

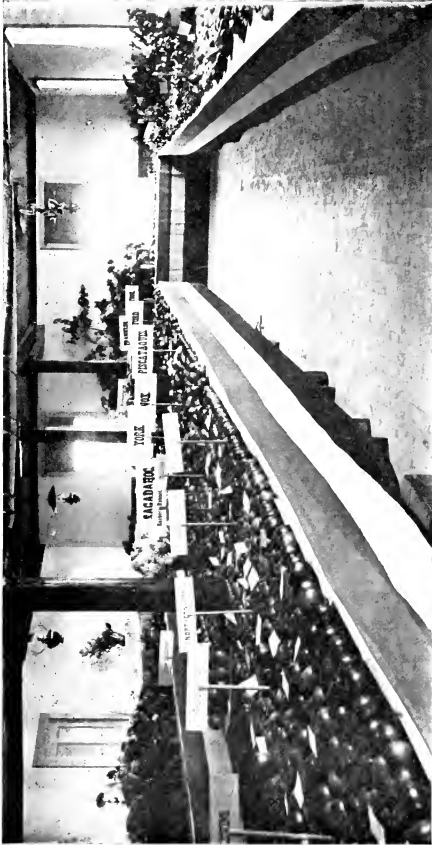
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TRANSACTIONS
MAINE STATE POMOLOGICAL SOCIETY

1906.



MAINE FARMER PRESS, AUGUSTA

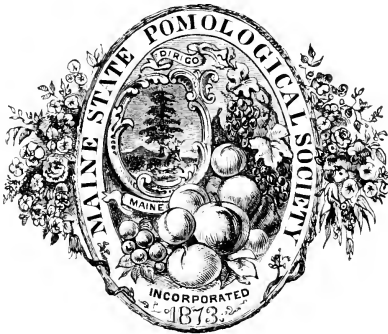
A view of Annual Exhibition, Harrison
By courtesy of editorial representative of N. E. Homestead

TRANSACTIONS

OF THE

Maine State Pomological Society

FOR THE YEAR 1906.



EDITED BY THE SECRETARY,

D. H. KNOWLTON.

AUGUSTA
KENNEBEC JOURNAL PRINT
1907

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CHAPEL

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SECRETARY'S REPORT.

THE 1905 APPLES.

So far as it was possible to do so, many apples grown last year were held in storage until after our report for 1905 was made up, hence it seems proper to refer to their sale. The prices in some cases were well nigh record-breakers and deserve mention in this report.

The six hundred barrels grown in the \$2850 orchard referred to in last year's report were sold for \$3.50 per barrel. So that the crop went a long way toward returning the purchase money in less than one year from the purchase of the orchard. This year (1906), it may be added, this orchard produced two hundred barrels.

One grower in Skowhegan had 264 barrels of Ben Davis for which he received \$1056 at the railroad station in that town.

Eighty barrels of Gravensteins from the Pope orchard returned a check for \$360.

A carload of apples from the Staples' orchard, containing ninety-one barrels of No. 2 and 110 barrels of No. 1, sold in the Boston market for a net sum of \$911.91. The Northern Spy in the lot sold for \$8 per barrel. Hall & Cole stated that this was the most money paid for a carload of apples sold in Boston during the season.

BETTER CULTURE.

Our people are beginning to realize the value of the orchard, and they realize as never before that to produce the best results the orchard must have the best treatment. It is interesting to note that the most productive orchards this year are those that have received the most intelligent care. As one goes about over the State the evidence of this accumulates. More orchards are plowed and harrowed; more orchards are the feeding grounds

of sheep or hogs; more orchards are dressed with chemical fertilizers. The trees themselves show the care, and when questioned by the observer point to the treatment they receive. Nearby orchards, neglected as they are, bear witness to the same. "Treat me well," the tree says, "and give me a fair chance and I will fill the barrels with the choicest Maine fruit."

MORE ORCHARDS.

The Secretary thinks more trees have been set this year than any previous year in the decade. It seems unfortunate that it was necessary to go out of the State for the stock, as the careless treatment of nursery stock in other states threatens the introduction of the most injurious insects and fungi. One lot of trees was so badly infected, it was destroyed root and branch after it reached the purchaser. Though there were several varieties, inquiry convinces your Secretary that the Stark was a leading variety, due perhaps to the influence of the salesman.

THE 1906 FRUIT CROP.

Although the crop for 1906 is much smaller than last year, the fruit itself is of superior quality, being large and highly colored. The early figures sent out were much inflated and misleading and those tabulated later credit Maine with a crop of 700,000 barrels—more by nearly 200,000 barrels than last year. Perhaps these figures will do us no injury, but we fail to discover any advantage in such inflation.

The prices started at one dollar and fifty cents and have slowly advanced to about \$2.00 and we predict a little more later on for choice lots.

SMALL FRUITS.

There was a small crop in most cases of strawberries. Conditions were not altogether favorable, but the fruit that set ripened up well. The cold weather—frost—injured some beds, and other beds were injured by worms. The prices were good and the quality better than in ordinary seasons.

Raspberries, when not protected, winter killed, so that there were few berries for any one. The expense in labor to protect raspberry canes is not great, and the local markets in Maine are rarely well supplied. It is believed that the increased yield

would pay liberally for the work. But a good variety, hardier than the Cuthbert, is much needed in Maine.

Blackberries were plenty wherever there were bushes to bear them, and they were of excellent quality. The Snyder and Agawam were both large and delicious. They should be more generally grown.

Currants bore finely, but gooseberries were injured by the frost in many cases.

MEETINGS OF EXECUTIVE COMMITTEE.

There have been two meetings of the Executive Committee during the year. The first was held at the Cony House, Augusta, January 19, being also the meeting for closing up the affairs of the society for the previous year. The second was held at the Elm House, Auburn, July 7. At the former meeting the work for the year was outlined and preliminary arrangements were made for a Summer Meeting and the Annual Meeting and Exhibition.

THE INSECT SITUATION.

There has been and is the deepest solicitude among fruit growers over the insect situation in Maine. Fruit trees have been carefully examined for insects, and it would seem from the reports sent in that never before were the fruit trees so badly infected. Fortunately these insects were not the most troublesome, and when found they have been destroyed. This is the chief lesson the authorities have endeavored to teach, and it is gratifying to note the success thus far. The brown-tail moths have been largely under control, though they have made their appearance in many towns in the southwestern part of the State, along the coast and in some interior towns. They have not been numerous enough as yet to seriously injure our fruit trees. The danger threatens more and more, and the duty of every one to protect his own trees becomes of the highest importance. The presence of any insect pest should be reported promptly to the authorities, and there should be the most complete co-operation with them. No gypsy moths have yet been reported in the State, but we may expect to find more or less when careful search comes to be made. Nor has there been reported any San Jose scale. Many of our orchards are already

infested by troublesome insects, as well as injurious fungi. The time is at hand when attention should be given to these, and I am satisfied this is one of the most important needs at this time.

SUMMER MEETING.

By invitation of President George E. Fellows the Summer Meeting was held on the campus of the University of Maine, August 21st. For several days the weather was extremely hot and humid, but there visited the grounds during the day 150 or more, coming from different parts of the State, no less than eight counties being represented by one or more persons. The University officers gave the visitors a very cordial welcome. There was opportunity for going through the buildings and looking over the grounds.

After a lunch upon the campus the visitors repaired to the chapel and an impromptu programme of speaking was in order. A condensed report of this meeting appears elsewhere in this volume of transactions. The Secretary would here acknowledge the valuable assistance of Prof. W. M. Munson in advertising and perfecting the details for this most valuable meeting.

THE ANNUAL MEETING.

The Annual Meeting was held in Harrison, Nov. 13, 14 and 15. Locally there was the deepest solicitude on the part of the citizens of Harrison to make this meeting a red-letter day in the history of the town. In every direction there was a hearty co-operation with the Executive Committee to perfect the arrangements for the meeting, and during my official connection with the Society we have never found all the numerous details so perfectly carried out and everything in such perfect readiness for our coming.

The meetings were held in the new and elegant hall of Lakeside Grange, which was well filled during each session. The dining hall served as the exhibition room for the fruit, of which there was an excellent display. The arrangement of the tables was good, and the general quality of the fruit was fine, being large and well colored.

In the programme there were some new features introduced. It was voted by the Society last year to devote an entire session to the discussion of the topic: "How can the meetings and

exhibits of the Society be made of the greatest educational value?" Your Committee did not feel warranted in devoting a whole session to this subject, important though it may be. The session as arranged provided for short greetings from the representatives of other Societies who might be present, and I am glad to note that all seemed to enjoy hearing somewhat of the work of kindred organizations. The session closed with Prof. Munson's paper on "A Horticultural Use for Abandoned Lands."

Another departure was the holding of a banquet for one of the evening sessions. Years ago when the Society held its exhibition in Portland there was a fruit banquet that was much enjoyed. The banquet so daintily served by the members of Lakeside Grange will long be remembered as the most delicious "love-feast" in the history of the Society. The discourse following made it "the sweetest banquet of the mind."

D. H. KNOWLTON,

Secretary.

OFFICERS FOR 1906.

President.

Z. A. GILBERT, North Greene.

Vice Presidents.

D. P. TRUE, Leeds Center.

EDWARD L. WHITE, Bowdoinham.

Secretary.

D. H. KNOWLTON, Farmington.

Treasurer.

E. L. LINCOLN, Wayne.

Executive Committee.

The President and Secretary, *ex-officio*; C. A. Arnold, Arnold; Will E. Leland, East Sangerville; V. P. DeCoster, Buckfield.

Trustees.

Androscoggin county, A. C. Day, South Turner.

Aroostook county, Edward Tarr, Mapleton.

Cumberland county, John W. True, New Gloucester.

Franklin county, E. E. Hardy, Farmington.

Hancock county, Chas. G. Atkins, Bucksport.

Kennebec county, E. R. Mayo, Hallowell.

Knox county, Alonzo Butler, Union.

Lincoln county, H. J. A. Simmons, Waldoboro.

Oxford county, F. H. Morse, Waterford.

Penobscot county, W. M. Munson, Orono.

Piscataquis county, C. C. Dunham, Foxcroft.

Sagadahoc county,—————

Somerset county, Frank E. Nowell, Fairfield.

Waldo county, Fred Atwood, Winterport.

Washington county, D. W. Campbell, Cherryfield.

York county, J. Merrill Lord, Kezar Falls.

Member Experiment Station Council.

CHARLES S. POPE, Manchester.

MEMBERS OF THE SOCIETY.

NOTE.—Any errors or changes of residence should be promptly reported to the Secretary. Members will also confer a favor by furnishing the Secretary with their full Christian names where initials only are given.

LIFE MEMBERS.

Andrews, A. Emery	Gardiner	Hackett, E. C.	West Gloucester
Andrews, Charles E.	Auburn	Hall, Mrs. H. A.	Brewer
Arnold, C. A.	Arnold	Hanscom, John	Saco
Atherton, Wm. P.	Hallowell	Hardy, E. E.	Farmington
Atkins, Charles G.	Bucksport	Harris, William M.	Auburn
Atwood, Fred	Winterport	Hoyt, Mrs. Francis.	Winthrop
Averill, David C.	Temple	Jackson, F. A.	Winthrop
Bailey, W. G.	Freeport	Jones, J. H.	Mercer
Bennoch, John E.	Orono	Keene, Charles S.	Turner
Bickford, Lewis I.	Dixmont Center	Knowlton, D. H.	Farmington
Bisbee, George E.	Auburn	Lapham, E. A.	Pittston
Blanchard, Mrs. E. M.	Lewiston	Leland, Will E.	East Sangerville
Blossom, L. H.	Turner Center	Lincoln, E. L.	Wayne
Boardman, Samuel L.	Bangor	Litchfield, J. H.	Auburn
Briggs, John.	Turner	Litchfield, Mrs. L. K.	Lewiston
Burr, John.	Freeport	Lombard, Thurston M.	Auburn
Butler, Alonzo.	Union	Lord, J. Merrill	Kezar Falls
Chadbourne, C. L.	North Bridgton	Luce, Willis A.	Columbia Falls
Chandler, Mrs. Lucy A.	Freeport	Macaulay, T. B.	Montreal, Can.
Chase, Henry M., 103 Federal St., Portland		McAllister, Zaccheus.	West Lovell
Corbett, Hermon	Farmington	McCabe, George L.	North Bangor
Crowell, Mrs. Ella H.	Skowhegan	McLaughlin, Henry	Bangor
Crowell, John H.	Farmington	McManus, John.	Brunswick
Cummings, Mrs. Anthony	Auburn	Mitchell, Frederick H.	Turner
Dana, Woodbury S.	Portland	Moody, Charles H.	Turner
Dawes, S. H.	Harrison	Moore, William G.	Monmouth
DeCoster, Virgil P.	Buckfield	Moor, F. A.	Waterville
Denison, Mrs. Cora M.	Harrison	Morse, F. H.	Waterford
DeRocher, Peter	Bradentown, Fla.	Morton, J. A.	Bethel
Dirwanger, Joseph A.	Portland	Munsop, W. M.	Orono
Dunham, W. W.	North Paris	Page, F. W.	Augusta
Dyer, Milton	Cape Elizabeth	Palmer, George L.	South Livermore
Emerson, Charles L.	South Turner	Parsons, Howard G.	Turner Center
Farnsworth, B. B.	Portland	Pope, Charles S.	Manchester
Frost, Oscar F.	Monmouth	Prince, Edward M.	West Farmington
Gardiner, Robert H.	Gardiner	Pulsifer, D. W.	Poland
George, C. H.	Hebron	Purinton, E. F.	Farmington
Gilbert, Z. A.	North Greene	Richards, John T.	Gardiner
Goddard, Lewis C.	Woodfords	Ricker, A. S.	Turner
Grover, Franklin D.	Bean	Roak, George M.	Auburn
Gulley, Alfred G.	Storrs, Conn.	Saunborn, Miss G. P.	Augusta

LIFE MEMBERS—CONCLUDED.

Sawyer, Andrew S.....	Cape Elizabeth	Townsend, Mrs. B. T	Freeport
Seavy, Mrs. G. M	Auburn	True, Davis P	Leeds Center
Simmons, H. J. A.....	Waldoboro	True, John W.....	New Gloucester
Skillings, C. W	North Auburn	Turner, E. P.....	New Vineyard
Smith, Henry S	Monmouth	Twitchell, Geo. M	Auburn
Snow, Mary S	Bangor	Vickery, James	Portland
Stanley, H. O	Winthrop	Vickery, John	Auburn
Starrett, L. F.....	Warren	Wade, Patrick.....	Portland
Stetson, Henry	Auburn	Walker, Charles S	Peru
Stilphen, Asbury C	Gardner	Walker, Elmer V.....	Oxford
Taylor, Miss L. L. (Lakeside)	Belgrade	Waterman, Willard H.....	East Auburn
Thomas, William W	Portland	Waugh, F. A	Amherst, Mass.
Thomas, D. S	North Auburn	Wheeler, Charles E	Chesterville
Thurston, Edwin.....	West Farmington	White, Edward L	Bowdoinham
Tilton, William S.....	Boston, Mass.	Yeaton, Samuel F.....	West Farmington

ANNUAL MEMBERS, 1904.

Allen, S. L	Fairfield	Lincoln, Mrs. E. L	Wayne
Arnold, M. F.....	Carmel	Mayo, E. R.....	Manchester
Beal, S. H.....	Skowhegan	McAllister, Z	West Lovell
Benson, Mrs. G. S	Skowhegan	Merchant, S. L.....	Winthrop
Burkett, Andrew.....	Union	Nowell, F. E	Fairfield
Butler, L. F	Madison	Sanborn, C. E.....	Skowhegan
Cole, J. E	Union	Sherman, Mrs. Clara E	Union
Daggett, E. L	Union	Shurtleff, S. G.....	South Livermore
Danforth, F. G.....	Skowhegan	Swan, J. A	Skowhegan
DeCoster, V. P.....	Buckfield	Tarr, Edward.....	Mapleton
Frost, J. H	188 Pearl St., Portland	Toothaker, L. P.....	Etna
Gleason, F. A	Union	Tucker, Benj.....	Norway
Greenleaf, A. C.	Farmington	Warren, Henry P	Albany, N. Y.
Hall, Chas. G.....	Cedar Grove	Waterman, L. C	Buckfield
Jepson, Albert E.....	Norridgewock	White, Mrs. Charles	Skowhegan
Knowlton, J. B	Farmington	White, Edward L	Bowdoinham
Leland, Will E.....	East Sangerville	White, P. C	Skowhegan
Lenfest, Mrs. F. H	Union	Whitman, W. C. & Son.....	South Turner

ANNUAL MEMBERS, 1905.

Abbott, S. E.....	Bethel	Mendell, Mrs. C. E	Hartford
Bass, Mary A	Wilton	Merchant, S. L.....	Winthrop
Berry, W. F.....	Canton	Nowell, F. E	Fairfield
Briggs, Arthur B.....	Canton	Perley, F. B.....	Vassalboro
Bryant, C. A	Livermore Center	Scales, Lilla M.	Temple
Campbell, D. W	Cherryfield	Shurtleff, S. G.....	South Livermore
Chase, Solon.....	Chase's Mills	Smith, Mrs. F. A	Canton
Craig, William.....	Auburn	Spaulding, Stephen....	North Buckfield
DeCoster, Mrs. V. P.....	Buckfield	Staples, George W.....	Temple
Ellis, Mrs. Kate B	Fairfield	Stetson, T. B. W.....	Canton
Fairbanks, A. E.....	North Monmouth	Toothaker, L. P.....	Etna
Goodale, G. C.....	Winthrop	Tucker, Benjamin.....	Norway
Greenleaf, A. C.....	Farmington	Virgln, G. H	Canton
Hardy, E. E.....	Farmington	Virgln, Mrs. G. H.....	Canton
Hitchings, E. F.....	Waterville	Walker, Mrs. F. L.....	Canton
Leland, Will E.....	East Sangerville	Wallingford, John.....	Auburn
Lincoln, Mrs. E. L	Wayne	Washburn, C. C	Mechanic Falls
Mayo, E. R.....	Hallowell	White, Edward L.....	Bowdoinham
McLatchey, R. E	46 Clinton St., Boston	Whittemore, F. H	Livermore Falls

ANNUAL MEMBERS, 1906.

Arnold, F. A.....	Arnold	Leavitt, L. C.....	Kezar Falls
Bennett, Elizabeth A.....	Harrison	Mayo, E. R.....	Hallowell
Breed, W. O.....	Harrison	Merchant, S. L.....	Winthrop
Burnell, R. A.....	West Baldwin	Nowell, Frank E.....	Fairfield
Chadbourne, J. A.....	North Bridgton	O'Neil, Joshua H.....	Portland
Chadbourne, W. C.....	North Bridgton	Pike, Albert J.....	Wayne
Cobb, W. F.....	Turner Center	Pike, J. M.....	Wayne
Craig, William.....	Auburn	Shurtleff, S. G.....	South Livermore
Dorsey, Maxwell J.....	Orono	Tarr, Edward.....	Mapleton
Dunham, C. C.....	Foxcroft	Thorpe, B. F. W.....	Augusta
Flint, Mrs. John B.....	Harrison	Tucker, Benjamin.....	Norway
Frost, H. F.....	Wayne	Warren, Jessie B.....	Harrison
Goodale, G. C. & W. E.....	Winthrop	Washburn, C. C.....	Mechanic Falls
Greene, J. L.....	Harrison	Waterman, L. C.....	Buckfield
Guptill, Florence.....	Topsham	Watson, Bernice.....	Gardiner
Hobart, O. R.....	Auburn	Wilbur, Georgine V.....	Phillips

REPORT OF THE EXECUTIVE COMMITTEE.

The various reports of officers and the papers published with this in the Annual Transactions will give a comprehensive idea of the work during the year 1906. There has been an effort on the part of the executive committee to intensify certain features of the work, at the same time we are well aware that there are many other lines of work that could be followed up to the advantage of the fruit industry in the State. In connection with the Farming Specials that were run over the railroads in the State we distributed 1,000 eight-page circulars setting forth the objects of the society and soliciting the co-operation of all fruit growers in the State. While there has not been any large increase in our membership we feel that the effect was beneficial.

The money of the society has been wisely expended, and as will be seen, it is for money paid by the committee in some way for travel and other expense, aside from the small salaries allowed the secretary and treasurer and the money paid in prizes at our exhibition. Stating it in other words the work of the officers has been largely done gratuitously. Each of the committee have spent several days in attending the meetings, and the secretary will bear witness that this time has been cheerfully given.

At all our meetings and elsewhere we have urged fruit growers to become members of the society. Reference to the figures will show that from new members we have received the past year \$112. Of this sum \$80 will be added to our Permanent Fund, which now amounts to \$1,640. The following resume shows the financial situation for the year:

RECEIPTS.

Balance in treasury, January 1, 1906.....	\$61 45
State stipend for 1906.....	1,000 00
Interest on permanent fund.....	66 61
Interest on deposit.....	15 86
Life members	80 00
Annual members	32 00
Fruit sold at Harrison.....	1 00
	<hr/>
	\$1,256 92

EXPENDITURES.

Executive committee	\$125 66
Treasurer	15 70
Salary of secretary.....	150 00
Salary of treasurer.....	25 00
Speakers at annual meeting.....	66 50
Judges	36 51
Postage	27 54
Premiums at annual exhibition.....	329 50
Annual meeting	17 00
Stenographer	60 87
Binding transactions	28 60
Printing and Stationery.....	71 60
Hotel bills—officers and speakers.....	80 50
Freight	9 63
Express	18 04
Paper for exhibition tables.....	4 40
Badges and box of Hood River apples.....	8 75

 1,075 80

 Balance
 15 |

 \$1,075 95

 Outstanding orders paid.....
 180 97 |

 \$1,256 92

RESOURCES.

Cash in treasury.....	\$ 15
Due from State for 1907.....	1,000 00
Permanent fund	1,640 00

 \$2,640 15

LIABILITIES.

 Due permanent fund.....
 130 00 |

 \$2,510 15

PERMANENT FUND.

Invested as shown by treasurer's report.....	\$1,510 00
Due from society.....	130 00

 \$1,640 00

Z. A. GILBERT,
 D. H. KNOWLTON,
 C. A. ARNOLD,
 V. P. DeCOSTER,
 WILL E. LELAND,

Executive Committee.

REPORT OF TREASURER.

E. L. Lincoln, Treasurer, in account with Maine State Pomological Society.

1906.	DR.	
January 20, balance for the year 1905		\$61 45
To received from First National Bank of Farmington interest on stock		12 00
To received from Albert J. Pike, Wayne, annual fee.....		1 00
February 10, To received from Joshua H. O'Neil, Portland, annual fee..		1 00
March 2, State stipend		1,000 00
July 2, To received from First National Bank of Farmington interest on stock		13 00
May 13, To received from Georgine V. Wilber of Phillips, annual fee ...		1 00
August 11, To received from H. F. Frost, Wayne, annual fee		1 00
25, To received from Edward L. White, life member.....		10 00
September 8, To received from O. B. Hobart of Auburn, annual fee.....		1 00
28, To received from J. M. Pike of Wayne, annual fee.....		1 00
November 2, to received from Livermore Falls Trust and Banking Company interest of certificate of deposit.....		11 78
17, to received from Alfred G. Guley, life member.....		10 00
to received from S. G. Shurtleff, South Livermore, annual fee		1 00
November 20, To received from J. Merrill Lord, Kezar Falls, life member.....		10 00
To received from Zaccheus McAllister of Lovell, life member		10 00
To received from E. P. Turner, New Vineyard, life member.....		10 00
December 5, To received from Florence Guptill of Topsham, annual fee		1 00
To received from E. E. Hardy of Farmington, life member		10 00
6, To received from E. R. Mayo of Hallowell, annual fee.....		1 00
To received from S. L. Merchant of Winthrop, annual fee.		1 00
November 20, To received from W. O. Breed of Harrison for annual fees		1 00
To received from J. A. Chadbourne of No. Bridgton, annual fee		1 00
To received from L. C. Leavitt, of Kezar Falls, annual fee.		1 00
To received from Benjamin Tucker of Norway, annual fee		1 00
To received from Wm. Craig of Auburn, annual fee.....		1 00
To received from Maxwell J. Dorsey of Orono, annual fee.		1 00
To received from W. F. Cobb of Turner Center, annual fee		1 00
To received from C. C. Washburn of Mechanic Falls, annual fee		1 00
To received from B. F. W. Thorpe of Augusta, annual fee		1 00
To received from F. E. Nowell of Fairfield, annual fee....		1 00
To received from J. L. Green of Harrison, annual fee.....		1 00
To received from sale of fruit at Harrison.....		1 00

December 1,	To received from C. C. Dunham of Foxcroft, annual fee..	\$1 00
	To received from F. A. Arnold of Arnold, annual fee	1 00
	To received from Elizabeth A. Bennett of Harrison, annual fee	1 00
	To received from R. A. Burnell, West Baldwin, annual fee	1 00
	To received from C. L. Chadbourne of Harrison, life member	10 00
4,	To received from W. C. Chadbourne of No. Bridgton, annual fee	1 00
	To received from Cora M. Denison Harrison, life member	10 00
	To received from Mrs. John B. Flint of Harrison, annual fee	1 00
	To received from G. C. & W. E. Goodall, Winthrop, annual fee	1 00
7,	To received from Livermore Falls Trust & Banking Co., interest on certificate of deposit	4 08
8,	To received from Edward Tarr of Mapleton, annual fee..	1 00
	To received from Jessie B. Warren of Harrison, annual fee	1 00
	To received from L. C. Waterman of Buckfield, annual fee	1 00
	To received from Bernice Watson of Gardiner, R. F. D., annual fee	1 00
27,	Interest on Savings Bank deposits.....	42 61
		<hr/> \$1,256 92

CR.

January 20,	by paid W. G. Tibbitts, order No 900, for board of Executive Committee	\$9 50
	By paid D. H. Knowlton, order No. 895, expense at Augusta as Secretary	3 77
	By paid Z. A. Gilbert, order No. 899, expense as President at Augusta.....	3 05
	By paid C. A. Arnold, order No. 897, expense as Executive Committee, Augusta.....	3 75
	By paid V. P. DeCoster, order No. 896, expense as Executive Committee, Augusta.....	4 60
	By paid E. L. Lincoln, order No. 897, expense as Treasurer, it being for traveling at Augusta, extension case and postage for 1905.....	7 60
March 8,*	By paid Knowlton & McLeary, order No. 893, for printing and stationery for 1905.....	55 97
	By paid D. H. Knowlton, order No. 883, salary, being balance for the year 1905	100 00
July 31,†	By paid E. L. Lincoln, order No. 894, salary for the year 1905	25 00
7,	By paid D. H. Knowlton, order No. 906, postage and expense	26 01
	By paid D. H. Knowlton, order No. 907, expense and board Executive Committee	2 66
	By paid C. A. Arnold, order No. 909, expense as member Executive Committee	4 50
	By paid Will E. Leland, order No. 910, expense as Executive Committee.....	5 26
	By paid Smith & Reid, order No. 911, binding Transactions.	28 60
	By paid V. P. DeCoster, order No. 908, expense as Executive Committee.....	2 00
August 25,	By paid Will E. Leland, order No. 905, expense at Orono....	2 50
	By paid C. A. Arnold, order No. 903, expense at Orono.....	2 00
	By paid Z. A. Gilbert, order No. 912, expense as President at Orono.....	10 67

August 25,	By paid V. P. DeCoster, order No. 904, expense at Orono....	\$11 70
	By paid D. H. Knowlton, No. 902, expense as Secretary.....	7 75
	By paid D. H. Knowlton, order No. 901, in part salary as Secretary 1906.....	50 00
October 1,	By paid Will E. Leland, order No. 930, for expense moving Society's boxes from Mrs. Libbey's.....	3 40
8,	By paid L. B. Raynes, order No. 913, service as stenographer at Orono.....	8 27
24,	By paid Whitehead & Hoag Co., order No. 914, expense for badges	3 50
November 17,	By paid Alfred G. Gullely, order No. 923, expense as speaker and service at Harrison	26 90
	By paid Bessie M. Rupert, order No. 921, expense as speaker at annual meeting.....	4 00
	By paid C. A. Arnold, order No. 918, expense at annual meeting.....	10 60
	By paid V. P. DeCoster, order No. 920, expense as Executive Committee, Harrison.....	6 68
	By paid Will E. Leland, order No. 926, expense as Executive Committee, Harrison.....	8 00
	By paid Z. A. Gilbert, order No. 919, expense as President at Harrison	1 85
	By paid Wm. W. Higgins, order No. 917, apples purchased to show style of packing	3 25
	By paid Miss Bernice Watson, expense as speaker, order No. 922	8 00
	By paid Maine Farmer Pub. Co., printing posters, annual meeting, order No. 918 ..	2 98
	By paid David Kneeland, board of officers at Harrison, order No. 929.....	68 00
	By paid Mary W. Gray, order No. 933, service as Clerk at annual meeting	4 00
	By paid Guy E. Davis, order No. 936, service as janitor at Harrison	3 00
	By paid S. H. Dawes, expense incurred for express and other items, order No. 931, at Harrison.....	7 75
	By paid W. O. Breed, expense for music at annual meeting, Harrison	10 00
	By paid H. A. Shorey & Son, order No. 916, publishing posters for annual meeting	5 00
	By paid E. L. Lincoln, expense traveling as Treasurer at Harrison, order No. 924	5 10
	By paid Dr. George M. Twitchell, expense as Committee on "Fruit Marks," acct. order No. 927.....	6 10
	By paid S. G. Shurtleff, order No. 935, travel and service as judge of fruit	6 35
	By paid Maxwell J. Dorsey, order No. 925, expense as speaker at annual meeting, Harrison.....	9 10
20,	By paid D. H. Knowlton, order No. 928, expense as Secretary to date at annual meeting, Harrison.....	37 45
	By paid S. T. Maynard, No. 934, travel and service as a judge of fruit at annual meeting.....	30 16
	By paid Wm. Craig, order No. 938, travel at annual meeting.....	2 75
December	By paid E. L. Lincoln, awards at Harrison meeting.....	329 50
November 16,	By paid Mrs. V. P. DeCoster, to travel and service at Harrison meeting, order No. 932.....	9 65
December 27,	By paid Will E. Leland for expense as Executive Committee at Augusta.....	6 26

December 27, By paid V. P. DeCoster, expense and cash paid for freight and travel, order No. 947.....	\$6 80
By paid D. H. Knowlton, expense as Secretary, No. order 942.....	6 12
By paid D. H. Knowlton, order 941, salary for 1906 in full	100 00
By paid Knowlton & McLeary Co., printing, etc., No. 943	63 62
By paid Miss L. B. Raynes, services as Stenographer, annual meeting, order No. 939.....	52 60
By paid E. L. Lincoln, order No. 946, salary as Treasurer..	25 00
By paid E. L. Lincoln, expense as Treasurer.....	8 20
Balance	15
	<hr/>
	\$1,256 92

PERMANENT FUND FOR THE YEAR 1906.

By members' fee as reported for 1905	\$1,560 00
Fees received in 1906:	
Edward L. White.....	\$10 00
Alfred G. Gully	10 00
J. Merrill Lord.....	10 00
Zach McAllester.....	10 00
E. P. Turner	10 00
E. E. Hardy.....	10 00
C. L. Chadbourne.....	10 00
Cora M. Denison.....	10 00
	<hr/>
	\$1,640 00
Permanent fund invested as follows:	
Four shares stock First National Bank of Farmington.....	\$400 00
Deposit in Augusta Saving Bank.....	550 00
Deposit in Augusta Trust Co., and Winthrop Branch.....	560 00
Due permanent fund life fee for 1905.....	50 00
Due permanent fund life fee for 1906 ..	80 00
	<hr/>
	\$1,640 00

Respectfully submitted,

ELLIS L. LINCOLN, Treasurer.

BUSINESS TRANSACTIONS.

MEETINGS OF EXECUTIVE COMMITTEE.

AUGUSTA, January 19, 1906.

Voted, To hold an Orchard Meeting—time and location referred to Secretary.

Voted, To refer location of Annual Meeting to Mr. Gilbert, to be reported at next meeting.

Voted, To hold Annual Meeting the week of November 11th.

Voted, To instruct the Secretary to have 1500 copies of Schedule of Premiums printed previous to the proposed Orchard Meeting.

Voted, That the Secretary and Treasurer be authorized to withdraw one thousand dollars from deposits now on interest for investment, and that they be instructed to invest the same in such interest-bearing securities as may meet the approval of the Executive Committee.

Revised the Schedule of Premiums for 1906.

AUBURN, July 7, 1906.

Secretary presented invitations for the Annual Meeting: one from citizens of Harrison by S. H. Dawes; a verbal invitation from parties in Waterville; a written invitation from Winthrop Grange to hold the meeting in Winthrop; a verbal invitation from C. L. Jones to hold the Annual Meeting in Corinna.

Voted, To hold the Annual meeting in Harrison.

Voted, To hold the Field Meeting with the University of Maine.

AUGUSTA, December 27, 1906.

At this meeting the Treasurer presented his report for the year, and the same was audited and approved.

The Executive Committee made up their report of the year's work, together with a statement of the financial condition of the Society, which appears in full in this volume.

PUBLIC MEETINGS.

FIELD MEETING.

The Field or Summer Meeting of the Society was held on the campus of the University of Maine, Orono, August 21st.

After looking over the grounds and partaking of a basket picnic on the campus, the party assembled in the chapel, where there were informal talks by several speakers, a summary of which appears elsewhere in this volume. Among other objects of interest to visitors were several spraying outfits.

Although no formal expression of thanks was made, each and all were delighted with the cordial reception and the opportunity afforded for the study and investigation of the work being done in the way of horticulture.

ANNUAL MEETING.

The Annual Meeting and exhibition of fruits and flowers were held in the new and commodious hall of Lakeside Grange, Harrison, November 13, 14 and 15.

The 13th was devoted to the arranging of the exhibition. The programme for the 14th and 15th was as follows:

WEDNESDAY, OPENING SESSION AT 11 A. M.—Address of Welcome, Alphonzo Moulton, Harrison; Response, Charles E. Wheeler, Chesterville; President's Annual Address, Hon Z. A. Gilbert, North Greene; Appointment of Committees.

WEDNESDAY AFTERNOON—Greetings from other Societies. How can the Meetings and Exhibits of the Society be made of the greatest educational value? Discussion opened by Edward L. White, Bowdoinham; continued by John W. True, New Gloucester, Chas. S. Pope, Manchester, and others. A Horticultural Use for Abandoned Lands, Prof. W. M. Munson, Orono.

WEDNESDAY EVENING—A grand banquet was served by Lakeside Grange at 7 o'clock in Grange Hall.

THURSDAY—Annual Meeting: Report of Treasurer, E. L. Lincoln, Wayne; Report of Secretary, D. H. Knowlton, Farmington; Report of Executive Committee.

Report of Committee on the following Resolve passed at the last Annual Meeting, Dr. Geo. M. Twitchell, Auburn, Committee:

That this Society, recognizing the substantial growth of our fruit industry and realizing the necessity for a more critical grading of the stock, for the protection of the grower, declares in favor of national legislation looking to a Fruit Marks Act, and authorizes the appointment of a committee whose duty it shall be to correspond with the officers of the Fruit Growers' Associations in the several states, and if a general sentiment is found favoring such action to arrange a conference for the purpose of outlining national legislation, said committee to be authorized to expend a sum not to exceed fifty dollars for postage and necessary printing and expenses, a full report to be made at the next annual session of this Society.

Report of Committee on Fruit Packages. The following vote was passed at the last annual meeting of this Society, E. L. Lincoln, L. H. Blossom, Chas. S. Pope, Committee:

To refer back to the same committee the question of the size of package to be adopted, and further that this committee be instructed to, if possible, agree with representatives of other New England and New York Associations as to the size of box to be adopted by all societies, and report at the next meeting.

THURSDAY AFTERNOON—Our Round Table. Best and most profitable apples for Piscataquis County, Will E. Leland, East Sangerville; A Massachusetts Man on a Maine Farm, W. O. Breed, Harrison; How to Pack the Apple, F. B. Perley, Cross Hill; Why not Grow More and Better Fruit in Maine? William Craig, Auburn; What a Tree Told Me, Dr. Geo. M. Twitchell, Auburn; The Brown-tail's Parasites, Prof. E. F. Hitchings, Waterville; The Cold Storage Problem, Prof. Maxwell J. Dorsey, Orono.

Address, Recent Pointers for the Apple Grower, Prof. Alfred G. Gulley, Storrs, Conn.

THURSDAY EVENING—Ladies' Night. Music; My Nature Studies, Miss Bernice Watson, Gardiner; How to Grow Dahlias in Maine, Miss Bessie M. Rupert, Portland; Home Industries for the Farmer's Daughter, Mrs. V. P. DeCoster, Buckfield; Music.

BUSINESS TRANSACTED.

At the opening session, Charles E. Wheeler, John W. True and F. H. Morse were chosen a Committee on the President's Address.

This committee having attended to the duty assigned them, offered the following report, which was accepted:

"First, we would recommend, in view of the increased fruit industry and the demand for extra work along the lines of horticulture, that the Executive Committee use such means as in their judgment they deem best to secure an increased appropriation for our Society from the State.

"Second, in view of the increased allotment of funds from the general government to our Experiment Station, we would demand increased work along the lines of horticulture.

"Third, that we feel it due our Society that a written report be presented at each annual meeting by our member of the Experiment Station Council.

"Fourth, that we urge our Executive Committee to use such measures as they deem best to secure aid and legislation regarding the insect pests of our State.

Fifth, that our Society endorse all that our President has said in commendation of our State Commissioner of Agriculture in his fight against the brown-tail moth and other injurious pests.

"All of which is respectfully submitted."

S. G. Shurtleff, Chas. S. Pope and Edward L. White were appointed a Committee on Resolutions. Having attended to the duty assigned them, at a later session they offered the following resolutions, which were accepted:

"Resolved, That the Maine Pomological Society desire to extend their thanks to Lakeside Grange for the use of their hall during this session of their Annual Meeting; and to the citizens of Harrison for their uniform courtesy to the members of this Society.

"Resolved, That we wish to express our thanks in particular to the Committee of Arrangements and to the Banquet Committee, also to the proprietor of the Elms Hotel, for their untiring efforts to make our stay at this place exceedingly pleasant.

Resolved, That this Society hereby extends its thanks also to the Maine Central, Portland & Rumford Falls and the Bridgton & Saco Railroads for reduced rates."

The judges at the Annual Meeting were as follows: Prof. Samuel T. Maynard, on collections; S. G. Shurtleff, on single plates of fruit; Mr. and Mrs. John W. True, on canned fruits, etc.

Following the report presented by Dr. Geo. M. Twitchell relating to national legislation to secure uniform sorting, grading and packing of our fruit, it was

Resolved, That this Society recognizing the importance of the proposed measures looking to legislation which will insure more uniform sorting, grading and packing of our fruit crops, and the work of the special committee appointed last year, hereby declares in favor of continuing said committee another year, in the hope that national legislation may be made certain."

The report of the Committee on Fruit Packages, made by E. L. Lincoln, chairman, was followed by discussion and it was *Noted*, That the box matter be laid on the table.

ANNUAL BUSINESS MEETING.

The Treasurer, Secretary and Executive Committee presented informal reports and they were accepted.

After the appointment of C. A. Arnold, E. L. White and W. O. Breed, a committee to distribute, collect and count ballots, the following officers were elected for 1907:

President—Z. A. Gilbert, North Greene.

Vice Presidents—D. P. True, Leeds Center; Edward L. White, Bowdoinham.

Secretary—D. H. Knowlton, Farmington.

Treasurer—E. L. Lincoln, Wayne.

Member of Executive Committee for three years—Charles E. Wheeler, Chesterville.

Noted, That the auditing of the accounts be left to the Executive Committee.

Trustees—Androscoggin county, A. C. Day, Turner Center; Aroostook county, Edward Tarr, Mapleton; Cumberland county, John W. True, New Gloucester; Franklin county, E.

E. Hardy, Farmington; Hancock county, Chas. G. Atkins, Bucksport; Kennebec county, E. R. Mayo, Hallowell; Knox county, Alonzo Butler, Union; Lincoln county, H. J. A. Simmons, Waldoboro; Oxford county, F. H. Morse, Waterford; Penobscot county, W. M. Munson, Orono; Piscataquis county, C. C. Dunham, Foxcroft; Sagadahoc county, ———; Somerset county, Frank E. Nowell, Fairfield; Waldo county, Fred Atwood, Winterport; Washington county, D. W. Campbell, Cherryfield; York county, J. Merrill Lord, Kezar Falls.

Member of Experiment Station Council—Charles S. Pope, Manchester.

Voted, That a committee be appointed to co-operate with other committees appointed by the Dairymen's and other kindred associations, to appear before the Legislature to urge upon them an appropriation of money to purchase a farm for the use of the Experiment Station in carrying on further experimental work in connection with the fruit industry.

Voted, That this matter be placed in the hands of the Executive Committee to present to the Legislature.

At the closing session Mr. W. O. Breed in behalf of the people of Harrison expressed the deep pleasure they had enjoyed by this visit of the Pomological Society to their town, and he wished to thank the Society for coming.

PAPERS, ADDRESSES AND DISCUSSIONS OFFERED
AT VARIOUS MEETINGS OF THE SOCIETY.

ADDRESS OF WELCOME.

By ALPHONSO MOULTON of Harrison, Master of Lakeside Grange.

In a larger and more pretentious town than Harrison the chances are that a Board of Trade would be the organization that would take the lead in extending a welcome to you, and the one selected for the task would doubtless be a man of note instead of a humble farmer like myself, whose proudest position is that of Master of our local Grange. In Lakeside Grange we have an organization which we think is even better than a Board of Trade. To be sure it represents those whom some have been pleased to designate as the "lower and laboring classes," but we well know that these classes are the ones who make the foundation for the whole structure, and that you are proud to number yourselves among them.

In this Grange we have an organization whose principal object is the elevation of the whole community, and especially of the agricultural portion of it. It is ever on the alert for what will benefit this part of our inhabitants, and through them, all of the residents in this vicinity. It was largely through the efforts of this Grange that this meeting was secured for Harrison, and it was wholly by its work that this elegant and commodious place of meeting was erected, an enterprise which few believed that we were capable of carrying to successful completion, and which has provided this village with a building which supplies a long-felt want, and of which it is justly proud.

It is meet and proper that this organization, the leading one in point of numbers and influence, and representing, as it does, the agricultural portion of the community, should be the one to welcome you to the hospitalities of the good town of Harrison, and I am not unmindful of the honor that was conferred upon me when I was selected as the one to give voice to that welcome.

Harrison, though it cannot claim to be a large town, is by no means the backwoods, out-of-the-way, and insignificant place

that some seem to suppose it to be. Though small in size, and with a population of less than 1000, its farms are numerous and productive, its farmers are prosperous, and in fruit-growing it is one of the leading towns of the county, having within its borders two of the most noted and productive fruit farms of the State, and several others whose average product goes up into the hundreds of barrels. It has several manufactories, which, though making no great pretense, are doing a more flourishing business than some other more pretentious concerns, and I trust that you will take occasion to look them over before your stay is completed. I assure you that you will find that visitors from outside are welcome, and that the proprietors will be ready to show you what they are doing.

You have doubtless discovered that Harrison is not a very difficult town to reach, and, if you could have made your visit in midsummer, you would have found our transportation still better. We are at the terminus of a railroad, which, though it is at present of the narrow gauge pattern, is in the hands of an enterprising corporation, which gives us three trains per day each way during nearly the whole of the year, and sees to it that the officials are always gentlemanly and obliging. We are also at the terminus of the famous "Sebago Lake Route," one of the most beautiful and attractive waterways in the whole country, a portion of the route being the celebrated Songo River, of which the poet Longfellow wrote:

"Walled with woods or sandy shelf,
Ever doubling on itself,
Flows the stream so still and slow
That it hardly seems to flow.

Never errant knight of old,
Lost in woodland or on wold,
Such a winding path pursued
Through the sylvan solitude."

It is a route over which thousands of delighted passengers travel each year.

Lakeside Grange represents the larger part of Harrison and the contiguous territory in Bridgton, and we are somewhat proud of our place of residence. Harrison and North Bridgton are two villages but a little more than a mile apart, each served in the same way, and with interests that are very nearly iden-

tical. From Harrison run four R. F. D. mail routes, covering the whole of this town, and quite a portion of the adjoining ones, and bringing daily to our doors the mails which we formerly thought ourselves fortunate to get once or twice per week by driving several miles after them. The telephone has been extended into nearly all of the surrounding territory, not only placing us in immediate contact with the inhabitants of this and neighboring towns, but making communication with people in distant places quick and easy. Truly we are so situated that we feel quite well satisfied, and not inclined to exchange places with those who may think that they are in a better town than this; but still we are not entirely content, and wish for two things more: Those are the widening out of our narrow-gauge railroad, and the introduction of the trolley car into our midst. When these shall come, as we expect they will in the not far distant future, we see no reason why there should be any more desirable place of residence in the whole State.

We are not unmindful of the honor which your Society has bestowed upon us in selecting this place for your Annual Meeting and Exhibition, and we are most certainly proud of having you with us, and of having your beautiful and extensive exhibition spread in the hall beneath us. We are well aware that your Society has been of immense benefit to the fruit growers of this State; that through its efforts they have been incited to new and increased exertions, that many improved varieties have been introduced, and that better and more productive methods of cultivation have been brought to light. Fruit growing is such an important industry in this State that whatever benefits those engaged in it, must benefit the whole State.

It seems impossible for such an exhibition as you have here, to be given, and for such meetings as you have arranged for, to be holden, without being of great benefit to those who attend; therefore we feel that they will be of great profit to us if we take the advantage of them that we should. You have done your full duty in the matter, and it lies with us to avail ourselves of the feast of good things which you have provided.

Members of the Pomological Society: In behalf of Lakeside Grange, and of the citizens of this and adjoining towns, I extend to you a cordial and sincere welcome. We know that you will benefit us, and we hope and trust that your exhibition may be so

successful, and that the attendance and interest at the meetings which you are to hold may be so satisfactory, that you will have no reason to regret that you decided to make our little town your place of meeting in 1906. You who have come within the gates of the Grange are well aware that one of its leading mottoes is: "Whatever we do, let us strive to do well." I think that I am safe in saying that this is a principle that our town usually follows, and I trust that in our treatment of you, pomologists of Maine, we may be able to demonstrate the truth of this statement.

RESPONSE TO ADDRESS OF WELCOME.

By CHARLES E. WHEELER, of Chesterville.

In behalf of the officers and members of the Maine State Pomological Society, it gives me great pleasure to accept this cordial welcome. This grand organization of which you are a part is ever in the front ranks, for the up-building of society. No organization in this State has done more to take the home life upon the farm from out the ruts of drudgery. Meeting as you do each week or fortnight in your subordinate homes, there to discuss every phase of farm and home life, you not only create within each brother or sister, a desire to be more of a man or woman, but it extends to those of a younger age, and they come upon the stage of life better fitted to make the man or woman of the twentieth century ideal.

We convene here on this occasion to hold our 33d annual session.

The years of the past stand as a matter of history and, step by step, year by year, we have been gathering up the results of actual work along the lines of Pomology and a truer citizenship. Sifting out and separating from that experience which may to the fruit grower be either failure or success.

If this society had no object to attain but the word success measured from a financial standpoint, I fear it would fall far short of the intent of its founders, so, day by day, we go on hand in hand with you working for that success.

This society for all these years of work has had an object ever in view and that is, to point out and lead each and every fruit grower of this good State of ours to surer success.

This most cordial welcome given to us by your worthy master is reflected from each and every face, the hearty shake of the hand, the personal welcome, causes us to feel honored as your guests. The renewal of friendships and the formation of new ones will, we all know mark this "mile stone" of our society as one long to be remembered.

ANNUAL ADDRESS.

By HON. Z. A. GILBERT, North Greene, President of Maine State Pomological Society.

The Maine State Pomological Society was formally and legally organized the 27th day of March, 1873, under an Act of Incorporation passed by the Legislature then just adjourned. Influential members of the State Board of Agriculture, prior to this, had discussed the propriety of organizing such a society. At a meeting of the Board, held at Skowhegan in October, 1872, previous notice having been given, the subject was taken up for consideration, but the records of that meeting show that, "owing to a small attendance, it was thought best, after discussion, to leave the subject in the hands of a committee," and Messrs. Z. A. Gilbert of Greene, J. A. Varney of Vassalboro and A. L. Simpson of Bangor were made that committee.

Prior to the next meeting of the Board of Agriculture, that committee issued an address to the fruit growers of Maine, inviting them to meet in convention with the Board at a session to be held at Winthrop, January 14-17, 1873. In accordance with the call there were a large number of fruit growers present, representing all parts of the State. After due consideration it was unanimously voted: "That it is expedient to establish such a Society." A committee was therefore appointed to report a plan of organization and nominate a list of temporary officers.

Another committee was appointed to procure an Act of Incorporation from the Legislature then in session.

In accordance with these preliminaries, the corporators of the Society met at Augusta on the date before named and launched this Society into its field of usefulness.

The first officers of the Society were: President, Z. A. Gilbert, Greene; Vice-Presidents, Geo. W. Woodman, Portland, and

A. L. Simpson, Bangor; Secretary, Geo. B. Sawyer, Wiscasset, and Treasurer, Chas. S. Pope, Manchester.

The act of incorporation gave us the sum of \$500 annually, but stipulated that a sum not less than that paid by the State should be paid out in premiums. Thus the officers were at once up against the problem of carrying on the work placed in their hands and at the same time paying out all guaranteed funds in premiums. At the first exhibition held at Bangor the records show that \$516 was awarded in prizes and was paid in full. Later on, however, the State aid was increased to \$1000 annually, where it still remains. This enables us, by exercising strict economy, to carry on the work of the Society in the manner all members are familiar with at the present time.

I have been led to this bit of reminiscence by looking over the names of those noble men, interested in fruit growing, who associated in the early work of this Society. In that list there are but three left to participate in their chosen work at the present time. Were this the place, and now the time, it would be a pleasure to recall the lasting aid given to the cause we here represent by those intelligent, broad-minded and unselfish men. Verily the young men of today have a responsibility resting upon their shoulders if they fill the vacancies left by those who have dropped out of our ranks in the passing years.

Fruit production as a business at the time of the organization of this Society had reached comparatively little commercial importance. The shipment of apples to foreign countries had but barely commenced. Our Maine apples were dependent on the local markets and the Boston demand. From the limited production at that time, but thirty-three years ago, to the million and a half barrels of market apples in a single season is an increase creditable to the State. Just how much of this increase may rightfully be credited to the influence of this Society cannot be stated, nor, as connected with our present work, does it in any sense matter. This Society, according to the light in its possession, has held steadfastly to its mission, at all times putting forth its efforts in aid of the industry in its charge to the full extent of the means within its reach. That its course has met the approval of those for whose interests it has labored we have abundant evidence in the cordial support we have been and still are receiving, and I trust that the interest manifested in

the exhibition drawn out at this time, and in the exercises of this convention, will be a confirmation of a continuance of the same good will.

The pomology of the State has had a valuable ally in the Experiment Station connected with the University of Maine at Orono. Early in its work the Station recognized the importance to the State of our fruit industry, and at once entered upon experimental work in its behalf. This has been continued, according to the means apportioned to its use for the purpose, as the bulletins of the Station have shown, up to the present time. It would have been of interest to have shown the money outlay made from year to year by the Station, and also by the University in its support of the chair of Horticulture, but I was informed by the officers in charge that the complication of expenditures was such as to render their separation into distinct classes impracticable. That greatly enlarged work along horticultural lines in our State is needed every one familiar with present conditions is well aware. It is known that by a recent act of Congress the Government aid in support of the Experiment Stations was substantially increased. In view of enlarged working funds fruit growers would seem to be justified in looking for increased work in behalf of the fruit industry.

That the growing of fruit, especially of apples, is found eminently profitable there is abundant evidence among our successful growers. Our Society for some years has been urging more attention to the culture and the care of orchards that increased profits might be realized. That this teaching has met a widespread response among growers of fruit the large increase in the number of orchards under cultivation and the increased bounty of the bearing trees in all parts of the State give encouraging testimony that the efforts of the Society are meeting an encouraging response. In this direction, however, a serious obstacle stands in the way. Very few of our Maine apple producers make their orchards a leading feature of their farm operations. The orchard is a sort of side attachment to the general farming. In far too many cases, if not a general rule, the orchard gets only the time, attention and care that happens to be left after the general farming has been attended to. So it is that the orchard is so generally neglected and its possibilities so rarely realized. When our fruit growers make

the orchard the leading feature of the farm, and give first attention to what the teaching of this Society and their own experience and observation have shown them is necessary to an abundant and reliable fruitage, then will they begin to realize the full measure of the profits of an orchard. That progress is surely being made along these lines may be accepted in evidence that the faithful labors of the members of this Society, freely rendered, have met with their merited reward, and should be taken as an encouragement to continued effort.

The brown-tail moth and the gypsy moth situation is not very different from what it was a year ago. It was my privilege to accompany Dr. Howard, Entomologist of the Department of Agriculture, Washington, and Dr. Kirkland, in charge of the gypsy moth appropriation in Massachusetts, on the occasion of their visit to this State inquiring into the situation here. Strong suspicion was felt by these authorities that the gypsy moth may have been transported into our State along the line of travel from Massachusetts and New Hampshire, and it was stated by Dr. Howard that experts would be furnished to make a thorough search, after the leaves of the trees had fallen, along the line of probable approach. A rumor has been abroad that this damaging moth had made a lodgment on our side of the State line. The State Entomologist will give our meeting information in regard to impending dangers from these insect enemies during the course of our proceedings. Without question it is the sentiment of every fruit grower among us that the aid of the State should be continued in staying the progress of these insect enemies, and that action should be taken at this meeting providing for the further aid of this Society in bringing this important matter before the forthcoming Legislature.

Before leaving this matter I wish in behalf of this Society to commend the prompt and efficient action of our State Commissioner of Agriculture in the invasion of the brown-tail moth so suddenly thrust upon us, and with him the several individuals and municipalities that have so promptly tendered their aid in defense against its damaging progress in our State. Your President has strong faith that our important fruit-growing industry is not destined to be seriously decimated by an insignificant insect, but that intelligent action will sooner or later discover a way through which its damaging presence can be overcome.

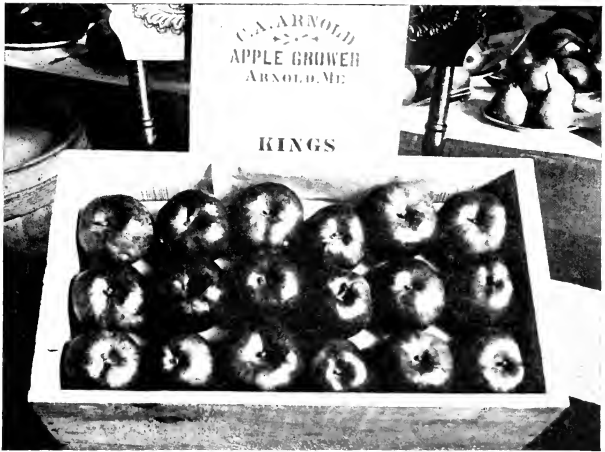
Meanwhile we must be active and spare no expense in disputing its advances till other aid shall come to the assistance of the situation.

Secretary D. H. KNOWLTON: There are one or two matters to which I would like to call your attention at this time because there may not be so favorable an opportunity to do it later, and I do it with the hope that those of you who are present may bear the fact in mind and extend the notice so far as it may seem of interest and importance to you.

The first which I have on my memorandum here, without any reference to importance, is a box of apples below on exhibition which we procured from New York for the purpose of showing, first the quality, and second the style of packing, of fruit of which we hear so much at the present time. We know also that the noise they are making about it is particularly significant to us. I want to read you a few lines from the gentleman to whom we are indebted for that box of apples, Mr. Collingwood of the Rural New Yorker. These apples are from the Hood River Valley, Oregon. They are medium grade fruit and cost \$3.25. Aside from the style of packing, what they sell for is a matter of importance to us. I will guarantee that those apples are not so good in quality as lots of apples on the tables below that were grown right here in the town of Harrison, but I want you all to examine them and see what style in packing means. This letter says, "I thought it might be better to get them than extra fancy which are selling for \$3.75." These that we have, represent, as he expresses it "the rank and file of the crop" of the Hood River Valley.

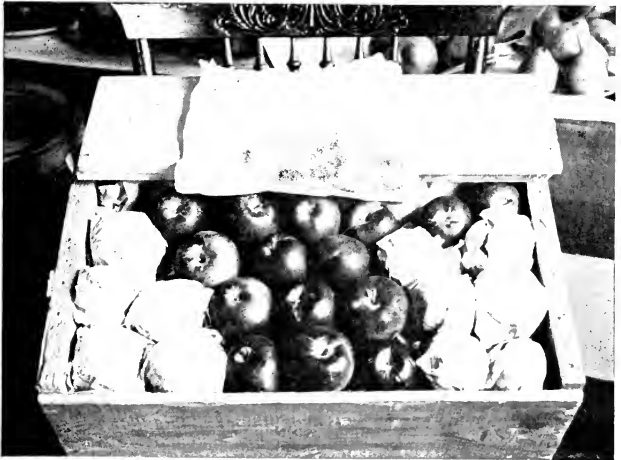
I want to call your attention also to this collection of insects over here on the table, made by Miss Bernice Watson, of the Gardiner High School, who is here to offer any words of interest which she may regarding these insects. I was delighted this morning to see so many of the school children present, and I hope if there are any in town who have not had the opportunity of seeing them that they may come out.

I wish to call your attention also to a little package, I don't know what to call it, which a gentleman brought in to me from the town of New Vineyard—Dr. E. P. Turner. He has a large orchard which has been recently set in the town of New Vineyard on the home farm which he owns there. Well, last winter



MAINE FARMER PRESS, AUGUSTA

A box of Maine Kings
By courtesy of editorial representative of N. E. Homestead



MAINE FARMER PRESS, AUGUSTA

A box of Hood River Jonathans
By courtesy of editorial representative of N. E. Homestead

and previous to last winter, his orchards have suffered a good deal of injury from the work of mice and he has been scratching his head, and raising cats and everything else to find ways and means of holding those mice in check. Well, as one result of that he brought into my office not a great while ago a little box—turned wooden box—which he worked up as being suitable for the purpose, in which he has very neatly packed a preparation of Paris green and Indian meal. There is a hole in the bottom of the box, very neatly covered with a little coating of mutton tallow. Now he says that the mice can't resist the temptation to eat mutton tallow if it is round where they can get at it. More than that, he says the odor of it is such that it will attract them to it from some distance. He says that a mouse hasn't got to do but very little work on that in order to get a full dose of the poison. It will be on exhibition so that you can see it and examine it and Dr. Turner himself will be here to answer any questions you may wish to ask him concerning it.

GREETINGS FROM OTHER SOCIETIES.

PROF. MAYNARD of Northboro, Secretary of the Massachusetts Fruit Growers' Association:—

It gives me great pleasure to bring greetings from the Massachusetts Fruit Growers' Association. Massachusetts is especially favored in having a large number of horticultural societies. We have perhaps the most wealthy horticultural society in the country, the Massachusetts State Horticultural Society, and also another society very prominent and wealthy, the Worcester County Horticultural Society.

The Massachusetts Fruit Growers' Association was organized some fifteen years ago by the working horticulturists. We have no home—we move about wherever we are invited—but we have an annual meeting at Worcester, the second Wednesday and Tuesday of March, to which we should be glad to welcome any members of the Maine Pomological Society or any friends of the interests of horticulture.

Our interests in Massachusetts probably are not unlike those in Maine. The condition of fruit growing today is very unsat-

isfactory, especially the growth of the apple, on account of the large number of insects and the difficulty in obtaining markets—of selling our products. Yet I think that difficulty would be overcome very largely if we could grow better fruit. I think that is the one point which we must work for. Good fruit always sells at good prices, and the more good fruit put upon the market the greater will be the demand, the larger the consumption.

Our difficulties are largely from insect pests. We can control the fungous pests, the blight, the scab, but the insect pests we are not able to control except at a great expense. With the older insects you are familiar, and the problem with you is probably the same as with us, how to get rid of the codling moth, the apple maggot, the caterpillars that feed upon the foliage. And we have now the gipsy moth and the brown-tail, and also the San Jose scale which is becoming a great pest, and with each individual it becomes the question of reducing the number and preventing the newer ones doing injury. The first brown-tail that you find should be destroyed. The individual should do what he can. The State should do as much as possible. I do not believe in treating the individual grower as a criminal because the San Jose scale, because the gipsy moth or the brown-tail, happens to be located on his property, but he should do what is possible, what is reasonable. The State should do the rest. And that is what is being done in Massachusetts. If you find the San Jose scale upon one tree, either prepare to destroy it—as can be done—or destroy the tree. That is the safest thing.

Prof. MAXWELL J. DORSEY: It is a pleasure indeed for me to be with you today and extend you greetings from the University of Maine.

I don't know of anything better than for men engaged in horticulture to get together and compare varieties, compare ideas, rub up against each other and compete in just such a meeting as this. I only wish that every man in the State interested in growing fruit could have the advantage that is before us here today of seeing these varieties, seeing this exhibit, and getting what we are getting out of it.

In this work the University and the Experiment Station wish to join hands. The Experiment Station can probably reach

your problems better than the University. It is the aim of the University to reach your problems through the boys and girls in this State, and it is a pleasure to me to meet with you here today and meet some men who have friends or perhaps sons in the University. I wish there were more of them. I think the University of Maine ought to hold the same position in relation to the farmers of this State that the University of Illinois or Iowa or Ohio or Michigan or some of those other universities do to the people of those states. And if you will help us out I think we can make the University hold this same relation.

Mr. CHARLES E. WHEELER: Last winter I went to Hartford, Connecticut, on a trip and it proved to be at the time of the last annual meeting of the Connecticut Pomological Society; and I can assure you I appreciated the privilege of attending that meeting. I appreciated also the things that I saw there, and I tried to bring home with me some things that might be of help to me, and it may be I will make some suggestions to you from things that I gathered up there during those few days.

In the first place, when I went there to that meeting, I found that it was a large hall like the City Hall of Portland. By ten o'clock the first forenoon, the main body of that house was packed and almost every individual had on one of these badges of membership—six or seven hundred of them—and they had paid their dollar. Wouldn't that be a help to us? I think it would.

Of course the display of fruit was far different than we find here at our meeting—they hold their exhibition in the fall—although there was a good exhibit in the hall below. And with that was one of the points that I wish to make here today. There was an exhibition of all the tools, or many of the tools that an orchardist would use in his business. It was a good display. There was a chance to go and see the working of those machines, as well as you could on floor space, and I know that orders were given and matters were talked over. Wouldn't it be an advantage to us to see some spraying apparatus in some hall, or other implements that we need? Well, there were basket manufacturers and others there, the tree-grower was there—the nurseryman, with full display of trees, and lots of other things that would come naturally with those things.

Now it seems to me that it would be well for our officers in years to come to provide for these things, to invite manufacturers to exhibit, that we might see those things.

Prof. ALFRED G. GULLEY: I belong to the Connecticut State Pomological Society. That is a wide awake society. I am, however, a representative of a Connecticut State Agricultural College which is located at Storrs. I have a little state over there that is doing something now in horticulture, or more strictly one branch of it, pomology, which is now covered quite ably. But it has wholly come up in the last twelve or fourteen years, wholly because some men there wanted to do something. Now we have got a State Horticultural Society that is forty years old, more or less, twice that for anything I know—and they have not done a thing in twenty years practically. They make a little show every year, a few of the members take all the prizes, and that is all there is of it. We have a good deal better working society in pomology which I think has been doing some good for the last ten or twelve years—at least it has changed our products in two or three lines from practically nothing up to a pretty large amount. We are interested in one or two lines you don't touch. The peach growing is a pretty big thing. It represents a pile of money this year to some of the growers there. It represented a good deal last year. Over five millions of trees were planted this last spring in peaches alone. So that we are doing something in that. It is uncertain even in Connecticut, from our climate—that is the worst of it.

We hold a regular annual meeting in February. We hold an annual exhibition in September, about the 25th. This is always held now in connection with one of the local fairs—whichever fair wants us the worst, will pay the most—we go. That is all the way we locate it—with the understanding they will give us all the privileges we ask for, and they do now, and mighty glad to have us come. Our little show this last fall covered about twelve hundred plates; we have had up to sixteen hundred. We do have an annual show at our annual meeting of one, two or three hundred plates as the case may be, and somewhat of machinery, of which Mr. Wheeler spoke. That is certainly valuable. I have been working hard five years to get it into our meetings as much as possible. It has required a deal of work to get the blamed manufacturers to bring it. It is a little too far for them, and they have got all they can attend to at home.

Mr. CRAIG, of Auburn: It affords me great pleasure to present to you in the first place greetings from the first, you might

say the pioneer fruit growing society in Quebec, that is the local society where I was born and brought up—Abbotsford Fruit Growers' Association—of which I have always been a member. This little local society was organized when I was in my boyhood, and has always done efficient work up to the present time. It was one of the first in getting a grant from the Government and holding a little local exhibition and working up the fruit lists and getting them in satisfactory condition. At the present time its usefulness is about at an end because it has fulfilled the mission it was first intended for, that is, to get the fruit lists and fruit into shape and to know what we have. Now the general feeling is we want to spread out and compete with the outside world more. Steps are being taken at the present time to amalgamate all these little local exhibitions in the Province of Quebec and to have a provincial exhibition.

Secondly, I would just bring you greetings from the Quebec Pomological Society and Fruit Growing Ass'n. That has been in existence some sixteen years and I happen to be a charter member. That association is very much like yours here. We hold a summer meeting and a winter meeting. It also has done very efficient work. It was practically at the bottom of all these late innovations in the way of fruit inspection and Fruit Marks Act, and other advantages which I consider we have over Maine at the present time. And this Association is a little bit dissatisfied now and we are taking steps at the present time to have this a Dominion Fruit Growers' Association, so that all the different parts of the Dominion of Canada will meet in a winter meeting like this and show their fruit and be able to compare it and to know what other people are doing. The work will thus no doubt be to the great advantage and benefit of the fruit growers.

HOW CAN THE MEETINGS AND EXHIBITS OF THE SOCIETY BE MADE OF THE GREATEST EDUCATIONAL VALUE?

MR. EDWARD L. WHITE of Bowdoinham: Now I don't like to have this question confined to the meetings alone. We only meet here for perhaps two or three days and that closes our meeting for the year. I think that the question should read "How can it be carried into the State to be made of the most educational worth.

Now I have only outlined a few of the questions—one or two of them are old questions perhaps—one or two of them are questions that would come before the young fruit grower. We have very often heard how to set out an orchard. We come here once in a while and hear of setting fillers, that is, setting a row of what we want to set—perhaps the Sutton or Baldwin, and perhaps fillers of Wealthy or such trees as that between and cut the Wealthies out. This is a question that has come up in my locality a good deal. The question arises, does the orchardist cut out those Wealthies when they come into bearing, or does he let them stay there and spoil the orchard? This is a question that would be of great benefit to me to take back to my people and decide for them—that is, to tell them what the opinion of the State is in regard to that subject.

And the conditions of soil for the different varieties. One or two years ago we had a speaker in regard to the altitudes of the different varieties. In some sections the Wealthy will grow in such a way that they will keep until February or March. Now that is a question, perhaps, that should come before the orchardists in this State, the conditions of the soil for different varieties. And then the varieties of fruit, their adaptability to certain sections of the State. My folks at home have had occasion to visit Aroostook County and to see the Dudley Winter growing there. We bring it down here with us and it does not keep as long as in Aroostook. So that proves that the Dudley Winter is an Aroostook apple, adapted to that locality. Now this is a question that confronts us a good deal in our section. The variety of course, I will acknowledge, is a good deal in the

taste of the grower. It is just like poultry, some people like the Barred Plymouth Rock, some the White Wyandotte. These are questions I think that we should discuss more or less.

Another point I wish to touch upon more or less is the judging of fruit in our local fairs,—county fairs and town fairs. We look around in the State and see the different organizations, the Dairymen's Association, the Poultrymen's Association, and the different organizations. A few years ago in our Legislature at Augusta they passed a law that the stock in our fairs should be judged by a certain standard; and you go into our Poultry Associations and they have a standard to go by. In my county, Sagadahoc Agricultural and Horticultural Society, they have a standard of their own, and one or two of the adjacent towns, they have a standard of their own. Now when I go to a fair and look at fruit, I like to see fruit from a well pruned tree, and fruit with no scab on it, no worm holes in it, get the prize. When there is other fruit of equally the same size and perhaps equally the same in color, but with one or two wormholes, I don't like to see that get the prize. A short time ago in one of our fairs, a line of Wealthies was run up and down where they tiered the apples and the passers-by were looking around there and two or three happened to stop just as I did, and they looked up to the top row, and there was a plate of Alexanders with first prize on it. We thought that must be a plate of Alexanders with first prize. We took the card off of that first plate and found it was marked first prize for the Wealthy—an Alexander taking a Wealthy prize! Now if I breed the Holstein cattle and I go and compete against the Jersey man for beef, the Jersey man don't stand any show at all for size in beef. If I go to these fairs and compete a Wealthy apple against an Alexander apple, I might as well stay at home. I don't learn anything. And so I feel our Pomological Society should in some way mark out a standard.

This forenoon, in reply to the address of welcome, our Bro. Wheeler made the point that the Pomological Society was endeavoring to make better citizens of our farmers. Now it is sometimes the fact that the farmers do not care to market their fruit the right way perhaps, and sometimes they don't care to put it in the right package that will demand the most in the market, and I think it is the duty of every man, as a citizen of

the State, to watch our Legislature work. We have to go to them sometimes when we do not like to. If we as horticultural societies all over the land could join together and decide upon one box, and decide upon the way of packing and things like that, why we should not have to go to the Legislatures of the different States or to our National Congress. But that is not the case now. The farmers do not care to join together that way. In Canada—Bro. Craig has just spoken for them—they have the Fruit Marks Act. Now I do not believe he thinks that the Canadian fruit is better than the Maine fruit. But it sells higher in the London markets. So I think it is a duty upon every citizen to watch our Legislatures, watch and see what the men are doing there, and in some way get in touch with them. They are willing to hear from us and many times are willing to grant our petitions. Now there is another way of doing this thing—if the Pomological Society could in some way come in contact with our Granges all over the State, and have them discuss the Pomological subjects, and have them join hands with us in the legislative work, I think it would be of great benefit. And let the Pomological Society have one point before all the citizens,—that a farm with its dairy, and a farm with its poultry, and a farm with its swine, is not complete unless we have a well-trimmed and a well-cultivated orchard of well colored fruit on it.

JOHN W. TRUE, of New Gloucester: The officers have prepared annually a premium list and a program, and they have used all the intelligence they have, I know, to give us an educational exhibit and educational meetings, and for me to suggest things for them to give us in addition, it seems to me is, well—something that I cannot do; because, as he has said, they had when they commenced \$500 from the State—the rest has come from private individuals. That \$500 was to be given in premiums and all the expenses were to be footed by the individuals. Then it was increased to \$1000, and since that increase to \$1000 the fruit industry, I am quite sure, has more than doubled in this State. Just think of the importance of this fruit industry to this State today and compare it with what it was in 1873. Why, you can hardly imagine the strides that it has made and that it is making every year. Now one of the first things, it seems to me, that it is necessary for us to do is to ask for more

money from the State to spread this education, to make it more educational. Because I feel that our officers have done all in their power with the money at their command to make it what it should be.

Now there are just a few little points that perhaps we might change that I have thought of, and one of them is this: We are all the time looking for something better. That is what makes life worth living. We are hoping to find an apple that is a little better than the Baldwin in all respects. Now if we had the money it seems to me that we could profitably offer a fairly liberal premium for seedlings to be exhibited on a table set apart by itself. That is the only way we are ever going to get anything of that kind. It would not take a great deal of money—might divide it into four premiums, perhaps, and the man should be obliged, when that premium was awarded, to give a description of the tree and its history so far as he could, and it should be made a record. We know that almost every man that has an old orchard, had what we call natural fruit, very few grafted apples. But when he found one that was particularly good it was scattered through the neighborhood, perhaps, but there it ended—many of them ended there. I have an old farm that has trees that—well, fifty years ago they were just as large as they are now apparently, but they show marks of grafting, and that has one of the best cooking apples that we have. But it never has been disseminated, so far as I know, beyond that one tree. But it seems to me that there would be a line that if we had a little more money could be profitably put in practice. I had intended to bring in a couple of samples of apples in here with me, but I forgot it. We have an experiment station at Orono that is for our use, for our benefit. They are able with the money that they have to put a man onto one job, we will say, and let him spend one, two or three years and work out something that will be of benefit to the whole State of Maine. We have a member of the Experiment Station Council. It seems to me that one of his duties might be to make a report to this meeting of what they are doing.

Now there is one other point that takes a little money again, and I am not sure but what the officers have looked into that this year a little. You come here to one of these meetings, and one of the first things that you will see is a man, or a lady,

going round with an apple in her hand and wanting to know what it is. Now lots of our trees come from New York and they don't come true to name always. They will buy a Baldwin, or a McIntosh Red or a Milding, and they will name it Milding, we will say, or whatever it is, and the name will not be correct. If we could have a man from New York come here to our meetings, I think he could help us out wonderfully on a great many kinds. Some people have a kind that if they knew what it was, and it was a valuable kind, a young tree just coming into bearing, they would like to keep it as it is; when if it was an apple of no particular consequence it would better be retopped. It seems to me there would be a chance of spending money well to help out the interest in our meetings. People would bring their apples for just that purpose. We have apples brought here now for a name but very few of us here know what those New York apples are, and lots and lots of people go home without having their apples named.

One other little point—I don't know whether it would help you out or not—but it seems to me it would—just a little point that the officers can make a rule to cover. It is to furnish plates of suitable size for the different apples, and the rule should be that they should all be exhibited flat. Have no piling of apples. The people that want to look these over don't care to pick them off the top to see what is underneath. And if they are laid flat it seems to me that the tables look very much better. It would be of more interest to the people that are looking them over and in every way the appearance would be better.

Mr. CHARLES S. POPE, of Manchester: There is one little point that I wish to speak of. I had the pleasure of accompanying the Farming Special this summer for a few days, and it has occurred to me that we might do something along the line of exhibiting that they did on that train, in the way first of tools,—the smaller tools particularly; then the trees, limbs and branches, etc., showing the different diseases, and also showing the different insects that are working upon them. That would give the people a chance to see how these insects are working and call for aid in remedies. Then they went so far as to carry the soils which are best suited for orcharding. It might help some people who are just beginning in the setting of trees, and you will find that there is something that must be said along

this line all the time. I had a letter a few days ago from a Portland party saying that men were coming here from New York and bringing experts with them to look up land to purchase for making investments in orcharding in Maine.

Our rules require that no insect shall be in any of the fruit which is exhibited; no wormy fruit can take a premium. This is to educate the people that we want to raise perfect apples. And in the matter of our speakers, we have aimed to send for experts as far as the money of the Society would allow, experts for speakers, who will show us where we could make our gains. And here is where I would agree with ex-President True, that a little more money is what we need, that we may send speakers for this Society all over the State. There are those who are all the time seeking for assistance, and we would be able in this way to send a speaker where he was needed.

Mr. ALONZO BUTLER of Union: I would suggest that we appoint a committee on nomenclature and entertainment, and make it the duty of this committee—some one of the members—to be on duty at all times to name fruits presented for name, or if this is not possible to send them away where they can be named, to New York or Washington; and also to act as a recruiting committee, to invite people to come into the meetings, to bring in their fruit and become members of the Society, and have a kind word for them and appreciate their presence. I would also suggest that there be no wall tables, but that the tables be arranged in a rectangular form, with a space inside for this committee, so that the strangers coming in may know where the location of this committee is, and that there may be no trouble in finding them at any time.

It seems to me that if five or seven were on this committee of nomenclature and entertainment that something could be done to increase the interest.

Secretary KNOWLTON: I am very glad indeed to hear our President call attention to the young men, and to the young ladies too. I have tried in what I have had to do with the Society, in making up the program, to get in just as many young men and young women on the program as possible, and it was with special pleasure that I invited the lady who represents this exhibition of insects here, a young woman just out of the high school, who is delighted to study these things, and

I say it with all respect to everything else that we have on the program, that the most instructive thing along nature lines, and along fruit growing lines, if you please, because the enemies are in there and the friends too, is right there in that collection—the insects, and what the young lady is telling these boys and girls and the older ones in regard to those insects. Now we are not doing enough of it—it bears upon me as well as upon others—but I trust that the future officers of the Society so far as the program is concerned will endeavor to get in more young men and more young women in this work.

And another thing, we are having failures in our fruit growing—failure in growing this variety, failure in growing another variety, failure perhaps in reaching the right markets and the like of that. Now I think these things should be made quite a conspicuous feature of our meetings. Let fruit growers tell their failures and others will be seen to profit by them.

We are not making our exhibitions as educational as they should be. First of all, it should be borne in mind that here in the State of Maine, the exhibition of the Maine State Pomological Society, is the type, so far as there is anything of that kind, of perfection in the State of Maine along that line, and you go round to the different agricultural fairs that are held in the State of Maine and they are trying to imitate us. Now some of those things it seems to me we are doing wrong. They should be improved, and it is up to us to make those improvements. But we are not making, at the same time, our exhibits as good as they ought to be. It is not the fault of the officers particularly, except that circumstances—I will call it circumstances—have prevented us from appointing some one in charge of these exhibitions along decorative lines and perfection lines, if you please, to make the exhibitions better and more attractive.

I should be glad if we could have an expert come every year, pay a man who knows how to make up a good exhibition; then let the officers of the Society do something else. It would help us wonderfully and it would make our exhibition an object of study and a pleasure to every one who comes here. We are having it a little better done this year than ever before because this year we have Mr. True to assist, and he in a very quiet way has been to work down stairs and straightened out a lot of things.

Sometimes the fruit entered is not properly placed and the judge cannot be expected to spend time hunting for the missing plates. He says "Well, I will pass on these," and he makes his mark on the judge's book, and that comes as the verdict of the Society. A man who has got a plate of the same kind over here in another part of the hall, comes to me and says, "What does this mean? Are not these better than those?" "I don't know."—I am not judging the exhibition. I always swear by what the judge does, whatever it is. At the same time I know in my judgment that the judge, while he has not made any mistake—the verdict of the Society goes out wrong—the man who has the overlooked fruit is mad with the Society and says he has been treated unjustly, and it is all because this kind of work I am speaking of has not been well done.

WHAT A TREE TOLD ME.

Dr. GEORGE M. TWITCHELL, Auburn.

I like,—yes, I love an apple tree. Somehow, getting out among the trees the last two or three years when I have been free from other cares and have had the opportunity—I found I had not been doing my duty by them.

I bought an orchard a few years ago and noticed limbs where the wood growth had been but one or two inches for the season. It seemed to me as I went among them that they whispered to me and said "I am hungry." So I opened up the soil and began to fertilize, applying bone and potash and stable manure. The next season I was surprised to see how they responded in woody growth and since have yielded good crops of fruit. Two years ago, going on the farm where I have been I found the same condition, and the trees seemed to me still more stubborn in insisting that they wanted something to eat. So I began experimenting; on one lot we put 14 lbs. of Fisher formula fertilizer per tree, applying it on the outer circle of the branches; on another we put a horse load of strawy horse dressing per tree and in another portion I fenced and introduced the hogs. That introduction paid, for the hogs opened the earth about the trees and fertilized in grand shape. It was a case of friendship from the first and the only thing for me to do was to see to it

that they did not get too intimate. Don't overstock if you put hogs in your orchard and be sure to glance over the trees daily. If any tree is receiving too much attention call the hogs away by scattering a little corn in some spot neglected

Two years have told the story. That portion of the orchard occupied by the hogs has made great growth of fresh wood, given an abundance of rich, deep, strong leaves and best of all a large crop of fruit free from the railroad worm and practically so from other insect pests. Those trees where the horse manure was spread produced big crops but not free and smooth as where the hogs had cleaned up the apples that dropped, while those in grass, where the Fisher fertilizer was applied, gave only a moderate increase of fruit. Experience has satisfied me the quickest and cheapest way to free our orchards from wormy apples is by hogs or sheep, quickest because every affected apple that drops is eagerly eaten, and cheapest because the devouring of this infested fruit, and the fertilizing of the land, sure to follow, will radically improve the size, yield and quality of the fruit. Here the result of companionship may be seen and it was a valuable object lesson to me. The trouble is we set our trees and then expect them to go alone. For one I love the company of an apple tree, to get out in the twilight of summer evenings and talk to them as though they were human, to look them over as one would a friend, to watch and see if there's any injury being inflicted or any limbs broken, to enter into partnership for business and pleasure and get solid satisfaction watching conditions improve year by year. The closer the affinity between the man and the tree the more probable that the tree will get good treatment—right treatment, so that it can respond in fruit. I take it that the reason why we do not get more or better fruit from our trees is that we fail to appreciate the reciprocal relations which must exist for the best to be possible. Go among your trees frequently, talk to them earnestly, listen to the story they have to tell, learn their wants and supply their necessities and by so doing find profit and satisfaction. I pity the man who cannot find time or inclination to go among his trees and enter into close companionship, who thinks this nothing but fancy, a play of the imagination. Trees talk as well as breathe and their language is clean, sweet, helpful and inspiring to him who seeks to know their moods and answer their necessities.

There is no animal on the farm which will respond to an invitation like an apple tree, provided that invitation be intelligently written in a good clear hand. So if my trees want company in the future, they will have company. If they want something to eat, they will have something to eat. And we will solve very largely, I think, the question of spraying through fertilization. If we will give our orchards the food they need for the production of five, six, eight or ten barrels of apples so they can maintain their vitality and make the wood growth necessary for their future production, we will insure a quality of fruit and a power of resistance which we do not dream of today when our trees are starving for something to eat, and sending their roots out in every direction under the bound turf and around the rocks trying to find food which we fail to supply as we ought in order that they may give us the returns.

I have been having a good time by myself among the trees the past two years, and enjoying it—getting a measure of satisfaction that I cannot obtain in some other ways, finding a degree of inspiration from a touch with Mother Earth which does not come through things we can construct ourselves. There are mighty forces and agents at work in this world, and what you and I want, friends, whether growing apples or any other products, is to touch elbows with the Almighty in this work, with reverence and appreciation of what these agents and forces will do for us when we properly co-operate. When we feed and do for our trees as we would have them do for us, we get a response that can come in no other way.

BEST AND MOST PROFITABLE APPLES FOR PISCATAQUIS COUNTY.

WILL E. LELAND, East Sangerville.

It is only until within a few years that apples have been numerous enough in Piscataquis county to attract buyers. We have learned that the older orchards contain far too many varieties, making it necessary to take a smaller price for the fruit, even though the quality is good, than we could command if this were not the case. The question then of best and most profitable varieties to retain becomes one of great importance, and the elimination of the others a task which we should not neglect.

We have a large and growing market in northern Maine. One buyer shipped last season, from the B. & A. station at Dover over 1200 barrels into Aroostook county. The demand is for large apples of good quality. They will have no Ben Davis, neither do they want the Fameuse. It is not large enough for these hustling potato growers.

One of the most profitable varieties in our experience is the Rolfe, an apple that originated in Piscataquis county. At the present time it is too well known to need special description but a short sketch of its early history may be of interest. It is supposed to be a seedling from the Blue Pearmain. The nursery in which the seeds were planted was located in the town of Abbot on the farm of a man known as "Uncle Rolfe," who, when the trees were large enough for transplanting gave a dozen of them to the first settled minister in the town of Guilford. This minister, the Rev. Thomas Macomber, lived near that part of the town which is known at the present time as the "Centre." The twelve trees, it is said, nearly all produced food fruit but this one, which is known as the Rolfe, was so far superior to the others that when its fame became known it bothered the good elder and his wife to secure enough for their own use. The original tree being one of the first in the town of Guilford is now dead. As a variety it is very productive and hardy. Its choice quality and handsome appearance command the highest price. We received the present season 62 1-2c per barrel more than



Maine Rolfe
By courtesy of N. E. Homestead

MAINE FARMER PRESS, AUGUSTA

for other varieties. The supply never equals the demand in Piscataquis county, and more trees should be set.

Another good variety is the Milding. This apple originated in Alton, N. H. The first scions set in Piscataquis county were in the orchard of H. L. Leland, who received them from brother Gilbert, the present president of this society. The tree is a vigorous, upright grower which in our snowy county is an important point to be considered. The fruit is large and usually good color when the trees are properly pruned. It must be sprayed to insure against loss by scab, and should be gathered early as it drops badly when allowed to fully ripen on the tree.

Among other good varieties in this section will be found Nod-head, Hubbardston, R. I. Greening and Northern Spy, all of which are too well known to need special mention.

In a letter published in the report of this society for the year 1885, that well-known fruit-grower, the late Calvin Chamberlain of Foxcroft said among other things concerning the Baldwin apple, "Large numbers of well-grown Baldwin trees were brought here from Massachusetts and other states many years ago and they very rarely lived to produce fruit. Some trees in the older orchards upon the hills have had their tops changed to Baldwins. I have done some of it myself and some of these still live, but yield a fruit that would be passed as inferior at Hallowell. I consider this variety to be estopped by climatic influences alone, at or a little below the 45 degrees of latitude." At the present time the Baldwins' sphere of usefulness has widened and is one of our most reliable varieties when grown on high, well drained land.

Large numbers of young Stark trees have been set within a few years which would seem to indicate that most people think this is to be a desirable and profitable variety.

Piscataquis orchardists in common with others are learning that cultivation or some other method of procedure which shall leave for the tree the fertility and moisture of the soil is absolutely necessary to the production of profitable crops.

A MASSACHUSETTS MAN ON A MAINE FARM.

W. O. BREED, Harrison: I have several times rehearsed in the presence of a large proportion of the audience that is now present, the reasons why I came to Maine, and something of what I have done on the farm on which I now live. I will not go through that again. But I will just mention a few of the conclusions and let it rest there.

One of these conclusions is that were I placed in exactly the same position that I was six years ago, I would do the same thing over again—I would come down into Maine, and I think I would come to Harrison. Another is that, as I said, I would do the same thing over again—I would buy a fruit farm—for the reason that I find that the easiest money that I can get out of a farm comes from my fruit orchard. Cows, sheep, hens, are simply not in it at all. A small orchard on a farm is one end of it, a good fair-sized orchard is one end and the middle, but a big orchard is the whole thing. There is no money, as I said, which you can get out of a farm so easily as you can from your orchards, and it is a wonder to me that men living in this town and towns adjoining, with fairly good-sized orchards, do not take the care of them which they could just as well as not and double and treble their receipts.

Another conclusion is that you cannot possibly afford to grow grass in an orchard, my good friend and neighbor, Mr. Dawes, to the contrary, notwithstanding. The best apples which I have gotten within the last few years, the largest, fairest, and best in every way, have come from those sections of the orchard which have been the most thoroughly tilled by the hogs, from the soil that the hogs have rooted over and over again.

Another conclusion is that under no circumstances whatever will I from now on allow fallen apples to stay on the ground. I will have hogs enough in my orchard to keep them all picked up until it is about time to pick the apples, or I will pick them by hand; and if for any reason there are any apples left on the ground after picking from the trees, those will be picked up. And my reason for it is this: Three years ago I had hogs enough in my orchard so that they kept the ground clean, and I got clean apples the next year, or practically so. It was almost im-

possible to find codling moth holes or worm holes in the apples. As you looked through the trees the apples were practically free. The next year my quota of hogs was less. They didn't keep the ground clean. Last year I sold my hogs or pigs down still less, and there were more apples dropped on the ground. After picking the apples I put some boys into the orchards and set them to picking the fallen apples, the windfalls, and they picked up a lot of them and it got to the point where I said, I have got all the apples that my stock can take care of and it is costing me six cents a bushel to pick up the apples and I guess I will let the rest go. And that is where I failed. In that section of the orchard where the apples were left on the ground—and those windfalls were mostly windfalls from the action of the codling moth—I have picked from some of those trees this year nice large crops of apples, and about one in ten has been an apple clear of a codling moth. Nine out of ten, and in some cases ninety-nine out of a hundred were infested. Saving my six cents a bushel on picking up those apples cost me more than a dollar a bushel. I am not going to be guilty of that again.

Another conclusion is, as you may perhaps gather from what I have said, I am going to keep hogs enough in that section of my orchard that I cannot plow or harrow so they are going to keep the ground rooted over. I cannot afford to grow grass, but I can afford to pick fine, clean, large apples that are free from the codling moth, and sell them at the top notch.

If I had my life to live over again, I would dip into the growing of apples to the full limit; unless I had a family to, as the Irishman said, contend with—I would if I were alone by myself, I would live on crackers and milk—I can do it and did for a year and a half once to cure the dyspepsia, and I could do it again—I would live on crackers and milk and I would have a farm, and I would have another farm, just as fast as I could add one to the other, and set them out to apple trees, and keep them growing as they should grow, and if in twenty years or twenty-five years I wouldn't equal the Apple King of Maine it would be because Bro. Whittier had done more than he has already done. And this is a possibility with all young men. Why the young men of this State leave the State and go to the cities or other states and undertake to eke out a miserable existence—and it is more miserable than you think for sometimes according to their glow-

ing remarks as they come back to the old home—why they do this, and leave this grand chance at home, I fail to understand. It is within the reach of any young man in this audience to start in now and in twenty years from now have an income such as falls to not one in fifty that goes from the country to the city—and have an income and practically do nothing three-quarters of the year.

Mr. WILLIAM CRAIG, of Auburn: Why Not Grow More and Better Fruit in Maine?

I am presenting this question with the object of provoking a discussion which will likely give me the desired answer to my question, viz.: Why not grow more and better fruit in Maine?

In looking over this beautiful, undulating country I am more and more surprised to find so little attention given to fruit culture, and the thought would come into my mind so frequently with interrogation, Why is there not more fruit grown? This question only can be answered by the older residents.

In the favored fruit belts of the province of Quebec we are at a loss to find naturally drained land suitable for enlarging our orchards, whereas in Maine nearly all of the sections which I have visited are beautifully adapted, and again I ask, Why not cover those hills with fruit trees and increase the wealth and prosperity of the State?

For two years I have been causing a little disturbance in the soil by way of cultivating part of my scattered orchard in Auburn, and I assure you the results are very gratifying. In one instance six Rhode Island Greening trees occupying one-tenth of an acre, and having a very poor record as bearers, yielded this year sixteen barrels of salable fruit. Two years ago we broke up the soil, which was very thickly overgrown with witchgrass, and dressed and planted it to fodder corn. No apparent results followed, with the exception of an extra wood growth. This year we repeated the treatment and the trees responded with the above results. At this rate 160 barrels per acre would be realized. Supposing this fruit (which is yet unsold) is worth \$2 per barrel, I will realize at the rate of \$320 per acre in fruit alone.

If we examine the history of these trees we will find the secret of their bad behavior in years gone by. The land which they occupied had yielded hay for fourteen consecutive years, and

this is where most of the trouble lay. The hay crop will draw out all the available moisture, and what does the poor tree do? It does without. Thus the tree, being reduced to such a low state of vitality, has great difficulty in surviving our winters. The chances are it has not been pruned and the caterpillars are allowed to live and prosper, thereby depriving the tree of breathing power. If the tree shows a profusion of blossoms the shiftless fruit grower will likely have great expectations, but disappointment is more likely to result. The codling moth and railroad worm have full sway, and the fruit not being worth gathering is left on the ground to propagate more disease. We need not follow the history of the tree struggling for existence, and results in this kind of orcharding are easily predicted.

What is the cause of this neglect? I say it is lack of love and sympathy with the tree. Our blessed Lord inferred in his teachings that if we love him we will serve him. Cannot this rule be applied practically along horticultural lines? I have the greatest respect for any tree, but more particularly for a fruit tree, especially when fragrant with blossoms. That is heavenly. Who does not admire a heavily laden tree of beautiful fruit? I feel like taking off my hat and saying, May your shadow never grow less.

To succeed in any line of business we must like it, and so it is with orcharding. I must say that I am not in sympathy with the system of orcharding where everything is taken and nothing returned. It does not appeal to an up-to-date consistent orchardist. Furthermore, what is more practically and substantially beautiful than a seventy-five or one hundred acre commercial orchard! How many are there in Maine? Lastly, let me add, there is no better legacy to leave than a thrifty orchard of well selected varieties. Your children, while enjoying the kindly fruits of the earth grown on the beautiful hillsides of Maine, will surely rise up and call you blessed.

SORTING, PACKING AND GRADING FRUIT.

Dr. G. M. TWITCHELL, Auburn.

At the last annual session of this Maine State Pomological Society, the following resolution was given an unanimous passage:

"That this society, recognizing the substantial growth of our fruit industry and realizing the necessity for a more critical grading of the stock, for the protection of the grower, declares in favor of national legislation looking to a Fruit Marks Act, and authorizes the appointment of a committee whose duty it shall be to correspond with the officers of the Fruit Growers' Associations in the several states, and if a general sentiment is found favoring such action to arrange a conference for the purpose of outlining national legislation, said committee to be authorized to expend a sum not to exceed fifty dollars for postage and necessary printing and expenses, a full report to be made at the next annual session of this society."

In submitting a report of the work done the past year by your special committee on sorting, grading, packing and inspection of fruit intended for shipment, I regret that more has not been accomplished yet am certain that the agitation of the subject, set on foot by this society, is gradually leavening the lump, and, if we persist in our efforts, and are willing to wait patiently, we shall secure legislation which will be of incalculable service to our fruit interests. I am convinced that it would be unfortunate for that legislation to be hastened. Neither the growers nor packers are yet alive to the purpose or the effect of the measures proposed and the educative work must be continued for some time before we shall come to realize the immense loss resulting from present methods and certain profit sure to follow a system of inspection, grading and branding as thorough as that now applied to other food products.

Our plea for legislation must be along the same line as that presented in behalf of inspection of other products, even if the element of danger to health does not exist. Following the last session I sent to the officers of all pomological or combined societies in the East, Middle West and West a copy of the following circular letter:

Dear Sir:

Realizing that by the failure to properly grade and mark our fruit shipments there is loss to the producer as well as shipper both in price and reputation, the members of the Maine State Pomological Society, during their late annual meeting at Canton, Nov. 14-16, appointed the undersigned a committee to confer with the officers of all known like organizations in the country, ascertain the situation in each State, whether it is desirable to unite for any national legislation governing the grading, marking and inspection of fruit for shipment, and also to arrange with others, if deemed best for our fruit interests, a meeting at some central place where the whole problem can be discussed and an intelligent decision reached. Will you kindly give me your opinion regarding the situation in your State, whether there is call for any consideration of this question and whether such a meeting as is here proposed would meet your approval? Canada by its Fruit Marks Act has materially raised the average grade of its shipments, Nova Scotia has, by this same act, regained her former reputation for quality, and buyers and growers alike attest its efficiency. The first question for us to consider is whether there is any call for improvement in the grading and marking of our fruit, and if so, how best to secure the desired end.

May I not be favored with an early reply and your candid opinion of the situation?

I firmly believe that united efforts can add greatly to the cash returns from orchard shipments and give our fruit a more permanent position in all the great markets of the world.

Awaiting your favor,

Very truly,

GEO. M. TWITCHELL,

For Maine State Pomological Society.

The replies came promptly in most cases, and in several the interest manifested was so great that I was at once urged to visit different states in the West and discuss the questions at fruit gatherings and institutes. New Hampshire is, I believe, the only state from which I have no reply. Let me present a few of the many letters received:

From James Handly, Secretary of Mississippi Valley Apple Growers' Association, Quincy, Ills.

Your esteemed favor was received some weeks ago and I was very much interested in its contents. As I am editor of the Apple Specialist, I availed myself of the opportunity of publishing your letter in the January issue of the paper. I hope that this publicity will do you some good, that it will bring a union of effort among fruit growers all over the country, that will be very beneficial in results.

I wish to say further, that I am on the program to make a talk on marketing fruit at the annual meeting of the Wisconsin State Horticultural Society which will be held at Madison next week. I am so much interested in your letter, and what it suggests, that I will read the letter before that meeting. I shall hope to hear from you again on this matter and will be very glad to keep in close communication with you all the time.

From C. W. Smith, Secretary of Rhode Island Horticultural Society, Providence, R. I.

I received your communication in reference to grading fruit some time ago, and at our last meeting January 17th I had it read. Owing to a press of other business the matter was referred to the President and myself to report at our meeting in February.

So far as our state is concerned we hardly cut a sufficient figure in the fruit business, especially as shippers, to give a clear answer to your question. There are but very few large orchards in the state and I believe our home market absorbs all their products.

My attention has more recently been called to the necessity of a proper grading of fruit, and we shall make it a subject of discussion at our next meeting and will more fully report after the meeting.

At a meeting of the Rhode Island Horticultural Society held April 18, 1906, the following preamble and resolution was unanimously adopted:

“Resolved: That the Rhode Island Horticultural Society approves of the measure on foot in some of the states of the Union to procure from Congress the passage of a National Law which shall regulate the packing, grading and marking of fruit all over the country.”

From W. B. Flick, Secretary Indiana State Horticultural Society, Lawrence, Ind.

Your favor of the 27th ult. concerning the propriety of calling a conference on the desirability of a national law regulating the grading and packing of fruit for market received in due time.

In answer would say that Indiana needs badly a law regulating these matters. Much fruit is lost, the prices lowered and the demand lessened by improper and dishonest grading and packing. We do not have a state law even governing this and if we did have undoubtedly a national law would serve us better. This society will be willing to send representation to a convention called to consider the matter if notified in time. I would suggest that Indianapolis, Indiana, would be the best place to hold the meeting for obvious reasons. It is centrally located, has unsurpassed railroad facilities, good hotels, good halls for meeting, etc. I am sure halls, etc., could be procured without cost.

Please advise me as the work goes on and much oblige.

From Wesley Greene, Vice Secretary-Treasurer of American Federation of Horticultural Societies, Des Moines, Iowa.

I have your letter of the 27th ult., and in reply will say that I would favor a Fruit Marks Act similar to the one passed by the Dominion of Canada. However, I am not quite sure that a meeting called to consider that question alone, would be well attended, but united action might be secured through correspondence with the different organizations without incurring the expense of a convention called for that purpose.

From L. B. Bryant, Secretary of the Illinois State Horticultural Society, Princeton, Ill.

Your favor of the 5th came while I was absent from home. There is no question but what better grades and better packing of fruit is for the interest of all, whether for export or for home use. Whether it is desirable or practicable to secure this by law may be another matter. How to enforce such a law if passed, how to inspect without injuring the sale, whether to confine the requirements to such apples as were intended to be exported, and whether after all, the shippers are not the ones vitally interested and whose self-interest will finally force them

to require close attention to grading and packing, are not these matters about which there will be much difference of opinion and which will create much discussion?

It seems to me that matters of this kind are ones that might well come before an organization something on the lines of the "Federation" which was organized at St. Louis in 1904. An attempt was made to hold a meeting at Kansas City last fall at the time of the Am. Pomological meeting but I did not attend and did not hear what success was had.

Do you not think it would be well to follow up the suggestion contained in your letter and take a tour through this section of the country next winter and present the matter to as many of the state organizations as possible. A number of them meet during December and it would be possible to arrange a schedule that would cover quite a number in a short time.

If interest is awakened here it will be necessary to show just what the Canada law is and then in what way such legislation would benefit our people here.

I shall be pleased to assist in bringing this matter to the attention of our society at any time that it seems practicable to do so.

From Enos B. Engle, Secretary of the State Horticultural Association of Pennsylvania, Harrisburg, Pa.

Dear Sir: Yours Dec. 27, in reference to the grading and marking of fruits is received. Personally this is to me a very interesting and important question, not because I am either a grower of, or dealer in fruit, but because of my general interest in fruit growing, and whatever will conduce to fair and honorable dealing.

As yet Pennsylvania, while probably third in the rank of apple growing states, can scarcely be called a commercial apple state. We grow immense quantities of apples, but because of the great home demand and consumption, our fruit is scarcely mentioned in the commercial markets. We have a numbers of large orchards, but they are comparatively young, and it will be some years before they come into full bearing. But even for our local trade, and our home customers, the question is one of great importance and I hope some action may be taken to insure honest and uniform packing. Our annual meeting will be held in about two weeks (Jan. 16-17) and I will read your letter or

submit it to a committee for such action as may seem best. I shall be glad to see our meeting take some measures looking to an honest and uniform standard of packing and marking. I enclose programme of our coming meeting. Would be glad to have you meet with us, and take part in our deliberations.

It will be seen that there is a general consensus of opinion in favor of such legislation as will insure more uniform grading and packing, the vital point being the framing of the sections of the act so that all that is possible may be secured without imposing unjust burdens upon individual growers. At the meeting of the International Apple Growers' Ass'n at Niagara Falls, Aug. 1, after a full discussion of this subject, followed the presentation of a paper upon "Inspection" by Prof. John Craig of Cornell. Resolutions were offered looking to adoption of standard grades on export trade. This law which it is the intention of the committee to try to have passed, is to be something like the Fruit Marks Act of Canada which provides for "optional government inspection." It was the sense of the association that this being a very important matter a committee should take it up at Washington and use every influence to have it become a law.

At the annual meeting of the Fruit Growers of Massachusetts I was invited to be present and discuss the question, much interest being manifested in the subject, the secretary, Prof. Maynard being constituted a committee to co-operate in investigating and deciding upon final action. As the result of the correspondence, discussion and action by different bodies I am convinced that it is a subject so vital that it may well engage our thoughtful attention, until, through united effort, a bill may be formulated and its passage by Congress pressed, which will insure to the growers of this country what now is impossible under the present makeshift method of grading and packing fruit.

One grower in Maine informs me that this year he sold his Nodheads to a dealer and out of fifty-three barrels they put up fifty of number ones. "Something," said he, "I could not possibly have done had I packed them myself."

We may profit today by selling our fruit in the bin, but the time will come when the reputation of Maine will suffer and the buyers will not then be known. The State must bear the responsibility and accept the loss. Another year strengthens the sentiment in Canada in favor of the Fruit Marks Act, and insures

its fruit an enviable position in the foreign market. Its fruit is no better than ours, but throughout the season the past year Canadian apples sold in the European market for an average of four shillings higher than New England stock. They obtained this higher price through the operation of their Fruit Marks Act and system of inspection. We lost because the bulk of our stock was sold to buyers who packed solely with reference to immediate sales and the possible profits of a quick turn.

Wanting a fixed system we wait in vain for the profit from the industry which others receive. This condition will continue until the fact is established that Maine fruit is all sorted, packed and branded by a uniform system which insures to the buyer just what the brand on the head, or the upper tier of apples indicates. In view of the experience of the year I am convinced that it will be wise to continue the work of interesting Growers and Fruit Associations in the subject and that the same appropriation, as made last year, be continued. Should a joint meeting be decided upon extra expense would be incurred.

A most important phase of the question lies in the fact that while other states are in a most serious condition, because of the San Jose scale, Maine is free. The situation grows worse in the West and Middle West and while the pest increases foreign countries have closed their doors to all fruit from these states infested. In this fact should be found our chief incentive to activity in order that we may insure the highest standard of uniformity possible in the fruit shipped from the State of Maine. If as there is reason to believe our climate is too cold for this pest to live, this scale being a hot climate insect, there is every reason for thankfulness and surely for extension of Maine orchards and honest grading of all fruit. Let us be prompt to act for our own interests.

This society has set itself to an important work in this direction and if in the years through co-operation with other bodies there is evolved what will insure to fruit growers of the State the place in the market which the quality of selected Maine fruit will fully justify, future generations will bear testimony to the valuable service rendered. We must not relax our efforts until such legislation is secured as will insure the grading, packing, and branding of our magnificent fruit crops under competent inspection and their sale upon the market for just what they are, the best apples grown in all the world.

RECENT DEVELOPMENTS IN THE APPLE
INDUSTRY.

Prof. ALFRED G. GULLEY, Storrs, Conn.

It goes without saying that the most prominent subject of discussion today among fruit growers is spraying in its various methods and uses. Hardly a meeting of horticulturists can gather that the topic is not taken up. Still, the whole matter is comparatively new. Rather a marked exception to the old adage of there being nothing new under the sun. I doubt if there are many in the audience that could have given a formula for Bordeaux Mixture fifteen years ago. I might also add I am not altogether sure there are any now. Yet the importance of this work is not overestimated. But even now the growers who do not practice it are in the majority outside of certain limited sections, and unless replaced by other stringent measures, readily admit their mistake. At the exhibition of our State Society this fall, fruit from sprayed trees won in every contest over that not so treated. I am convinced that none of us yet have reached the limit of its benefit, and I can safely add the limits of spraying either. Personally I have reached the point where I think the spray pump must not stop till fruit picking begins. Have not as yet practiced it. The codlin moth has learned our customs and now waits till we stop spraying then gets in its work. Perhaps it would be more correct to say that it keeps on at work while we are taking a rest. Certain of our fruit diseases only make trouble late in the season.

You grow Greenings in this State. You have the fungus—I don't know as you do on Greenings. We have lots of it with us. We did a considerable lot of spraying this spring, up to the first of July, as usual, and then set the machine away. Along about the 1st or 5th of August I happened to go into one of the orchards, and in the center of it I saw quite a lot of Greenings that were in nice condition, trees loaded, and I detected on one or two a little beginning of that fungus, but that is as far as I went. I didn't go to spraying. By the time we got ready to pick those trees, some fifty barrels, there wasn't a solitary one not more or less covered by that fungus. What did it do? It

knocked a dollar a barrel out of every one of them. But if we had spent three dollars in time and material spraying those trees twice, it would have saved them—I am sure of it—because I know what it will do. That means spraying up to the time of picking on the Greening.

Question: May I ask the name of the fungus?

Prof. GULLEY: It is known as sooty fungus, or sooty blotch. (*Phyllachora pomigena*.)

Question: Looks like smoke on a chimney?

Prof. GULLEY: Simply begins as a little spot and then increases. You will see none of it until after the first of August in our state. Probably you wouldn't have it any earlier. It is no use to spray for it before then, and yet it is one of the easiest diseases to handle at the right time of the year, because it is all on the outside. You can wipe it right off. But apples will not keep if affected by it.

Question: Bordeaux mixture?

Prof. GULLEY: Yes, sir, and if I don't mention anything else, Bordeaux mixture is what I am talking about all the time. It is unnecessary to say to this audience what Bordeaux mixture is for, that we use it only for diseases—poisons are for insects, Bordeaux is not for insects. It is the hardest thing I have found for years to beat into our folks' head, what Bordeaux mixture is for. It is a remedy for diseases—nothing else. Do not ever use it for insects; it has no practical value there. For insects you must make emulsions or else poison them.

Our own operations the past two seasons satisfies me that it pays to use high power pumps or pressure, and with it we can, and should, use weaker mixtures. The barrel pump is all right for anything less than a hundred trees, but the man who is growing five hundred can't bother with a barrel pump that runs by hand. You won't do enough of it. It is too hard work. It means higher power, more costly machinery; and then you will do enough to make it pay. The barrel pump is very nice. We have used it a good deal up to within two years. Two years ago we started the gas. Last year we had a pump which you can run by hand power or by other power if you see fit. So far we have used it only by hand. But it is a double cylinder pump putting material on with greater force and more thoroughly onto the trees and increases the value of the spraying. A pres-

sure of a hundred pounds is necessary. You can get that with any of the common good barrel pumps but you will have to be lively and to keep it up. You soon get tired—that is the trouble with it. This high power spraying today is done in one of two ways. First, by direct power from engines of some kind, gasoline generally, or steam; by power direct from the wagons in various combinations; and by power of compressed air which may be pumped by the wagon and from that run the machine; and lastly by direct pressure of gases. This has been the spraying machine. Those are the powers that are used today practically. The man who has any use for a gasoline engine the year round, or a good share of the year, had by all means better use that, if he has a man who knows how to run the engine. If he trusts it to the ordinary man he will probably buy a new engine every spring. The pressure by air from the running of the wagon works very nicely in the West. I know of no one using it here. In the West I can see that it might be a practical machine to work; where the land is level and it is easy to run, that power is satisfactory. But in our hilly lands here it is rather difficult to run an engine properly on the up and down grades and irregularities that you find in spraying. And so a year ago, after looking the matter over, I induced our people to get us one of the gas sprayers. This is simply a tank made solid like a boiler in which we put the material for spraying, and then an attachment of the very same material that you made soda water of—that is all it is—in another tank, and by its expansion in this tank it makes the pressure and forces out the liquids. That is the whole process. The beauty of that thing is, the only kind of a man you have to have is one who can run a monkey wrench. I wouldn't hire that kind of a man if I could help it, but he will run it and he can't get it out of order very well. He may waste a lot of gas. It is hard to estimate the expense as it varies widely, but it takes from five to seven pounds of this compressed gas (of course the liquid form) to empty a hundred gallons of spray. A hundred gallons will spray from twenty to fifty trees, that depends altogether on the size of the trees. The gas costs from four to six cents per pound. You can make your figures from that.

Question: What is the material?

Prof. GULLEY: Liquid carbonic acid, that is all. It is just exactly what the soda fountain men buy, in compressed tanks.

It comes to us under a pressure of a thousand pounds to the square inch and sometimes higher. It can be obtained in Hartford or Boston, perhaps nearer. You can own these tanks yourself or rent them of the manufacturer. In the latter case you pay a little more for the gas. It works beautifully as far as we have used it. We haven't had to put our machine into the sulphur and lime yet, but for Bordeaux and all the ordinary emulsions it certainly works beautifully. We have not limited ourselves quite so much in help as they tell about. We have a man to drive the team, turn the agitator and watch the gas itself, two to handle hose. The tank empty weighs about five or six hundred pounds. By the time it is filled, with the gas tank and everything on it, there is about fifteen hundred pounds on the wagon. That is for 100 gallons. They make tanks for 50, 100, 150 and 200, I think. A hundred is large enough for most ordinary purposes.

With our high pressure we find we can use less and less and less of the copper sulphate making it cheaper and still effective. We used this year about three pounds to fifty gallons—we had previously used five in a barrel—getting just as good results in every respect. It puts it on finer and closer into the leaves and trees generally, so the same material will go farther. We are going to have an easier preparation to handle, experiments are being made along this line continually. You say you don't have the San Jose scale. If you have not, you have no use for sulphur and lime and you are fortunate. It is not pleasant stuff to undertake to handle. We are going to have other materials that will take care of the San Jose scale without using sulphur and lime.

Question: Won't you tell us how you use the sulphur and lime?

Prof. GULLEY: If you want to make sulphur and lime mixture, start a fire and in a kettle put twenty pounds of fresh, unslaked lime, with three or four pails full of hot water to slake it. Let it boil slowly, then add fifteen pounds of flowers of sulphur, adding more water all the while. Boil it an hour, during which time add 8 pounds of salt. It should then be about the color of an orange. Add sufficient water to make fifty gallons. You will in the end have a material of a wine color. Then you go out, and if your machine does not get clogged, you will do a

pretty good job if you are careful. That is sulphur and lime mixture. I am happy to say I haven't had to use much of it. But some are using it thoroughly and think that it is worth while to do it as a fungicide.

The sulphur is the only material which we use that is an insecticide and fungicide of any value. The scale is a live insect all the time although quiet a part of the year. The mixing of the sulphur and lime is the worst of it. If it is carefully prepared it will do reasonably well. Kerosene preparations sprayed on the trees are a little easier to operate and so far seem to show that they are going to take care of the scale perhaps as well as the sulphur and lime, but they are worth nothing as a fungicide.

I suppose the growers in this State are rather north of the scale belt, because I hear you don't have it in the State—so you may think. You don't know that, and the first thing you will know of it is you have a thousand colonies of it all over the southern part of the State. You will never know it—unless you have somebody watch for it that does know it—until the pest is so plenty that it is beyond all control to handle with any certainty whatever. That is just exactly the experience our people have had in southern Connecticut. It comes in before you are aware of it and when you think there is no possible way for it to come. I live in the northeastern part of the State. The county that I live in has very few orchards or men who are planting. As a result it has not been brought into that part of the State. At the College we are buying trees—getting new varieties—all the time and have been very careful to watch and keep clear of it, yet along in July or the first of August this year, we found a lot of currant bushes covered and where it came from I cannot tell or cannot imagine. I don't know that there is any within ten miles. About ten miles south there is plenty. It might have been brought from there by birds. If they left but one, that was enough. They are there now by millions. You have no idea of its propagation when it starts; and you can't see it, unless you are informed, until it has covered the plants thoroughly. I do not think you are entirely north of where it is going to live. You are not colder here than it is in Michigan, or in Central Michigan, or in the northern part of New York, or in Massachusetts, and it is pretty sure to come. You will get it on the imported trees if

you don't any other way. It has been scattered in our State a good deal by plants brought to summer homes. It may be only a little shrub and it will make the most beautiful center to start from, imaginable. Freezing all winter doesn't have any effect on it. It will increase in cold storage, I know that. I brought some infested apples from Boston in September to study the varieties. I did not have occasion to use them until January. The scale had actually increased in cold storage. They increase until the first of December in our section. There were lively ones to be found on the plants a day or two ago. Cold storage at 32 didn't stop them.

(We can give them 32 below.)

The scale will not propagate under that but it will not kill them all. Had 30 below in Northern New York. Those two cold winters did thin them out—that is not sufficient—if there is 99 per cent killed every year there will be plenty left to run the business.

Thinning overbearing trees is attracting more attention among our growers. So far only a few have undertaken it to any extent. The average grower cannot understand that it is a feasible proposition. Nor is it in the average orchard. The trees must be suited to the process. The past season has been the third bearing year that we have operated on the same trees. I wish to say here before going into the detail of the work, that no amount of thinning even to removing the whole crop at any time between blossoming and when the fruit was an inch in diameter has produced the least effect to make Baldwin an annual bearer or change the bearing year. On Fall Pippin we could see some results. In our operations the past season we made the usual mistake of not thinning enough, although in some cases we removed a full third of the crop. But where we operated was very evident to the casual observer, and the profit was equally evident when the fruit was harvested, in the change of grade.

We did go into exact figures with certain trees to see what the results were. With one tree this season we took off 3000 apples at the time we thinned them. Well now, at a very small size of apples, that was enough for six barrels. When we picked that tree we took off about 5070 apples. Probably another thousand nearly, dropped off in September in the hot days.

When that tree was picked eventually, and classified exactly according to the standard of apple shippers,—from two and one-half inches in diameter up for the first grade, two to two and one-half for the second grade, perfect apples in both cases, we had on that tree seven barrels lacking about a peck of first grade, one and two-thirds of second grade. The adjoining tree which was not thinned and which we supposed was about the same, we picked six thousand apples the day we harvested, and those went a little less than four in the first, and a little over four in the second. That was the result of thinning. It simply changes the size. The only mistake we made was that we didn't take off enough. Our average expense of thinning runs from forty to seventy cents per tree—the ordinary apple tree which you can get at reasonably. But it shows two years ago and this year that it paid not less than from seventy-five cents to a dollar a tree for thinning.

Question: How late would you thin fruit?

Prof. GULLEY: I should say wait until your apple drop is over. We have that sometime in June. It is not, however, a very serious matter with us as far as the Baldwin is concerned. Don't undertake it on trees that are not fitted for it. Now we have a few Suttons on the ground originally brought there from Sutton, Massachusetts, top grafted on Northern Spies, and if there is any apple that needs thinning it is the Sutton next to the Baldwin certainly. But that tree goes up like a Lombardy poplar, fifteen, eighteen or twenty feet from the ground. We had Greening trees that we picked this year, ten or eleven barrels of apples on each, over half standing on the ground. We had Baldwins that we had to use only a twelve-foot ladder to pick every apple on the tree. Those you can thin. On the other hand we have some Sutton trees that when the apples were on and the trees down as far as they would come the nearest apple to the ground was a little over two feet from the top of my head—cost a dollar a barrel, pretty near, to pick them. We did thin them, but not from the money standpoint. The man that grows the Sutton wants it headed down low.

The filler system of thick planting was practiced in the first of our college orchards and have now reached the point of needing thinning. This orchard was so planted to try the system, also to save space, but not wholly of kinds adapted to

this process. So far as they were, the complete use of the whole ground has proved a profitable one. We are now up to the thinning process. We were planning to begin cutting this fall, not whole trees, but only one side, or a portion where crowding the permanent trees, leaving the remainder to produce a crop or two more before the whole should be taken out. But a man, with means, fitting up a place, heard we expected to take out the trees and at once offered to buy them to plant again. So we shall take them up next spring and get paid for the labor. I am a little sorry because I wanted to work out the other system and we shall not have any more ready for five or six years to come. But the system to use is to cut away a part and not the whole at one time—perfectly feasible and no reason why it shouldn't be carried out perfectly. We have gone far enough to see that it pays to have the land all covered. In the matter of spraying the trees are in a nice bunch to work with. That very fact of pulling out the trees has given me a new idea; it is just barely possible a man might find it for his own interest to take those trees up and set them out on his own land. A man can arrange to get those trees out very cheap. You can pull them with cattle if you choose. I plant $16\frac{1}{2} \times 20$ feet, with the idea of making them eventually 33×40 feet.

Question: What would you recommend for fillers?

Prof. GULLEY: I should put the whole orchard in McIntosh and go to chopping out when ready; and I should use McIntosh with Baldwin. Duchess is good; Wealthy is good.

Question: Wagener?

Prof. GULLEY: Yes, Wagener—that will depend how it does on your farm, if it does well—yes. It is a splendid apple.

Question: How about the trouble with fungi?

Prof. GULLEY: No worse on the McIntosh than on others. I am not talking to the men who are going to spray. It is coming to that, if you are going to sell apples out of this State.

Possibly one idea that occurred to me some years since and which I carried through to success, may be of interest to you. Yet I have been laughed at for seriously presenting it to be followed out. It is to grow the orchard, then plant it out. Briefly it is to grow the trees several years longer in the nursery row. Of necessity it must be done on the farm where the

orchard is to grow. Trees so grown must be transplanted several times and in the meantime given the same care in pruning and spraying that they should receive in the orchard. Just now I am operating on several varieties to note if all will take readily to the process. I find some difference but our principal kinds prosper under the treatment. As to its value, one-fourth of an acre will hold all the trees for a ten-acre orchard twenty feet each way, and could be cared for very cheaply, while the intended site of the orchard could be cropped without hindrance, or be better prepared for the trees if not already in good condition.

The discussion going on over the use of the box as a package for apples has induced us to give it a pretty thorough trial the present season. Dealers object to it. But its valuable characteristics are sure to bring it into use more for fine fruit. Our trial has been mostly with Sutton, as its color, quality and size adapt it to the purpose. We packed two sizes, 110 and 150 to the box, the boxes holding about an even bushel. With us the barrel is hard to get, and cannot be made at home except on a large scale, while we can set up our own boxes when needed. It is more work to put fruit in boxes and it must be packed honestly.

HORTICULTURAL POSSIBILITIES OF WORN-OUT FARMS.

Prof. W. M. MUNSON, Orono.

(Abstract.)

Systematic efforts are being made in several of the New England States to dispose of the "abandoned" or "worn-out" farms, or to reclaim them. It seems particularly fitting that this Society should use its influence in the latter direction, and should encourage any work looking toward the reclaiming of some of the holdings, which have for many years been neglected and practically abandoned. The fact is well recognized, at the present time, that these lands are not necessarily worn out, but that their condition is due more to the ignorance or neglect of their owners than to any inherent poor quality of the soil, or any lack of natural fertility.

There are many ways in which the neglected or non-paying farms of New England may be made profitable to their owners. One of the surest of these ways is by devoting the land to the growing of apples, and it is to the possibilities in this direction that the attention of the Maine Pomological Society is called at this time.

The younger generation can scarcely realize that fruit growing is still in its infancy in New England, and that in this direction is the most hopeful outlook for the future of New England agriculture. From the earliest settlements on the Massachusetts coast till the present day, fruit has been grown in New England. Peaches, plums, pears and apples galore have been introduced from England, France, and Belgium. But until about fifty years ago there was a very small amount of the fruit we know today; and that small amount was largely produced in the gardens of a few enthusiastic lovers of fruit.

Apples were then produced from natural seedlings, growing without care and attention, and were of more importance for cider than for any other purpose. Pears of delicious quality were grown, but mostly on a small scale for home use or for home markets.

But now all this is changed, we are beginning to recognize the fact that a large part of the area of New England, rough though it be, and difficult of manipulation for the ordinary farm operations, is well adapted to the production of fruits of the finest quality and highest color. We are beginning to realize that with a moderate annual expenditure for labor and plant food, we may reap a rich and sure return; that right at our doors are the best markets in the world for a commodity which we can produce as readily as we can make shoes, cotton cloth or wooden nutmegs.

Over much of the area of New England, the apple tree grows almost spontaneously; and wherever, in the past, seeds may have been scattered, we may find the trees growing. These old trees, though neglected and broken by storms, usually produce some fruit every year, and are frequently loaded to the ground. When given half the chance of ordinary farm crops these same old trees, regrafted to varieties of recognized merit, become the most valuable factor in the assets of the farm. In this connection I have in mind an old orchard in southern Maine, set more than eighty years ago, and naturally somewhat decrepit now. In three successive years recently, this orchard, covering about two and one-half acres, yielded 650, 400, and 350 bushels respectively; which brought the owner \$480, \$300 and \$350, or an estimated net profit to the owner of 75 per cent.* These old moss-covered, neglected veterans, hardy as maples and refusing to die, stand as living witnesses to the possibilities of New England's hillsides.

Nor is the testimony confined to these old veterans. Very many modern instances of men who have accumulated a competence from old rocky pastures by the aid of the apple tree might be cited. Phineas Whittier, Maine's "apple king," began his labors as a fruit grower about 1850 with the purchase of ninety acres of most unpromising rocky pasture and woodland for the sum of \$400—of which he was only able to pay \$75 down. Apple trees were set wherever a place could be found among the rocks, and today there are substantial buildings, including fruit cellar and evaporating house, and the annual returns from the orchards, which now cover nearly 100 acres, are from \$3000 to \$6000.

* Cited by D. H. Knowlton, Maine Pomological Society.

Only a short time ago, in conversation with the owner of an "abandoned farm" in Maine, the following interesting facts were brought out: The owner, a resident of Waterford, Oxford county, was a young married man and wished to branch out somewhat in his farming operations. In 1886 an abandoned farm of 136 acres, one and one-half miles from home, was bought for \$650. This is what is known as a hill farm, and apple seedlings grow almost spontaneously. At the time of purchase there was a thick growth of natural apple seedlings over the abandoned field. Some of these had been top-worked, and that year yielded twenty barrels of fruit. The same year the owner set three hundred young trees and began grafting the other seedlings. Such wood and timber as there was on the place was sold on the stump at \$4.00 per thousand, instead of spending time and labor in clearing.

During the first three years the young orchard was cultivated and planted to corn, the old trees being in pasture. Since 1889 the whole orchard has been in pasture, but there is an annual application of eight to fifteen pounds per tree of a fertilizer made up of 200 pounds nitrate of soda; 600 pounds muriate of potash; 600 pounds ground bone.

As indicating the earliness of fruiting, one of the top-grafting trees, the third year from grafting, produced three barrels of Baldwins, and the fifth year five barrels. The tenth year (1896) there were sold from the place 275 barrels of Baldwins at \$1.00 per barrel—mostly from the top-worked trees, of which there were about 300.

In 1900 there were sold 600 bbls. at \$1.43½ per bbl.

" 1901 " " " 30 " " 2.50 " "

* " 1902 " " " 350 " " 1.25 " "

" 1903 " " " 350 " " 1.75 " "

" 1904 " " " 550 " " 1.43 " "

† " 1905 " " " 375 " " 2.65 " "

The high prices realized are due to the excellent fruit and the fact that it is held in a storage house—built on the place from the profits of the orchard—until the price is satisfactory. In 1900 and 1904 the *net* returns from this small hillside orchard on one of Maine's abandoned farms was nearly \$500. In 1905

* Serious attack of pink rot.

† Sold in November.



MAINE FARMER PRESS, AUGUSTA
Packing-room—Miss Georgia V. Wilbur, Phillips

the net returns were \$700, and the orchard is not yet at its best bearing age.

In 1886 this gentleman in question was in debt \$1500. In twenty years he has raised a sturdy family; paid every debt, and about \$1000 in doctor's bills; built a stable, a storage house, and repaired other buildings; and has a snug bank account, substantially increased by the past year's returns. Best of all, his boy is an enthusiastic helper and will follow in his father's footsteps.

The case cited is not an isolated one. There are hundreds of farms in Maine, and no doubt in other sections of New England as well, that would give even better returns on a similar investment. Last year a farm of 57 acres, on which is a thrifty Baldwin orchard of 150 trees, was placed upon the market at \$1000. This same farm has repeatedly returned \$500 from the apples alone. The rest of the farm has been in hay until it is one of the "worn-out" farms; but the buyer of such property is sure of liberal interest.

I have not referred to the brilliant successes of Terrill and Kinney of Vermont; Ricker of Maine; Solon Chase, whose record with "Them Steers" is familiar to many; nor to the large operators like Hale of Connecticut, and others of Massachusetts, who have shown the possibilities in fruit growing. Suffice it to say, there are hundreds of small orchards throughout New England which during the past ten years have averaged their owners a net profit of 15 to 40 per cent on the investment. And this is better than raising corn at 25 cents per bushel 2000 miles from market, or than ten hours' daily work in the factory. It is better than raising hogs or even peddling milk. It is an occupation which takes a man out into God's sunlight during the day; which develops his powers of observation and his love for growing plants; and which leaves opportunity for home life, for study and for social development during the long winter evenings.

(The speaker here introduced letters from practical orchardists showing what had actually been done on "abandoned farms.")

VALUE OF ORCHARD LANDS.

In view of the recognized value of the orchard crop, it is indeed surprising that orchard land, in close proximity to railroad and steamboat points, should be held so low. It is more surprising that there are not numerous syndicates for the exploitation of these orchard lands. There is not the slightest doubt that with proper management the owner of apple orchards in New England is surer of a liberal return on his investment than is the owner of orange groves in Florida or of silver mines in the West.

One of the best orchard lands in Maine may be bought for from \$5 to \$50 per acre; and I know of hundreds of acres within 100 miles of Portland that might rival the great orchards of the Ozarks.

Orchards already in bearing, as in one case already cited, are sold at surprisingly low figures. But there is every indication that the tide has turned and that the fruit interests of the East are to receive a measure of the attention which their importance demands.

I would not minimize the difficulties attending fruit growing. Mice and countless hordes of insects and fungous enemies demand that the fruit grower be ever on the alert. But there is no business or occupation which will permit a man to "sit and sing himself away to everlasting bliss." The successful orchardist must wage an eternal warfare, just as is the case with any other successful business man.

AN INVESTMENT PLAN.

A few years ago the Secretary of the Maine State Pomological Society outlined a scheme for forming a fruit growers' stock company, which, while it seemed altogether feasible, has not, so far as I am aware, been carried out in New England—though similar organizations are very successful elsewhere. In the West and South companies have purchased land, planted trees on a large scale, sold capital stock, and declared satisfactory dividends. What has been done there can be done in New England.

There are few if any absolutely safe investments that will appreciate in value as rapidly as a New England orchard.

Excellent fruit land may be purchased almost anywhere in New England, for \$10 to \$50 an acre. If set with desirable sorts of apples, and given intelligent treatment, these same lands will at the end of ten years be worth at a low estimate \$100 an acre; while in fifteen years they will be returning a handsome dividend on a valuation of from \$300 to \$800 an acre. The increasing value of the orchard year by year, up to twenty-five years of age, is an important factor in the problem. To be sure the orchard must be cared for and protected during the first ten years. But this is not by any means a dead load to carry. Many of the lands which may be included in the tracts purchased, already contain profitable bearing orchards. Small fruits, or sweet corn, potatoes, and other hoed crops, may be grown in the young orchards to meet the expense of cultivation and fertilization. "Fillers" of Wealthy or some other early maturing sort, which will come into bearing in five years, will pay the expense of the orchard before the main trees reach their prime.

An investment of this nature will certainly stand investigation at the hands of conservative capitalists.

POSSIBILITIES IN OTHER DIRECTIONS.

While I firmly believe in the future of New England as an apple producing region, there are many other ways in which the abandoned farms of our fathers may be utilized to advantage. The reclaiming of "poverty flats," and similar unpromising areas in other sections of Massachusetts, has shown the capabilities of some of these lands as market gardens. The unqualified success which attends the intelligent management of dairy herds in all parts of New England; the almost unlimited demands for the superior sweet corn which is grown in Maine and elsewhere; the success attending the extensive operations of Professor Sanborn of New Hampshire, in the lines of general farming; the rapid advance in the production of potatoes, since the introduction of improved methods; all of these, and many more actual commercial operations, go to show the possibilities in the direction of a new agriculture for New England.

“THE COLD STORAGE PROBLEM.”

By Prof. MAXWELL J. DORSEY, Orono, Me.

Fruit growing has gradually developed from a neglected adjunct to the general farm to an industry of national consideration. It is regarded in its original light by some today, but that number is gradually becoming smaller. Its extent is such that commercial conditions are seriously unbalanced by even a partial failure of a crop in any of our extensive fruit growing regions. Growers, transportation companies and consumers suffer alike. The loss, however, is being felt less and less as the storage problem is being worked out.

Cultivating, pruning and spraying is one problem confronting the orchardist. But after the crop is grown and harvested in good condition another phase of fruit growing presents itself—and that is putting it on the market. Often as much toward financial success depends upon marketing the crop in proper season and condition, as upon growing a good crop. The efforts of an orchardist may result in little profit if it is necessary to market the crop when the “glut” is on. Here then is the province of cold storage.

The development of the storage industry within the last twenty years has been so rapid that its real extent is not generally recognized.

It is difficult to estimate accurately the present extent of the cold storage industry as applied to the fruit industry. No reliable data are available. There are probably from 1000 to 1500 storage plants in the United States today, handling fruit in some form. The number is rapidly increasing and no doubt they will exert a great influence upon the fruit industry in the future.

The application of refrigeration is not limited to holding fruit over season. It is now an extensive adjunct to transportation. Applied to both holding fruit over season and to transportation, the consumption period of fruit is not only lengthened, but growers are able to reach markets heretofore unsupplied. The storage industry, perfected along these lines, will enable every market to be supplied in and out of season.

Broadly speaking, there are two kinds of storage:

(a) The common method in which no artificial cooling is used, and

(b) Storage where low and even temperatures are secured by ice or mechanical refrigeration. Both systems have their place in fruit growing. They vary in effectiveness from the average cellar to the modern storage plant.

All fruits are not affected alike by storage. Some, as peaches, plums and berries, which ripen quickly, are not well adapted to storage; while others, as apples, pears, grapes, etc., have a longer period and are consequently better adapted to storage. Whatever the length of the ripening period may be, cold retards it.

The action of cold in keeping fruit may be summed up under two general heads:

1. It retards chemical changes in the tissue of fruit, which, when acting normally, hasten ripening.

2. Cold retards or prevents the growth of bacteria and fungi, which cause decay. Fruit kept in storage often degenerates rapidly when removed on account of advanced chemical changes in the tissue. The apple seems to be the better adapted to storage requirements than any other of our fruits.

What temperature is best for the apple in storage? Experiments seem to show that the apple keeps best, scalds less, and rots are checked more at temperatures varying from 31 to 35°. Some apples keep better at lower temperatures than others. The ripening still continues in storage but not so rapidly.

How much more rapid does ripening take place in the average fruit cellar than in the storage? The following figures which will be given are those found in an experiment which I conducted in Michigan. The storage used has a freezing room which is cooled by the Cooper-gravity brine system. The cellar of the storage, which was used in the experiment, to compare with the storage room proper, is moderately dry, and I believe can be taken as an index to the average cellar. The average temperature of the freezing room September to May was nearly 35°; that of the cellar, 42°.

By January 6, 100 per cent of the Keiffer pears in the cellar had rotted; during the same time 3 per cent rotted in the storage. By May 22, 100 per cent of Baldwins stored in the cellar rotted,

as compared with 2 per cent in the storage. Between the same dates, the results on Spys were 21 per cent for the storage and 100 for the cellar; on Baldwins, 13 in storage, 100 in cellar.

These figures not only show the advantage of a storage over a cellar but they show what influence a small margin of 7 degrees F. has on the keeping of apples.

The length of time fruit will stand up after being removed from the cellar or storage depends upon its degree of ripeness. Some fruits go down very quickly. Some of the best storage apples will keep in good condition for weeks after being removed.

The maturity of fruit and the time elapsing from picking until being stored, determines largely the life of stored fruits. Twenty-one per cent of Spys stored immediately after picking rotted as compared with 49 per cent left in a barn ten days before storing. In Spys fully ripened, firm and well covered, 18 per cent rotted up to May 22 as contrasted with 62 per cent taken from the same trees two weeks later.

Tests were made to determine the influence of some of the common injuries fruit receives, during the process of picking, packing and marketing, such as breaking stems, bruising, etc. With Spys, Baldwins and Kieffer pears, breaking or pulling out of stems had no appreciable influence. The rotting seldom took place at the stems.

Rough handling gave very marked results. Seventy-two per cent of Ben Davis, drawn six miles, rotted, as compared with 13 not drawn and carefully handled; Spys treated in the same way, 54 per cent for those drawn six miles and 21 for those not.

There was little difference in the effect of scab and codling moth upon the keeping of Spys or Ben Davis. Pouring in barrels or boxes was very injurious. This is a common observation, but how much does it injure fruit? In the case of Spys, 81 per cent as compared with 21 per cent carefully handled; Baldwins, 70 per cent as compared with 13 per cent in those carefully handled. These records were taken in May.

Comparisons in many more of these points which come up nearly every day in handling fruit could be given. We all know injuries result from certain practices, but how much? It was an attempt to answer this question that the above experiment was conducted.

Often during harvesting time weather conditions are such that any delay in storing apples after picking causes severe loss. This may be avoided if a storage were near at hand. If the storage is some distance away, or cannot be reached except by rail, still there is a chance for a heavy loss. The heavy traffic which is being handled by the railroads often makes it impossible for them to render immediate service. Cars properly iced may be secured at a convenient distance from the orchard, even then the terminal service is such that the fruit cannot be placed in the storage at once. Again there is a chance for loss.

In view of these difficulties which are encountered at harvesting by one who attempts to store fruit, the question is often asked, "Is it possible for an individual, or a few growers in a community, to build a storage of sufficient capacity to carry their crop beyond the warm fall weather and incident low prices, to a time later on when the fruit can be put upon the market after the local product has been consumed, and in this way reach the higher prices?"

This problem has been worked upon in Illinois and answered in the affirmative. Three storage houses having a capacity of about 2500 barrels were erected in different parts of the state, at a cost of about \$3500 each. A temperature of 33° was maintained with ice for seven months at a cost of about \$140. The total expense per barrel was 19 cents for the season. If the storage could be run at its full capacity, enough would be saved, taking 50 cents as the average storage charges for the season, to pay for the building in six years.

The advantage of having such a storage would be that the selling period could be greatly prolonged; the fruit could go into the storage at once, thus avoiding loss, and temporary packages could be used and the final grading could be left until packing.

In the future the development of the cold storage will greatly prolong the consumption period and enable the consumer to have fruit the year round. Over-production and resulting low prices will find a remedy. The market will demand a better grade of fruit. Only the better grades will be handled in the storage. Storing and marketing will receive as much attention from the careful grower as cultivation and harvesting.

MY NATURE STUDIES.

Miss BERNICE WATSON, Gardiner.

The word uneventful is often applied to the life of the country girl, and uneventful it certainly would seem if she did not observe and study the beautiful things of Nature which are all about her. The country is the home of countless villages of little people who carry on their business and private affairs in much the same manner as they are carried on by their human superiors. It was in the green fields and woods near my country home that I first began to study and love these little people.

My first study of Nature outside my observations at home began at Gardiner High School in 1902, under the able instruction of Prof. Powers. The fall and winter terms were devoted to zoology and consisted mostly of dissecting and drawing, outside of book study. Our first dissection was on the grasshopper. We separated the body into its three parts, head, thorax and abdomen, and again dissected the parts and mounted them on paper with the names of each. When done the mounts were very attractive.

During the fall term we studied the habits of some of the insects, and in the winter term again took up dissection, which was mostly on the crayfish, lobster, clam and other salt water animals that were obtained the previous summer by Prof. Powers. In the spring we took up the study of botany.

We had large books in which we mounted our specimens and fully described the parts and habits of each. Below each mount we drew some characteristic of the specimen.

At the meeting of State Grange in 1903, a prize was offered the different Granges of the State for the best collection of injurious weeds, and during the summer, Miss Thompson, a member of Chelsea Grange, and I devoted the most of our time to collecting. Our collection numbered 296 specimens and drew first prize for our Grange. The prize was offered the next year and we got a new collection and first prize again. At the State Grange meeting in Lewiston in 1904, we met Prof. Hitchings and at his suggestion we made a small collection of insects during the summer of 1905. Last winter the

State Grange offered prizes for injurious insects and this summer we have made a collection of about one thousand specimens, part of which is on exhibition in this hall.

I expect we have furnished considerable fun for some of our neighbors and friends. We have doubtless been called freaks and cranks, but as Burdette has said, "A crank, my son, is something that makes the wheels go round and insures progress," and I hope we are cranks in our own small ways.

During Teachers' Summer School at East Pittston, in 1905, Prof. Powers, Miss Thompson and I devoted considerable of our time outside of school hours to collecting botanical specimens. Prof. Powers organized a Nature Study Class, and afternoons we took long walks through the fields and woods. We carried trowels for digging our plants and vasculums for carrying them. Prof. Powers led us through briars and over stone walls, but he always knew where he was going and what he was going to find.

Most of my Nature Study has been field work and observations in the fields and woods. To study Nature one should be out with the things of Nature. A book full of things some one else has seen is not as instructive as having the little people themselves tell one of their ways and homes.

One of the best ways to study the life history of the butterfly is to collect the caterpillar, feed it, watch it eat and study its habits. When it has eaten all it wants, watch it go into the chrysalis state. The Black Swallow-tail which feeds on the carrots fastens itself to the side of some board or box, doubles its head a little under its body and slowly turns into a brownish chrysalis. The Polyphemus, a large green caterpillar which feeds on the elm, weaves a covering for itself of fine white silk. I watched one weave its cocoon last summer, and it wove a network around itself first, a part of the time having to stand on its head. Out of curiosity I began to pull the little silken thread which it secreted from its mouth. After secreting about two yards it refused to throw away any more, but it had plenty left and soon completed its winter home. The silk hardened when it had been in the air a short time and was as strong as fine thread. In the spring it broke open the cocoon and came out a moth. At first its wings were small and damp, but they developed quickly and after being in the air a short time became

dry and strong. The female moth lays her eggs on some leaf where the young caterpillars can feed when they hatch, and soon dies.

When one starts out on a collecting trip he should always carry a net, poison jar, a little box in which to put larvæ and other things he does not wish killed. If he is after dragon flies he should go to some bog or swamp where they breed, and there they can be found in great abundance in the different stages of development. The blossoms of golden rod and meadow sweet are always sure to have some beetle or fly on them. The flowers and insects are closely connected. The flowers provide the honey-loving insects with honey and while they are securing this sweet they fertilize the flower by carrying the pollen from blossom to blossom. Every flower hangs out a little sign which reads to the beetle or fly, "Honey for sale." In some blossoms like the mayflower it is the sweet perfume we all enjoy so much; in the carrion flower it is the offensive odor of decayed meat; but in both the sign reads the same to the different individuals it desires to attract. When the insect goes into the flower for the nectar it knows is there, it brushes carelessly against the little pollen boxes or stigmas and shakes the little yellow dust onto its body. It afterward brushes against the pistils and leaves small particles of dust on them. These go down into the lower part of the pistil, or ovary, fuse with the little ovules and thus the little seeds are made and immediately begin to grow, and in this way the insect pays the flower for the honey it has taken away. As soon as the flower is fertilized it takes in the sign and the parts of the blossom fall off and there is nothing left but the seed-pod or fruit.

One should study the lives of the insects as they are in their own little homes. Upon close examination one finds that the beetles, bugs, flies, wasps, etc., have six legs, while the spiders, harvest-men, etc., have eight. The bodies of many of the insects are made up of three parts, head, thorax and abdomen, the wings being fastened to the thorax. In some the head and thorax are so closely connected we say these insects are made up of two parts, cephalo-thorax and abdomen. Most insects have two pairs of wings; in the bugs and beetles the outside pair are hard-shelled and protect the delicate under wings, many

of which are bright-colored, as, for instance, those of the potato beetle. The upper wings of the bees and wasps have little hooks on them. When a bee wishes to fly faster than it can go when using its two larger wings, it hooks the smaller onto the larger and so increases its speed.

After returning from a collecting trip the insects should be kept in the poison jar until the muscles have relaxed before mounting. This generally takes about twenty-four hours. They should remain on the mounting boards until thoroughly dry—the time generally being two weeks—then removed to cases as near insect proof as possible. Great care should be taken in handling the moths and butterflies so as not to brush the scales from their wings and bodies. Even while looking at the mounted specimen one cannot help but notice the perfect blending of colors, the exactness and beauty in each curve and line, and when studying the live specimen, how many examples of industry, how many lessons of love and patience, they show and teach to those who are so far above them in the scale of animal life. This is one of the reasons why I think Nature Study should be taught in the public schools. It broadens the child's ideas and makes him understand more fully *his* place in the animal kingdom. The regular teacher should devote a short period each day to talks on these things, and once a week a Nature Study teacher should come to bring and explain specimens and assign a subject for the next week's study. She should be one who can devote her time to the study of insects and plants and be familiar with their habits and homes, who can tell of the things she sees to her pupils in a way that will enable them to see and understand her meanings.

Many of our regular teachers have had no especial training in lines of Nature work, and because of this lack they fail to interest their pupils on this grand subject. Every town, therefore, should employ a special Nature Study teacher who should go about from school to school, visiting each room in turn at least once a week.

During the Nature Study period the children's thoughts should be wholly on the subject under discussion, and if the teacher understands and is interested in her work she cannot fail of success. It is the child in the primary grade who should be taught the things that are all about him. In childhood he

should become familiar with the Nature World of which every child is a part, so that in manhood he can take his place in the more complicated world of action.

In one of the rooms which I visited regularly this spring as special Nature Study teacher, the pupils were so interested they would leave their seats and come to the desk without permission with questions for me to answer. At last the teacher told them they would have to remain after school if they did so again. It had no effect. They came just the same and I was obliged to tell them myself that they must stay in their seats if they wanted me to talk with them. The school was one of the best disciplined, but their interest in this study made them forget the regulations of the school. The pupils in this school were no exception to pupils in every school. Boys and girls the world over love the fields and woods, the hills and brooks, and they are always ready to respond when they are appealed to by the teacher. This teacher, as she leads them on from insect to flower, must show them the inter-relation between the animal and the vegetable world and the important part played by each in the economy of Nature.

She should teach them to be able to distinguish the beneficial plants and insects from the poisonous and injurious, to know where they live, and some of their characteristics and habits. Under her instruction they would soon learn that some of our most injurious insects are the beautiful moths and butterflies and that they should be destroyed; that the ichneumon fly is beneficial as it lays its eggs in the chrysalis of the moths and butterflies, and that these when they hatch feed upon and destroy the contents. She should also teach them to see the beauty and art in all things pertaining to Nature, and above all the love and nearness of the One who has put these wonderful things here for us to see and enjoy. She should lead the child to understand that he is a part of this grand subject and that he has a special place in it, and nine times out of ten she will find that Nature Study appeals to that big overgrown boy up there in the back seat who never studies but is always looking out of the window with a dreamy expression in his eyes. His teacher calls him lazy and dull, but see how his eyes brighten and his form straightens when the Nature Study teacher comes into the room. Watch him some day when he is playing truant

out in the woods and fields, where the things he is interested in are all about him. His eyes are bright, his movements are quick and alert. He is with Nature, and Nature's God has given him those things which enable him to see and understand.

He is not interested in his books and before he ever will be the teacher must show her interest in the things which appeal to him. If he sees she cares for the things he knows and loves, he will soon become interested in the lessons she is trying to teach him.

The boy in the other corner seat who always sits erect and has a bright, attentive look is also glad to see the Nature Study teacher, his interest in the things around him increases, and he thinks more of the love and power of the Creator of all these wonderful things. He is already interested in his studies and does not need to be appealed to as does the dull boy.

And so I say, Nature Study should be taught from the Kindergarten up. It broadens the child's ideas and gives him a greater desire for further knowledge.

Only those whose hearts are close to Nature and whose ears are ever ready and willing to hear and understand her many voices can appreciate the joy of the botanist when he comes upon a group of Mother Nature's children playfully hiding behind some fallen tree or huge boulder. What is there more pleasing on a warm summer day than a ramble in the woods where the flowers are to be seen in their home dresses? How restful and peaceful they look as the breeze gently sways their frail forms to and fro. They seem to be talking to each other and nodding their pretty heads in response to their neighbors' questionings. How many of us when we stoop and pick one of these little nature folk think that while we are only taking one blossom out of God's garden for our pleasure, we are at the same time preventing dozens of others from growing the next year. But Mother Nature is always glad to give us pleasure in our rambles and that is why she puts so many of her children where we can see and love them.

I do not believe there is any person, if he has any love at all for the things of Nature, who does not have a feeling of humble exultation when he comes unexpectedly upon a group of the Lady's Slipper or Moccasin Flower, clustered in some remote thicket. They have such a bashful, trustful look as they stand

with their fresh green leaves and nodding yellow heads in this cool secluded place. When we stop to read Nature's language, we know they are bidding us welcome, but if we should come upon them in a careless way, with no thought of the beautiful things around us, we would be unable to read the welcome and pass by the beauties of the wood without knowing the pleasure that might have been ours. In some shady place we see the Foam Flower and we cannot help but think how closely it resembles its name. The snowy white blossoms as they are gently swayed by the breeze make one think of the sea foam as it breaks on the rocks and beaches at the seashore. We go into some art gallery and gaze with awe at some beautiful painting. At a distance there is nothing to mar its beauty, but a nearer view shows little imperfections that have not been noticed before. It is not so with the pictures of Nature. The nearer we come, the more minutely we inspect them, the more wonderful are their designs, the more clearly their component parts stand revealed.

This world is God's garden and Dame Nature is the gardener. She teaches each spear of grass, each flower, each leaf, the love and goodness of God, and thus we, when we study and read the language of the things about us, cannot help but learn the lessons of love and purity.

HOW TO GROW DAHLIAS IN MAINE.

Mrs. BESSIE M. RUPERT, Portland.

The Dahlia is a tuberous-rooted perennial—a native of Mexico—and first discovered by Baron Humboldt in 1789. It was sent by him to Professor Cavanilles, of the Botanical Gardens, Madrid, who named it Dahlia in honor of the celebrated Swedish botanist, Professor Andrew Dahl. The same year, 1789, it was introduced in England by the Marchioness of Butte, who secured the plant from Professor Cavanilles. Although this plant was grown under glass and received the greatest possible care, it was finally lost, and was re-introduced into England in 1804 by Lady Holland. The plant was then introduced in France, Spain and Germany, where it received great attention and where it is still prized to this day as one of the finest summer and autumn blooming plants.

Other species were found and introduced from Mexico and became general favorites with botanists and gardeners, who raised many new varieties from selected seed. The first double variety was introduced in 1814. From this and several other varieties that quickly followed we get nearly all of our present named varieties.

Though found so close to the United States, the Dahlia was not introduced directly from Mexico, but was introduced from England shortly after, in the form of several improved varieties.

During the thirty or forty years of constant improvement which followed, the constant aim was to produce perfectly double, regular, ball-shaped flowers. The nearer a perfect ball they were, the more highly they were prized. This type had reached perfection by 1840 and was then considered the only type worth growing. At this time the Dahlia was the favorite garden plant with amateurs, gardeners and florists.

As the demand for Dahlias seemed to be assured, the florists continued to grow mostly the single and ball-shaped varieties, ceased to strive after new forms, and continued to grow the same varieties from year to year. Naturally a decline in the demand for roots followed, as many had become tired of the stiff form of the old variety, and others having a complete col-

lection of the kinds offered began to look about for something new. The Dahlia received less and less attention as the years went by until at last it became almost impossible to get good varieties true to name. Fortunately, however, the demand in England was for loose, graceful flowers, and new types were produced to conform to the general demand. Interest was at once revived, specialists took the Dahlia in hand and as a result we have cactus and decorative varieties that are marvels of superb beauty, not only in form but in their beautiful shades, tints and exquisite finish.

The demand for Dahlias has so increased in the past few years that they now form a part of the florist's stock of cut flowers, and thousands of blooms are daily used in the large cities in the making of exquisite bouquets, designs and decorations, many times at a higher price than paid for roses. There is nothing more useful as a cut flower than the Dahlia, coming as it does when other good flowers are gone. The flowers are both large and small, according to the variety, of every conceivable color, of exquisite texture and finish, and most of the varieties have long stems and beautiful foliage.

VARIETIES.

Dahlias are divided into two sections, double and single. Each section is again divided into classes, according to size, form and arrangement of colors. Double Dahlias are divided into five classes: Cactus, Decorative, Show, Fancy and Pompon. The Cactus is of quite recent introduction and is the most beautiful of all the Dahlia family. The flowers are very large, of most exquisite finish, soft, delicate, graceful, perfectly double, irregular in outline, loosely arranged, and almost all the varieties are borne on long stems. The petals are long and narrow, with the edges folded backward, instead of forward as in the ball-shaped varieties. In some plants the edges of the petals will actually meet, in others the petals are nearly straight. The coloring of this class, the blending of shades and tints, is surpassingly beautiful.

In form, Decorative Dahlias are about half-way between Cactus and Show Dahlias, being loosely arranged and of largest size. The petals are long, broad, beautiful and regular, though they vary some in the different varieties. The flowers have the

same exquisite finish and coloring of the Cactus Dahlia and both are strong growers and profuse bloomers.

Show and Fancy Dahlias are a branch of the old ball-shaped varieties, but are distinctly different in color arrangement. Show Dahlias are large, double to the center, very regular as though grown in a mould, and in some varieties the petals roll back to the stem, forming a perfect ball. They embrace the full range of colors, except blue, being either solid, self-colored or edged, or shaded darker than the ground color. This is the oldest form of the Dahlia and is better known and more universally grown than any other class.

Fancy Dahlias are very popular, owing to the beautiful combinations of color in the same flower. The term "Variegated" is more often applied than "Fancy," as they are splashed, mottled, penciled and margined in every conceivable manner and form. The flowers are large, beautiful and regular, quite variable as a rule, often showing but one color, showing fancy flowers in some localities and solid colors in others, with no apparent cause.

Pompons are also of the ball-shaped variety, having small, perfectly formed flowers, highly colored, many of them beautifully variegated. The plants are usually of dwarf, compact growth, and are always covered with a mass of flowers. They are largely used for cutting as the flowers are always small, have very long stems, and last a very long while after being cut. They are especially good for planting on small grounds, where a large collection is desired as they can be planted much closer than any other variety.

A perfect single Dahlia should have but eight petals and the petals should be of the same length. They are very beautiful and graceful and when better known will be included in every collection. In some the petals are long, narrow and irregular, sometimes twisted at the tip; in others they are broad and flat, overlapping each other. In the Collarlette Single, there is a second row of small petals arranged like a collar around the center. They embrace the full range of colors, some being self-colored, edged and shaded darker than the ground color, others being spotted, striped and variegated in every possible manner. The flowers vary in size, the smallest measuring about two inches in diameter to the largest measuring eight inches.

CULTURE.

One of the most important points to be considered is location. To get the best results select an open situation, where the plants can get plenty of sun and air. They will grow and give some blooms in almost any place, even when shaded by trees and buildings, but no plant is satisfactory unless it does its best. Planted in the open garden they will bloom profusely until cut off by frost. Planted along an exposed walk or drive they make a beautiful and effective border. They can be massed or banked effectively and are good for bedding purposes. Some people train the taller varieties on trellises, others let them spread on the ground, giving the effect of a bed of low growing flowers. Planted in the shade they make a tall but soft growth and bloom sparingly. Dahlias are seldom a success, however, when planted under or too near large trees. The trees not only rob them of sunshine and air, but the roots, large and far-reaching, rob the ground of both moisture and nutriment.

Any moderately rich soil that will grow good corn will grow good Dahlias, if all other conditions are favorable. Sandy loam is best, however, as it will resist drought better. The plants are strong, robust growers, and are not particular as to the kind of fertilizer given as long as it contains the necessary elements for their development. Make the soil mellow by ploughing or spading a foot deep or more. Thorough preparation of the soil is essential as it not only enables the roots to grow deeper after moisture during dry weather, but affords good drainage after heavy rains.

Dahlias should not be planted till the ground becomes thoroughly warmed, usually about May 20th in this vicinity. The plants grow very rapidly and when planted about this time give better satisfaction than when planted earlier. Plants coming into bloom the latter part of August also give better satisfaction than those that come into bloom in July. However, tubers may be planted much later than May 20th. I had in my garden this summer four tubers that were planted about the 10th of July. I exhibited blooms from one of them at the Central Maine Fair, Waterville, September 11th.

Dahlias are propagated by seeds to produce new varieties, and by division of roots. Division of roots is the easiest and

most satisfactory method of propagation and the one followed as far as possible by all growers. As the eyes are not on the tubers, but on the crown to which the tuber is attached, care must be taken to see that each tuber has at least one eye. It is therefore best to start the eyes by placing the clump of tubers in a warm, moist place a short time before dividing them. Some people let the shoots get considerable size before setting them out as plants. I find that by placing the tubers in the ground direct, I get better, stronger plants than when I start them in the house. In buying Dahlias it is always wise to give strong field roots the preference, as they give better results the first year.

Many grow Dahlias from seed as an experiment, yet seeds are generally planted to produce new varieties only. Growing from seed is very fascinating owing to the uncertainty, as seeds do not reproduce the variety true to type, and then you may possibly get a new variety.

Plant Cactus, Show, Fancy and Single varieties three to four feet apart; Pompons two to two and one-half feet apart. Plant from four to six inches deep, according to soil and location, and cover from one to two inches at time of planting. Allow but one stalk to grow, and as it grows draw the soil in around it till the ground is level, but do not hill up. Pinching tall growing varieties just above the ground causes the plants to branch at the surface, thus making a stronger and more compact plant. Some growers use this branching system and consider staking unnecessary. However, staking securely is the surest protection against wind.

The plant will grow very rapidly and must be kept thoroughly free from weeds, the ground kept fine and mellow by frequent stirrings. Never allow a crust to form around the plants. Cease all deep cultivation before the plants come into bloom, and do not again stir the soil deeper than one inch, as immense quantities of feeding roots would be destroyed. Frequent stirring prevents excessive evaporation of moisture and keeps the under soil cool and moist. When the plants begin to bloom a heavy mulching of fine decomposed stable dressing will be found very beneficial, as it will help to make flowers instead of foliage as is often the case where the ground is made too rich at time of planting. If the supply of nourishment becomes exhausted,

the plants stop growing and the flowers grow smaller. People say they are "bloomed out," but they are really "starved out." The object sought in growing Dahlias—large, beautiful flowers, and plenty of them—is best obtained by feeding the flowers after the plant has developed rather than by feeding the plant before the flower appears. Some Dahlias bloom so freely that it is necessary to disbud them because the plant cannot supply nourishment enough to perfect all the buds that form.

If good strong roots are planted and the ground kept thoroughly cultivated, there will be little need of watering. If it is very hot and dry after the plants come into bloom, water thoroughly once a week, taking care not to wet the blooms. It is best not to let the plants suffer for want of water, not to water unless they need it, but when you do water them do it thoroughly, taking care to stir the soil the next day to prevent evaporation.

The Dahlia is unusually free from disease and insects. Cut-worms sometimes cut off small shoots. You will always find the worm in the ground close by the plant it has cut off. As a preventive, use a small handful of slaked lime around the plant as soon as it comes through the ground.

As soon as the plants have been killed by the frost, lift the roots, remove the loose soil, and expose to the sun and air for a few hours to dry. Cut off the stalks quite close to the clump and pack not too closely in boxes or barrels, in a frost-proof cellar. A covering of dry earth or sand will prevent the roots from shriveling by excluding the air and preserving a more even temperature. Be careful, however, that the clumps are perfectly dry before covering.

In conclusion, let me say there is really no flower that will give so much pleasure for so little care and expense. It combines more good qualities than any other flower grown in the open garden, where it can be had in perfection from July until cut down by frost. The plant is a strong, robust grower, will grow in almost any position, and almost any soil, if given the proper nutriment. In the Dahlia can be found not only every color except blue, but every intermediate shade and tint from the softest to the richest, the most beautiful combination of colors, the most marvelous blending of shades and tints. There is even a green Dahlia—*Verdiflora*—which is quite a curiosity

on account of there being no true petals, and the sepals or bracts developing into petals. While there has not been a true blue variety produced as yet, many believe it is only a question of a little time, for there are already several purples containing blue shades. It is ease of culture, combined with its varied habits and adaptability to conditions, that makes the plant so valued and popular.

As a cut-flower the Dahlia is unsurpassed owing to its great diversity of form and its brilliant coloring. They vary in size from the smallest Pompons, measuring about one inch and a half in diameter, to the largest of the Decoratives, measuring six to eight inches—sometimes measuring even more. Dahlias can be grown to perfection in any and every garden, with but little care and expense, if attention is given to their simple requirements. No matter how many other plants may fail to thrive, or whether the season be wet or dry, you can grow them successfully if you but try. If you admire beautiful flowers and want them in profusion from July till frost, plant Dahlias and you will be delighted.

HOME INDUSTRIES FOR FARMERS' DAUGHTERS.

Mrs. V. P. DECOSTER, Buckfield.

I. FLORICULTURE.

Since it is no longer necessary for the farmer's daughter to go to the city, or become a country school teacher, in order to become self-supporting, we will consider a few of the many ways now open to them, by which they can acquire a good income and still remain upon the farm.

As the country is coming in closer touch with the city through telephone, rural delivery and electrics it makes it possible to carry on many kinds of business which formerly could only be done near a market. Greenhouses are now quite frequently found at some distance from cities, as they can take orders by telephone.

Women seem especially adapted to this kind of work, even though there is much hard labor connected with it. We have one lady in this society who owns a greenhouse in one of our

Maine towns, although not exactly in the country. She does the work herself, even to shoveling seventeen tons of coal each winter. She has everything planned and built in a way to make it as easy as possible.

She tells me that her greenhouse, which is sixty feet long, cost her \$600, but she paid for it and the running expenses, during the first six years. She makes a specialty of raising carnations and roses in winter and bedding plants in the spring. One Marchiel Neil rose pruned last March and at Decoration time, sold five hundred blossoms, and cut over one thousand within three weeks. The plant was originally a La Marc rose and grafted at two years.

Another woman in the town of Turner began by raising tomatoes, pansies, etc., in her kitchen windows for her neighbors. Gradually she worked into cold frames, then hot beds, and as her business increased she built a greenhouse and worked up a good paying trade.

I know one lady who lives in a village where there are quite a lot of summer boarders who has bought gloxinia bulbs in the winter at \$1.00 per dozen and had them well grown and in bloom in the summer and sold them at fifty cents each.

II. SMALL FRUITS.

The raising of small fruits has also been successfully carried on by women. Those who have attended some of our past pomological meetings have heard very interesting papers by women who have had practical experience in that line. I was visiting one day in one of our villages when a girl about fourteen years old drove along the street with an express wagon filled with boxes of cultivated raspberries. Evidently it was a regular day for her trip, for it seemed as though the women at every house were watching for her, and without being obliged to even offer her berries for sale, they were soon all gone at fifteen cents per box.

I recently visited a farm in Livermore where a young couple have built a new house and started into the small fruit business. This year from their Cuthbert raspberry bed, twelve rods in length and two rods in width, they picked 928 quarts; from Snyder blackberries, ten by two rods, 786 quarts.

I have also corresponded with a lady in that town who has an acre of raspberries, from which she has picked forty bushels. Most of these were sold fresh, but she canned about six bushels which she sold at 20 cents per pint or 33 1-3 cents per quart, and the jars returned.

Celery: In connection with berries celery is a profitable crop to raise. With only help from a man to prepare the ground a woman could raise hundreds of plants. One spring I raised six hundred small plants in the house. These were set out in solid beds, the plants about six inches apart each way. They were the self-blanching varieties like White Plume and Golden Self-blanching. The soil was *very* rich and moist, in fact it was on a slope where it had received the wash from the barnyard. The plants grew so large and so closely together that they required no blanching except boards around the outside.

In the fall we lifted them carefully by the roots and set them in shallow boxes, a dozen in a box, and sold them in our village at seventy-five cents per box and thought that a good price. But a friend of mine has done the same thing and found no trouble in getting \$1.25 per box. Families like to buy boxes to keep in the cellar, and the stores also will buy it that way.

III. POULTRY.

For a steady, all the year round work and income, I know of nothing better for a woman on the farm than poultry.

Keeping poultry by the hundreds of course is a very different matter from keeping a dozen or so and letting them pick up their own living. Women seem to be well adapted to managing incubators and brooders, and these are almost indispensable now in a large business. Hens are contrary things sometimes, and they won't always set just when you want them to, and if you want a nice lot of eggs to sell about this time, when it looks as though there is no limit to the price in Boston, it is quite necessary to have your pullets hatched pretty early in April. There is a great advantage in having them all just about the same age, as they can run together and have the same feed.

The methods now practiced in using dry feeds make the work so much lighter that one woman can care for several hundred hens.

Incubators.

When you buy an incubator get the best in the market, and get a *big* one. You can run a large one with almost the same work and expense as a small one, thus you have your chickens all of the same age, and if there should be more than you wish for there is always a sale for incubator chicks. In fact, one can do a good business in selling newly hatched chicks. Three years ago I sold several hundred and the next year had inquiries for two thousand more than I could furnish.

The cockerels hatched in March and early April will sell at a good profit as broilers in June, thus leaving the field clear to the pullets.

Colony House.

We like the colony house plan, building them about 7x12 feet and putting two Peep o' Day brooders into one house with from fifty to seventy-five chicks in each brooder. The pullets remain in the colony houses until time to go into winter quarters.

Thoroughbreds.

It pays to keep thoroughbred stock of some variety. Then your eggs are uniform and you can gradually work up a sale for eggs for hatching. The large brown egg always sells better in Maine and Massachusetts than a white one. Eggs sell higher in Boston than almost anywhere in the country. Last month for large brown eggs we got ten cents per dozen more than the markets near home were paying. So a person intending to go into the business will do well to consider the size and color of the egg as well as the kind of stock.

Poultry is one of the industries a woman can work at and still do her housework (if there is not too much of it). Two years ago I kept an account of what I made on chickens alone. From the cost of the eggs in the incubators up to September I cleared \$56 in cash and I had on hand one hundred and six pullets worth one dollar each, thus making a total of \$162. And this, you see, was only the chicken side of the business, as the man of the house was attending the hens and egg department.

IV. PRESERVES AND PICKLES.

Home preserves, jellies and pickles is an industry seldom found to any extent, and yet I know there is a large field open here at good profit. There are hundreds of dollars worth of fruit wasted which might be turned to profit. I have known several women to start in this business and give it up.

The trouble is, they try to compete with large factories in a low-priced class of goods. The only way to make it pay is to make a superior article and have private customers.

Why, do you know how the cheap jellies are made? Such ones as your grocer sells for ten cents a glass?

Let me tell you. I have had the privilege of going through one of the largest preserving houses in the country, where I saw the jelly being made. In a large room on one of the upper floors of the building were many bran sacks filled with the dried skins and cores of apples from evaporating factories. It is quite safe to conclude there might have been a little dirt on some of the skins. However, they were dumped into an immense iron kettle, water added, and they were then cooked a certain length of time, and then the juice was drawn off at the bottom and strained into a large tunnel and spout which went through the floor down into other kettles in a room below. Here sufficient glucose was added to make it the required sweetness, and it was again boiled till it became jelly. Then it was put into jelly tumblers, and after hardening, was sent to the labeling room, where girls pasted on all kinds of *beautiful* labels. The labels looked very attractive, with the names and pictures of different kinds of fruits, but the jelly was all the same, *apple skins and glucose*. Of course they made some better jellies and pure articles, but you never see those except in the high-priced fancy groceries.

Of course the farmer's wife who uses only good fruit and pure sugar, and buys glasses in small quantities, cannot compete with that class of goods. But there is a call for the pure article put up in an attractive package.

A few years ago we had so many Red Astrachans that there was no sale or give away for them, and I conceived the idea of making them into jelly. I made it just as nice as I knew how, and put it up in tall thin soda glasses, with paraffine wax

and paper over the top. The glass and jelly both were so clear that you could see to read through it.

Then I went to one of the high-priced fancy grocery stores, in one of our large cities, and asked the man who had charge of the jelly department if he ever bought home-made jellies. At the question a "tired look" came over his face, and he answered, "No, I don't any more. Just step here and see what I have on hand." Then he showed me a large number of common jelly tumblers covered with tin covers, under whose edges sticky drops were oozing down the glass, and as he lifted some of the covers I could see the jelly was covered with yellow and white mold. "There," he said, "I bought a number of dozen of those and I can't sell them at even ten cents a glass."

"I shouldn't think you could," I answered. "I don't want to sell such jelly as that. I have a nice jelly in an attractive glass, and I want a good price for it. I know people will buy it if they see it." Then he began to get a little interested and after some talk said I might send him a sample and he would consider it. So I sent a sample, and he offered me four dollars a dozen, of his own accord. And those glasses only held one-half as much again as the ten-cent glasses, but the glasses cost \$1 per dozen at wholesale. The secret was the glass and the jelly were so clear it looked attractive at a glance.

One woman who has sold quite a lot of jellies this year to private customers in Massachusetts, gave me the following prices, which she has received:

Currant jelly, \$3.60 per dozen or 30 cents per glass; apple jelly, \$2.50 per dozen; wild grape jelly, \$3.25 per dozen; preserved pineapple, per pint, 55 cents.

APPLE JELLIES.

By using different flavorings a great variety of jellies can be made from apples. Quince added to apple makes one of the very best. Many people are very fond of jelly from Porter apples. This can be made so clear that it will be almost white, but red jellies generally sell better than the light-colored ones unless the customer desires the particular flavor.

Apple jellies can be made well into the winter, thus prolonging the working season and making a good market for number two apples. A rose geranium leaf dropped into the boiling syrup gives a delicate flavor which some people like.

Apples can also be combined with other fruits which do not jelly easily, like the peach. When used with grapes, the apple juice helps prevent the grape from crystallizing, which so often is a trouble in keeping grape jelly.

CURRENT JELLY.

Current jelly will bring a higher price than any other. I think raspberry and current combined make even a finer jelly than the current alone.

Currents are very easy to raise, with just a little work in using hellebore at the proper season to keep down the current worms. It is a wonder to me that farmers do not raise more currents than they do.

Rhubarb is a valuable addition to the preserve department. People who do not care for it alone, often like it in combination with fruits. For instance, it can be used with strawberries and raspberries, by cooking it a long time first with sugar until the rhubarb is a rich jelly red and then just adding the berries to the rich syrup and barely scalding them through. The rhubarb gives a rich body and the berries the flavor. When carefully cooked with about one-third rhubarb to two-thirds berries, few people will even know the rhubarb is in it.

RASPBERRY SHRUB.

Raspberry shrub is also easily made on the farm where they have good cider vinegar, and in these days of punch, which is served so frequently, would find a ready market.

The best of jelly can be spoiled for market by a cheap glass. It is just the same in putting up berries, plums or other fruits in jars. If they are all mushed together in a kettle and then poured into a green glass jar they are not one-half as attractive as when put into a white glass jar and cooked in the jar. Many people make a mistake in cooking berries too long, which hurts both color and flavor.

PICKLES.

I have experimented also with chopped tomato pickles and know one can easily find customers for that even in country villages. The secret is to decide upon something you *know* you can make *first-class* and then hunt up your market. If you can make something a little better than any one else, stick to it and you can gradually create a demand for it.

I will give you a short account of what one woman has done in the city, and certainly a woman on a farm where so much of the material practically costs so little, can do far better. This account was sent me by a lady well acquainted with the person who did it. She was a physician's wife in Worcester. Her husband died very suddenly, leaving her with two small children looking to her for their support. It occurred to her one day as she heard a friend remark that she was going away for the summer and she "did wish she knew of some one that could put up her fruit and make her jelly and pickles for her"—why could *she* not undertake it?

The lady was delighted with the prospect and the work was engaged. If she could do for one, why not for many? As soon as it became known that she would do the work, orders came from far and near. She went to a commission house and purchased the very best fruit at wholesale prices, also her sugar in 100-pound sacks. Her jelly tumblers and jars she bought at wholesale, so she was able to make enough on her jars when the fruit was sold to pay for the breakage.

With material bargained for she was ready for business. Taking the fruits in order, strawberries, currant jelly, spiced currants, raspberries, blueberries, blackberries, cherries, crab-apples, plums, pears, grapes, and so on through the list of fruits she worked until pickling time; then came pickled pears, tomato pickles of all kinds, mixed and plain, cucumber pickles, canned ripe tomatoes, chili sauce, catsup and everything that could be thought of that would sell.

Unaided by any one, with the care of two babies, from early season till fall, on a gas stove, that brave little woman put up one thousand tumblers of jelly, which she sold for \$3 a dozen; ninety-five dozen quart jars of fruit, which of course varied in price according to the fruit and the way it was canned.

She kept her books with the same care as any business, so at the end of the season she could tell within a cent where she stood. Her expenses for her business including fruits, tumblers, jars, sugar and fuel, amounted to seven hundred and fifty dollars; her net profit for her work was five hundred dollars.

There were slight losses from breakage and now and then a jar of fruit would be lost. On almost all her fruit she doubled her money, and that is, I believe, the rule for such things. In

many cases the jars were furnished by the parties. She said if she could have hired competent help there would have been no limit to her business, as her goods sold faster than she could produce them.

To do an extensive business, at a profit, it is needless to say that all materials such as glasses and sugar should be purchased at wholesale and as much fruit as possible raised on one's own farm, although it pays even to buy that at wholesale prices.

I think there is more profit in pickles than in jellies, as tomatoes and cucumbers can be so easily grown and our waste apples made into cider vinegar. I first experimented with the chopped tomato picalilli. I made up samples and sent a person through our village to the different houses, to take orders. Most of the ladies sent their own jars to be filled.

HOW TO FIND CUSTOMERS.

There are so many women in the city now who spend the summer months in the country just at the time when fruit should be put up that there is no trouble in working up a class of good paying customers, to the person who can furnish the desired goods. One needs only to make up attractive samples and show them to the summer boarders and the orders are sure to come. Every satisfied customer is sure to find you several other customers.

Now I have not given you any imaginary facts or figures, but simply what I know to be true either in my own experience or that of some acquaintance. I have experimented in this because all my boys are girls, and I hope they will not all want to go to the city, although one of them remarked she had rather be a school teacher than a canning factory.

Why is it, then, that there are so few women engaged in these kinds of business?

Let me ask you,—why is it that there are so few young men on our farms?

It is the same answer to both. They flock to the cities. Young men and young women think they can make more money and have better times in the city, and after they once get into the whirl, it is hard to get them back into the country.

Our boys and girls see our summer visitors come among us each year with white hands and dainty clothes, polished man-

ners and money in plenty, and the contrast makes their own lives seem bare of beauty and full of drudgery and petty economies.

To hear the city cousin talk of theatres and concerts and parties, it seems to the country boy or girl that their lives are narrow and hard and missing the pleasures of life. Most of our girls are teaching school, many of them in other states, for it is a fact that other states are always glad to get Maine teachers. I wish I knew how many of our girls and boys go annually to Massachusetts and New Jersey.

I asked some one why the Maine teachers were in such demand, when our training schools are behind many others, and they said it was because the boys and girls had a good foundation of health and character. In Massachusetts the training is so severe that in a large number of cases the students' nerves are in such a shattered condition when they graduate that they do not make nearly as good a teacher as one with better health and less training.

I do not wish in any degree to speak against teaching, for it is one of the noblest callings, but from the standpoint of health and earning a living, I believe any one of the callings I have mentioned, flowers, small fruits, poultry and preserves, offer a healthier, more congenial and as good paying a business as many others.

Most young people as soon as they are out of school wish to enter right into some kind of business already established, with the steady pay of so many dollars per week, and just so many hours per day. They do not have courage or experience to start out for themselves, especially if it requires a little capital. And after they once get to work in some store or mill, it is harder still to go back to the country and try new paths. And so they work on and on, spending every dollar as fast as earned—sometimes faster, and growing older each year, until by and by their nerves or health give way, and then they begin to ask, "What can I do to earn a living and get out into the country?"

There are thousands of such cases in every city—people anxious to get back onto the farm, yet with no money saved and health breaking down. Here is an example. A young man from New York City came to us early last spring, with shattered nerves, from too close work in an office. He did not

know how to milk a cow, hold a plow, or harness a horse, but he was well educated and smart and he worked with a will and intelligence all summer, and by September had decided to take a course in agriculture at Orono and will then buy a farm and go into small fruits and poultry. Quite frequently during the summer he received letters from acquaintances who had heard what he was doing, asking for information as to the possibilities for earning a living on a farm, and asking his advice as to whether they had better give up their situations and go into the country. But in most cases they were people who had families and had saved nothing, or their health was impaired, and they were utterly ignorant of farm work.

It is not safe to advise such people to give up a situation and try something new, if they have never had any experience. Many people have gone into the poultry business in that way, simply from reading poultry articles in which the profits were figured large and the work small. Nine people out of ten make a failure who do not begin small and work up to it.

Why, you and I would not dream of going into the city and buying out a store or factory and trying to run it, without any past experience. We know we should fail.

And so it is to the women and girls already on the farm or in the village that I am giving this advice. You have had some experience along these lines all your lives. All you have to do, is to have a little more courage and perseverance to branch out a little at a time and add to your business as the way seems clear. But don't *wait* for opportunities, *hunt* them up.

The trouble is, the farmer's wife or daughter thinks she can go into the poultry or preserve business and also do her regular household duties, and she finds it too much. No woman would expect to teach school, or be a stenographer or bookkeeper and also do the housework for a large family. If she expects to make a business of flowers, fruit or poultry, she must expect to put the same hours, work, capital, and business principles into it she would into other kinds of business. Of course they can be carried on in a small way in connection with a woman's housework, but then she could not compare it as a business with what she might earn in the city.

Let the city man and woman take their vacations in summer while you are working away among your chickens and gardens.

Your turn will come in the winter, when you can go to the pomological meeting, poultry show or the city and have just as good a vacation and just as much money to spend, and if you will only take pains to look into the lives of those people you will come back home, glad of your lot, and thank God that your lines have fallen in such pleasant places.

SUMMER MEETING.

The Summer Meeting was held August 21, 1906, with the University of Maine, Orono. The forenoon was devoted to viewing the campus and looking over garden and fields of the farm. After a basket lunch the party assembled in the chapel, and the meeting was called to order and opened by President Gilbert:

You are aware that there is more than one way of obtaining knowledge, gaining information. We read, we study, we draw from books, and in addition we can gain knowledge from observation; and the Field Day—Summer Meeting—of the State Pomological Society is designed especially to draw information from observation, object lessons, that we may put ourselves in connection with on these occasions.

We have been invited from time to time, and quite frequently, to visit this institution in our Summer Meeting, and this year we decided to do so, and make our observations on the College campus and the Experiment Station grounds here placed open to our view. That is what called us here today, and it is not the purpose on this occasion to spend any considerable time or to invite your close attention to remarks, speeches or anything of that nature, but to take something of the time with remarks on what we have seen, what we have found, or what the institution here has presented to our observation for the purposes of gaining information. So you will see that all the way through the work is informal.

It is proper, however, that we may have some words of greeting or welcome from Dr. Fellows, President of the University of Maine.

DR. GEO. E. FELLOWS: I wish to tell you how pleased I am, and for the remainder of the Faculty and all connected with the

Institution, how pleased we all are to have your association come here to us. I hope that this is only the beginning of the use that the people of the State will make of the University buildings and grounds. There is always room here, and much of the time, especially in the summer, we are lonesome after the students are gone, and we should be glad to have the whole State use these buildings and grounds as they are, as their own property,—come here and have their meetings of associations, or even, if you please, merely picnics. I want the people of the State to be so familiar with this Institution, in its appearance and in its workings and in its plans of work, that they may know, wherever they may live, exactly what their State University is trying to do.

The statement of the laws is so clear and so plain that this institution was to be for the benefit of everybody, old and young, rich and poor, occupied in farming, industrial enterprises, lumbering, professions, or what not, that I wish to repeat it constantly,—that the University of Maine, as it is now, and State College as it was, is not only to supply a college course in agriculture and the mechanic arts, but, as the law says, it is to furnish a liberal and practical education to the industrial classes in the several pursuits and professions of life. And we are all “the industrial classes,” and “the several pursuits and professions of life” cover the occupations of every one of us. Therefore this institution is for us all.

You are here from all parts of the State. I see before me a man from East Machias, in the extreme east of the State; another man from Farmington and that is almost as far west as we can go; and I think there are people here from Caribou, and I know there are others from near the coast at the south. So after all, although the company is not as large as we hoped it would be, it does represent every possible part of the State. I hope we may be able in the future to be more useful than we have been in the past. I hope that our Experiment Station and our departments in the various agricultural and horticultural lines will be able not only to answer questions but to furnish the latest information that can be obtained, whether we have it here or not, or obtain it from anywhere in the world where it may exist, to give to you, and have you feel that it is your right to ask for anything that can be furnished from an institution for the

furtherance of your plans and your work. We are the agents, you may say, of the people of the State, to find what is latest and best in every scientific, agricultural and professional line.

I close as I began: We welcome you, officially and personally and cordially to anything and everything that there is here, and we want you to help us build this institution to its highest usefulness to you and to all that come here as students, so that every professor and teacher here may be an agent for the promulgation of the best and the highest that there is in agricultural life and in all the life of the community of the State.

President GILBERT: As the representative of the society who has called this meeting, it perhaps devolves upon me as much as any one to express thanks for the welcome which is given us here on this occasion, and to assure the representative of the Institution, who has thus expressed their pleasure at our presence with them, that we are only too glad to aid in any way possible in furthering the knowledge among the people of what there is here to be found and what they are furnishing in connection with the educational work of the State. In our behalf, therefore, I extend to you cordially thanks for the reception that we are here and now receiving.

Prof. W. M. MUNSON: (For the Experiment Station.) For some years the Experiment Station has been doing what it could for the development of the pomological interests of the State. Most of you know that the work of the Station is very largely carried on away from the College. The reason for this I tried to express, is that the conditions here on this island—for, as you know, the college is located on an island in the Penobscot River—are not suited for orchard work.

Many of you had an opportunity to see one of the lines of orchard work being carried on by the Experiment Station, at the Field Meeting in the orchard of Mr. Pope two years ago, and the bulletins of the Station will express more clearly than I can do at this time just the bearing of that work. Suffice it to say, the purpose of the horticultural work of the Experiment Station at the present time is to develop an interest in Maine orchards, to aid in developing the orchard resources of the State.

We have for many years boasted that we have the natural conditions best suited to the production of the best fruit in this country, but it is to our shame that we have not developed those

natural conditions so that we can, and so that we do, actually produce better fruit and more fruit than is grown in some of the other sections of the country. It is to our shame, further, that our Canadian friends are going ahead of us in the packing and shipping of their fruit. As you know, the Maine State Pomological Society, in some of its past meetings, has taken steps looking toward the better grading and the better packing of fruit. In this effort the Experiment Station will heartily co-operate.

Another problem which confronts the fruit growers of the State is that of taking care of the fruit after it is packed, that is, the storage problem in connection with marketing. There are many problems connected with the keeping of fruit that the Experiment Station can and will assist in solving. The Experiment Station of Illinois at the present time is conducting some extensive experiments in the cold storage of fruit, and in the co-operative marketing of fruit, this is a very important problem.

As I have taken occasion in many previous meetings to say, the one thing that stands in the way of development of Maine, not only in her fruit interests but in many others, is that eternal Yankee principle of "trying to get ahead of the other fellow." Now our friends in California, our friends in Oregon and Washington, are going ahead of us, are driving us out of our own market, because they have learned the secret of co-operation. They have learned that they must stand together and send only the best, and if some of their fellows are not willing to do their best in putting up that fruit, they must be driven out of the association. Every man must do his best and then work together. That is what we must learn, and that is what we will learn, Mr. President, right here in this State of Maine before we take our place as the best orchard section of the United States, a place which I believe we will take in the not very far distant future.

There is another point in which the Experiment Station may assist very much. I have spoken of the importance of growing good apples. The time has come now, gentlemen, when if we are going to grow good apples, we must spray. We cannot rely wholly upon Providence. Providence is sometimes too kind, but Providence will not destroy all of the injurious insect pests and the injurious fungi. We must spray our fruit trees, just as we do our potatoes, in order to be sure of the best result.

Spraying is insurance, and it is an insurance, gentlemen, which we must learn to avail ourselves of. And in that work the Experiment Station is prepared to lend a hand. We are at the present time carrying on experiments in Kennebec County covering some three hundred trees, which will be reported in due time. I may say briefly, another line of experimentation is being carried on in New Gloucester.

The purpose of the Experiment Station then, at the present time, is not to do the work here at Orono, because we cannot. It is to do it in Kennebec, in Androscoggin, in Cumberland, in York, in Sagadahoc, or in Somerset.—to do a certain amount of demonstration work, if you please. Some may say not a very high type of experimenting station work. The highest type of experiment station work, or any other work, is that which shall do the most good for the people; it is that which shall bring right home to our own doors, knowledge—not necessarily some new idea, although that is a very important factor of experiment station work—knowledge which shall help the people of the State of Maine, the people of the United States if you please, to do things better. It is not only the man who does the most uncommon things, but it is the man who does common things uncommonly well, that is helpful to his race. Now, gentlemen, the Experiment Station hopes to do both of these lines of work, not simply in pomology, not simply in entomology, not simply in chemistry, but by taking up certain lines of all these factors, the Experiment Station as a whole is aiming to do that which may assist in the development of the horticultural interests of the State, of the agricultural interests of the State, and of everything which goes to the building up of rural life. And, I may add, although I was to speak simply for the Station, I may add that the College of Agriculture, the University, is working hand in hand with the Station and is doing everything in its power to supplement, to extend, to take to the people the results of experiments conducted not only here but in other parts of the world, and the two are aiming to do that which may best result in the upbuilding of the horticultural and agricultural interests of the State.

Secretary D. H. KNOWLTON: There are certain things today of which I am very glad, and so far as I say anything to you it will be with reference somewhat to that idea. In the first place,

I am very glad to be here at the Experiment Station of the University of Maine for the purpose of viewing the work which has been done here and which is being done.

I am glad of another thing. I don't know how many years ago it was, but it certainly was within my recollection when I visited the University—it was State College then—the campus and this location which has been made so beautiful in recent years was,—well, I don't know, I believe I told one of the trustees of the institution that it looked a good deal like a God-forsaken place if I knew what such a place was, and that feeling was intensified quite a good deal from the fact that it so happened that this visit was in the spring of the year, and those of you who have ever tramped over the ground in the spring of the year and know what Orono mud is know my feelings when I came here and found that it was almost impossible to get around here anywhere without getting into the mud. Well, I am very glad indeed that to a large extent those conditions have been wiped out. I think very little of this decorative work here was done before Prof. Munson came here, and it seems to me—I don't know how the University people themselves may feel in regard to the matter—but it seems to me that this society and the visitors here certainly owe Prof. Munson a large debt for the beautiful work which he has done in bringing out the natural beauties of this campus, in making it one of the most beautiful college campuses in the New England States. I have visited several—I don't know of any that are more attractive.

It seems to me that there isn't a hall here, or a building here which is any more attractive in its settings than Fernald hall right across the way, and nearly every tree and shrub that is placed around it came from within ten miles of Orono, perhaps less than that. It is worthy of the study of every one here, especially of every one who has looked upon a church with no decorations around, and very few churches in the State of Maine have any decorations around them. And yet of all the spots in the State that ought to be made beautiful and lovely are the churches. Again there are our school-houses, our school-grounds—how few there are of those that have any decoration to make them attractive to the children. They should be the most beautiful spots, if possible, in the whole community. So I say that today, if as a result of this meeting we can impress

this lesson upon some I shall be exceedingly grateful; if we could impress it upon all I should be exceedingly happy. Now that is one of the lessons I hope you may carry home, and I am going to ask Prof. Munson, in connection with making up the final report of this meeting, to give us for publication a list of some of the shrubs and plants in a suggestive way which we may utilize for decorative purposes.

DECORATIVE PLANTING FOR THE HOME.

Prof. MUNSON: One characteristic of the American people is the spirit of unrest, that spirit, you know, which drives a man across the continent to California; which leads a man to forsake his profession or forsake the pulpit and go up into the gold fields of Alaska; it is that spirit which leads a nation to overrun a new country and take possession, while the cabinets of more conservative peoples are querying whether it is necessary to interfere to preserve the balance of power. One characteristic of the American people also is their fondness for the word "settle." So fond are they of this that every account, from state debts to farm produce, is closed only by being *settled*. Young men will start in life and they say they have *settled*. But God pity the young man, or the young woman,—or both—who shall settle down. Now I admire in a young man, or a young woman, the quality which we may call snap, that good old New England quality of "gumption." Nevertheless if there can be united with those qualities, the quality of contentment or affection for environment, we have the best combination of qualities. So then the first consideration that distinguishes the son of Ishmael from the man who loves his home, is one of environment. I have often said that a man has no business to have a home unless he takes enough interest in that home to make it an attractive place for himself and for his family. And as our worthy Secretary has intimated, it is not a question of great expense to make that home place attractive. All that the man has to do is to go out into the woods and the pastures near by and bring in his arms the trees and the shrubs and the flowering plants which will make that place attractive.

There are certain principles which govern the planting of these trees and shrubs which I shall mention later. I cannot dwell upon that here, but simply this—plant in groups or in clumps, ordinarily, rather than a single plant here and a single plant there and a single plant yonder. Make a solid border, just as we have done around the base of this building. No matter if the plants are not all of one kind. So much the better. Make irregular outlines, instead of making straight rows like rows of tombstones. Get plants, if possible, which bloom at different seasons of the year. Get plants which give highly colored fruits part of the year, like high bush cranberry, other plants which give rich foliage in the fall, like our common high bush blueberry and like the staghorn sumach. In other words, make of your home grounds, a picture, the house being the central part of the picture and this irregular border of shrubbery and trees the framework for that picture. And above all, in the foreground have a beautiful, clean, smooth lawn. In these days, when you can get a first-class lawn mower for not more than \$3.50, there is no excuse for not having a good, clean, smooth lawn. Don't mow the front yard for hay and then let it grow up to weeds the rest of the year. Thank fortune, many of our best farms at the present time are now *farm homes*, are kept just as well as our city homes.

Now there are just two or three principles I wish to speak of. The first is—Don't attempt too much. Don't crowd the whole yard full of individual plants. There are lawns with a flower bed here, and a rose bush there, and a honeysuckle there and a golden glow yonder—all made up into a crazy quilt. By all means avoid that. See a picture, not a single bush or a collection of bushes. Have the people exclaim as they go by your place "Isn't that a beautiful place?" but not "See that lilac bush!" or "Isn't that a pretty rose bush?" Let them see the whole thing and not a patchwork.

Now, as I have said, don't discard native plants because they are common. Some of you were with me this morning when we saw one clump of the common stag horn sumach. There is another clump, to which I would like to have called your attention, which we did not pass. There are a good many of those clumps around on the grounds because that is a favorite shrub for ornamental planting. Dig it up, make a good rich bed, set

this sumach in the ground and cut it down every year to about three or four buds, fertilize heavily with stable manure and you will get a growth of from six to eight feet the following year of a rich tropical plant that will attract general attention. In the fall you have those beautiful crimson colors which make one of the most attractive objects on your lawn. The mountain ash has already been referred to. That is just beginning now to show the color of its fruit. Down by the road you saw the bushes of the high bush cranberry coming into fruit. From now on that will be one glorious show of highly colored fruit and it makes a very attractive plant. Our common birches, our white spruce, our American holly or winter berry, sometimes called black alder, our common wild sumach; some will hold up their hands in horror when I speak of our hardhack for an ornamental plant, yet you will go to the nursery and pay for *spiraea tomentosa*, or *spiraea salicifolia* when you might as well go into the field and get hardhack or meadow sweet. All the difference is that the nurserymen grew one and the Lord grew the other.

Where can you find a more noble tree than the common hemlock, for certain places? Now some of you men that live on sandy soil will condemn me for what I am going to say, but for certain places, and on light soil, where can you get a better thing for certain effects than the juniper? Those of you who have seen it on the sandy plains around Brunswick will say "The idea of using that thing for an ornamental plant!" But do you know, it makes one of the best of ornamental plants where low growing evergreens have lost their limbs and you have a lot of bare trunks you want to screen.

Then our common white cedar, which is regarded as a weed, is nevertheless one of the best of things to make a clump to screen ragged evergreens.

In many shady places, especially on heavy clay land, where you want plants to grow and don't know what to put in, there are our common native dogwoods. Look on the north side of Fernald Hall. The whole distance there used to be a rough, cold, clay bank, where the grass would heave out, and it always looked bare and barren. We went out into the woods back here on the farm and got those wild dogwoods and set in there. The effect you can see. Then our wild cherries make very ornamental trees. Our white ash, our queen of the American forest,

the American elm, the birches, the hawthorns, our common thorn apples,—why they are catalogued at high prices by the nurserymen, but we can go right out in the fields and dig them up and get them for only the cost of bringing them in.

I have not spoken of the high bush blueberry. There is not a more attractive wild shrub in the State of Maine than the high bush blueberry, and it is readily cultivated in certain moist localities or in good loam soil. It won't do well on heavy clay. There is nothing in October which gives a richer foliage unless it be the sumach. Bittersweet, and clematis, among climbing vines, will screen the outbuildings. The common woodbine has relieved the bareness of these brick walls more than I can tell you.

I think if I had been a student rooming in Oak Hall I should have wanted to put up over the door, "Abandon hope ye who enter here." It was a desolate looking place. But it is the planting of shrubs, and the use of the woodbine upon the walls of the building, which has relieved that bareness, and which will relieve it in any of our homes. Break up, then, the hard line between the building and the walk. Irregularities in the outline of the building may often be relieved by putting in a few shrubs of the kinds that I have named.

Now there are just two or three of the nursery-grown shrubs that I want to call to your attention. They are not expensive and they are of the greatest value. These are the Japanese barberry, the *spiraea Van Houttii*—you can tell them you want that Dutchman's spiraea—the hydrangea, with which you are familiar, and the Tartarian honeysuckle. Now there are four shrubs among the very best we have, not expensive, and they are of great value for ornamental purposes. The Tartarian honeysuckle gives its rich pink bloom in June, and the fruit, as you saw it, all through the month of August and into September,—the rich red berries adding to the attractiveness by reason of the contrast with the strong green foliage. Another plant I didn't mention is the Japanese rose, *Rosa rugosa*, which is the best of the roses for general planting.

Now, friends, I just want to add to what Mr. Knowlton has said, in regard to the importance of every member of this society, every one who is interested in rural improvement, emphasizing the decoration of our school grounds, our churchyards and our

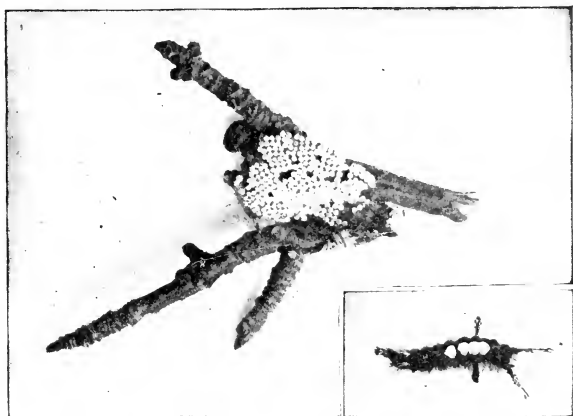
cemeteries. In Germany they have a very pretty custom of referring to the churchyard as "God's acre." In this country it would almost be sacrilege to refer to the churchyard as God's acre for it is too often apparently the God forsaken acre. Now friends, this is not right. Let every member of the Maine State Pomological Society and every friend of the development of rural interests help in lifting up the sentiment for the improvement of our rural cemeteries, our rural school grounds where the impressions of our children are formed, making the surroundings in which they are placed the most attractive possible, and then carry it to our own homes and make those places such that our children will feel that there is no place under heaven which is quite so attractive as the little old place where they were born.

TRoublesome INSECTS.

MISS PATCH: Almost three-quarters of the insects that are sent to us for identification are mistaken for the gipsy or the brown-tail moths. It is not necessary for me to inform any of you about the danger from either of these insects. You know about that well enough already. But it is quite possible that you are not familiar with these insects in all their stages, and if any of you care to see them from the egg stage to the adult moth, they are in the Experiment Station Building near by, and I shall be glad to show them to you.

The fact that we combat the brown-tail moth by cutting and burning the winter nests, keeps all orchardists on the alert for the things that look like winter nests of the brown-tail moth. There are a good many of the insects which make nests, which really do not resemble the nest of the brown-tail moth very much, but if you don't happen to be familiar with one it is possible to mistake the others for it. For instance we have the tussock moth, of which the caterpillar in the fall constructs its cocoon upon a leaf, which is very likely to remain upon the tree all winter. The moth which emerges in the fall deposits eggs upon the cocoon and you have that which looks more or less like a nest in the orchard during the winter. That is one of the common things that we look for and destroy during the

fall. A common web-forming caterpillar is the ordinary tent caterpillar which makes the large ungainly webs in the angles of branches in the spring. Many of the most troublesome insects are easily combated if you go about it the right way by spraying, as Prof. Munson has mentioned; and often there are other ways equally practicable. With the tussock moth, for instance, it is an easy matter to remove the egg covered cocoons during



Egg cluster of antique tussock moth.

Caterpillar of white marked tussock moth.

the winter. You have all the winter to do it in. In the case of the webs of the tent caterpillar, it is not difficult to saturate the unsightly web with some strong alkaline solution, strong soapsuds or kerosene emulsion or something of the kind, taking care to do it in the cool part of the day when the caterpillars are in the web, either early in the morning or toward evening, or on cool, cloudy days.

We have another web-forming insect which is very common throughout the State, and found very commonly upon orchard trees, the fall web worm, and that makes another large, ungainly web, not at all like the nest of the brown-tail moth, and differing from that of the tent caterpillar in containing skeletons of leaves, for the fall web worm encloses the leaves it eats instead of going out of its web for food as the tent caterpillar does.

The insects which are at this season most troubling the orchard are the red-humped caterpillars and the yellow-necked caterpillars and tussock moths.

The insect which perhaps has been sent in more than any other from all parts of the State this year, and mistaken almost constantly for the gipsy moth, is a dark, spiny caterpillar, which has been found commonly upon willows and poplars, and once in a while upon apples but not often,—a darkish caterpillar which grows to be nearly two inches long and has brick red spots along the back, and is covered also with black spines. That caterpillar turns into the yellow-edge butterfly,—the common large brown butterfly with yellow border about the wings.

This spring the insect which was troubling most in the orchard was perhaps the bud moth, and that winters in clustered leaves, so that when you are in search of the brown-tail moth next spring you will be likely to pick off the leaves that are harboring the bud moth and destroy that too. In fact this campaign



White marked tussock moth. Winged male.



White marked tussock moth. Female on leaf.

against the brown-tail moth is not only a very great benefit in keeping us on the watch for the brown-tail moth, but also for a great many other injurious insects. In hunting for the leaves that will contain the brown-tail moth you get rid of a great many others.

Rather than to detain you longer in talking about these insects, I shall be very glad to show you the insects themselves,

for it is more important in this connection to become familiar with the insects than to listen to a long description of them.

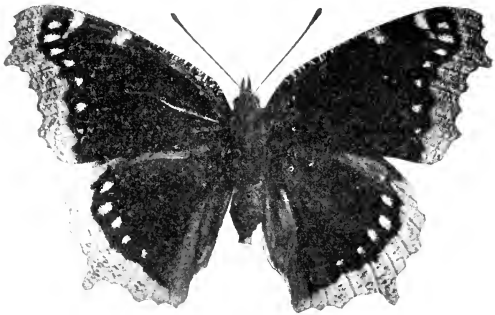
Prof. MUNSON: Several here today have asked what they should do to this red-humped caterpillar and the yellow-neck.

MISS PATCH: They are both very easy insects to combat. They are gregarious, that is, going in big colonies or groups, and if you will only look over your trees a little earlier in the season than this—well, if you had begun to look them over late in July, you would have found these caterpillars very young and in colonies of perhaps a hundred and fifty to two hundred right together, on the tips of the branches, and it is the easiest thing in the world to clip those branches off and destroy the whole brood. The trouble is, they come late in the season when we get over looking for the spring caterpillars and they take us by surprise. They come so late that it is rather a bad plan to spray on the bearing trees. Arsenical sprays, any of them, arsenate of lead or paris green will kill these caterpillars, and as the damage is most noticeable with young trees which are not bearing it is perfectly practicable to spray those. They are found too on the older trees but of course a colony will make more havoc on the small trees than on the larger ones. If you only get in the habit of looking over your trees before the caterpillars get so large and scattered over the branches, it is quite easy to remove the whole colony from the tip of the branch and destroy them by hand in that way.

Professor G. M. GOWELL: During the past three or four years I have planted out a couple of hundred trees down here on my little farm, and I find I am at work in another age. In the old days we only had to fight the mice and the bark lice and borers,—those were the only animals we had to fight. Now these trees are being beset—only put there three or four years ago—by something that eats every tree and branch and leaf, and I am having to fight them all the time,—another class of insects, of enemies. So that the work of growing an orchard today is very different from that of growing an orchard a few years ago.

Now regarding the work that the poultry may do in the orchard. I believe in it. And I believe in it because the ordinary orchard stocked to its capacity with poultry, hens and growing chickens,—there is nothing of which I know that will keep that orchard under such clean cultivation and prevent the growth of the grasses and weeds entirely, and if your orchard

is set on old sod or blue grass or red top, that will so completely destroy that old turf sod and work it out, as poultry; and they won't destroy the trees. They eat the apples, they destroy the insects, and they clean the land and put the ground under fallow completely. I could call your attention to orchards of two or three acres in extent, where two or three hundred hens have been kept for a period of years, where there is nothing growing on that land but the apple trees, and those trees are growing as they are not growing under any stage of cultivation except high actual manuring, as a result of this tillage given by the



Yellow-edge or mourning-cloak butterfly.

birds and the manure deposited there. My little orchard down here, where I am growing six thousand chickens this year—those little apple trees are growing so fast I am fearful for their wintering from the very fact that the manure deposited on that land is causing such a rapid growth there it is a question of stopping their growth rather than carrying it forward, and it is a question in these orchards that are intensely covered with chickens and with hens,—it is a question of the growth of the fruit, the quality of the fruit—fruit grows as fast as the trees grow.

And now were I to engage in growing an apple orchard today, I would select the land, if it were a forty acre farm, and I would put my colony houses containing one hundred birds around in that orchard, and would give a group of one hundred a certain area of that orchard, one row here, another row in that direction, and I would fill that orchard with hens and would put

that land under cultivation,—if I wanted to engage in poultry growing as large as that.

Now one thing more. I have thought about this matter of orchard growing a great deal. We have got a good area of land in this state that is not very valuable for agricultural purposes ordinarily, under the old systems we used to discuss of clean tillage and mulch. I would take a forty acre farm, and in the spaces between those trees set two rods apart, I would put in the plough and put that land into some crop that would grow me something I could mulch with. I wouldn't grow potatoes or corn. I would simply plough those strips in the spring and plant them to something that I might cut and pile around those trees so as to completely mulch those trees. I believe in mulching because it keeps the land under such conditions that we can get



Caterpillar of yellow-edge butterfly.

around a drought. The great difficulty is in getting mulching sufficient to cover the ground with. If we grow it somewhere else it is with considerable labor we bring it on; if we buy it is with considerable expense. If a man carries about forty acres of land, you know that means a good many apple trees, it means a business for that man. Make that land produce the mulch by the moderate fertilizing of the strips between the trees.

Now I think I have established the fact that I know something about growing apple trees.

I want to add one word to the words of Prof. Munson regarding the value of planting shade and ornamental trees on this campus. He has spoken about the advantages of beautifying the grounds. Every man believes in it and every woman. I will tell you one little incident that escaped him. Twenty-three

years ago we went, two men and myself, with a team one day and spent three-quarters of a day in bringing thirteen rock maple trees. We planted them about the house I live in. They have grown up into those magnificent sugar maples you saw today in front of the house,—twelve of them—one was lost. I think if any man in the country had money to buy that place for a home, paying three or four thousand dollars for it—it would probably sell for that if it was in the market—I don't believe there is a man in the country that is able to pay three or four thousand dollars for a home that would allow those twelve trees to be cut down for a thousand dollars, and yet we have not put an hour's time on the care of those trees since they were planted. Can you tell me of any line of work, agricultural or pomological, that has paid as did the planting of those twelve trees? Because there are thousands of men who are able to buy homes who



Chrysalis of yellow-edge butterfly.

would readily pay a thousand dollars for them; and they have a thousand dollars value today. There is something in this matter aside from merely gratifying the taste for beauty. It is a taste for comfort. Who would have those trees cut down such weather as this. It is something beyond beauty; it is comfort.

Question: "What can be done to encourage the farmers to raise more small fruit for home consumption?"

Question: How to prevent the railroad worm, from ravaging one's apples?

Prof. GOWELL: What is the matter with the old hen?

Prof. MUNSON: The question of the railroad worm has been pretty thoroughly threshed out, but the *one* way we can combat it is to destroy the fruit in which it exists. That is one reason why the old hen suggested by Prof. Gowell is a very good preventive, destroying the fallen fruit. The use of hogs and sheep in the orchard for the same purpose is a very good prac-

tice. The picking up of fruit and destroying it by feeding to animals is also recommended. There is no way of spraying for the prevention of this insect. I may say that a few years ago there was a ray of hope held out by an experimenter in Mexico where they had been spraying the trypteta upon orange trees. I have made some trial of this material, which they sent up for



Yellow-necked caterpillar.

that purpose, but without any satisfactory results, and so far as I know at this time the destruction of the fruit is the only way to hold it in check. Don't leave the waste of the cider mill around and don't let the fruit stay on the ground and decay under the trees.

TID BITS FROM THE HARRISON BANQUET.

PRESIDENT GILBERT.

“ Yes, we are the boys and girls,
 And I sometimes have thought,
 Shall we ever be men?
 Shall we always be happy and laughing
 and gay,
 Till the last dear companion
 drops smiling away? ”

Who has a better right than the fruit-growers of Maine, who have brought their quota in honor of Pomona, to rejoice to meet in banquet and accept the hospitalities of Lakeside Grange?

Our society was criticised severely for coming way into this distant, uncivilized corner. Yet we are here, and I feel free to say that other localities will have something to do to get away from Lakeside Grange. I wish that I could find words to express the appreciation I feel in response to the courtesies that we are receiving at your hands here and at this time.

As I have looked across this hall and noted the individuals seated at these tables and have gone back to the forty years of public work through this State of Maine, from one corner to the other, mingling with and participating in public occasions connected with agricultural and pomological affairs, I have felt the contrast of the occasion at the present time with what I have experienced in the years long gone past. The work that has been going on through the organized effort of the State of Maine in the last forty years has been extending, not only information, not only education, but culture as well among the people of the State. And if you could contrast tonight the appearance of this company and the entertainment that we have received, with what has been my experience in those years long past, you would feel as I feel, that we are receiving compensation for the labors that have been put forth in the several agriculture directions in our State.

Secretary KNOWLTON: Before the meeting I came over here to see about the situation. Mr. Dawes met me and took me to his house. I have always found it a very pleasant place to visit. In the evening he brought me down here to meet the members of your committee—fine looking lot of men they are too. Lake-

side Grange has taken an immense amount of work upon itself. I have felt almost ashamed that we have permitted such a thing. And yet I am sure that in this effort, not of entertaining us, but of bringing people together in this cause, you are going to be more than paid for your trouble. I hope next year we may fall into as good hands as we have this year. We shall be fortunate indeed if we do.

At the Provincial Exhibition some years ago I judged the fruit. There were a lot of apples exhibited in barrels. It was the duty of the judge to pass upon these and decide which barrel of apples was the best. I looked them over very carefully and made up my mind which barrel of Gravensteins I was going to give first premium to and marked it. A little while after that a gentleman along very pleasantly to me. He says, "I don't want you to think I am a kicker, because I am not. I have come to you now for information. I don't know who is going to judge this exhibition of fruit next year, but I expect to be an exhibitor and I want to know why this barrel is better than that one. You have given this one the first prize, and this one the second." Well, I told him I was very glad to tell him. A judge can't always get out of scrapes as easy as I did. I said, we will take this and compare it with that. One lot of apples is just exactly as good as the other,—I wouldn't snap up a cent for the difference. Well, now let us take the details. This barrel over here is a little different, as you see, from that. The conditions require the best barrel of apples packed for market. This barrel that I gave the second premium to, when I opened the fruit there were a lot of newspapers on top of it. I don't know what the politics of those papers were, and I don't know as it makes any difference, but this other barrel had a piece of white paper on it. Now, I said, the barrel with the white paper looked a great deal neater to me, before I got to the fruit, than the other did. This is the first thing. Then I began to unfold some of the fruit. It was wrapped very carefully but it was wrapped in pieces of old newspapers. The apples in the other barrel were wrapped carefully with white, clean paper. I said, the wrapping here is a great deal better and nicer than it is there. Then, I said, there is another point. The barrel over there looks more like a lime cask than it does like a decent apple barrel in which to pack fruit. This one here is a finished

article all the way through. That is what won the prize,—the barrel is all right, the wrapping is all right, the fruit is all right. And that, gentlemen, is what in the long run will tell concerning Maine fruit, the best packer will win the prizes at the fairs and in the markets.

MR. W. O. BREED: I think this is one of the proudest moments of my life. I had one or two, but this is certainly a great satisfaction.

I feel tonight very grateful to the officers and members of the society who have come from a distance and who have brought their exhibits with them. It certainly is an inspiration to go into the room below and look at those well loaded tables of fine fruit. One can hardly look at that display of fruit, if he is a fruit-grower, without resolving to try to do as well or better in the near future.

The growing of fruit in the State of Maine is one of the noblest callings that is occupying the attention of men. I will not confine that to the State of Maine—it is universal—but we are peculiarly situated it seems to me in the State of Maine, in that we are near markets where we can at almost all times sell our fruit at good prices. If I could go back at the age of thirty and know then what I think I know now, realize then what I think I realize now, I should dispute with the present Apple King of Maine, Bro. Whittier, or try to very severely for the title of the Apple King of Maine. Not that I would want that honor as a bare honor but I would try to grow so many apples and such fine apples that any other man would have to get up early and work late to be my equal in time.

Ladies and gentlemen, within the last twenty-four hours I have had very serious doubts about the wisdom of our laying ourselves out, as we may term it, for any such time as this, but the ladies of the Grange have worked nobly and succeeded admirably in the line in which they have been working, and to the friends who have come in here and so well graced this occasion by their presence I wish to extend the heartfelt thanks of Lakeside Grange. We are very grateful to you for your presence. It certainly is an inspiring moment.

MR. ALONZO MOULTON, Master of Lakeside Grange: We feel proud that the Pomological Society of the State of Maine has honored our town with their annual exhibition and we feel

proud of such a successful exhibition as is spread in the hall below, and we feel that thanks are due from us to the Pomological Society, rather than from them to us for what we have done for them. We feel that we have only done our duty, and Lakeside Grange always tries to do its duty.

I once heard one of our leading citizens say, "I have been in almost every State and I have investigated into the conditions in the various states and I have come back to the State of Maine. I have made up my mind that the State of Maine is the very best state in the Union. I have made up my mind that the County of Cumberland is the very best county in the State of Maine; and I have made up my mind that the town of Harrison is the best town in the County of Cumberland." Well, it is very natural that the town of Harrison should like such sentiments as that, and it is very natural we should like to have our visitors come here and go away feeling that they have been well treated.

Prof. ALFRED G. GULLEY, Storrs, Conn.: It has been my privilege to attend meetings of this sort for a number of years, and I have never attended a meeting of fruit-growers or any combination of the same that I did not have a good time. Your welcome began way back here twenty or thirty miles. I have traveled over many different railroads but today is the first time I ever traveled on a steam train where they gave you individual seats without charging you a dollar apiece. And the rest of the reception since I have been here has certainly been just as good—I might say better.

But our business is a splendid one and there is more in it than the money. That fruit grower who only sees money in fruit growing has not got the best end of it by a long ways. There is fun in it. I can see as much fun, and get as much fun and profit and enjoyment out of handling a tree, as any man can out of anything else, or as any woman ever did out of a poodle dog.

They are pets to me in my work. Our friend Breed says if he were thirty years younger he would plant some apple trees. Why, if you will go with me into Massachusetts, you may see an old man—late President of the State Horticultural Society and also of the Worcester Society—an old man today past ninety years old—and less than three years ago I heard him saying he was going to plant another apple orchard. Do you

suppose he expected to get money out of that? That man was doing it for pure fun.

Mr. LOUIS E. CLAY, (representing the New England Homestead): I have met many of the leading fruit growers of the state, not only at the meeting this year here in Harrison but at the meeting a year ago at Canton, the first Pomological meeting that it was my privilege to attend in this state. It seems to me there is a great deal of enthusiasm practically shown; practical experiences are talked over and you get not only the successes of the fruit growers but you get their failures. The talking over in open meeting of errors made by fruit growers and the suggestions of remedies form one of the most important phases of the meeting to my mind.

Surely the agricultural press has a very grave duty, if I may speak of it in that way, to exercise great care in placing before its readers only the best and the most accurate of information in any particular branch that it covers.

I can assure you that the interest which is being exhibited at this meeting is gratifying and at the same time pleasing, and I think if the fruit-growers will only realize what a power for good they hold in united action for the furtherance of their interests, they will find that the agricultural press will be of great assistance in aiding them in the direction of their own benefit and of course for the benefit of their children as well.

Mr. B. F. W. THORPE, (Editor of Maine Farmer): It is always an inspiration to a newspaper man to look into the faces of those whom he knows are working in the same line that he is trying to work. My visits in this part of Maine have been few, but I have found that Oxford and Cumberland counties are hard to surpass in Maine, and I think any other State. It has been my privilege to see some half of the States of our Union and see more or less of them. I have now been in Maine for nearly three years and have seen much of the territory of Maine, and I assure you that when I make the comparison between Maine and the other parts of the country, that I have no cause to regret that my field of labor is in this State.

Before coming to Maine my impression was like that of many others who have never been in the State. The line of travel to Maine, unless one comes as a summer visitor, is out of the track that most people get in, and they get the wrong impression of

Maine. I think New England is at fault, or has been at fault in the years past, in not making their territory known for what it is worth. New England people are naturally conservative, or at least have been, and they have not been willing to make a good thing known as the rest of the country has. For that reason they haven't reaped the benefit that they might have. The agricultural press, as my brother in the work has already said, has a large field of labor, and it is somewhat different from what it was before the mail facilities were what they are now. We must be more discriminating. Nevertheless, I believe we have a field fully as important as before. Now for instance, in regard to this meeting: There are many people in the State interested in horticulture who must depend upon the press to get their impression of this meeting, and it behooves us to present it in the best manner possible.

Mr. C. S. STETSON of Greene: The life of a tiller of the soil is one of the most independent, I believe, in the State of Maine. Our brother has spoken of Harrison—I guess Harrison is all right, but over here in Androscoggin County, the town of Greene—the place that I live in—with the possible exception of Harrison is the best town in the State. I believe in it. I believe there is no place like it, except, you know, Harrison. I believe in the State of Maine, I believe in its possibilities. I believe that there are possibilities ahead of the farmer in the State of Maine that we have never dreamed of in the past. And I say to you, my friends, that our fields are greener, and our skies are bluer, and our birds sing more sweetly, and our ladies are handsomer than in any other place that I have yet been in.

I want to say just one or two things and then I am going to quit. One is that I feel that quite a large proportion of the farmers in the State of Maine are doing the wrong thing. Now I believe that when we get in the place where we ought to be, when we study conditions, and when we make the most of conditions, and when we apply business methods to our work,—then we shall feel, and see, and know that there is no life upon God's footstool that is so independent as the life of the farmer. I believe this every time. Now I know numbers of men who are trying to do things that they can't do, who are doing things that they don't like to do, and who never have studied the conditions by which they are surrounded. I have seen a man who

would walk through an orchard and every time he went under an apple tree it seemed to me that that tree grew an inch and that its leaves lifted themselves toward heaven and thanked God that they had so good a man as that man was to attend to them. Another man might walk under that tree and poison it. This is just as true as you live, and I believe that the man who can do these things should raise fruit. I believe that the man who likes a hen and who can make a hen pay a dollar a year, should go into the hen business, and a man who knows a good cow as far as he can see her should go into the dairy business. I believe when we study the conditions by which we are surrounded, and when we do the things we like to do, and when we do them with our might, we may be sure every time that the balance will be on the right side of the ledger, and the boys and girls who are on the farms today will see the dignity of the life of the tiller of the soil. For it is to the boys and girls, and to the homes that we look for the future of the State of Maine.

Mr. J. MERRILL LORD, of Kezar Falls: In some sections of the State we are inclined to think that the teachings of the Pomological Society are not receiving as much attention as they ought to receive, but there is one thing—this section of the State is not one of those sections. You heard one of the gentlemen who came in the morning train express wonder this afternoon where all the people came from, saying “they certainly didn’t come in on the train.” It reminded me of a little story of a stage-driver. He was rather a peculiar character and many interesting stories were told of him. One day he had quite a load of passengers. A gentleman came to him and said “what is your rate from Rochester to Ossipee?” “Well,” he said: “I have three prices, 50 cents, 75 cents and a dollar—you may take your choice.” Well he said he thought he would take a dollar seat and he asked him where the seat was and he told him to get right inside the coach. Pretty soon one of the fellows that paid seventy-five cents came along and he was told to get inside the coach, and then one of the fellows that paid fifty cents got into the same coach. He began to think he was being cheated a little and was thinking the matter over. They got started out and presently came to a bad place in the road and the coach stuck. The stage driver stopped, got down and says: “You fifty-cent fellows get out here and push, you fellows that paid

seventy-five cents get out and walk, and the rest of you keep your setting." The only trouble with the gentleman this afternoon was that he didn't count those that were pushing.

Mrs. V. P. DECOSTER of Buckfield: I am just going to say a word of what this meeting means to me and what I think it does to a good many of us. Last week I had a letter from a young student who has gone to Orono this year to take the agricultural course. In that he said, "I can't tell you how much it means to me coming here. The very association with the students and teachers is an inspiration. Although I am handicapped by not being able to use my eyes and have to have my lessons read to me, the experience of being here and seeing the work done and the atmosphere of the student life is so uplifting that it is worth all it costs."

I think it is just that way with these pomological meetings. There is an atmosphere, there is a feeling of uplift, of inspiration, in mingling with these men and women that are interested in this noble work. For I know of no work that is nobler than raising fruits and flowers. As we study nature's laws and work in harmony with them in perfecting these wonderful things that God has given us, as we work along these lines striving every year to produce something a little better than has ever been produced before, it refines our characters and uplifts our thoughts; it brings us nearer to God in studying his laws. It seems to me that there is no work in the world that men and women can enjoy and can find more pleasure and profit, and fun as Prof. Gulley says, than in this work among the fruits and flowers.

Prof. MAXWELL J. DORSAY: I am glad to be affiliated with two such organizations as we find represented here tonight,—the State Pomological Society and the Grange. This banquet is just what we would expect from the Grange, and the fruit exhibit below is just what we would expect from the State Pomological Society. I am glad to be affiliated with these two organizations whose object is not only the raising of better crops but living better lives and having better homes.

SOLON CHASE: I was seventy years young when I got the apple tree religion. When I was fifty years old I knew so much I couldn't learn any more, and now that I am more than eighty I see so much to learn that I am hardly sure of anything

only the Sermon on the Mount and the family Bible. This apple tree business is as old as the State of Maine is. We have today the finest country for apples that there is in the wide world. In the first place we have got the markets of the world, we are close to tide water. Now your Western states, they don't raise so good apples as we do, nothing like it, and they have got railroad freights to pay.

I had a letter from a Portland man the other day who wanted a couple of barrels of apples. I wan't ready to sell them and I thought I would put the price up where he wouldn't take them and I told him I would send them to him for \$5 a barrel. The next mail the money came back. What we want to do is to raise better apples and more of them. We have got to educate the children in this apple tree business. If we do that we will cover this middle belt of the State of Maine all over with apple trees.

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