tons of hay. If we figure corn at $1.00 per bushel, oats at 50¢ per bushel, wheat at $1.50 per bushel and clover hay at $15.00 per ton, the total increase for the eighteen years amounts to $321.11. This is $178.39 for each tone of steam bone meal. The present price of steam bone meal is about $44.00 per ton." - J. E. Readhimer.

"Tri-State Forestry Conference. Arrangements are being made for the Tri-State Forestry Conference to be held at Indianapolis, Oct. 22 and 23. It is likely that Mr. Gifford Pinchot, formerly Chief Forester of the United States, will preside at the sessions. Among those who have accepted invitations to be placed on the program, besides the State Foresters of the three states involved are: Henry S. Graves, and J. G. Peters, of the U. S. Forest Service; Dr. Wilson Compton of the National Lumber Manufacturers' Association, Chicago; Dr. Thorne, of Ohio; Prof. H. H. Chapman of the Yale Forest School; Deputy Commissioner Williams of Pennsylvania; Dean Stanley M. Coulter, of Purdue University; Percival S. Rissdale, Editor of American Forestry; Findlay M. Torrence, Secretary of the Ohio Retail Lumber Association, and Harry Scearce, President of the Indiana Retail Lumber Association. A banquet has been arranged for the evening of the 22nd, and at a public meeting to be held on the evening of the 23rd, war pictures of the work of the Forest Engineers in France will be shown by Lieut. Col. Greeley, and a moving picture, "The Story of a Match", illustrating fire-fighting will be presented by courtesy of Commissioner Pratt of New York State." - R. B. Miller.

Registration in the University of Illinois had reached 7143 on September 29 according to an official report from the Registrar. The University has met the emergency of this large enrollment very quickly and everything is now running smoothly and satisfactorily. It looks like a real University campus once more, and while the little green spot, (designating the Freshman) is much in evidence, there are a great many upper classmen who are "back again and glad of it."

Did you hear about it? What? Why the latest move to tie up the Farm Advisory and Home Advisory work more closely, - - a little family Farm Bureau as it were. Why of course we refer to the marriage of Miss Naomi Newburn and Mr. F. C. M. Case on Wednesday Sept. 24 in Urbana. Miss Newburn was Assistant State Leader in Home Advisory Work and Mr. Case was formerly Assistant State Leader in Farm Advisory Work, both at the University of Illinois. Mr. Case is now Agriculturist in charge of Farm Management Demonstrations in the 33 states North and West. The at home card reads, "Washington, D. C." -

The Extension Messenger

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

UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II October 8, 1919. No. 41

It Pays to Avoid the Hessian Fly. Adviser Tate tells the story of a farmer on the Mississippi Bottoms in Monroe County who is exceptionally well informed on the Hessian fly. "From his own study of bulletins and observations in the field he knows when the fly is laying its eggs and when the danger is over. In 1915 he saved himself fully $2000. by having complete knowledge of the Hessian fly. He says he planted a field of wheat when the weather was quite warm. This wheat came up soon, and upon going into the field he noticed that it was full of Hessian flies that were laying eggs on the plants. At that time he was seeding still more wheat. He told his men to stop seeding immediately and the wheat which had already been sown was doubled disced in order to kill it. Every day after that he watched the flies in the field. At the end of ten days he could no longer find them so he began sowing wheat again. Every one else had finished about two weeks before. This farmer threshed over 2000 bushels of wheat that year (some of it making over 40 bushels per acre), while the crop in general in the county was a failure, many of the farmers not getting more than 5 bushels per acre."

Farmers generally, heeded fly-free date. Judging from the various reports, farmers generally who were farm bureau members have refrained from wheat seeding until the date recommended for avoiding the damages of Hessian fly. The dry summer and difficult plowing conditions have made it easier for the farmer to hold off his seeding, as in many places the fall rains came just in time to permit preparation of the seed bed in time for seeding at the proper date.

Egypt Wheat Field Yields in 1919 are used as the basis for a one-page circular just issued (#236), by the University Experiment Station. A number of these circulars have been sent to Farm Advisers in the southern counties. Any other Adviser wishing a quantity of these circulars may obtain them by writing the Agricultural Experiment Station, Urbana, Ill. The average yield with no treatment was 8.9 bushels; with manure and lime 20 bushels; with manure, lime and phosphate 23.5 bushels; while with residues, lime, phosphate and kainit, the yield was 25.6 to the acre.

A good demonstration of the value of continuous soil treatment is shown in an example on a Morgan County farm. Kendall relates it as follows: "One of our live farmers has a field that has had two applications of lime and two of phosphate within a period of 14 years. When he took hold of the place 25 bushels of corn to the acre was all one could expect. Today it will approach the 80 bushel mark. This fall we hope to have some very complete figures from this field." Kendall.

Making farm visits by aeroplane is really something new for Illinois Advisers. Most of them have been content to ride in tin lizzies, but listen and we'll give you Adviser Watkins' own words: "On Friday, September 5, I made my first farm visit by aeroplane at the farm of S. C. Shaddle near Area. As I was getting a free ride the pilot would not wait for the photographer to get there in time to take pictures. I have pictures of the start, but not of the finish. It will probably be some time before I use an aeroplane instead of a Ford, although I find flying a much more desirable means of travel."

DeWerff tells us he is getting under way in Franklin County and is soon to ride in a 1920 model Chevrolet touring car. He says that limestone business is well under way. On one day a week ago, over 100 wagon loads passed thru Ewing. It is not unusual to see farmers hauling from 5 to 10 miles from the railroad.

Mr. Isaacs has quickly acclimated himself in Mason County and the work is progressing without a check. He says: "Plans are being made for shipping in a carload of Holstein from Wisconsin. Mason County needs more livestock and this is one move which will help out that industry. I have been all over the county and have met all the directors and several members."

Griffith tells us he likes his new office so well that he hates to leave it even during this fine weather, and Oh! what a comfort it will be in the winter time when he won't have to carry ashes and fire that old coal stove any longer. And you haven't seen it? Well indeed, it is a very attractive looking office, with a reception room in which the stenographer holds forth; two private offices, one for Griffith and one for Warren; back of that is an assembly room which will seat 75 to 100 people, with a storeroom 29 feet long, and all other necessary equipment. There is also a basement the full length of the building which can be used for seed storage and the like, and the whole is lighted by electricity and heated with steam. Griffith extends an invitation to all of us to call.

"The Edgar County Agricultural Association was organized last week. Half of the stock is subscribed and nearly one-fourth paid in. Temporary officers have been elected and seed cleaning machinery ordered. The seed house is in the rear of the office. A few loads of wheat and timothy seed have already been cleaned. Our motto is 'Watch us and our Seeds--grow.'"-Gernert.

"Clean out the fence row is the slogan of a campaign which has been started in Marion County. Community committees have been elected to get the farmers to clean out their fence rows, both inside and out. Such a meeting was held at Carter, Illinois, and an excellent cooperative spirit was shown. At this meeting a program of work for the next year was also developed, and the community leaders seemed very anxious to carry out the program as planned.

"Farm reports indicate that Marquis wheat, even tho badly infected by scab outyielded bearded varieties in Ogle County. Turkey Red wheat is the leading winter variety. Rosen Rye made an excellent yield." - Snyder.

A campaign to sell $30,000. of stock in the Hancock County Fair Association was launched at a recent meeting. The money is to be used to purchase 60 acres of land which includes the present Fair grounds, and to erect an exhibition and sales pavilion, which is to be used for livestock sales. Thirty-one hundred dollars worth of stock was subscribed at the meeting and a committee was appointed to solicit further subscriptions thruout the County.

Sweet Clover in Cass County. "Have investigated sweet clover which was sown on some of our yellow loess hills. These hills have very high content of limestone but have never produced anything except coarse grass unsuitable for feed. About the middle of April a field of sweet clover was seeded which was on the side of a hill, quite chalky at the top, but running into more clayey and richer soil at the bottom. The largest growth of sweet clover was on this lower richer ground. That on the chalky part of the hill appeared very short and lifeless during the summer. Since the fall rains the entire field of sweet clover has grown rapidly. Some of the seed which has lain in the ground all summer in the chalky part of the hill recently germinated and the plants are growing vigorously. Examination of the sweet clover roots show that they are penetrating the yellow soil for two or three feet. These roots are found where there is no evidence of roots of any previous crops and we are better convinced that sweet clover is the best crop for reclaiming nonproductive hill land." -- Dickenson.

Chinch Bugs have been flying in large numbers during the last week, says Adviser Miller of Macoupin County. "On last Tuesday the swarms of chinch bugs in the city limits of Carlinville were so thick that they looked like swarms of bees. Men who were in the county during the chinch bug years of 1913-1914 say that the bugs are flying thicker this year than they did in the fall of 1913. During the last six weeks, they have appeared in every part of the county and unless something checks them they are likely to do a great deal of damage."

It will probably be necessary for another extensive chinch bug burning campaign in the infested area this winter.

"Cooperation" is the basic word for many a speech and the basic principle in many a plan of "doing things" in this day. The following word from the U.S.D.A. Reports on Foreign Markets, August 14, 1919, is of interest:

"The popularity of cooperative effort as a remedy for marketing difficulties is increasing rapidly among producers of farm products in the United States. Co-operative marketing organizations can undertake activities and obtain results where individual effort is of little avail. Thus, the standardization of products grown, the adoption of and use of careful grading and packing methods, inspection of shipments to bring about uniformity and high quality, gathering market information, and developing and maintaining outlets are among the activities in which cooperative action is important in obtaining the best results in the marketing of farm products."

"A central association of this character supported by strong local organizations is in a position to do things for the producer member which it would be futile, for him to attempt as an individual. The central body can encourage, develop, and supervise the activities of the local organizations in problems relating to production and handling at the local shipping point. The products must be graded, handled, and packed with the greatest care, in order that a reputation for uniformity and quality may be built up and in order that the products will reach the markets in the proper condition. Without uniformity and quality, much of the efforts of the entire organization will be unproductive of permanent results."

Now is the time to go over the poultry flock culling out the poor layers. You not only save high priced feed, but you insure that it will be consumed by better producing hens, thereby increasing the profit. Then, too, it makes it possible to save those best suited for breeders, on account of their superior strength and vitality. Weeding out the poor hens gives those left more room and a better change. Fortunately for the farmer, a hen can't refuse to lay and then lie about it.

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"The annual meeting of the American Association of Agricultural Colleges and Experiment Stations will be held at the Auditorium Hotel in Chicago on November 12, 13 and 14. This meeting is one of the most important agricultural events held during the year. This meeting has been held in Washington for several years. Holding the meeting in Chicago will offer an opportunity for many of those interested in agriculture to come in and attend its sessions who ordinarily do not have this opportunity.

The annual meeting of the American Farm Economics Association will also be held in Chicago at the Auditorium Hotel on the 11, 12 and 13 of November. The Farm Economics Association has recently been reorganized and has just taken up the publication of a quarterly journal devoted to farm economics and farm management subjects. A strong program is assured and practically all of the workers prominently identified with farm economics and farm management will be in attendance.

Inasmuch as both of these meetings come at the time of the organization meeting of the National Federation of Farm Bureaus, which occurs on November 12 and 13 there will be at least three reasons why as many of the Farm Advisers, as can arrange to, should come to Chicago on these dates. I am sure that these meetings will prove to be profitable for all those who can attend. I hope that we may have as large a representation as possible." - W. F. Handschin.

"Professor J. C. Hackleman in Charge of Crops Extension. On September 1st, 1919, Professor J. C. Hackleman assumed charge of the work in Crops Extension. Mr. Hackleman was reared on an Indiana farm and graduated from Purdue University in 1910. While a student he worked with Professor Fisher in the Field experimental work in Agronomy, and also assisted Professor G. I. Christie in the Extension service. From June 1910 to March 1916, Professor Hackleman served as Assistant Instructor, and Assistant Professor of Farm Crops in the University of Missouri, having charge of field investigation in Farm Crops. In 1912 he received his Master's Degree from the University of Missouri, having majored in Farm Crops with special emphasis on physiology and pathology. From March 1916 to September 1, 1919, he was in charge of Crops Extension in the University of Missouri. Coming as he does well trained and with splendid experience, we shall expect our Crops Extension Division to fill a long felt need in Illinois." - W. L. Burlison.

"The Department of Farm Organization and Management wishes to announce that Mr. J. B. Andrews will have charge of the work in Farm Management Extension, which has been carried on during the past four years by Mr. Case. Mr. Andrews has had charge of the cost accounting and general farm management investigations carried on by the department during the past five years. He expects to feature the work in farm accounting again this year. He will also take up in a preliminary way, the work in land tenure and farm leasing. He will be glad to make arrangements for any work which you are interested in doing along these lines." - W. F. Handschin.

Chicago District Conference- The first district conference of advisers in the Chicago district was held last week. The chief topic for discussion centered around "Methods of Handling a Large Farm Bureau Membership". Other live topics discussed included, "Relationships of Adviser to Cooperating Agencies", and the general problem of planning farm bureau work. The matter of "Uniformity in Recommendations" of methods and formulas was fully discussed. It was the recommendation of the Conference that this matter be presented at the other district conferences in the State and if considered favorably, that subject matter committeesbe appointed at the winter meeting of advisers to confer with the subject matter department of the University and formulate uniform recommendations to be used by advisers in each district and all over the State as far as practicable. The conference was permeated with a spirit of good fellowship, frankness and co-operation.

A new Assistant in Stephenson County. Mr. Baumeister is to be assisted in his work by Mr. Wilson Harrington, who was recently employed by the Executive Committee of the Stephenson County Farm Bureau. Mr. Herrington is a native of Mississippi, and was born and reared on a farm there. He is a graduate of Cornell University and has been working in Soil Survey work in Illinois the past season.

Holding a Community Fair at a Farm Home is a new idea carried out by the Naperville Rural Life Progress Club. Adviser Heaton says it was one of the nicest little fairs he has had the pleasure of attending. There were exhibits of livestock and grain from the local community and also a domestic science exhibit.

Providing to show films at country meetings. Adviser Belting reports a new idea, saying: "I am planning to hold some motion picture shows of an educational nature in several of the rural communities this fall and winter. A Delco light man is going to furnish the current. We expect to secure films at a low rental fee."

Successful poultry culling is being demonstrated by several farm advisers. Adviser Kendall tells in detail of a number of flocks where the culls were kept for several days after culling, and not a single egg was received from the birds selected as non-layers.

Have you soybeans or clover seed for sale? Adviser Gennert of Edgar County says: "We are in the market for a car load of soybeans and another of clean clover seed."

"Hog cholera is spreading rapidly in several townships in Hancock County. We received calls to make a diagnosis of hog disease on seven farms this week, and found cholera in all but one of the seven herds. Silo filling seems to be largely responsible for the rapid spread of the disease at this particular time. All sick herds are being vaccinated, the lots sheds cleaned up and the farm quarantined. We are advising the neighbors to vaccinate before their hogs get sick." - Lloyd.- Hog cholera is also reported in Macon County.

"Pure Bred Sires Effect Herd Improvement" is the title of a recent circular put out by the Nebraska Experiment Station and is well worth the study of any dairy man. The pure bred Jersey bull Golden Shylock has had a remarkable influence in improving the Jersey herd due to the ability of his daughters to raise the general average of the herd in milk and butterfat production. It is shown that the average increase in production of the daughters over that of their dams during the first lactation period, was 42 percent in both milk and butterfat.

"WHAT SHALL WE DO WITH OUR STRAW? This is a question that is causing as much serious consideration among the better farmers as any other farm problem at the present time. No careful farmer is anxious to burn his straw thereby losing considerable plant food and much valuable organic matter and yet where livestock is not available to help convert this straw into manure its disposition, especially in view of recent experiences with wheat scab, becomes a problem.

Unfortunately there is no authentic data available to show the exact cash value of straw when applied to winter wheat or rye. The University has been spreading straw on winter wheat for several years, but up to the present time the results are not conclusive. Wheat top dressed with straw during the winter of 1916-17 made a very remarkable increase in yield over that not covered, while straw applied last winter showed no increase whatever. Of course, last winter was a very unusual one and naturally not favorable for straw spreading to show any benefits. In the consideration of this problem we should recognize the value of the straws from the standpoint of fertility value. The following table shows the relative values in terms of pounds of Nitrogen, Phosphorus and Potassium per ton of the material used.

	Nitrogen	Phosphorus	Potassium
Fresh Farm Manure	10 lbs.	2 lbs.	8 lbs.
Corn Stover	16 "	2 "	17 "
Oat Straw	12 "	2 "	21 "
Wheat Straw	10 "	2 "	18 "

The use of straw as a top dressing on wheat is an extremely desirable farm practice and furnishes a needed opportunity to return organic matter and as indicated in the foregoing table considerable plant food. It is perhaps needless to add that wherever live stock are available the straw should be converted into manure before being returned to the soil. Where straw is applied as a top dressing we believe it should not be spread too heavily - a ton and a half being about as heavy an application as would seem safe.

The time for spreading wheat straw in order to minimize the danger of distributing the infection of wheat scab is not a definitely accepted period. In the light of present knowledge it seems that the period of greatest infection is during the first few days of the seedling's existence. This being true, it would seem that the common farm practice, spreading the straw while the ground is frozen, any time from November 15 to February 1, would be the safest from the standpoint of insurance against scab." - J. C. Hackleman.

Keep a Look Out. "There is a slight possibility that the European Corn Borer may have been introduced into this state, and if such is the case, it is of the highest importance that we know of this infestation before it has a chance to spread. During corn shucking every farmer is urged to be on the lookout for this insect, and if ears of corn or corn stalks are found containing borers, any one finding them is especially requested to send samples of the same to the Natural History Survey, Urbana." - W. P. Flint.

Good Seed Potatoes are available in North Dakota. We have a letter from Mr. Norbert D. Gorman, Emergency Demonstration Agent, at Minot, North Dakota, as follows: "We have a larger acreage of good seed potatoes in this county this year. We are interested in placing these in the Southern States as seed at the least possible cost. If any of the County Agents in your state are interested in securing good northern grown potato seed, we will be very glad to hear from them at their earliest convenience."

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Cyril G. Hopkins. "Dr. Hopkins, head of the Department of Agronomy, died at Gibraltar on October 6, having been taken ill aboard ship as he was returning from his year's work in Greece. In the passing of Dr. Hopkins, the faculty of the College of Agriculture has lost its senior member, and the University one of its ablest scientists. The State has lost its great adviser in soil fertility and the world has lost the man who has carried the study of soils farther than any other man that ever lived." - E. Davenport.

Farm Visit Service. "The subject of farm visits discussed at the Chicago conference was of considerable interest to me in face of the possibility of our having a considerably enlarged membership as a result of our membership campaign which is to take place soon. To what extent one can limit farm visits and get the best results in farm advisory work is a question that I believe few of us are able to answer definitely. The extent to which they can be limited in my estimation depends to a large extent on how successful an agent is in educating the farmers of the county to understand that the farmer must not expect a visit unless he requests the agent to call to help him with some specific problem." W. B. Richards, Kane Co.

Cleaning Seed for Farm Bureau Members. "Our seed cleaning machinery was installed and tried out this week. It is doing some most excellent work and will enable us to put out a better quality of seed than we have ever secured in the past." - Mosher, Woodford County.

Mason County Farmers' Institute. "The Farmers' Institute held at Manito during three days of this week was very successful. One feature of the program which seemed to be highly appreciated was a series of ten minute talks by local men giving their experiences with certain farm problems." - T. R. Isaacs.

Milk Producers Meet Distributors. "On Tuesday an open meeting was held by the milk producers and the Sanitary Milk Company, for the purpose of discussing the price paid to farmers for milk. As a result, the farmers were given an advance of 40 cents per hundred. The price of milk to the consumer had previously been advanced two cents a quart with no advance to farmers. The proposition was discussed in a pleasant way and the conclusion reached with no hard feeling." - C. H. Oathout, Champaign County.

Farmers Agree on Price for Corn Shuckers. At a meeting of the Farm Bureau Tuesday, Oct. 7, it was decided that six cents and board, or six cents and house, garden etc., was a fair wage for corn shuckers. It was also decided that seven cents was a fair wage where the shucker boarded himself." - I.A. Madden, Sangamon Co.

Limestone on Brown Silt Loam. "It is now conceded by everyone that limestone is the first essential in soil improvement on the soils of southern Illinois. The benefit of limestone on the soils of the Corn Belt are not so generally understood. The results from the University north farm, Urbana, Ill., which have been running now for sixteen years prove very conclusively that limestone is only slightly less profitable on the ordinary brown silt loam soil of the Corn Belt than it is for the more acid soils of southern Illinois. In a four year rotation consisting of corn, oats, clover and wheat, an application of two tons of limestone per acre during the rotation has increased the yield of corn by 7.70 bushels, oats by 10.28 bushels, clover by .486 of a ton and wheat by 3.74 bushels. Reducing this to the basis of one ton of limestone we have as a measure of its value, 3.85 bushels of corn, 5.14 bushels of oats, .243 tons of clover hay and 1.87 bushels of wheat. With corn at $1.00 per bushel, oats at 50 cents per bushel, hay at $15. per ton and wheat at $1.50 per bushel, the ton of limestone produced crop increases worth $12.87. Limestone can still be laid down at almost any point in the Corn Belt for $2.00 per ton. The increase on any one of the crops will pay for the limestone spread on the land. The increases on the other crops give the profit." - J. E. Readhimer.

Farmers' Elevators Agree to Handle Limestone and Rock Phosphate. -On Saturday, October 11th, all of the directors, officers and managers of Farmers' elevators in the county were called in for a meeting. The object of this meeting was to get these elevators interested in handling rock phosphate and limestone for the farmers. It was a bad day, but there were 90 present. J. G. Losier and J. C. Sailor addressed them. They passed a motion to the effect that it was the sense of the meeting that all the farmers' elevators should put up suitable sheds and keep a supply of rock phosphate and limestone on hand for use by the farmers. They also formed a county association of farmers' elevators for the purpose of handling such problems as buying potatoes, apples, etc. collectively, and doing any other business of common interest." - C. H. Oathout, Champaign County.

Hessian Fly Demonstration. In the west part of the county, one of the land owners very much favored early seeding of wheat and as a result of his influence a large number of farmers who sowed wheat put it in the early part of September. An investigation of some of these early sown fields showed 100 percent of the plants infested with Hessian Fly. Some of the later sown fields were found to be not infested at all. This was a good demonstration for our members as most of them had never seen the hessian fly larvae previously." - Lumbrick, Vermilion Co.

Pure Bred Hog Sales. The first two sales of the kind ever held in Grundy County, says Adviser Longmire, are being arranged for October 18 and 25. These hogs are good ones taken from the pure bred breeders' herds in the county and will be made up of individuals from the various breeds.

"Eighty head of Shorthorns have been offered for the first Shorthorn Breeders' sale in LaSalle County. This gives a large number from which to make a careful selection for a good one day's sale.-" Brooks.

Poultry Culling Demonstrations are now in order in several counties. Baumeister reports: "Culled several flocks of chickens this week. Flocks as opposite as the poles were encountered. One flock of 150 white Leghorns in which were found less than a dozen good hens. Another flock of Barred Rocks had 90 percent good hens." - Stephenson County.

Morgan and Clinton counties also report holding culling demonstrations.

"A Successful Lamb Barbecue. - Lamb consumption among farmers in Coles County received a stimulus recently, when twenty prime lambs were slaughtered and roasted to a rich juicy brown and handed out to the hungry crowd of farmers, wives and kiddies there assembled. The dressed carcasses were merely quartered and roasted in a large bread oven by a local baker, and were taken piping hot in insulated bread baskets to the picnic grounds. A corps of experienced carvers were on hand to wait on the crowd and families who had brought a carving outfit were given an entire quarter to handle as desired.

After dinner, while the excellence of the lamb was uppermost in their minds, the people were called together and given a demonstration on selecting and preparing lamb for cooking. They were permitted to see a carcass identical to those used in the barbecue; they were shown why it was good and the four essentials that made it good were pointed out as follows:- (1) it was bred right, (2) it was well grown and fattened, (3) it was properly slaughtered and left in the cooler for four days before roasting, (4) it was properly roasted. The demonstration pointed out that we cannot expect good lamb from scrub-stock made to live under a haphazard system of managomont. He told them how clean the sheep is and how healthy is its meat; how easy it is to slaughter and prepare; how convenient the size for threshing crews and silo filling crews; and they judged for themselves how good the taste. It is safe to predict that much more lamb will be eaten by Coles County Farmers in the future." - W. C. Coffey.

Holstein Sales. The Holstein Sale was held with a very good attendance, but the prices secured were not as good as in the spring sale. The man who disposed of his herd did not have them in very good condition and he did not realize what he should have for the breeding he had in his herd. This emphasized one thing very forcibly to our breeders, and that is, that they should have the animals fat before consigning them to a sale. The total of the sale was about $18,000 realized from the sale of 81 head, or an average of about $220. each. There were a large number of calves in this consignment which made this average low. The top of the sale was $650. for a heifer consigned by Mr. Fox." - Heaton, DuPage Co.

"Our first Holstein sale was held Saturday, October 11th. About 50 head pure bred bulls, calves, cows and grade cows sold for $10,000. Stephenson County is not a pure bred county, but our dairymen appreciate the value of a good cow - the Holstein Association hopes to increase the number of purebred herds and to raise the standard of the grade herds. The feature of the sale was young bull out of a 30 pound cow which sold for $850." - Baumeister,

Poultrie Livestock Show. The week was given over to our live stock show, which was held October 15 and 16. Despite the extreme unfavorable weather, we had a good attendance and a fine display of live stock. The breeders who were instrumental in putting on the show were all well pleased with the result of the show, even though we were unlucky enough to have bad weather." - Higgins.

Square dealing in Sale Ring bring returns. The men who are making good livestock sales in this county, are playing the game absolutely square. In a recent sale of grade Guernseys and grade Jerseys, the percentage of butter far, pounds of butter fat produced during the testing period and the total pounds of milk produced were read from the records before each cow was sold. Further, if a cow was a kicker or had any blemish the owner very frankly made the statement. This caused some cows to sell at a discount, but when he stated a cow was all right, the spirited bidding overcame the discount on the inferior animals." - Kendall, Morgan County.

"It's a Kentucky philosopher, who quotes a neighbor as saying that his county agent can't tell him nothin' about farmin', as he's were out three farms already." American Agriculturist.

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Cooperating with Federal Veterinarian. "Have been out spending some time with the Federal Veterinarian Inspector looking after hog cholera which is quite prevalent in this county. The reduction in hog prices at the Chicago market has had bad effect on the sales of pure bred." - Snyder, Ogle County.

"Held meeting in hot bed of cholera with Dr. A. M. Meade as principal speaker to discuss methods of control and preventing spread of disease. Much interest taken and evidence of desire to cooperate." - Smith, Macon County.

Anti-Hog-Cholera Serum Depot. "Some farm bureau agents have been approached by commercial concerns relative to distributing anti-hog-cholera serum. Briefly, there are many factors, some of which are local in character, which need be considered in this undertaking. If it is the idea to save money for the stockman, we believe the veterinarian will encourage the undertaking, but if it eliminates the assistance rendered by the veterinarian, a certain injustice to live stock industry may follow. If serum distribution is of such vital importance in the swine disease situation, it is suggested that large quantities of serum and virus be purchased thru such channels as veterinarians and stockmen feel will appreciably reduce the cost without attempting, however, to eliminate the services of a competent veterinarian. Serum might be purchased for a group of counties at wholesale figures.

Farm Bureau agents in the capcity of serum agents may be able to render service, but as a general policy under Illinois conditions there is no apparent reason why the time of the farm agents should be devoted to the distribution of hog cholera serum, especially when it is realized that competent veterinary service is indispensable in stock-raising communities. One farm bureau agent has so aptly said, 'We need more competent veterinarians', and there is no agency in the state that can render more valuable aid in securing proper veterinary service than the farm bureau. Any action relative to the establishment of serum depots will necessarily involve the support and cooperation of the practicing veterinarians, if the best protection against hog cholera and other destructive animal disease is secured." - Robert Graham, Professor of Animal Pathology, U. of I.

Red Rock Wheat in Saline. "Small amounts of Red Rock wheat are being put out for trial on various farms to test its yielding ability, under our conditions. Last year Red Rock did well in comparison with other varieties in the county. If it maintains its stand another year, we will feel that it will be a successful variety." - Price, Saline County.

Corn in the Silo. "A high percent of the corn which has been raised in Jackson County, exclusive of the Mississippi bottom region, has been put into the silo. In many instances a large acreage was required, many devoting all the corn they had to that purpose. Much corn will be shipped in from the corn belt."- Thomas, Jackson County.

Lack of Organization a Detriment. Some unorganized Chester White breeders in one of the northern Illinois counties recently held a sale. Quite a number of inferior individuals were put up for sale. Some were undersized and improperly fitted. Others should have stayed in the feed lot. This detracted materially from the success of the sale. The consigners were not very well pleased with the outcome, but showed the right spirit by forming an organization to take proper care of such matters in the future. A visiting County Adviser says: "I believe this sale was a good lesson to some of the local breeders."

Hog Feeding Demonstrations.-"Two meetings were held in the Farm Bureau office Saturday of this week, one was for the purpose of planning some hog-feeding demonstrations. A meeting was called of all the live stock committeemen for the purpose of explaining the work to them and to get their assistance in securing cooperators. About twelve townships were represented at this meeting and each man present agreed to secure demonstrators in his territory. The object in this work will be to get the demonstrators to keep accurate records of feed used and gains made, from the time they put the pigs on full feed until they are practically finished, at which time visits will be made to these farms and meetings held." Gougler, Adams County.

The Duroc and Poland China hog breeders are going to have a hog day, Thursday, October 30th. The purpose of this meeting is to give the breeders instruction in selecting gilts for breeding purposes. There will be four or five gilts and the same number of aged sows brought to the Fair Grounds by the farmers, also a few male hogs of each breed. The farmers will be required to select the best hog from each class and then Mr. Smith will judge the hogs, discussing the good and bad points of each. We feel that the farmers can secure more ideas by this method than by the lecture method often used at farmers' meetings." - Pollock, Edwards County.

Much Hessian Fly in Early Sown Wheat. "Reports in the St. Louis papers that farmers about St. Louis have been advised to plow up their wheat, due to the very heavy infestation of Hessian Fly, make our farmers feel glad they delayed sowing. Rain since Oct. 8 has interfered with sowing considerably, but the last two days have been fine to push the work. Reports from Washington County indicate that there is lots of fly in their wheat also, as it was early sown." - Doerschuk, Randolph County.

A County Adviser gets it "either going or coming". "Due to the continued rains many men have not completed wheat seeding. I am afraid it will have a tendency to discourage the ones who have been induced to wait until the fly free date. I have heard of a number who have jokingly said they intended to sue me for damages." - Thomas, Jackson County.

Two new circulars have recently been issued by the Illinois Experiment Station. These were both written by J. W. Lloyd, Chief in Olericulture. They are No. 237 - "Some Economic Aspects of Fruit and Vegetable Storage", and No. 238, "Is Cooperative Marketing of Horticultural Products Applicable to Illinois Conditions?" Both are ready for distribution thru the College of Agriculture, Urbana, Illinois.

Getting Grain Cars. "Bluff Springs elevator company reports receiving 16 cars at a rate of 2 per day beginning about Oct. 1, following an investigation of conditions and a report to A. N. Steinhart, Secy. of the State Association of Farmers' Elevators." - Dickenson, Cass County.

East St. Louis District Conference. "The East St. Louis District conference was held in the rooms of the Chamber of Commerce, October 20 and 21. The main subjects of discussion were the limestone situation, the handling of an increasing membership, the chinch bug situation, and making more efficient use of the extension specialists. The subject of office organization and management was also discussed, both with the Advisers and their office assistants. This was the first conference attended by the stenographers, and it seemed to be the opinion of all present that they got many valuable suggestions from the discussion. The Chamber of Commerce of East St. Louis gave a dinner for the Advisers Monday evening. Luncheon was served Tuesday at the National Stock Yards, and a trip made thru these in the afternoon." - G. N. Coffey.

Springfield Conference. "The conference in Springfield was held Thursday and Friday, with practically all of the Advisers in this section present. Very much the same subjects were taken up as at the East St. Louis conference, with the exception of the limestone situation. Committees were appointed at this conference and made reports covering different phases of the discussion. It is expected that these reports will be sent out to the men at the other conferences as soon as they can be prepared. A banquet was held in the evening, at which several short talks were made. A number of office assistants also attended this conference and seemed to feel that it was of very much benefit to them." - G. N. Coffey.

Limestone. I have just learned recently that Union County will use almost the entire output from the Anna quarry. The superintendent advises me that about 100 tons are being hauled from the crusher each day, besides the stone that goes out in cars.

"In addition to the output from this quarry, farmers in the southeast part of the county are hauling considerable stone from the quarry at White Hill in Johnson County. Furthermore, we have six portable crushers, one of these is to be used for commercial grinding. One community has just closed a contract with the owner of this machine for 1800 tons per year for several years. In another community 350 tons of quarried stone will be ground by this machine. In still another community, another man is about to send in an order for a large size crusher. The owner of still another has recently bought a good outcrop of stone and will grind for farmers in his vicinity. The question with us is, not how much stone we can use, but how much we can get." - Durst, Union Co.

Two new Farm Bureaus.- Seventy-five counties in Illinois now have Farm Bureau organizations. Two new ones were recently organized. On October 10, the farmers of Marshall and Putnam counties formed a joint organization, called The Marshall-Putnam Farm Bureau, with headquarters at Henry, Illinois. Over 600 members were secured for a three year period, with checks covering membership fees signed in advance. All the work was done by local farmers in about ten days time.

One week later, October 17, the permanent organization of the Stark County Farm Bureau was formed with nearly 600 charter members. This work was also done by local farmers in the various communities in one week's time. The office will probably be located at Toulon, Illinois. Both counties expect to begin work about January 1, 1920.

Cass County to have New Office.-"The Farm Bureau has rented a good ground floor building and expects to be moved into a decent office in another week." - Dickenson.

The Extension Messenger

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UNIVERSITY OF ILLINOIS — URBANA, ILLINOIS

Vol. II November 5, 1919. No. 45

Funeral Service for Dr. Hopkins. - The body of Dr. Cyril G. Hopkins has reached the United States. It is being brought to Champaign by Captain George J. Bouyoucos (a graduate of the University of Illinois and a native of Greece), who accompanied Dr. Hopkins during his entire trip thruout that country. The funeral service will be held at 3 P. M. Friday, November seventh. It is planned to hold a memorial service at the University a little later.

Phosphorus on Yellow Gray Silt Loam in the Corn Belt. - "Phosphorus has produced very striking results on the ordinary yellow gray silt loam timber soil of the Corn Belt, as shown by the results from the Antioch Soil Experiment Field. This experiment field is located near Antioch, Lake County. The work was started in 1902 and has been running continuously since. The phosphorus used was in the form of steam bone meal and was applied in four different combinations at the rate of 200 pounds per acre per year.

The total increases due to the application of phosphorus have been 88.20 bushels of corn, 47.17 bushels of oats, 31.30 bushels of wheat, .80 of a ton of clover hay, and .32 of a bushel of clover seed. Figuring corn at $1.00 per bushel, oats at 50 cents, wheat at $1.50, clover hay at $15.00 per ton, and clover seed at $12.00 per bushel, the total increase has been worth $174.58, or at the rate of $109.11 per ton of steam bone meal. Steam bone meal can be purchased at the present time for about $44.00 per ton. For every dollar, therefore, spent for steam bone meal an increase of crops worth about $2.50 has resulted."-Readhimer.

Galesburg and Champaign Conferences.- The last two of the series of sectional conferences were held last week, the one at Galesburg on October 28 and 29, and the one at Champaign October 31. All of the advisers, excepting two, from the respective districts attended the meeting and pronounced them well worth while. It was the plan to make these meetings very informal to permit of the free discussions by all the advisers of their own several problems, and as a result, the men drew round the council table and discussed the topics of the day without reservation. "Dave" Thompson was present at all the conferences, to discuss certain special problems in which the advisers are particularly interested at this time. Mr. Wilson, State Seed Analyst, told of the new State Seed Analytical service. The presence of a large number of the office secretaries at Galesburg and Champaign made the special sessions on office organization and management exceedingly interesting and valuable. One session at each conference was given over to actual explanation and study of the equipment and arrangement in a modern up to date office.

"Farm Accounting Schools have already been asked for in 19 counties. Most of these schools are for three days. The new Farm Account Book will be off the press as soon as possible. This will be about December 1st." - J. B. Andrews.

Federal Veterinarians. The following is the list of Federal veterinarians working on hog cholera control in Illinois: List furnished by James McDonald, Inspector in Charge, Springfield, Illinois.

Name	Location	Address	Counties
T. L. Bayler	Bloomington	The Durley Bldg.	McLean, DeWitt, and Livingston
L. H. Clark	Carlinville	General Delivery	Macoupin, Greene, Jersey, Calhoun, and Montgomery.
H. L. Deuell	Peoria	404 Federal Building.	Peoria, Stark, and Tazewell.
I. N. Habecker	Dixon	General Delivery	Lee, Stephenson, Winnebago, JoDaviess, Carroll, Ogle, and Whiteside.
A. M. Meade	Decatur	P. O. Box #375	Macon, Piatt, Shelby, Moultrie, and Christian.
R. E. Wood	Monmouth	P. O. Box #155	McDonough, Warren, Henderson, Hancock, and Mercer.

Circular on Blackleg. The Montana Experiment Station has just issued circular No. 86 which gives a very comprehensive discussion of blackleg, the disease which has caused heavy losses to young cattle in Montana. The circular takes up in order the following topics: nature of the disease, cattle affected, when disease is most prevalent, symptoms of blackleg, appearance after death, disposition of the carcass, diseases confused with blackleg, what vaccine to use, and how and when to vaccinate. The text is illustrated by photos taken of animals in various stages of the disease, and by pictures of instruments for vaccination and methods of vaccination.

Successful meetings can be held even in the rain. Adviser Phillips of Greene County reports two feeding demonstration meetings which were conducted by Mr. E. M. Clark of the University Dairy Department. Phillips said: "It rained incessantly but notwithstanding this fact, we had an attendance of about 15 men at each place. This shows that men will attend meetings if they are sufficiently interested in the program, no matter what the weather may be."

New Office Rooms. Adviser Logan of Crawford County is happy over his new working quarters. He says: "Our Board of County Supervisors has recently granted us the use of two good rooms for a new office location and during the past week necessary modifications have been made and we have taken possession. This is a great improvement over the office originally occupied. We now have a private office, an outer office, and considerably more filing space."

Excessive rainfall in the southern end of the State did a great deal of damage. The following are a few squibs from some of the County Advisers in that section:

"It has been raining continuously since last Saturday, causing all the creeks to overflow. Many farmers lost heavily by having their corn washed away. The creek bottom corn was the best we had this year, and floods took most of it." - Tate, Monroe County.

"Very excessive rains all week washed newly sown ehat fields badly. Fields of bottom corn were washed away. Our best corn was in the bottoms and much of it is lost." - Doerschuk, Randolph County.

"Between six and seven inches of water fell in Greene County during the past week. Most of it soaked into the ground. This will go a long way toward making up our depleted soil mositure." - Phillips.

"Continuous heavy rains during the past week have flooded all creek bottoms and made roads almost impossible." - Rehling, Clinton County.

"We have applied so much lime in our county this year that it is discoloring the waters of the Wabash and Bonpas rivers. Some farmers are reporting that they have heavy applications of lime on some of their fields which came down from hillside farms up river. Up to the present time we have had about 8 inches of rainfall." - Pollock, Edwards County.

Mr. O. D. Center took up his work as adviser of McLean County on Oct. 20, 1919. Much credit is due Mr. G. C. Johnstone, President, and Miss Mary Shade, Assistant Secretary of the McLean County Association, for keeping much of the work going during the interim between Mr. Thompson's leaving last March and Mr. Center's coming in October.

Pike County at work. Mr. Otis Kercher, who had expected to take up the work as Farm Adviser in Pike County in October was delayed on account of sickness. He began his work on November 1st, with headquarters at Pittsfield, Illinois. Mr. Kercher is a graduate of the University of Illinois and was State Leader of Boys' and Girls' Club work in the State of Kentucky before coming to Pike County.

"Recent sales of Duroc Jerseys, Poland Chinas and Chester Whites held at County Fair Grounds by the LaSalle County Hog Breeders' Association were well patronized. The 29 breeders who consigned to the sales are well pleased with the bidding done by the buying public, especially in the face of the scandalous recent drops in the price of market hogs. The average price paid for 41 head of Durocs was $63.22; average of 44 head of Poland Chinas was $80.85, and for 34 head of Chester Whites was $72.35. The top Duroc Jersey sold for $110., the highest Poland China brought $150. and an aged Chester White sow sold for $250. 23 head were purchased by buyers within the state but outside the county, and 4 head by buyers from two different states." - Brooks, LaSalle County.

Hog Sales in DeWitt County are reported by Adviser Johnson as follows: "We held our Chester White Association Sale, October 27th, and although we only had an average of $39.50 I consider we had a satisfactory sale, considering the declining market and the bad weather we have had to contend with. Some of the animals were not up to standard but the men have gained considerable experience in this sale and will offer better animals next time. The Duroc Jersey sale brought an average of $59. The demand is greater here for Duroc Jerseys than for Chester Whites, and furthermore the market was on an upward trend. The Poland China Sale to be held will have the best individuals of the three sales."

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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Busy Illinois paused to pay last respects to her beloved son, Dr. Cyril G. Hopkins, when on Friday, November 7, a most impressive devotional service was held in the University Auditorium. The sentiments of the many friends and admirers were expressed by Dean Eugene Davenport, Acting President David Kinley of the University of Illinois and Rev. S. E. Fisher of the University Christian Church.

Dean Davenport in a brief outline of Professor Hopkins' mighty accomplishments declared that "his contribution as a scientist to the world may be described as having secured the prosperity and comfort of the state of Illinois for centuries to come". Reference in this statement was made to the invaluable discoveries of Professor Hopkins in his life-long research work in soil fertility. "It is not enough to say that he was the world's foremost authority on soil fertility" asserted Dean Davenport. "There was no second, no third, no fourth. He was worth millions of dollars to the State."

Recalling Professor Hopkins' efforts in the present world struggle, Dean Davenport said, "He took the war very personally, felt very deeply its seriousness and was almost unconsolable because he could not engage in the active fighting. Then came this opportunity, far greater, and he took it."

Phi Lambda Upsilon, honorary chemical fraternity of which Professor Hopkins was an honorary member, attended the services in a group. Interment of the body took place in Mount Hope cemetery following the convocation.

Executive Committee Outlines Season's Work. "Stephenson County recently completed a membership campaign which increased their membership from 500 to 1600. At the regular Executive Committee meeting on November 1, it was the opinion of every one that the new Farm Bureau members must be given service. The Committee decided that personal contact with members should be secured by adviser whenever possible and that the following types of service should be taken up at once. (1) Arrange for a regular series of office days in different parts of county. (2) Arrange for a series of group community meetings to discuss the problems of the various communities and plan for next year's work. (4) Emphasizing frequently to members that the responsibility for securing service rested upon them and that farm visits or other service should be called for when needed. (5) Every member is to be kept fully informed as to the work of the Bureau by sending them a report of the monthly proceedings of the Executive Committee. The Committee fully appreciates the added responsibility as well as the opportunity for service afforded by the larger membership they now have. With this co-operation, Baumeister and his assistant will see that things move in the right way." - Bilsborrow.

Twenty cars of ear corn are wanted by Maurice E. Miller, County Agent, Charleston, Mississippi. Quote him prices if you are interested.

Thru Greece with Dr. Hopkins. "Dr. G. J. Bouyoucos, '08, who was with Dr. Hopkins in Greece, gave a little talk to the members of the Agronomy Department and others about Dr. Hopkins' last work. He discussed the general features, topography, soil and climate, then went into some details as to the Doctor's handling of these problems.

Greece is very mountainous. Save for a few plains in Thessaly, the farms are in narrow valleys and basins and sometimes on mountain tops a thousand feet high. The fields are very small, the soil is but a few inches deep over rock; work is almost all done by hand and the farms have been operated for thousands of years. The rock out-crop is chiefly limestone and on most soils, lime is not required. Some deposits of finely powdered limestone have been found, in one case within one-half mile of a tract requiring lime. The soil is largely alluvial, clay and clay loam, and is very poor. The climate is mild, not so cold as central Illinois; the summers are warm, but not oppressive as the atmosphere is dry. Northeast breezes are caused by the suction over the Sahara Desert. The dry summer is often disastrous, if hot winds catch wheat in the milk it is ruined. Enough rain falls, 33-35 inches, but it is almost all between October and April. The farmers live in villages and go out to their scattered farms sometimes having to arise at three to get to their fields by seven. Machinery as well as methods are very antiquated and much hand work is required even when machines are used. Plows are of a thousand year old type and do not turn the soil but simply push it aside. Grain is harvested with sickles, then is taken on the backs of animals to the village, there to be tramped out by horses on a paved floor. When the straw is reduced to fine particles the whole is tossed up in the air so the wind can blow out all but the grain. Very little fertilizer has been used. The principal crops are wheat, olives, currants, figs and tobacco.

Dr. Hopkins made a general tour first, then special trips to different regions, including a thorough soil examination, spending several days at each place. Borings were made, acidity tested and samples shipped to Athens where 80 composite samples were tested. Chemical analyses were followed by confirmatory pot cultures and field tests. Nearly all the soils were deficient in nitrogen and phosphorus. Clover had not been grown to any extent but was not started in field work and some seed given farmers. The clover was turned under and millet sown with remarkable effects due to clover. As a result of this work, Dr. Hopkins made many valuable suggestions. A report was published in English and in Greek. His work was so much appreciated that the government of Greece made every effort to keep him there for a term of years. The people idolized him and many said "He is a God", - A. W. Jamison.

"Eighteen cars of phosphate came into the County last week to go into our phosphate bins. The bins seem to be highly successful in that the phosphate can be put into them with a small amount of labor, and it is convenient for the farmers to get it at any time. The use of phosphate will be more than doubled in Kankakee County this year." - J. S. Collier

"The Corn Growers' and Stockmen's Convention or two week's course in agriculture will be held at the University January 19 to 30, 1920. The work offered will consist of lectures and laboratory exercises arranged to meet the needs of young men and farmers who can spend but a limited time away from home. Systematic instruction will be given in stock judging, study of soils and farm crops, dairying, and farm mechanics. A number of lecturers of prominence will be present. This work is designed to meet the needs of busy farmers. No fees or examinations are required, and the only expense of this meeting will be that of travel and living expenses while here. A special announcement and detailed program is now in preparation. This will be available early in January and a copy may be secured by addressing the College of Agriculture, Urbana, Ill." - F. H. Rankin.

Do You Want your Circular Letters to be neat, attractive, forceful? Read this item, written at our request by Miss Glover, who spends most of her time every day making agricultural news and experimental data readable and attractive.

Speaking of Limeographs-- Have you provided your office with a machine that will do the work? Have you provided a stencil that is practically failure proof (silk composition)? Have you provided a paper that has "body" and is absorbent enough to take the ink but not so rough as to take it only in spots? You know what happens when you ride over the rough country roads--you hit the high spots--so does the ink when the paper is rough.

A Good Heading. A news letter should introduce itself immediately to its readers. This means that it should carry a well-arranged and conspicuous heading. Such a heading should show the full name of your bureau, the date, the town, perhaps the number of the letter, your telephone number, and your office hours.

Topic Headings. Use freely. They are the most effective means of catching your readers' interest. We like to know what a speaker's subject is before he begins to talk.

Paragraphing. Use too many rather than too few paragraphs. Line after line of solid reading matter, without a break, is tiresome.

Space. The intelligent use of space--"white space" as the printer calls it--is more valuable than the ideas that might be crammed into it. Leave double space between paragraphs. Give all center headings a comfortable amount of space. Leave approximately inch margins at the sides of the page. Remember that the closer together are printed lines and the smaller is the type, the shorter must be the lines (the wider the margins). Inch margins should also be left at the top and bottom of the page.

Clear Inking. Above all points, see that the ink takes. This may sound trite to some. It doubtless would not sound so to many of the farmers who read (or try to read) some of the news letters we have seen.

Query.-- Why use a good automobile to visit the members of your bureau, and then use a rickety cart for conveying information to them?"- A. C. Glover, Secretary, Agricultural Experiment Station.

Good Cows Make Real Money. Figures tell the truth. Read for yourself what a cow testing association has done in Lake County. "Lake County Number 2 Cow Testing Association was organized November 1, 1917, and Mr. Richard Williams was secured to do the testing. Two hundred and sixty cows having a record for ten months or over, averaged 7,473 pounds milk, and 283.47 pounds of butterfat. The highest producing herd averaged 7,333 pounds milk and 322.65 pounds butterfat. The highest producing cow was a grade Guernsey owned by H. A. Eggers. She produced 10,219 pounds milk and 554.88 pounds fat. Considering the fact that the average production of dairy cows in Illinois is between 4,000 and 5,000 pounds we will agree that the average made in this association the first year was pretty good. Needless to say, the association was reorganized. During the second year, three hundred twenty-one cows having a record for nine months or over, averaged 9,344 pounds milk and 348.5 pounds fat, an average increase over the first year of 1,871 pounds milk and 65.03 pounds fat. Figuring the increase in milk at $3.26 per hundred pounds, we would have $15,858.60.

The highest producing herd is owned by Hawthorn Farm, forty-five head averaged 10,080 pounds milk and 429.4 pounds fat. The highest producing cow is a purebred Holstein owned by Rouse Brothers. She produced 18,729 pounds milk and 706.03 pounds fat.

The members give the credit for this improvement to Mr. Williams, the tester. If anyone is in doubt about testing, write to the members of Lake County Number 2." C. S. Rhode, In Charge of Cow Testing Associations.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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Organizing a National Farm Bureau Federation proved to be a most interesting event. There were many entertaining as well as instructive moments during the discussion which was marked by heat and fervor thruout the entire three days of the session held in the Red Room of the LaSalle Hotel in Chicago. About 500 were in attendance and they sat on the edges of their chairs most of the time, lest some point in the discussion might escape them. In all, 31 states were represented by delegates. A constitution was finally drawn up and approved, and temporary officers were elected to serve until the new association is ratified by a sufficient number of states to put it on a permanent working basis. Temporary officers elected were: J. R. Howard of Iowa, president, and S. R. Strivings of New York, vice-president. The secretary and treasurer will be elected by the Executive Committee. These men will hold office until March 3rd when the permanent organization will be launched.

Hessian Fly infestation becomes more noticeable. Kercher, of Pike County reports his investigation as follows: "In company with Mr. Chandler we visited a farm near Pittsfield and found one wheat field which had been sown on Sept. 20, which had a 100 percent infestation of hessian fly. Every part of the field was examined and a number of tests and counts were made. In each case it was found to be a 100 percent infestation. Each stalk had from three to four, or as high as six or eight hessian flies in the flax seed stage."

Adviser Higgins reports his experiences regarding hessian fly infestation. He says: "I have found some fields that are very badly infested. In fact, the wheat is almost killed at the present time. In one field we were unable to find a single plant that did not have at least six or more of the larvae in the flax seed stage. The fields that were seeded after the fly-free date for this county do not seem to be very badly infested, altho it is possible to find some flies even in those fields." Moultrie County.

"Corn husking has been very badly delayed on account of rainy weather, but reports indicate that more than half the crop has been harvested. The yield will not be as good as first estimated, the county average being perhaps 35 bushels. Corn is of good quality. Many fields of early seeded wheat are dying, due to the effect of heavy infestation of flies." - Lumbrick.

Where is that Seed Corn being stored? Winter's blast of cold is yet to come and many a kernel of corn is destined to be blasted by it, unless due precaution is taken to dry and protect it. A windmill frame, the limb of a tree, the side of the barn, or even the back porch rafter is not a choice seed-corn storage house. Remember one ear of corn gone to the bad and planted in your field next year might mean 300 hills lost. That means 1/13 of an acre. Think it over!

Phosphate Elevators. "On our way to the organization meeting in Chicago we gave one of Collier's phosphate elevators the 'once over'. It looks good to us and we plan to have three or four in Ford County another year." - Fersman.

Woodford County Seed Business Prosperous. "Our seed business is coming along very nicely. The prices at which we are having to sell this seed seem very high, but when the men see the amount of dirt and very low grade seed taken out of the ordinary marketable seed, they do not hesitate to place their orders. It is the seeding of the dirt and inferior seed removed from the ordinary seed stock, rather than seeing the recleaned seed itself, that convinces men of the increased value. It is hard for a man to believe that there is so large a proportion of dirt and poor stuff in ordinary good looking seed as there really is. They are convinced however, when they see the dirt running out of the seed mill." - Mosier, Woodford County.

"About 600 acres of orchard are being set out in Johnson County this fall. Probably many more acres would have been planted if the trees were not so scarce. The Farm Bureau office has taken orders for 106½ tons of nitrate of soda. Many of the orchard men who have never used nitrate before, are planning to use it next spring." - McGhee.

"Mason County Duroc Breeders are planning for a bred sow sale sometime this winter. The members of the Association are enthusiastic and plan to put into the sale ring nothing but the very highest class individuals. We are pleased to note this interest in livestock work and are expecting great results from their efforts in the future." - Isaacs.

"Cattle feeders are buying with comparatively little hesitation. A large number of cattle will be fed this winter in Pike County." - Kercher.

Feeding corn needed in Richland County. "Inquiries are beginning to come in for corn for livestock feeding. A large amount of corn will have to be imported into this county." - Piper.

Kendall claims culling record. In speaking of his work in Morgan County, Adviser Kendall says: "Some of our farmers are certainly determined to get their money's worth. I have had requests to cull farm flocks of poultry until I am thoroly tired of the job. Ordinarily, I have turned these into demonstration meetings, but in one instance, the meeting resolved itself into the county agent and the farmer's wife catching those chickens in the dustiest hen houses I ever encountered. However, I have worked up a speed record in the matter of flock culling that I am going to offer as a championship until some fellow goes me one better. I have handled 225 hens in one hour and a quarter." - Who can tell a better one?

A. H. Grunewald is the new assistant in Warren County, Grunewald is a graduate of the University of Illinois. He spent two years in overseas service before taking up his new work.

"President C. H. Baker, of the Saline County Farm Bureau was accidentally drowned on Saturday, November 8, while on a hunting trip down the Mississippi. It is a severe loss, both to the county and to the farm bureau. Mr. Baker was one of the foremost young men in all progressive moves. He will be missed keenly in the farm bureau work." - Price.

Farmers' Institute cooperates with County Farm Bureau. We cite the experience of Greene County which probably represents the situation that exists in many other counties. It seems to us a most commendable one: "We have assisted the officers of the Farmers' Institute in arranging a program for the county meetings for December 2nd and 3rd. In fact, it seems as if the Farmers' Institute is leaning rather heavily on the farm bureau for pushing the institute work. We are not altogether displeased with this because we feel that it is of very great importance that these programs be properly arranged and carried out. However, we shall try to throw as much of the burden back on the officers of the institute as possible for we think it will be a very good thing if they can feel that they are really doing the job themselves. With the farm bureau working on the problem we think a first class institute can be staged. We have the means for advertising the same and can put some 'pep' into it. We did it last year and had a full house." - Phillips.

A caution in calf club work. "A few weeks ago one of the bankers in Crawford County undertook to promote a dairy calf club thru the cooperation of certain individuals. He secured a lot of thirty-one holstein heifers, all of which had been spoken for by boys in the community. In testing these heifers last week, it was found that quite a percent reacted to the tuberculin test. In view of this fact, the Farm Adviser and one other member of the appraisal committee refused to have anything to do with distributing calves to the boys. It is impossible to say what disposition will be made of the calves, but the experience should teach inexperienced men to either leave this sort of thing alone, or have the cooperation of some reliable local men." - Logan.

Cholera in Stephenson County. "Three herds with cholera necessitated calling a government veterinarian on the job. These cases were in two widely separated areas. One herd had been seen by two local veterinarians who did not discover that the case was cholera. I think this emphasizes the advisability of a County Agent playing safe in diagnosing cases of swine disease." - Baumeister.

Service from the Departmental Advisers. A recent letter has brought information to the County Advisers regarding the proposed service to be rendered by Mr. J. C. Hackleman, Departmental Adviser in Crops. This is probably the first time this proposition has been put in writing. The advisers seemsto appreciate this announcement and we understand that the other departmental advisers are planning a similar outline of the assistance they can render in their respective department.

Leap Year is much in demand in Warren County. 'Tis well that 1920 is so near at hand. Could you believe it?. The County Adviser, the Assistant Adviser, the President and Secretary of the Warren County Farm Bureau, are all single men. Some quartet! We hesitate to publish this for fear all the farm bureau stenographers will want to stenog in Warren County.

What are you doing with those old straw stacks? Are they standing in the field corner or hill side lot to rot and soop away, or are you spreading them back on the field, or using them for bedding of live stock to further conserve excrements which might otherwise be lost. We have heard occasionally of a straw-stack being used to make a gigantic bonfire, but we cannot conceive of such a thing being other than accidental, in any section where the Illinois idea of maintaining soil fertility is known.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. II November 26, 1919. No. 48

"The National Association of Farm Advisers will meet at the Livestock Record Building just outside the International Livestock Show grounds in Chicago, on the afternoon of December 1 and 2, and a dinner will be arranged for the evening of the 2nd. All Farm Advisers are invited to attend all the sessions. The meeting on the second day and the banquet will be open to the public. Mr. J. R. Howard of Iowa and D. O. Thompson of Illinois, will be the chief speakers." - E. B. Heaton, President of the National Association of Farm Advisers.

Iroquois holds the honor. The largest Farm Bureau in the United States at present is in Iroquois County, Illinois. There are 2750 members in both associations, the local Farm Bureau and the Illinois Agricultural Association.

It pays to immunize. "The hog men were treated to an unprepared, unexpected, but nevertheless, vivid demonstration. Few of the breeders were in favor of immunizing. At the sale, November 3, two individuals of the Poland-China breed were consigned by a Poland breeder. Shortly after the sale both animals took sick. The one bought by a man south of Freeport died shortly and the other was killed and posted by the Federal veterinarian. Both had cholera. The herd from which they were consigned went with cholera, excepting a few immunized individuals that the breeder had purchased." - Baumeister, Stephenson County.

Communities cooperate to combat swine diseases. "The Farm Bureau members of two townships in Mercer County met Monday afternoon for community action on the swine disease situation. Several local veterinarians were present and gave valuable discussions on disease prevention and control. Dr. R. E. Wood, assistant Federal veterinarian led the discussion and presented the seriousness of the hog cholera situation. The meeting went on record as favoring community action in the control of these diseases. Those present who had any swine disease on their premises carried home a red card on which was printed; "Sick Hogs". It will be tacked in a conspicuous place for the protection of other farmers. Those whose farms are free from disease carried home a white card on which was printed the following: "This farm is free of hog cholera and is taking every precaution against its spread. If you have sick hogs, or have been in infected territory, kindly take all sanitary precautions before entering these premises". Richey, Mercer County.

Dairy Feeding Demonstrations. "Mr. Clark of the Dairy Department gave two dairy feeding demonstrations here in the county yesterday. The meetings were best attended of any demonstration meetings we have ever held and a great deal of interest was shown." - Tate, Monroe County.

Let's all go to the International Livestock Exposition at Chicago Nov. 29-Dec. 6.

HOW FINE SHOULD LIMESTONE BE GROUND? EFFECT ON THE SOIL.

The question of the degree of fineness to which limestone should be ground for addition to acid soils has been a debated question ever since limestone has been used for this purpose. The question is still a much mooted one and is one on which there is no unity of opinion among soil investigators in the various states. There are several points from which the question should be considered. The finer the limestone is ground the more evenly can it be mixed with the soil and the more quickly perhaps will the soil acidity be destroyed. But the finer the limestone is ground the greater will be the cost of the material. It, therefore, becomes an economic question as to how fine the material may be ground and should be considered both from the point of view of efficiency and cost of material.

Fortunately the question has been exhaustively studied by the Agronomy Department of the University of Illinois on the Newton Experimental field in Jasper County. Illinois limestone of varying degrees of fineness have been used and the effect on the soil and crop studied. The grades of limestone used were as follows: (1) 1/4 inch mine run material including all material passing thru a 1/4 inch screen; (2) a specially prepared material which passed thru a 1/4 inch screen but was held by a 1/10 inch screen i.e. it contained no fine material at all; (3) all material passing thru a 1/10 inch screen; (4) all material passing thru a 1/50 inch screen, and (5) burnt lime. The effect of these 5 grades of material in neutralizing the acidity of the soil was studied in 1916, 3½ years after the initial application of limestone. Analyses were made of soil collected from the various plots and the limestone remaining and acidity destroyed were determined with the following results:

Results as pounds per 2,000,000 of soil.

Degree of Fineness	1/4 inch down	1/4 to 1/10 inch	1/10 inch down	1/50 inch down	Burnt Lime
Yearly application	Limestone Remaining in the Soil. 3½ years after initial application.				
Light application 500#	617	1151	631	272	392
Medium application 1000#	1613	2117	1025	659	648
Large application 2000#	3899	4776	3558	3545	1822
	Pounds Acidity Destroyed in the Soil.				Measured in terms of pure limestone (calcium carbonate) required to neutralize it.
Light application 500#	631	620	709	637	746
Medium application 1000#	863	1059	925	855	1006
Large application 2000#	1368	1443	1458	1492	1634

These results are very significant and show clearly that the various grades of limestone have all been very effective in neutralizing the soil acidity. There is very little choice with respect to the various grades so far as the effect on soil acidity is concerned. It is very surprising that the specially prepared

material 1/4 to 1/10 inch material which contains no fine limestone has been so effective in neutralizing the soil acidity. It must be remembered that the applied limestone is not mixed immediately with the surface soil but must take place slowly and is brought about by means of the ordinary farm operations, such as plowing, harrowing, discing and cultivating. The 1/4 inch material, therefore, which furnishes some extremely fine material for immediate use and the coarser material as a reserve for future use seems to be,--when considered in connection with the cost, and effect on the crop, the best and most economical form to use for addition to acid soils. For these reasons this grade of limestone has been adopted as the standard in the Illinois System of Soil Fertility." - Robert Stewart, Professor of Soil Fertility, University of Illinois.

Editor's Note- Many requests have been made for a concise discussion of "the fineness of grinding of limestone proposition". Accordingly, we have asked Dr. Stewart to prepare this summary and also a discussion of The Effect on the Crops which will appear in next week's issue. Detailed report of "Limestone Action on Acid Soils" can be found in Illinois Bulletin #212.

"Limestone is piling in on back orders now and some parts of the county are fairly white with it. In the vicinity of Raleigh it is almost impossible to get outside the gleam of the white piles. It looks as if we would have something like 100 cars piled in the county to begin the season with next year and all of this has been secured at the 1919 price. This will save the farmers of the county thousands of dollars." - Price, Saline County.

Black Diamonds give way to Egyptian Sugar. "Altho the strike is deplorable, not all coal cars are idle. Since the strike was declared it has been possible for many cars of limestone to be delivered which otherwise would probably have been hauled sometime during the cold, frozen days of December. And he who has tried to unload a car of frozen stone doesn't want to repeat the experience, either from the standpoint of work or expense. Every freight train has its car or cars of 'Egyptian Sugar'. Every switch is apparently visited daily by teams that are hauling it. At one of these places where the stone is being delivered almost daily. four cars were being unloaded on Monday of last week. A 'believer' who was hauling out a 55 ton car, most solemnly declared that the 'experiment field' has been worth a million dollars to this county'. I didn't say anything but I marvelled at the thought of the several figures he would have to use to express himself, if his county would fasten itself onto a Farm Bureau." - H. F. T. Fahrnkopf.

"Dolese Shepherd Co. have been shipping in a brown colored limestone which they claimed was as good as the white. Our farmers have been a little bit prejudiced against it but after 5 analyses of as many different car loads, I find that the stone tests from 92-99 percent pure." - Hay, Christian Co.

Why Work in the Dust? Adviser Pelting submits the following comment:- "Adviser Kendall of Morgan County needs to do a little missionary work, evidently, for he worked in dusty hen houses in culling hens. I work on the outside, letting the farmers work inside. I have more calls than I can fill for culling chickens." Ye P.D. adds:- "Kendall might go him one better and educate the farmer to improve poultry house conditions so there would be no dust. Why try to improve the laying qualities and permit such abominable housing and living conditions to continue unremedied?"

Have you seen that smile on Lumbrick's face? Just ask him "How's that new boy?" and watch him smile. Somebody reported in Chicago that this was girl number six, but "daddy" insists that this one answers to the name of "Arthur".

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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A new Seed Warehouse equipped with cleaning mill, storage room and facilities necessary for proper handling of the small seeds to be used by members, is the latest project taken over by the Kankakee Soil & Crop Improvement Association, according to Adviser Collier. A livery barn in Kankakee was purchased and will be remodeled to fit the association's needs. The Association's offices will also be moved from the court-house to the new location. -

Blackleg appears again in same locality. "In one part of the county where blackleg appeared on a few farms last summer, a number of men were induced to vaccinate their young cattle. However, one farmer, who did not believe in vaccination, suddenly lost three of his young cattle a few days ago. Unquestionably, they were cases of blackleg and the owner was obliged to properly dispose of them as soon as the local veterinarian was notified." - Hart.

"The State Mutual Hog Insurance Co., of Springfield has begun to work in this county. I personally believe in livestock insurance, especially hogs. I should be very glad to hear from any county agent who has had experience in dealing with these livestock insurance companies. I am wondering whether or not they are taking the risk out of the hog business any better than vaccination and sanitation and the other propaganda of the county agent." - Kendall, Morgan County.

"The first combination hog sale held under the auspices of the Morgan County Breeders' Association contained 57 animals which sold at fair prices. The top was $195, paid for pure bred Duroc sow. A move is on foot to lease the livery barn and remodel it for a sales pavilion." - Kendall, Morgan Co.

"Poultry Culling has taken considerable time recently. I find there is a great deal more interest being taken in poultry this year than last. A good many of our members have learned to do this work themselves and are culling their flocks pretty closely. Several of them have told me that they intend to sell off all of their roosters but two or three and keep breeding pens next spring. I find also that they are doing much better work in feeding poultry this year than last. Most of our members are using either tankage or meat scrap to feed poultry. All of them report good results." - Tate, Monroe County.

"Held six poultry culling demonstrations the first of the week which were well attended. There were about 20 at each meeting. Most of them very much interested in the work. It seems to me for southern Illinois especially, we need a departmental adviser for poultry as bad if not worse, than for some of the other kinds of live stock. Were it not for the poultry on some of the farms, there would be very little income during a great part of the year." - Blackburn, Marion County.

HOW FINE SHOULD LIMESTONE BE GROUND? - EFFECT ON THE CROP.

The effect of ground limestone, of varying degrees of fineness, upon the destruction of soil acids on the Newton field was discussed in a previous article. The Newton field is located on gray silt loam on tight clay. It is very flat and does not have good surface drainage, consequently there is little loss of rainfall by run off or underdrainage. It is too wet in spring for planting at the right time and the crops grown become easily susceptible to moisture conditions, during the summer, if there is a prolonged drought. These physical conditions of the soil, fully appreciated by those who have had anything to do with this type of soil, are frequently the limiting factors in the production of crops on this farm. While all the plots, including the checks, are fully treated with potassium, phosphorus and organic matter, nevertheless there have been several complete crop failures during the six years since the establishment of the farm, due to the presence of the tight clay subsoil.

The crops which have been produced during the better years have not been very good due to the same cause. Yet the limestone when applied in addition to potassium, phosphorus and legume nitrogen has produced some increase, since the limed plots no matter what the form, have increased the crop yields over the unlimed plots. A rotation of corn, soybeans and wheat with a sweet clover cover crop is followed and a summary of the yields of corn, soybeans, and wheat obtained by the various treatments when the application of limestone was at the rate of 1000 pounds calcium carbonate equivalent per acre per year, is recorded below in Table 1.

Table 1. - Illinois Experiments. Newton Field.
Average yield of corn, wheat and soybeans as bushels per acre.

Crop	No Limestone	1/4 inch down	1/4 to 1/10 inch	1/10 inch down	1/50 inch down	Burnt Lime
Corn	8.2	12.5	11.3	10.2	8.4	7.9
Wheat	9.1	13.7	16.3	11.0	16.8	17.4
Soybeans	4.9	5.9	6.4	7.4	6.3	6.4

The data in this table is quite instructive. The yields are poor in every case due to factors beyond control as already explained. The limestone materials have had some effect in increasing crop yields. Soybeans have been only slightly affected by the limestone treatment and show no influence in favor of either grade of material. The yield of wheat is slightly better on the plot receiving burnt lime altho the yield from the plot receiving only the very coarse material is nearly as good. he yield of corn is better by 4.3 bushels from the plots receiving the 1/4 inch mill run. The plot receiving burnt lime produces actually less corn than the unlimed plot. There is no conclusive evidence from this data in favor of any of the several forms. The coarser ground material is apparently fully as effective in the production of crops as in the destruction of soil acidity, as the finer material or burnt lime and when the relative cost of material is considered it is clearly the better form to use.

An interesting and fundamental point in this connection is the effect of the applied limestone on the growth of sweet clover which is planted in the wheat as a cover crop and which of course, is not harvested, but plowed under as a green

legume manure crop. The plots which do not receive limestone materials do not produce as would be expected any sweet clover at all. Where the heavy application of limestone, one ton per acre per year, has been applied there is a luxurious growth of clover on all the plots receiving limestone. Even the plot receiving the specially prepared limestone, 1/4 to 1/10 inch material, containing no fine material, produces, so far as the eye can detect, as good a crop of sweet clover as where the finer materials have been added.

Where only 500 pounds of limestone have been added the coarse material 1/4 to 1/10 produced a fair crop of sweet clover but it is spotted. In any case where the 1/4 inch mill run material has been used the crop of sweet clover is uniformly good.

Mr. Fahrnkopf recently, November 1919, cut the clover from 4 square feet on each of the plots where high calcium limestone had been applied at the rate of 2000 pounds per acre per year. From the air dry weight of clover he calculated the yield per acre with the following results:

Fineness of Limestone	Yield of clover Tons per Acre.
1/4 inch mill run	1.00
1/4 to 1/10 inch	1.00
1/10 inch down	1.13
1/50 inch down	.94
Burnt lime	1.19
Check	none

While these are the results of only one year and obtained from harvesting a single small area nevertheless they are of tremendous significance in indicating the effect of the applied limestone on the production of clover. It is really remarkable that the specially prepared coarse material 1/4 to 1/10 inch is so effective in the destruction of soil acid and the production of crops. The effect on crop production confirms in every way the results of the previous chemical investigations. Again it may be seen that the 1/4 inch mill run material is the most economical form to use. - Robert Stewart, Professor of Soil Fertility, University of Illinois.

Limestone much in demand in Johnson County."A limestone shed is being built at Vienna; another limestone association is being formed at Ozark and the Farm Bureau has just about completed an organization for the purpose of putting in a plant at Belknap, which will have from 100 to 200 tons capacity per ton."-McGhee

"Feeding Hints for Practical Dairymen" by E. L. Clark of the Department of Dairy Husbandry, U. of I., is a very neat and valuable little booklet of 16 pages which readily fits the pocket. It contains three full page illustrations of practical methods of measuring feeds, a good list of feeding rules, some excellent feeding rations and a table listing the amount of digestible nutrients in common farm grown feeds. "A lot of dairy helps all in a nutshell" is our comment on this little booklet.

Dairymen will use better feeding rations, says Adviser Tate. "We distributed 400 one hundred pound sacks of linseed meal among 71 members of the farm bureau this week. We saved each of these members about a $1.50 a hundred by buying this meal on a cooperative plan, but I think the main benefit is that from now on they will do better feeding than has been their custom before, because with each order of linseed meal I gave full directions for feeding it in balanced rations along with the different grains which they already had." -

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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Closing the University of Illinois has become necessary because of the coal shortage brought about by the prolonged strike of the bituminous coal miners. The shortage of fuel was so serious in the residence buildings in Urbana and Champaign that the University Council of Administration decided on an immediate closing of the University till after the holidays. Because of curtailment of railroad facilities, it was necessary to dismiss students in groups approximating 1000 per day which was considered the maximum number that could be transported each day by all railroads leaving the twin cities. The exodus of students began Sunday, and will continue systematically thruout the week. "Leaving Permits" are being granted to students according to alphabetical arrangement of names. It is expected that the University will find it possible to reopen after the vacation on January 5, 1920, as scheduled. The University itself has sufficient fuel to maintain a minimum temperature thru the emergency inbuildings which must be kept warm to maintain animal and vegetable life.

A Two Weeks Short Course in Seeds will be given during the Farmers' and Stockmen's Convention at the University of Illinois January 19-30. A definite schedule will be followed which covers the subject very thoroly. Lectures will cover the breeding and selecting of pure seed, demands and needs of pedigreed seed, seed laws, control of weeds, seeds as affected by disease control, methods of making germination and purity tests, factors to be considered in purchasing seeds upon the market, seed storage insects and control, seed cleaning machinery and the relation of weed seeds to grain grading. Laboratory work will be devoted to a study of legume seeds, grass seeds, weed and crops seeds mentioned in Illinois Seed Law, seed diseases, making germination tests, purity tests, methods of cleaning, and a study of the fanning mill and scarifier. Special provision will be made for any farm adviser to take work in seed analysis if he so desires.

Use of Wood for Fuel. The present coal strike should bring to the minds of farmers and the general public the importance of the farm woodlot. It gives farmers who have timber a chance to help out the situation by disposing of the lower grades of timber for firewood, at a fair profit, which they may not be able to do in normal times. If the strike continues many days and suffering grows more acute, wood fuel committees may have to beorganized in towns near a wood supply to obtain an idea of amounts available and to regulate the cutting and price of fuel wood.

The farmer can not only clean up dying and diseased trees and those of poor form and quality and thus improve the condition of his woodlot, but he can realize a good profit on his labor and investment. He should also remember that in the present crisis, every cord of dry wood sold by him to people of his own town may mean an extra ton or half-ton of coal for some city family far from the wood supply.

The farmer who has his own supply of wood for the cutting and who wishes to go into cutting for profit may find two bulletins of the Department of Agriculture of interest just at this time. These are No. 753, "The Use of Wood for Fuel", and No. 1023, "Machinery for Cutting Firewood". Even if the strike ends suddenly, it will be some time before things return to normal and the farmer who has his own growing woodlot is practically independent. The winter is a good time to improve it and at the same time, make a profit for himself for men and machinery."- R. B. Miller, State Forester.

"Summary of Hessian-Fly Conditions Dec. 1, 1919. Examinations of Illinois wheat fields show that in northern Illinois the infestation by Hessian-Fly is about the same as in 1918; in central and southern Illinois, conditions are as follows: wheat seeded ten or more days before the fly free date is from 85% to 100% infested, with perhaps 20% to 50% of the earliest sown fields having such a high percentage of dead plants that they will probably have to be plowed in the spring. Wheat sown during the week preceding the fly-free date shows an infestation of from 10% to 90%, the heaviest infestation being in the earliest sown fields. In nearly all counties wheat sown exactly on the fly-free date shows some infestation, due mainly to the fact that wheat came up much more quickly than usual. Wheat seeded four days or more after the fly free date is clean. Practically all of the wheat that was sown on or after the fly-free date, while it may show some infestation, is almost entirely free from injury. Examinations of the fly in such wheat, made during the last two weeks, have shown that few would reach a sufficient stage of development to enable them to pass the winter. Where wheat has been sown on strong ground, it will, in many cases, pay to leave fields which are as high as 90% infested, where such plants are putting out a vigorous growth of tillers. These tillers are not infested, and if weather conditions are unfavorable to the fly at the time of the emergency of the spring brood, they will do very little damage even in fields heavily infested this fall. Should the weather favor the development of the spring brood, wheat will be heavily infested in the spring, regardless of the time of seeding this fall. It should be borne in mind, however, that this spring damage could have been avoided had all wheat been seeded at the proper date this fall." - W. P. Flint.

Value of Late Seeding. "We have a number of demonstrations which show conclusively the value of late seeding of wheat as a preventative measure against the Hessian Fly. Most farmers recognize the value of late sowing, but many of them think that two or three days difference in time of seeding will have no effect, but we have many fields which show to the line where wheat was sown two or three days later than the first seeding, bringing it past the fly-free date". - Isaacs, Mason County.

Farm Hands Admitted to Membership in Menard County. - "At the annual meeting of the Menard County Farm Bureau, the constitution was amended so as to permit a regularly employed farm laborer to become a member of the Farm Bureau, paying a fee of $2.00 per year." - Spitler.

"The Lee County Farm Bureau" is the new name of the county organization in Lee County. The Lee County Soil Improvement Association was undesirable as a name both because of its length and because of the suggested limitation of the work to soil improvement.

The value of enthusiasm can't be computed. Almost every successful enterprise owes its achievements to the presence of one or two local "self winders".

"WHAT PART SHOULD THE FARM ADVISER TAKE IN THE CONTROL OF ANIMAL DISEASES?"

This question has been repeatedly submitted in one way or another by various men in formulating a policy to guide their own activities. Disease control is one of the most important problems of any livestock producing county, and the Farm Adviser, in the opinion of the writer, can render a valuable service and mold in a large degree the plan of procedure in many instances.

It is not the function of the county farm adviser to vaccinate animals or to administer treatment, but rather confine his activities to the bigger problem of disease control, by offering pertinent advice to the owner. The danger of buying disease, the need of prompt action on the appearance of the disease, the dollars and cents value of quarantine and farm disinfection, the danger of feeding "cure-all" medicines and the advisability of calling a veterinarian early are among the important questions in disease control which the Farm Bureau Agent can emphasize in his activities.

If veterinary service is indicated in the capacity of diagnosis necessitating autopsy, or in the treatment of animals, it is conceded that this belongs to the qualified veterinarian. In other words, Farm Bureau Agents should encourage the employment of the local veterinarian where his services are indicated, with the understanding that the veterinarian will render a professional service for a reasonable fee. It is reported that some veterinarians have overcharged, but these cases are comparatively few and fortunately livestock owners have ample recourse by refusing to employ these men.

Under prevailing conditions there is need for the advisory work of the Farm Bureau Agent in disease control, but it is obvious that the greatest accomplishment implies co-operation with the local veterinarian and each need assume their responsibility to the live stock industry without controversy." - Robert Graham.

WHAT DOES IT COST TO SPREAD STRAW? "An extensive study has not been made of this farm operation. However, the following are the figures concerning the cost of hauling and spreading straw on the C. L. Meharry farm, Tolono, Illinois. Three stacks, estimated at 100 tons were hauled an average distance of 1/4 mile and spread over 50 acres - making an average of two tons per acre. The operation required one man on stack, one man to drive racks while spreading, and 2 rack-wagons, each with man and team. The total labor required for the 100 tons was, 223 man hours, 328 horse hours.

Estimating man labor at 30¢ per hour and horse labor at 15¢ per hour and the use of spreader at $10., the total cost of spreading was $126.10 for 100 tons on 50 acres, or $1.26 per ton and $2.52 per acre. We have no other figures with which to compare these to tell whether they are high, low or average, but very likely they are average or below.

W. E. Reigel, manager of the Meharry farm, said that the present methods of getting the straw back on the land cost more than they should but even then it paid very well to do it.' - J. B. Andrews, Dept. Farm Org. and Mgt., U. of I.

"Where are Yours?" "Did you hear about Bill Ponehead's barn burning? Total loss. No insurance and Bill nearly got gassed trying to pull the door off the hinges. After Bill came to, some one said to him: 'Bill, why did you act so crazy about that barn door?' 'Well, dang it', says Bill, 'all my figures for the last 5 years was right on the side of that door.'"

Money talks, but since the dollar of 1914 is now only 50 cents in value, it may be whispering after awhile.

HESSIAN-FLY INFESTATION - DATE OF SEEDING PLOTS 1919

Plot	Date Sown	Percentage of Infestation	Average No. Fly per Plant	Average No. Larvae	Average No. Pupae
			Field at Belvidere, Illinois (Boone County)		
1	Sept. 1	54%	2	2	
2	Sept. 5	28%	1.5	.5	1
3	Sept. 10	48%	1	1	
4	Sept. 15	23%	1	1	
5	Sept. 20	11%	1	1	
6	Sept. 25	7%	1	1	
			Field at La Moille, Illinois (Bureau County)		
1	Sept. 3	83%	3		
2	Sept. 8	63%	3		
3	Sept. 13	51%	2		
4	Sept. 18	45%	2		
5	Sept. 24	14%	2		
6	Sept. 29	18%	2		
			Field at La Harpe, Illinois (Hancock County)		
1	Sept. 10	84%			
2	Sept. 15	91%			
3	Sept. 23	53%			
4	Sept. 26	22%			
5	Sept. 30	0%			
6	Oct. 4	0%			
			Field at Urbana, Illinois (Champaign County)		
1	Sept. 11	100%	10	2	8
2	Sept. 15	100%	9	2	7
3	Sept. 20	100%	9	1	8
4	Sept. 25	75%	6	1	5
5	Sept. 30	0%			
6	Oct. 4	0%			
7	Oct. 9	0%			
			Field at Virden, Illinois (Macoupin County)		
1	Sept. 15	100%	17	4	13
			(Nearly all plants dead)		
2	Sept. 20	100%	13	2	11
3	Sept. 26	81%	5	1	4
4	Oct. 1	13%		.2	
5	Oct. 7	0%			
6	Oct. 14	0%			
			Field at Carbondale, Illinois (Jackson County)		
1	Sept. 20	65%			
2	Sept. 25	13%			
3	Sept. 30	3%			
4	Oct. 6	2%			
5	Oct. 13	0%			
6	Oct. 18	0%			

Report by W. P. Flint, Chief Field Entomologist.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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"Agriculture was the first occupation of man, and as it embraces the whole earth, it is the foundation of all other industries." - E. W. Stewart.

Community High Schools Planned.- The Community High School movement which the Farm Bureau has been advocating, is meeting with favor among farmers in Monroe County. Both Valmeyer and Columbia have decided to establish community high schools and Waterloo will probably be next in line. Ever since taking up the work as Farm Adviser in Monroe County, Adviser Tate has felt that there was great need of more and better high schools and the success of this movement is largely due to his efforts.

Tractor School.- The Division of Farm Mechanics, College of Agriculture, University of Illinois, will conduct a Tractor School during the months of January and February, 1920, omitting the two weeks, January 19 to 31, in which the Annual Corn Growers' and Stockmen's Convention will be in session. The school will consist of six 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 twenty-two hours to practical laboratory work.

The lecture work in the proposed course will cover the construction, theory, operation, maintenance, and repair of gasoline engines and oil burning tractors. The laboratory work will consist of practical work in engine and tractor operation, magnetos, carburetors, engine timing and wiring, trouble work and adjustments. In the laboratory are more than twenty-five different makes of gas engines, and it is planned to have from twelve to fifteen tractors of the most representative types on our floor before January 1st. The laboratory is also well equipped with magnetos, carburetors, and samples of many of the smaller parts of gas motors. Each week's course will begin at 8:00 A. M. on Monday, running eight hours per day until noon on Saturday.

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 5, January 12, February 2, February 9, February 16, and February 25.

For further information concerning the course, fees, room, board, etc., address correspondence to M. E. Jahr, Division of Farm Mechanics, College of Agriculture, Urbana, Illinois.

"Water is one of Nature's most lavish and cheapest gifts to the human family and should be employed without stint, internally, externally, and eternally."- Kankakee County Home Improvement Bulletin.

Losses from hog cholera have been reported in a number of counties. It seems evident that all swine diseases merit the attention of the best veterinarians available. Adviser Kendall tells of a local case as follows: "There seems to be a disposition among some farmers to claim their hogs have almost any other disease except hog cholera. One of our farmers insisted on a local veterinarian vaccinating his hogs for hemorrhagic-septicemia altho only one was sick and none had ever been vaccinated for cholera. The veterinarian gave them the bacterin treatment for hemorrhagic-septicemia, with the understanding that if any more hogs got sick he was to be notified at once. The farmer failed to notify him until the whole herd was sick. An examination by the Government veterinarian revealed hog cholera of the real old fashioned sort. The man lost very nearly his entire herd." - Morgan County.

"Dr. McDonald came to examine a bunch of sick hogs," reports Adviser Dickenson of Cass County. "Native hogs that had been treated were placed with hogs from St. Louis yards that had been treated before shipping. The St. Louis hogs took sick and infected the native hogs. Post-mortem showed signs of hemorrhagic-septicemia, but the worst cases had all the symptoms of cholera. Recommended serum treatment, sanitation, and intestinal anti-septic of copper sulphate solution."

"Several herds of hogs were visited in company with Dr. Habecker. No new cases of cholera were found, but several cases of hemorrhagic septicemia. The two diseases seem to be so nearly alike and it seems that the cholera may develop where septicemia has existed, so in close cases even an experienced veterinarian sometimes hesitates in pronouncing the disease. Where the lung trouble has a start in the herd, the farmer is advised to market hogs which are well and fit for market and to treat small stuff and breeding stock with septicemia bacterin and cholera treatment added. Most farmers are keeping pretty close watch of their herds and are calling for help at first signs of trouble. We think the cholera is well under control now." - Baumeister, Stephenson County.

A Study of Fusarium on Seedling Wheat. "Recently when Mr. Duncan was in the county on Institute work a brief study of fusarium root rot on seedling wheat was made. In two fields seeded to supposedly "scab-free" wheat, one Kanred from Emporia, Kansas, and the other inspected Red Rock from Allegan, Michigan-no apparent root infection was found. In another field on wheat stubble where native seed was used from the previous crop, practically none of the seeded wheat was badly affected, but volunteer wheat that came from unharvested heads turned under, were very badly diseased. These infected plants transplanted to pots in the office have nearly all died to date. Does not this indicate that the chaff and straw of wheat is a more effective carrier than the seed kernel and so argue against seeding wheat after wheat? Also have we not perhaps been attributing a lot of this loss from fusarium root rot to "winter killing"?- Wells, Warren County.

"The demand for straw spreaders in this county is growing stronger. Already some 20 farmers have purchased either straw-spreaders or straw-spreading attachments for their manure spreaders and we believe we shall have some very definite results to show next season on wheat land that was covered with straw. Conditions have been particularly good for spreading straw the last week or two on account of early freezing weather, and some of the farmers are already taking advantage of it." - Phillips, Greene County.

"When tillage begins, other arts follow. The farmers, therefore, are the founders of human civilization." - Daniel Webster.

"ONE YEAR AFTER ANOTHER, HOW MUCH NITROGEN IS ADDED TO THE SOIL WHEN CLOVER IS SEEDED WITH OATS OR WHEAT IN THE SPRING AND PLOWED UNDER IN THE FALL?"

"This is an important question and should be given careful consideration. For convenience in answering it is divided into two parts: first, let us assume that the clover is plowed under for winter wheat. Second, that it is fall plowed sometime in November. In the first case unless the soil is heavy and well stocked with organic matter and the mineral elements, a growth of a half ton of tops per acre would surely represent a high average but for the purposes of this discussion we may accept that figure for the calculations. Per acre, there would be in the tops 24 pounds of nitrogen, and in the roots 8 pounds or 32 pounds in the whole plant. Assuming two-thirds or 21 pounds of the nitrogen was derived from the air by the time the land would be plowed for wheat and valueing the nitrogen at 25¢ per pound the actual nitrogen gain would be worth $5.25. With red clover seed at $30.00 per bushel and using 8 pounds per acre it would cost $4.00 for the seed. This obviously on a nitrogen basis does not yield a large profit as the cost of seeding the clover must be taken into consideration, especially on wheat ground. We should keep in mind that the above calculation is based upon a yield of a half ton of clover tops per acre. There are very few farms in such a condition that the stand of clover would weigh a half ton at this time of year. On heavy soils the effect of plowing under a half ton of clover tops would be beneficial in keeping the natural organic matter of the soil active, but on soils where there is need for nitrogen, life, and organic matter, this practice is a slow method of building up the soil.

In the second case, if we allow the clover to stand until late in the fall more nitrogen and organic matter will be added than in the first case, but it would seem to be a much better practice if a good stand of clover is obtained to allow it to go through the winter and either plow it under green for corn or allow it to stand for a hay and seed crop. Allowing the red clover to stand over until spring would undoubtedly result in saving 25 pounds of nitrogen per acre. It would seem that with a 2 to 1 chance in favor of obtaining a successful stand of sweet clover as compared with red or alsike clover, and with the greater tonnage per acre possible in both the spring and the fall growths, sweet clover should be used in the place of red clover on soils that are deficient in organic matter." - A. L. Whiting.

Clover seed sold is now needed. - Adviser Tate of Monroe County, says that farmers have learned their lesson too late. "We had a considerable surplus of red clover seed in the county this year and I did everything possible to warn farmers that there would be a shortage, trying to persuade them to buy early. After having this seed advertised for sometime, we sold it to another county. Since it has been sold there have been six men in the office within the last two days inquiring for clover seed." -

Snow and cold weather are reported from Stephenson County. Advser Baumeister says: "Snow is deep and drifted so that travel by auto is difficult, altho with considerable shoveling, one can get some places."

Joys of a Farm Adviser in Winter- "In a cross-country run Friday, I lost two chains and a casing off the rear wheel. Finally, I stripped the differential on the "flivver" and left it at a farm house fifteen miles west. I think it was Mark Twain who said: 'Every man swears either outwardly or inwardly'. I did neither, because I could not do the subject justice." - Kendall, Morgan County

"Blessed be agriculture! if one does not have too much of it", said Warner.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. II December 24, 1919. No. 52

Merry Christmas

We hope, by Heck!
You'll be on deck
To get you're share of joy,
At Christmas time
When sleighbells chime
And every man's a boy.

IS CHAFF OR STRAW OF WHEAT A MORE EFFECTIVE CARRIER OF "SCAB" THAN THE WHEAT KERNEL?

"Wheat seedling blight by Fusarium may result from either primary or secondary infection. Primary infection is seed borne; that is, it is within the kernel that produces the seedling when that kernel is planted. Most of the grains that appear to be scabby to the eye are dead, so that primary infection is possibly only in the kernels that are less injured by the disease. Secondary infection applies to sources of infection other than the seed itself. Dead scabby grains, diseased chaff and straw, and infected corn stalks and roots might serve, when in intimate contact with the young seedling, as sources of secondary infection. Mr. Ralph Wells reported in last week's Messenger* our findings in Warren County. These indicate as he has stated, that the glumes serve as carriers of infection to the young volunteer plants arising from unharvested wheat plowed under. This suggests the possibility that wheat following wheat would be much more severely blighted than it would if the wheat were following some other crop. But since it was only the volunteer plants that were severely blighted and since secondary seedling infections depends upon the young plant being in close contact with the source of infection, it appears that plowing wheat stubble four or five inches deep would remove the diseased material far enough from the planted seed to reduce seedling blight to a minimum. Experiments show that wheat following wheat does not produce as heavy scab infection in the head as wheat following corn." - Geo. H. Dungan.

* See Messenger #51, page 2 (Dec. 17, 1919.)

"A worth while annual report cannot be prepared without considerable time devoted to its preparation and I am not always able to give it as much time as I would like. This was the case this year. It may be, however, everything considered, it would pay all Farm Advisers to take all the time they need for their annual reports. I do not consider the time spentin the preparation of the annual report a loss of time by any means. I believe the preparation of the report is essential to doing good work on the part of the Farm Adviser. The preparation of the report makes it necessary for him to make an inventory of the work he has done during the year and points out also, where he can improve his work. It also makes him think about planning thenext year's work at the time when he should begin to plan that work." - Richards, Kane County.

Our winter community meetings have started. We have had nine of these meetings during the last week. The attendance was good and the interest shown by those present was very satisfactory. Farm accounts, cost of hauling limestone, and cost of producing an acre of corn, oats, wheat, and clover, and general farm management problems, were taken up. Each community selected its own subject for the next meeting which is to beheld in January.

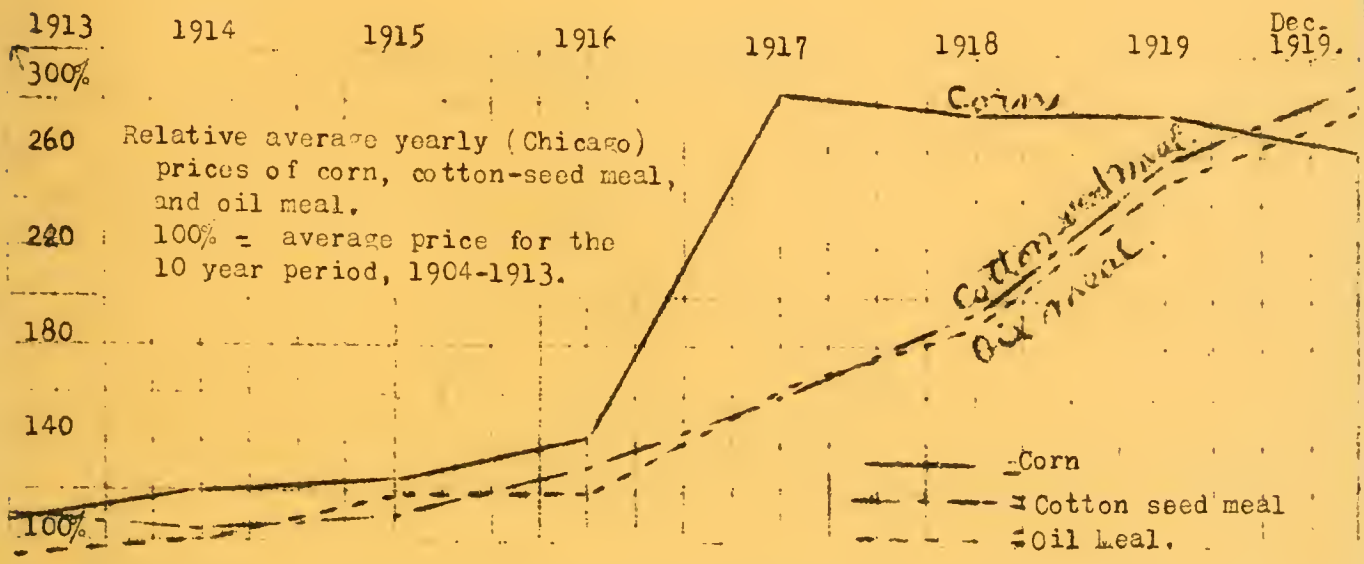
One community that is far from town voted to take up the question of working out some system of cooperative hauling of limestone at its next meeting. Another community voted to have all members of the cow testing association of that communit bring their books at the next meeting and discuss the benefits of a cow testing association so that non-members of the association would understand them. In nearl every community the sentiment was spontaneously expressed that the Farm Bureau should have many more members in that particular community and the members talked of organization and membership campaigns freely." - Rehling, Clinton County.

Red top grading will be discussed at the Farm Advisers' meeting in January by a member of the Crops Department.

Harvest ice now.

CAN COTTONSEED MEAL OR OIL MEAL AT PRESENT PRICES BE FED PROFITABLY?

"Relatively speaking, the present high prices of cottonseed meal and oil meal are more apparent than real. Normally, 2/3 of our oil meal and 1/2 of our cottonseed meal have been exported. During the war, exports were cut off, with the result that prices of these products lagged behind those of many other feeds. At the close of the war they came up very abruptly, giving the impression of a much greater relative rise than has actually occurred. The accompanying chart shows that cottonseed meal is now 289% of the average price for the 10 years, 1904-1913, oil meal 278%, and corn 263%, not a very wide difference. Under these conditions it may be most profitable to cut down slightly on the proportion of cottonseed meal or oil meal fed, but they will still yield very large returns in average corn belt rations.



The average of the best experimental results on the addition of a nitrogenous supplement to a steer breeding ration, of corn and a carbonaceous roughage (such as corn silage, corn stover, timothy hay, or prairie hay) shows an increase in daily gains from 1.6# to 2.2#*; a better finish; and a considerable saving of feed. In the production of 100# gain, 1# of the supplement replaced 3.3# of corn and 1.2# of dry roughage. With corn at 2¼¢ a # ($1.26 a bu.) and roughage at 3/4¢ a #, ($15. a ton), the replacement value of the supplement was 8.3¢ a # ($166. a ton); this in addition to faster gains and higher priced finish. Undoubtedly, in some of our present day rations made up largely of corn silage, fully as good results as the above may be obtained from a nitrogenous supplement. Not only is protein added, but consumption is increased, a very important factor in getting gains fromaa bulky feed.

The addition of a nitrogenous supplement to rations composed of corn, corn silage, and clover hay has resulted on the average in an increase in daily gains from 2.0 to 2.3 # and in a 30¢ better finish (under pre-war conditions). 1# of the supplement replaced 2.3# of corn, .6 of a # of hay and 2.4 # of silage. With corn at 2¼¢ a #, hay at 1¢ a #, and silage at ½¢ a #, the replacement value of the supplement was 7¢ a #. ($140. a ton).

Adding a supplement to a ration composed of corn and clover hay has resulted in an increase in daily gains from 2.0 to 2.4# and in a 25¢ better finish. 1# of supplement has replaced1.7# of corn and .9 of a # of hay. At 2¼¢ a # for corn and 1¢ for hay, the replacement value of the supplement was 4.7¢ a # ($94. a ton). If corn were used sparingly in such a ration and clover hay liberally, the nitrogenous concentrate would probably not pay for itself.

It is evident that for use in corn belt rations, cottonseed meal and oil meal are still relatively cheap. In rations used by many of our feeders, they may return twice what they cost." - J. H. Whisenand.

* = pounds.

The Extension Messenger

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

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. II. December 31, 1919. No. 53.

Kendall County Gets in the Game. Kendall County is surrounded by counties having organized farm bureaus. In the words of Chairman Matlock, little Kendall awoke from a long sleep last week. A two day membership campaign netted 961 members to the local farm bureau and the Illinois Agricultural Association. A solicitor's school was held the day previous to the campaign at which over 100were present. The county quota by townships was fixed at 675. The first day of the campaign netted 663 members, one township securing 98 members. The permanent organization meeting was held December 19, the day following the campaign. Mr. I. V. Cryder was elected president and Mr. Watts Cutter, secretary. Kendall is the seventy-sixth Illinois County to organize.

Another County Organizes. The permanent organization meeting of the Brown County Farm Bureau was held Friday, December 12. This organization starts off with a membership of 435. Over half the members were present at the organization meeting. Robert Shields was elected president and Robert Means, vice-president.

Mr. E. E. Brown is the new Farm Adviser for Stark County. Mr. Brown is a graduate of Purdue University and Ames (M.S.). The work in Stark County will begin January 1, headquarters, Toulon, Illinois.

The large amount of red top grown in Marion County has made the farmers feel the need of an organization to promote marketing in carload lots. The result is a movement to organize a Red Top Growers' Association.

A valuable farm built in layers. "One of our farmers has on his farm a deposit of limestone under which is a very stiff clay similar to fire clay and under that a three foot vein of coal. We haven't investigated any further down." - Wheelock,

Publicity in Farm Bureau Service. It pays to advertise. No big project or campaign has ever been put across without ample publicity. The central thought at many farm bureau annual meetings this year has been: How can service best be rendered to our enlarged membership? It is indeed a hopeful sign when so many of our best farm bureau members are thinking along this line. With the greatly enlarged membership in farm bureaus in this state the problem of keeping in effective touch with the individual member and rendering service is a most important one. The Annual Meeting of the farm bureau is in many respects the most important event in the farm bureau work during the year. There the annual reports of officers and farm adviser are given and usually some worth while outside speaker is called in. This meeting gives members an opportunity to really get in touch with the farm bureau work, locally, in the state and nation, and to learn what the farm bureau has done in the past and is planning for the future. Usually a meeting of this kind is well attended. Where conditions are such that the attendance is small how shall we reach the 50, 60, and sometimes 75 or 80% of our members who are not able to attend this meeting? Is not this one of the important problems in the farm bureau affairs in the County? Many counties in this state in the past have sent to every member a complete report of the annual meeting, the reports of officers and county adviser. This report may be either printed or mimeographed. Why not carry this one step further and use this plan, not only for the annual meeting and annual reports but throughout the year in sending to every member a digest of the proceedings of the monthly executive meeting and thus keep every member fully informed as to the progress of the work in the county. - J. D. Bilsborrow.

Stopping the Erosin of Ravines and Ditches. We have asked Bracker to tell how it was done by a successful farmer in Knox County. "This plan was to build an improvised dam out of logs, fence posts, or similar material, and throw several loads of good farm manure back of this dam. It was found that the dirt would wash on to the manure and a heavy thick sod was quickly formed. Some exceedingly deep ditches were practically obliterated in this way. This man also found it a good practice to scatter manure on the sides of the ravines, as it was found that the blue grass would start readily under these conditions and many well sodded ditch and ravine banks are to be found on his farm."

Wanted- Iowa 103 Oats for Seed. We are endeavoring to locate a carload of Iowa 103 seed oats for the use of our farmers for next spring's seeding. Last spring the farm bureau did a little good work along this line by shipping in seed oats for four or five farmers. The reports that reached us after oats were threshed indicated yields of 55 to 57 bushels per acre with Iowa 103, whereas the average yield for the county was not to exceed 35 bushel." - Phillips, Green County.

Adviser Price of Saline County also expresses the difficulty of locating Iowa 103 oats for seed.

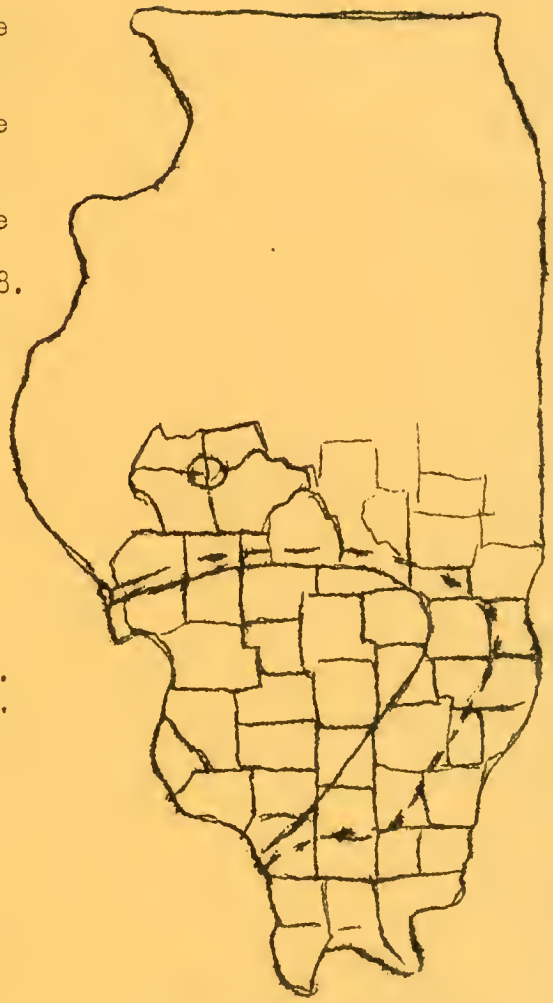
Fliver Difficulties and Others. "We see by the last Extension Messenger that Kendall lost practically all of his Ford along the road, but we would like to ask if he ever went to a meeting where he was supposed to address a large group of farmers in another county and it turned out that there was only one farmer present; if on his way back he ever lost one head light, burnt out the other remaining light and had to come home in the dark and the next morning he discovered that he had lost his voice." - Pollock, Edwards County.

"The mutual township fire insurance companies find the risks the statute permits them to carry are entirely too small for present valuations. A meeting was called this week to consider taking care of the higher insurance. A county company is considered, and reinsuring among the township companies as a second means for taking care of this matter. A committee was appointed to look into these means further and to report at a future meeting." - Brooks, LaSalle County.

Vol. II. No. 53.

CHINCH BUG SITUATION 1919.

The rainfall for May and June 1919 was above normal in all counties in the state heavily infested with chinch-bugs. This checked the development of the first brood of this insect. The second brood, however, was favored by hot, dry weather and the increase in the numbers of this brood a little more than made up for the decrease in the first brood. The seriously infested area has not increased much over that of December 1918. There has been a slight general increase in the numbers of chinch-bugs throughout the south-central part of the state, and a small area in the eastern part of Cass County, extending into the edges of Morgan, Sangamon and Menard counties, will probably show moderate damage in scattered fields.



Heavy Infestation
Moderate Infestation

So far as can be determined the following counties are infested in whole or part:

Cass - southeastern corner - moderately infested.
Greene - southern part - moderately to seriously.
Macoupin - central part moderate, southern half serious.
Montgomery - northern quarter moderate, southern three-quarters serious.
Christian - southern part moderate.
Shelby - central part moderate, southern part serious.
Cumberland - southwestern two-thirds moderate to serious.
Clark - southwestern corner moderate.
Jasper - moderate with serious infestation on extreme western strip.
Crawford - western part moderate.
Richland - moderate
Edwards - northwestern corner moderate.
Wayne - moderate with serious infestation in northwestern corner.
Hamilton - northwestern three-quarters moderate.
Clay - southeast half moderate - northwest half serious.
Jefferson - southeast quarter moderate - northwest three-quarters serious.
Franklin - moderate
Jackson - central part moderate - northwestern quarter serious.
Williamson - northern strip moderate.
Jersey - serious.
Effingham - serious.
Fayette - serious.
Bond - serious.
Madison - serious.
St. Clair - serious.
Monroe - serious.
Clinton - serious.
Washington - serious.
Marion - serious.
Perry - serious.
Randolph - serious.

---- W. P. Flint.

Arcette
replaced