HON. HENRY INGALLS, WISCASSET,
Second President of Maine State Pomological Society.
See Memorial Sketch in Secretary's Portfolio, page 163.

TRANSACTIONS

OF THE

Maine State Pomological Society

FOR THE YEAR 1896.

Including the Proceedings of the Winter Meeting, held in Winthrop, February 18th and 19th, 1897.

EDITED BY THE SECRETARY,

D. H. KNOWLTON.

AUGUSTA
KENNEBEC JOURNAL PRINT
1897

An apple orchard is sure to bear you several crops beside the apple. There is the crop of sweet and tender reminiscences dating from childhood and spanning the seasons from May to October, and making the orchard a sort of outlying part of the household. You have played there as a child, mused there as a youth or lover, strolled there as a thoughtful, sad-eyed man. Your father, perhaps, planted the trees or reared them from the seed, and you yourself have pruned and grafted them, and worked among them, till every separate tree has a peculiar history and meaning in your mind. Then there is the never-failing crop of birds—robins, goldfinches, king-birds, cedar-birds, hair-birds, orioles, starlings—all nesting and breeding in its branches, and fitly described by Wilson Flagg, as "Birds of the Garden and Orchard." Whether the pippin and sweetbough bear or not, the "punctual birds" can always be depended upon. Indeed, there are few better places to study ornithology than in the orchard. Besides its regular occupants, many of the birds of the deeper forest find occasion to visit it during the season. The cuckoo comes for the tent-caterpillar, the jay for frozen apples, the ruffed grouse for buds, the crow foraging for birds' eggs, the woodpecker and chickadees for their food, and the high-hole for ants. The red-bird comes, too, if only to see what a friendly covert its branches form, and the wood-thrush now and then comes out of the grove near by, and nests alongside of its cousin, the robin. The smaller hawks know that this is a most likely spot for their prey, and in the spring the shy northern warblers may be studied as they pause to feed on the fine insects amid its branches. The mice love to dwell here also, and hither come from the near woods the squirrel and the rabbit. The latter will put his head through the boy's slipper-noose any time for a taste of the sweet apple, and the red squirrel and chipmunk esteem its seeds a great rarity.

JOHN BURROUGHS.

CONTENTS.

REPORT OF THE SECRETARY.

The industry represented by our society has gradually developed during past years, but its magnitude has been more conspicuous the past year in consequence of the large crop, and the difficulty of finding a market for it. While in years past it has been largely the office of our society to teach methods of culture, the present conditions are now leading the society to a fuller consideration of the markets and the selling of the fruits. At our winter meetings the topics involving the marketing of the fruit were those in which the liveliest interest was apparent. During the year the Secretary has had numerous subjects connected with fruit growing under consideration—some of these are elaborated in the papers and at our meetings by various speakers; some have appeared at our exhibitions and others must remain for future work. The following pages will afford the members of the society and others who may read them some idea of the general scope of the work. Compared with a dozen years ago, it will be seen the society is doing, as it certainly ought to do, a larger work.

OUR FRUIT CROP.

The fruit crop in 1896 was very large in the United States, nearly every fruit growing section having its full proportion. This made our crop in Maine appear, if anything, larger than it really was. With the exception of some of the small fruits there was a surplus of everything in the fruit line. Figures compiled by the American Agriculturist state that in Maine the apple crop for 1896 amounted to 2,080,000 barrels, and in 1895 to 790,000 barrels. The crop for New England is placed at 8,530,000 barrels in 1896 and 3,968,000 in 1895. While in the United States the figures amount to 58,960,000 barrels in 1896

and 60,543,000 in 1895. If these figures are correct the apple crop of 1895 in the entire country was larger than that of 1896.

Correspondents of the New England Homestead, estimated the town of Paris as having 10,000 barrels of apples; Kennebec county 500,000 barrels; Bridgton 10,000 barrels, and York county 125,000 barrels.

A detailed canvass of the town of Winthrop made by Mr. S. B. Friend found 26,159 barrels of marketable fruit. M. O. Edwards of Monmouth reports about 27,000 in that town, and Mr. F. S. Ricker reports 15,225 barrels in the town of Turner.

The detailed figures give some idea of the distribution of the product among the growers in Winthrop as follows:

Less than 100 barrels	186	growers
Between 100 and 200 barrels	45	"
Between 200 and 500 barrels	39	"
Between 500 and 800 barrels	6	"

The four largest growers had about 800 barrels each. In all there were 276 growers, showing that apples are generally grown in town by the farmers.

In Turner there were:

Less than 100 barrels	56	growers
Between 100 and 200 barrels	31	"
Between 200 and 500 barrels	13	"
Between 500 and 800 barrels	8	"
1000 barrels	1	"

109 growers in the town who had marketable fruit.

There are larger growers in other parts of the State, the largest having about 3,000 barrels, while there are several who have 2,000, possibly a dozen others 1,000 to 1,500 barrels each. These towns are probably as good fruit growing towns as any in the State and the extent of the crop here indicates the magnitude of the industry in the State.

A larger part of the trees are young, and many have not yet come into bearing. So that we may reasonably expect still larger crops in years to come.

Of the quality it may be said the State never produced better fruit. Either insects were less in numbers, or the size of the crop made their work less conspicuous. Certainly fungous diseases were less prevalent than in recent years.

THE SOCIETY AND THE STATE BOARD OF AGRICULTURE.

For various reasons which we are assured are from no ill feeling towards our society or its work, the State Board of Agriculture at its Annual meeting in January, 1896, after a prolonged discussion of the subject voted to discontinue the aid they have hitherto granted our society towards the expenses of our winter meeting.

As the present officers had no voice in originating the joint meetings and were not consulted regarding its discontinuance there seems to be no occasion for any comment beyond a statement of the facts.

Pooling funds for this meeting has secured the employment of distinguished speakers from a distance, at a time when under other circumstances it would have been impossible. So far as the Secretary is informed there has been only the most cordial feeling between the two organizations. Both are working along similar lines and now that the union has been severed, each ought to be the stronger for the independence. The Secretary has great confidence in the fruit-growers of the State, whose intelligence and enterprise will not permit a cause they have so long nourished to languish for want of means. The liberal aid now granted to us from the State will enable us to go on in our work, and depending upon our own resources will add to our strength.

OUR EXHIBITIONS.

By invitation of Hon. F. O. Beal, President of the Eastern Maine State Fair, negotiations were entered into for holding an exhibition with them. The executive officers, thinking the holding of such an exhibition would enable the society to exert a wider influence in the eastern part of the State, and all objections being overcome, the terms were agreed upon, being the same as between our society and the Maine State Agricultural Society, and $100 additional to meet the expenses of the officers of the society. The exhibition there was held August 25-28, 1896. We met many fruit and flower growers whom we found enthusiastic, and fond of their pursuits. At this exhibition there were fifty-eight exhibitors. We were treated with the

utmost courtesy by President Beal and his associates, whose action was prompt and efficient in every way we desired. The wish was expressed and emphasized that the pleasant relations entered into at this exhibition might be continued in the future. We are also indebted to members of the press who gave our work in Bangor special prominence in the report of the fair.

The Lewiston exhibition, held a week later, was the largest in the record of the society. There were 102 different exhibitors who made some 1,500 entries, and many of the entries contained collections of fruits, flowers or canned goods. The tables and stands were crowded. The exhibition being so early in the season, the specimens of fruit were small and hardly more than half grown, but the plants and flowers were superior to any exhibition held by the society.

The chief object of the exhibition is educational—to show by perfect specimens what is being grown, and the better the specimen the better the lesson is taught. In other words, everything on exhibition should bear the mark of excellence that others may learn what may be grown in the State. Inferior fruit or plants in such a place do irreparable injury to the cause. If perchance such exhibits, as they sometimes do, carry away a premium, there is nothing a man need take any pride in, for while he may help himself to a dollar, he permits his action to weaken the character of the exhibition.

The officers have aimed at making the exhibition better in quality each year, but sometimes the quality of the exhibits is a discouraging feature. No one in competition for our premiums on special plates of apples and pears should think of showing anything but the best; if they do not have these they should leave them at home. In the collective exhibits, I am sorry to say, some of our largest exhibitors seem to forget that the same rule should bear with equal force. It is not to the credit of any one even here to show poor fruit, and for one, I hope we may have seen the last of it.

There were some plants at each of our exhibitions that loving hands had watered and cared for, which our judges criticised, because they were "leggy," leafless or ill-shaped, in other words they were inferior specimens.

At the Bangor exhibition one or two collections came in, several species of plants growing in the same boxes. They

were entered first as collections, and some of them as specimen plants. It was difficult to find them, and in several cases impossible to determine which was which. It was an unpleasant duty to judge, and unsatisfactory as well. At Lewiston we have required that the exhibits shall be distinct, and the rule has been approved by all.

As there are many who have never exhibited at our fairs, the following suggestions are offered as likely to be of help in making up an exhibit of fruit or plants. In recent years at no small expense the society has employed experts, who know what exhibits should be, and who are conversant as well with varieties. This makes it all the more important to observe the suggestions offered.

DIRECTIONS FOR PREPARING EXHIBITIONS.

Fruit—The specimens should be perfect, i. e., free from bruises, scab and worms, and so far as possible tpyical of the kind. The specimens should be of uniform size and well colored. Monstrosities are not desired, nor freaks of any kind to make up collections. Small specimens of uniform size are far better than large and small together. Large specimens are better than small ones, but have them uniform. The stem should be left, and care should be taken not injure the calyx, which is often important in determining the identity of the fruit.

Do not polish the fruit nor remove the bloom. Wrap the specimens in soft paper and pack so they will not be bruised.

Don't exhibit fruit without name, except to have it named. The collective exhibit calls for correctly named varieties. If you have fruit, the name of which you have lost, our judges and officers will try to identify it.

Plants—They should be well grown specimens,and in healthy condition. A large plant may not be a well grown one. By a well grown plant is meant a thrifty, vigorous, well shaped plant. Have only one species in a pot, and as a rule only one plant. Don't forget to have the pots clean and in exhibition order. Where name is called for, be careful to have every specimen correctly named.

Cut flowers—It is better to cut flowers early in the morning. Pack them loosely and keep them both moist and cool. In col-

lections the arrangement calls for taste, and the more attractive they are made the better the chance for a premium.

OUR PUBLIC MEETINGS.

At the Bangor fair an informal meeting was held in the council chamber. There were other exercises in City Hall and the attendance was small, but a cordial welcome was extended to the society by Mayor Beal, who expressed the wish that the pleasant relations that had been formed during the fair might be continued and that the society would always be welcome to any courtesies within the gift of the city. The other exercises were brief, but bore on the interests of the society and fruit growers.

During the Lewiston fair the annual meeting of the society was held in the hall provided for the purpose. As the election of officers required so much attention little time remained for the presentation of formal lectures or addresses. In years past the attendance has been good, but this year a drenching rain poured down, and people who had shelter were wise to enjoy it. As it was, the enthusiasm of the members brought out a good delegation. After listening to informal reports from the officers and electing officers for 1897, Messrs. Gilbert, Pope and others spoke, congratulating the members upon the prosperity of the society and the wide influence it was exerting in the State.

OUR WINTER MEETING.

Invitations for our winter meeting came in from Freeport, Rumford Falls, Winthrop, Skowhegan and Augusta. In each instance assurances came with the invitation of local co-operation. It was hard for the committee to determine which locality offered the greatest inducements. In accepting the invitation extended by Winthrop Grange to hold the meeting in Winthrop the committee felt it would be especially agreeable to the older members to return to the place where the society had its birth. The reception given by the members of the grange and the citizens was very cordial. Messrs. J. Henry Moore, R. Alden and F. C. Robie, serving as a committee for Winthrop

Grange, were active in their efforts and spared neither labor nor expense to provide for all the details as they appeared.

Of the programme arranged for the meeting, the Secretary may be permitted to say that it proved a very popular one and with the presentation of each paper new interest was awakened. It was particularly noticeable, that notwithstanding the prevailing low prices of fruit, there was no evidence of discouragement, for all seemed enthusiastic for the future. A full report of the papers and discussions may be found in the following pages of the transactions.

The exhibition of fruit was very large, nearly every county in the State being represented. The tables were crowded with fruit, which was of exceptionally good quality. There was an interesting collection of apples from the Experiment Station and another exhibition that had many admirers was shown by Mr. J. H. Reid of Frederickton, N. B. The specimens were large and free from imperfections. The collection of cranberries consisted of nine entries, which were well preserved. A jar of Mountain cranberries was shown by the Secretary, which grew either in New Brunswick or Nova Scotia. The perfection of this fruit afforded the best of evidence that Maine can raise good cranberries and the interest was an evidence that soon we shall have no need of sending to the Cape for this delicious fruit. The exhibition of apple jellies was large and attractive. The collection shown by Mrs. Benson Grant consisted of twenty-five or more tumblers, made of as many different varieties of apple. There were several tumblers in which the apple was used as the base and then flavored with pine apple, lemon, raspberry or some other fruit. The rare qualities of the jellies shown in this exhibit are suggestive of a possible outlet for much fruit that now yields the growers little profit.

D. H. KNOWLTON, Secretary.

Farmington.

OFFICERS FOR 1897.

President.

JOHN W. TRUE, New Gloucester.

Vice Presidents.

S. H. DAWES, Harrison.

D. P. TRUE, Leeds Center.

Secretary.

D. H. KNOWLTON, Farmington.

Treasurer.

CHARLES S. POPE, Manchester.

Executive Committee.

The President and Secretary, *ex-officio;* A. E. Andrews, Gardiner: Z. A. Gilbert, North Greene; C. H. George, Hebron.

Trustees.

Androscoggin County,		Chas. E. Waterman, East Auburn.
Aroostook	"	Edward Tarr, Castle Hill.
Cumberland	"	T. M. Merrill, West Gloucester.
Franklin	"	Herman Corbett, Farmington.
Hancock	"	Mrs. S. L. Brimmer, Mariaville.
Kennebec	"	E. A. Lapham, Pittston.
Knox	"	Alonzo Butler, Union.
Lincoln	"	H. J. A. Simmons, Waldoboro'.
Oxford	"	S. M. King, South Paris.
Penobscot	"	W. M. Munson, Orono.
Piscataquis	"	H. L. Leland, East Sangerville.
Sagadahoc	"	A. P. Ring, Richmond Corner.
Somerset,	"	F. E. Nowell, Fairfield.
Waldo	"	Fred Atwood, Winterport.
Washington	"	J. F. Sprague, Charlotte.
York	"	Edward H. Emery, Sanford.

Member of Experiment Station Council.

Chas. S. Pope, Manchester.

Committee on New Fruits.

S. M. King, South Paris; Willis A. Luce, South Union; John W. Dudley, Castle Hill.

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
Andrews, Charles E.. ... .Auburn
Arnold, C. A .....Arnold
*Atherton, H. N .....Hallowell
Atherton, Wm. P..... .....Hallowell
Atkins, Charles G .....Bucksport
Atwood, Fred. ....Winterport
Averill, David C..... .....Temple
Bailey, W. G.. .....Freeport
Bennoch, John E ....Orono
Bisbee, George E.....Auburn
Boardman, Samuel L.... .... ..Augusta
Briggs, D. J..... ... . .South Turner
Briggs, John..... .....Turner
Burr, John.....Freeport
Butler, Alonzo..... ....Union
*Carter, Otis L ....Etna
Chandler, Mrs. Lucy A .....Freeport
Chase, Henry M.,103 Federal St.,Portland
Chase, Martin V. B ....Augusta
*Clark, Eliphalet..... .....Portland
Cole, Horatio G ....Boston, Mass
Corbett, Herman .....Farmington
Crafts, Moses ....Auburn
*Crosby, William C .....Bangor
Crowell, John H ....Temple
Cummings, Mrs. Anthony .....Auburn
Dana, Woodbury S..... .....Portland
Dawes, S. H . .....Harrison
DeRocher, Peter .....Bradentown, Fla
Dirwanger, Joseph A..... ...Portland
Dunham, W. W.....North Paris
Dyer, Milton .....Cape Elizabeth
*Emerson, Albert..... ....Bangor
Emerson, Charles L. ... .South Turner
Farnsworth, B. B.... ....Portland
Frost, Oscar F ....Monmouth
*Gardiner, Robert H.....Gardiner
Gardiner, Robert H.....Boston, Mass
George, C. H . ...Hebron
Gilbert, Z. A..... .....North Greene
Goddard, Lewis C ... .Woodfords
*Godfrey, John E .....Bangor
Grover, Franklin D .....Bean
Gurney, Lemuel ....Hebron
Hackett, E. C... .... .. West Gloucester
Hall, Mrs. H. A..... ....Brewer
Hanscom, John .... Saco
*Harlow, S. C..... Bangor
*Harris, N. C ....Auburn
Harris, N. W .....Auburn
Harris, William M.....Auburn
Harvey, F. L..... . ...Orono
*Hersey, T. C ....Portland
Hobbs, M. Curtis... ..West Farmington
*Hoffses, Elmas..... .....Warren
Hoxie, James S.....North Fairfield
Hoyt, Mrs. Francis..... .Winthrop
*Ingalls, Henry .... Wiscasset
Jackson, F. A.....Winthrop
*Jewett, George..... .....Portland
Johnson, Isaac A.....Auburn
*Jordan, Francis C..... ....Brunswick
*Kenniston, E. H.....Arnold
Keene, Charles S ....Turner
Knowlton, D. H.....Farmington
Lapham, E. A ....Pittston
*Larrabee, O. L..... ....West Levant
Litchfield, J. H ....Auburn
Lombard, Thurston M ....Auburn
*Low, Elijah..... Bangor
*Low, S. S.. ....Bangor
Luce, Willis A..... ..... South Union
McLaughlin, Henry .....Bangor
Merrill, T. M..... .....West Gloucester
*Metcalf, M. J..... ....Monmouth
Moody, Charles H ..... Turner
Moore, William G.....Monmouth
Moor, F. A.... ....Waterville
Morton, J. A..... ....Bethel

*Deceased.

LIFE MEMBERS—Concluded.

*Morton, William E.....Portland
*Noyes, Albert.....Bangor
Perley, Chas. I.....Cross Hill
Pope, Charles S.....Manchester
Prince, Edward M....West Farmington
Pulsifer, D. W.....Poland
Purington, E. F. ... West Farmington
*Richards, F. G.....Gardiner
Richards, John T.....Gardiner
*Richardson, J. M.....Gardiner
Ricker, A. S.....Turner
Ridley, B. H.....Jay
Roak, George M.....Auburn
Robinson, Henry A.....Foxcroft
Rolfe, Samuel.....Portland
Sanborn, Miss G. P.....Augusta
Sawyer, Andrew S.....Cape Elizabeth
Sawyer, George B.....Wiscasset
*Shaw, Stillman W.....West Auburn
Simmons, H. J. A.....Waldoboro
Skillings, C. W.....North Auburn
*Smith, Alfred.....Monmouth
Smith, Henry S.....Monmouth
Starrett, L. F.....Warren
Stetson, Henry.....Auburn
*Stetson, Isaiah.....Bangor
Stilphen, Asbury C.....Gardiner
Stanley, Charles.....Winthrop
Stanley, O. E.....Winthrop
*Staples, G. K.....Temple
Strout, S. F.....West Falmouth
*Strattard, Mrs. A. B.....Monroe
*Sweetser, S. R.....Cumberland Center
*Taylor, Joseph.....Belgrade
Taylor, Miss L. L., (Lakeside) Belgrade
Thomas, William W., Jr.....Portland
Thomas, D. S.....North Auburn
Thurston, Edwin....West Farmington
Tilton, William S.....Boston, Mass
Townsend, Mrs. B. T.....Freeport
True, Davis P.....Leeds Center
True, John W.....New Gloucester
*Varney, James A..The Dalles, Oregon.
Vickery, James.....Portland
Vickery, John.....Auburn
Wade, Patrick.....Portland
Walker, Charles S.....Peru
Waterman, Willard H.....East Auburn
*Weston, James C.....Bangor
Wharff, Charles S.....Gardiner
Wheeler, Charles E.....Chesterville
Whitney, Edward K.....Harrison
*Woodard, Mrs. S. M.....Gardiner
Woodman, George W.....Portland

ANNUAL MEMBERS, 1896.

Allen, Miss Hattie.....Bangor
Andrews, Gideon.....Herman
Archer, Mrs. Geo. F.....Clifton
Bailey, Abbie F.....Freeport
Bailey, Mrs. W. H.....Bangor
Barrett, Mrs. C. C.....Brewer
Bartlett, Carle S.....Bangor
Bartlett, T. W.....East Dixmont
Beers, Carl.....Bangor
Bickford, A. K.....Monmouth
Bickford, James.....Carmel
Brimmer, Mrs. S. L.....Tilden
Clifford, E. T.....Winthrop
Decoster, Virginia.....North Auburn
Dudley, A. M.....Mapleton
Dunbar, E. W.....Damariscotta
Eastman, A. A.....Dexter
Eastman, Mrs. A. A.....Dexter
Eddy, Mrs. F. A.....Bangor
Emery, Edward H.....Sanford
Fairbanks, H. G.....North Monmouth
Grant, Mrs. Alanson.....Lewiston
Hall, Mrs. H. A.....Brewer
Hayford, Columbus.....Maysville
Holland, George N.....Hampden
Hooper, C. A.....Elliott
Hussey, Mrs. E. E.....Brewer
Jewell, H. W.....Farmington
Johnson, Henry.....South Turner
Keith, Walter E.....Winthrop
Kenniston, G. A.....Arnold
King, A. R.....North Monmouth
King, Mrs. L. M.....South Etna
King, S. M.....South Paris
Knowlton, C. H.....Farmington
Leathers, A. W.....Bangor
Leland, H. L.....East Sangerville
Leland, W. E.....East Sangerville
Lemont, J. W.....West Bath
Mann, Mrs. Esther A.....South Leeds
Manson, A. M.....North Monroe
Merrill, G. W.....Bangor
Merritt, E. W., Jr.....Houlton
Miles, Dudley.....Newburg
Moore, L. P.....Newburg
Munson, W. M.....Orono
Nevins, J. L.....Lewiston
Nowell, F. E.....Fairfield

*Deceased.

ANNUAL MEMBERS—Concluded.

Page, F. W. .....Augusta
Pickard, Eva..... .....Arnold
Prescott, Franklin.....Newburg
Prescott, G. N.... .....East Monmouth
Prescott, J. W..... ..... Liberty
Reed, James B.....Bowdoinham
Ridley, J. D... .....Jay
Ring, A. P.....Richmond Corner
Rose, Mrs. Ada E .....North Greene
Salisbury, Mrs. Amos..... .....Brewer
Sleeper, F. H. L.....Lewiston
Snow, G. W.... ....Newburg
Sprague, F. J.... .....Charlotte
Sturgis, C. G..... .....Auburn
Tarr, Edward..... .....Castle Hill
Thissell, Mrs. J. A.....Bangor
Toothaker, L. P..... ...Dixmont
Waterman, Mrs. C. E.....East Auburn
Wharff, William R.....Gardiner
Whitney, G. W..... North Newburg
Whittier, Phineas.....Farmington Falls
Wright, Fred. . .....Woolwich
Wright, L. E ... .Bath

ANNUAL MEMBERS, 1897.

Bishop, Frank I.....Winthop
Carll, E. C .... .Buxton
Fairbanks, H. N..... ... . Bangor
Grant, Mrs. Benson.... .....Lewiston
Litchfield, Jennie E.....Winthrop
Stanton, Chas. B. ....Winthrop
Whittier, Phineas.....Farmington Falls
Wood, Elliott. ....Winthrop

TREASURER'S REPORT.

RECEIPTS.

From State stipend		$1,000 00
Interest:		
Farmington Water Company	$10 00	
Merchants' National Bank	12 00	
		22 00
Annual members:		
Edward H. Emery, Sanford	$1 00	
Phineas Whittier, Farmington Falls	1 00	
A. M. Dudley, Mapleton	1 00	
A. A. Eastman, Dexter	1 00	
Columbus Hayford, Maysville	1 00	
G. N. Holland, Hampden	1 00	
A. W. Leathers, Bangor	1 00	
C. A. Hooper, Eliot	1 00	
F. E. Nowell, Fairfield	1 00	
Mrs. E. E. Hussey, Brewer	1 00	
G. A. Kenniston, Arnold	1 00	
James Bickford, Carmel	1 00	
Mrs. C. C. Barrett, Brewer	1 00	
E. T. Clifford, Winthrop	1 00	
C. H. Knowlton, Farmington	1 00	
F. H. L. Sleeper, Lewiston	1 00	
J. D. Ridley, Jay	1 00	
G. N. Prescott, East Monmouth	1 00	
A. P. Ring, Richmond Corner	1 00	
F. W. Page, Augusta	1 00	
W. M. Munson, Orono	1 00	
Mrs. George F. Archer, Clifton	1 00	
Mrs. W. H. Bailey, Bangor	1 00	
S. M. King, South Paris	1 00	
Carle S. Bartlett, Bangor	1 00	
Mrs. J. A. Thissell, Bangor	1 00	
Mrs. Amos Salisbury, Brewer	1 00	
Dudley Miles, Newburg	1 00	
Franklin Prescott, Newburg	1 00	
Mrs. Louisa M. King, South Etna	1 00	
Mrs. S. L. Brimmer, Marlaville	1 00	
G. A. Kenniston, Arnold	1 00	
Gideon Andrews, Hermon	1 00	
G. W. Snow, Newburg	1 00	
W. E. Leland, East Sangerville	1 00	
H. L. Leland, East Sangerville	1 00	
L. P. Moore, Newburg	1 00	
T. W. Bartlett, East Dixmont	1 00	
Mrs. H. A. Hall, Brewer	1 00	

Annual members:		
Henry Johnson, South Turner	$1 00	
G. W. Merrill, Bangor	1 00	
Mrs. C. C. Barrett, Brewer	1 00	
Miss Hattie Allen, Bangor	1 00	
J. W. Prescott, Liberty	1 00	
Mrs. F. A. Eddy, Bangor	1 00	
Carl Beers, Bangor	1 00	
Mrs. C. E. Waterman, East Auburn	1 00	
Eddie W. Merritt, Jr., Houlton	1 00	
H. W. Jewell, Farmington	1 00	
Walter E. Keith, Winthrop	1 00	
Alanson S. Grant, Lewiston	1 00	
Mrs. Esther A. Mann, South Leeds	1 00	
Mrs. Ada E. Rose, North Greene	1 00	
A. A. Eastman, Dexter	1 00	
A. P. Ring, Richmond Corner	1 00	
E. W. Dunbar, Damariscotta	1 00	
William R. Wharff, Gardiner	1 00	
A. K. Bickford, Monmouth	1 00	
Mrs. D. L. Nevins, Lewiston	1 00	
Virginia DeCoster, North Auburn	1 00	
Mrs. A. R. Ring, North Monmouth	1 00	
Abbie F. Bailey, Freeport	1 00	
J. M. Lemont, West Bath	1 00	
Fred Wright, Bath	1 00	
A. M. Munson, North Monroe	1 00	
L. E. Wright, Woolwich	1 00	
James B. Reed, Bowdoinham	1 00	
L. P. Toothaker, Dixmont	1 00	
Eva Pickard, Arnold	1 00	
H. G. Fairbanks, North Monmouth	1 00	
F. E. Nowell, Fairfield	1 00	
G. W. Whitney, North Newburg	1 00	
F. J. Sprague, Charlotte	1 00	
		$73 00
Life members:		
John H. Crowell, Temple	$10 00	
Edwin Thurston, West Farmington	10 00	
Franklin D. Grover, Bean	10 00	
Mrs. Lucy A. Chandler, Freeport	10 00	
Mrs. H. A. Hall, Brewer	10 00	
		$50 00
Eastern Maine State Fair		600 00
Maine State Agricultural Society		500 00
Cash on hand January 1, 1896		135 18
		$2,380 18

EXPENDITURES.

John W. True, President, expenses at winter meeting	$17 22
C. H. George, Executive Committee, expenses at winter meeting	22 80
A. E. Andrews, expenses at winter meeting	14 72
D. H. Knowlton, Secretary, expenses at winter meeting	30 00
Chas. E. Wheeler, Treasurer, expenses at winter meeting	19 62
Smith & Reid, binding Transactions	7 87
American Express Company, express on fruit	8 20
George H. Collins, advertising	3 00
A. E. Andrews, cash paid Augusta Safe Deposit & Trust Company, for deposit box	5 00
D. H. Knowlton, in part for salary as Secretary	50 00

Knowlton, McLeary & Company, engravings for Transactions		$18 00
Augusta Safe Deposit & Trust Company, in favor of permanent fund		228 69
J. Woodward Manning, services as judge at Lewiston		27 50
Mr. and Mrs. Chas. S. Pope, services as judges at Bangor		25 00
James M. Hayes, services as judge on fruit at Lewiston		25 00
Z. A. Gilbert, Executive Committee, expense		3 00
John W. True, President, expenses at Bangor		22 50
A. E. Andrews, Executive Committee, expenses and services at Bangor		14 50
D. H. Knowlton, Secretary, expenses at Bangor		23 83
D. H. Knowlton, postage, express, etc		17 37
D. H. Knowlton, expenses at Lewiston and cash paid out		47 50
Clerk hire, Bangor		20 60
J. K. Islam & Company, vases		2 40
Clerk hire, Lewiston		18 00
Mrs. E. M. Blanchard, decorations		25 00
Fred H. Cowan, assistant at Lewiston		10 00
C. H. George, Executive Committee, expenses at Bangor		21 80
C. H. George, as Executive Committee expenses		38 85
A. E. Andrews, Executive Committee expenses		16 18
Wood-Robinson Co., paper for tables		6 50
A. E. Andrews, Executive Committee, services at Bangor		12 00
L. B. Raynes, stenographic report of Bangor meeting		5 00
Mrs. H. A. Hall, annual membership paid back		1 00
B. Walker McKeen, framing World's Fair diploma		4 38
Knowlton, McLeary & Co., printing		55 95
Lewiston Journal, printing		11 65
John W. True, President, expenses		40 80
A. E. Andrews, Executive Committee, services		18 60
Premiums at Winter Meeting	$59 00	
Premiums at Bangor Fair	381 50	
Premiums at Lewiston Fair	912 25	
		$1,352 75
Cash in treasury January 1, 1897		88 40
		$2,380 14

PERMANENT FUND.

DR.

To deposit in Wiscasset Savings Bank		$128 02
First National Bank, Farmington		400 00
Merchants' National Bank, Gardiner		200 00
Farmington Water Company		100 00
Augusta Safe Deposit and Trust Company		441 08
Due permanent fund		30 90
		$1,300 00

CR.

By 125 life members to January 1, 1896		$1,250 00
life members received in 1896:		
John H. Crowell, Temple	$10 00	
Edwin Thurston, Temple	10 00	
F. D. Grover, Bean	10 00	
Mrs. Lucy A. Chandler, Freeport	10 00	
Mrs. H. A. Hall, Brewer	10 00	
		$50 00
		$1,300 00

CHARLES E. WHEELER, *Treasurer.*

CHESTERVILLE, December 31, 1896.

FINANCIAL CONDITION OF THE SOCIETY DECEMBER 31, 1896, SO FAR AS KNOWN TO THE EXECUTIVE COMMITTEE.

ASSETS.

Bounty due for State	$1,000 00
Property owned by society	250 00
Permanent fund	1,269 10
Interest (estimated)	12 00
Cash in treasury	88 40
	$2,619 50

LIABILITIES.

Outstanding orders	$125 00
Bills presented but not allowed	40 87
Other accounts, estimated	75 00
Due permanent fund	30 90
	$271 77

JOHN W. TRUE,
D. H. KNOWLTON,
A. E. ANDREWS,
Z. A. GILBERT,
C. H. GEORGE.
} *Executive Committee.*

BUSINESS TRANSACTIONS.

ANNUAL MEETING.

September 3—Met in accordance with the following call: "Annual meeting of the Maine State Pomological Society. The annual meeting of the Maine State Pomological Society, for the election of officers and the transaction of other business, will be held in the Lecture Hall, in the park, Lewiston, on Thursday, September 3, 1896, at 6.30 o'clock P. M. Per order of Executive Committee, D. H. Knowlton, Secretary.

Informal reports were made by the secretary and treasurer of the society.

Voted, That the society indorse the action of the executive committee in joining with the Eastern Maine Fair in holding an exhibition in Bangor, and that they be authorized to continue the arrangement if the terms are satisfactory to them.

Proceeded to the election of officers for the year 1897. (See page 10 for officers elected.)

WINTER MEETING.

A business session of the society was called to meet at Hotel Hamilton, Winthrop, February 17, 1897, at 7 o'clock P. M. Met according to the call.

Voted, That Messrs. Gilbert and Andrews of the executive committee audit the treasurer's account and report during the session.

Voted, That the executive committee be instructed to meet the trustees of the Maine State Agricultural Society and effect a new contract or agreement with them for our next annual exhibition.

Voted, That the treasurer's salary for the past year be fixed at $25.

The secretary submitted circular letters from the Ohio Horticultural Society, calling a convention of representatives of the State Horticultural Societies in Washington, to agree upon some uniform legislation, State and National, bearing upon the control and extermination of fungous and insect fruit pests. Tabled.

The Secretary submitted papers and correspondence of the officers of the Hamburg Horticultural Exposition, inviting our society to send exhibits, etc. Tabled.

Voted, That the premiums awarded at this exhibition be paid by the treasurer Friday afternoon.

The president was instructed to appoint committees.

February 19—Mr. D. J. Briggs in behalf of the committee on resolutions presented the following:

Resolved, That we appreciate the cordial welcome extended by the citizens of Winthrop.

Resolved, That the thanks of the society are due to the hotels of the village, and to the railroads for reduced rates; also, to the grange for their kindly assistance.

Resolved, That the thanks of the society are extended those who furnished us such beautiful music.

Mr. Gilbert—I have enjoyed this meeting very much and I think the resolutions should receive our heartiest support, and for three very good reasons: One is that we have learned again that when the citizens of Winthrop take hold of a good cause it is sure to be a success; second, that fruit growing is on the increase among our people, an evidence that culture and refinement are gaining ground, and third, that the Maine State Pomological Society can run a successful meeting when they fall into as good hands as they have in the town of Winthrop. We appreciate the assistance of those who are related to or in any way connected with that which we represent here. So we have had a successful meeting, we have enjoyed your hospitality, we appreciate the efforts of your committee, your citizens, and we heartily thank you for it.

The resolutions were then given a passage by a rising vote. Premiums were paid the last afternoon of the exhibition by the treasurer.

February 20—The committee to audit the treasurer's accounts reported that they found the same correct and had approved the same.

Voted, That the secretary be instructed to deliver Mr. Wheeler his bond as treasurer.

Voted, That the key to box in the Augusta Safe Deposit and Trust Company be deposited with the president as custodian of the same.

MEETINGS OF THE EXECUTIVE COMMITTEE.

January 18, 1896—Met at the Elm House, Auburn.

Voted, To ask the State Society for Wednesday evening of the fair for our annual meeting instead of Thursday, as last year.

Revised the schedule of premiums.

The secretary presented the following from the trustees of the State Agricultural Society:

"*Voted,* To invite the State Pomological Society to unite with this society in the joint exhibition of the year upon the same conditions as in 1895, save that the Pomological Society is to fit up and take full care of upper floor of the exhibition building, using all tables and property of the Agricultural Society already prepared for their use."

Voted, To accept these conditions for the present year.

April 29, 1896—Met at Exchange Hotel, Lewiston.

Hon. F. O. Beal, President of the Eastern Maine Fair, was present and offered the following proposition in behalf of the association he represents: "The Eastern Maine State Fair Association is pleased to extend an invitation to the Maine State Pomological Society to hold a joint exhibition with them at their grounds in Bangor on August 25, 26, 27, 28, 1896, upon the same terms and conditions as is your custom to do with the Maine State Fair Association."

Voted, That the above proposition be accepted, provided the sum be increased one hundred dollars to meet the expenses of the officers incident to holding said exhibition.

Voted, That the secretary be requested to notify the Maine State Agricultural Society of our action before giving publicity to the same, and assure the officers of that society that our action is based upon a desire to extend, so far as possible, the

influence of our society in the State, and a belief that both exhibitions would be improved without prejudice to either by such action.

In response to the secretary's letter the following cordial letter was received:

KENDUSKEAG, May 4, 1896.

D. H. KNOWLTON, Esq.,

Secretary State Pomological Society:

DEAR SIR—In answer to your favor of the 1st inst., allow me to say that I understand your society will hold two fairs this year with the Maine State Agricultural Society at Lewiston, and the Eastern State Fair at Bangor, and that such will probably be the future policy of your society, am I correct? If so, I believe the arrangement a good one, calculated largely to increase the usefulness of your society, by extending its benefits to a part of the State where the interest in fruit growing is not so active as it should be. Our society will not object to the arrangement you have made with the Eastern Fair. On the contrary, we approve, in the belief that the interest you will awaken in the eastern part of the State will result in bringing to you at Lewiston larger and more varied exhibits than ever before.

Permit me to thank you for the very cordial feelings expressed towards our society and its management and to assure you that they are fully reciprocated by us.

Very truly yours,

S. G. JERRARD, President.

Voted, That further details in the premiums be referred to the secretary.

August 5, 1896—Met at Elm House, Auburn.

Voted, That the secretary be authorized to employ judges for both fairs at Bangor and Lewiston.

Voted, That the preparation of programmes for the public meetings during the fairs at Bangor and Lewiston be referred to the secretary.

Voted, That the secretary arrange for decorations at Lewiston, not to exceed $25 in cost.

Voted, That the secretary be authorized to employ assistants for the fairs.

The secretary reported that he had received a diploma and medal from the World's Fair Commission, also that Secretary

McKeen had a diploma and medal from the same source subject to our order.

Voted, To have the diplomas framed and exhibited at the fairs.

The secretary also reported the receipt of an invitation from the managers of the Hamburg Horticultural Exhibition to take part in the same.

August 27, 1896. Met in Bangor, voted that premiums, same as at Lewiston, be allowed on articles not listed in premium list of Bangor Exhibition.

September 4, 1896. Met in Maine Farmer building on the Fair Grounds, Lewiston.

Voted, To hold a meeting of the executive committee at Elm House, Auburn, September 22, 1896.

September 22, 1896. Met at the Elm House, Auburn.

The schedules of premiums awarded at Bangor and Lewiston Exhibitions were presented, and orders in favor of the treasurer were drawn for $381.50 for Bangor, and $912.25 for Lewiston.

Voted, That the Society pay express on fruit sent for exhibition at winter meeting.

Voted, To send the diploma bearing the name of the State to Secretary McKeen, and our secretary to retain the custody of the other.

December 21, 1896. Met at Elm House, Auburn.

The secretary presented invitations for the winter meeting from Winthrop Grange, Rumford Falls, Freeport, Skowhegan and Augusta.

Voted, That the location for holding the winter meeting be referred to the secretary and president.

Voted, That if found expedient the meeting be held the week beginning February 14, 1897.

After conference with parties and further consideration the president and secretary accepted the invitation from Winthrop Grange.

PREMIUMS AWARDED.

At The Bangor Exhibition Held August 25, 26, 27 and 28, 1896.

APPLES.

Best general exhibition of apples grown in Androscoggin county: Henry Johnson, South Turner, first, $8; D. P. True, Leeds Centre, second, $6.

Same in Aroostook county: J. W. Dudley, Castle Hill, first, $8.

Same in Cumberland county: J. W. True, New Gloucester, first, $8; T. M. Merrill, West Gloucester, second, $6.

Same in Franklin county: Herman Corbett, Farmington, first, $8.

Same in Hancock county: Mrs. S. L. Brimmer, Tilden, first, $8.

Same in Kennebec county: W. R. Wharff, Gardiner, first, $8; E. A. Lapham, Pittston, second, $6.

Same in Knox county: Willis A. Luce, South Union, first, $8.

Same in Oxford county: C. H. George, Hebron, first, $8; S. M. King, South Paris, second, $6.

Same in Penobscot county: Franklin Prescott, Newburg, first, $8; G. A. Kenniston, Arnold, second, $6; Carle S. Bartlett, third, $3.

Same in Piscataquis county: H. L. Leland, East Sangerville, first, $8; W. E. Leland, East Sangerville, second, $6.

Same in Waldo county: J. W. Prescott, Liberty, first, $8; T. W. Bartlett, East Dixmont, second, $6.

Best collection crabapples: S. C. Harlow, Bangor, first, $1; James Bickford, Carmel, second, 50c.

Best dish Baldwins: C. H. George, first, $1; W. R. Wharff, second, 50c.

Gravenstein: Henry Johnson, South Turner, first, $1; G. W. Snow, Newburg, second, 50c.

Northern Spy: C. H. George, first, $1; Henry Johnson, second, 50c.

Rhode Island Greening: Henry Johnson, first, $1; S. M. King, second, 50c.

Roxbury Russet: W. R. Wharff, first, $1; W. A. Luce, second, 50c.

Tompkins King: G. A. Kenniston, Arnold, first, $1; G. W. Snow, second, 50c.

Yellow Bellflower: E. A. Lapham, first, $1; G. W. Snow, second, 50c.

Alexander: O. L. Larrabee, West Levant, first, $1; Mrs. L. M. King, South Etna, second, 50c.

American Golden Russet: G. A. Kenniston, first, $1.

Deane: S. C. Harlow, Bangor, second, 50c.

Duchess of Oldenburg: Mrs. L. M. King, first, $1; G. W. Snow, second, 50c.

Early Harvest: Mrs. L. M. King, first, $1; W. A. Luce, second, 50c.

Fallawater: G. W. Snow, first, $1; Dudley Miles, Newburg, second, 50c.

Fall Harvey: C. A. Arnold, Arnold, first, $1; C. H. George, second, 50c.

Fameuse: W. A. Luce, first, $1; G. W. Snow, second, 50c.

Garden Royal: C. H. George, first, $1.

Golden Sweet: W. A. Luce, first, $1.

Hubbardston Nonsuch: W. R. Wharff, first, $1; W. P. Woodworth, Simpson's Corner, second, 50c.

Jewett's Fine Red: J. W. True, first, $1; Mrs L. M. King, second, 50c.

King Sweeting: Dudley Miles, first, $1; S. M. King, second, 50c.

Large Yellow Bough: Dudley Miles, first, $1; W. T. Jones, Hampden Corner, second, 50c.

McIntosh Red: Dudley Miles, first, $1; G. W. Snow, second, 50c.

Milding: D. P. True, Leeds Centre, first, $1; Henry Johnson, second, 50c.

Munson Sweet: Mrs. L. M. King, first, $1; G. A. Kenniston, second, 50c.

Peck's Pleasant: D. P. True, first, $1.

Pomme Royale: Chas. S. Pope, Manchester, first, $1.

Porter: W. A. Luce, first, $1; W. P. Woodworth, second, 50c.

Pound Sweet: L. P. Moore, Newburg, first, $1; J. W. True, second, 50c.

President: O. L. Larrabee, first, $1; S. C. Harlow, second, 50c.

Pumpkin Sweet: G. A. Kenniston, first, $1; Herman Corbett, second, 50c.

Red Astrachan: G. A. Kenniston, first, $1; C. H. George, second, 50c.

Rolfe: O. L. Larrabee, first, $1; S. C. Harlow, second, 50c.

Russell: Herman Corbett, first, $1.

Somerset: O. L. Larrabee, first, $1; Dudley Miles, second, 50c.

Stark: C. A. Arnold, first, $1; Henry Johnson, Turner, second, 50c.

Starkey: D. P. True, first, $1; C. H. George, second, 50c.

Talman's Sweet: J. W. True, first, $1; E. A. Lapham, second, 50c.

Tetofsky: D. H. Knowlton, Farmington, first, $1; C. A. Arnold, second, 50c.

Twenty Ounce: C. A. Arnold, first, $1; E. A. Lapham, second, 50c.

Wagener: Dudley Miles, first, $1; C. A. Arnold, second, 50c.

Wealthy: Mrs. L. M. King, first, $1; J. W. True, second, 50c.

Williams' Favorite: W. A. Luce, first, $1; S. M. King, second, 50c.

Winthrop Greening: D. P. True, first, $1; E. A. Lapham, second, 50c.

Yellow Transparent: S. C. Harlow, first, $1; C. A. Arnold, second, 50c.

Benoni: C. H. George, gratuity, 50c.

Chenango Strawberries: C. H. George, gratuity, 50c.

Dudley's Winter: J. W. Dudley, gratuity, 50c.

Fall Pippin: C. H. George, gratuity, 50c.; S. C. Harlow, gratuity, 25c.

Fall Jenneting: C. H. George, gratuity, 50c.

Gloria Mundi: C. H. George, gratuity, 50c.

Hunt Russet: S. C. Harlow, gratuity, 50c.

Keswick Codlin: S. C. Harlow, gratuity, 50c.

Pound: C. H. George, gratuity, 50c.

Rome Beauty: C. H. George, gratuity, 50c.

St. Lawrence: S. C. Harlow, gratuity, 50c.

PEARS.

General exhibition of pears: First, S. C. Harlow, $4; second, D. P. True, $3.

Clapp's Favorite: First, G. W. Merrill, Bangor, $1; second, Mrs. W. H. Bailey, 50c.

Bartlett: First, W. A. Luce, $1; second, Mrs. E. T. Webb, Bangor, 50c.

Belle Lucrative: First, G. W. Morrill, $1; second, S. C. Harlow, 50c.

Beurre Clairgeau: First, S. C. Harlow, $1; second, O. L. Larrabee, 50c.

Beurre Diel: First, G. W. Merrill, $1.

Duchesse d'Angouleme: First, W. A. Luce, $1.

Flemish Beauty: First, J. W. True, $1; second, O. L. Larrabee, 50c.

Glout Morceau: First, S. C. Harlow, $1.

Lawrence: First, S. C. Harlow, $1.

Louise Bonne de Jersey: First, S. C. Harlow, $1; second, O. L. Larrabee, 50c.

Marie Louise: First, Herman Corbett, $1.

Seckel: First, W. A. Luce, $1.

Shelden: First, W. A. Luce, $1; second, O. L. Larrabee, 50c.

Vicar of Winkfield: First, W. A. Luce, $1.

Winter Nelis: First, S. C. Harlow, $1; second, Mrs. E. T. Webb, 50c.

Wilder's Early: First, W. A. Luce, $1.

Eastern Belle: First, S. C. Harlow, 50c.

GRAPES.

Grapes grown in cold grapery: First, Mrs. F. A. Eddy, Bangor, $5.

PLUMS.

Best general exhibition: First, D. H. Knowlton, Farmington, $5; second, W. A. Luce, $3; third, S. C. Harlow, $2.

Bavay's Green Gage: First, D. H. Knowlton, $1; second, W. A. Luce, 50c.

Bradshaw: First, W. A. Luce, $1; second, Gideon Andrews, Hermon, 50c.

Burbank: First, W. A. Luce, $1; second, Chas. A. Miller, East Union, 50c.

Coe's Golden Drop: First, D. H. Knowlton, $1.

Green Gage: First, S. C. Harlow, $1; second, J. W. Dudley, Castle Hill, 50c.

Prince's Imperial Gage: First, S. C. Harlow, $1; second, Mrs. L. M. King, 50c.

Purple Gage: First, D. H. Knowlton, $1; second, W. A. Luce, 50c.

Red Gage: First, W. A. Luce, $1.

Guii: First, Gideon Andrews, $1.

Lombard: First, Mrs. L. M. King, $1; second, W. A. Luce, 50c.

McLaughlin: First, S. C. Harlow, $1; second, D. H. Knowlton, 50c.

Moores' Arctic: First, W. A. Luce, $1; second, Mrs. L. M. King, 50c.

Quackenbos: First, W. A. Luce, $1.

Shipper's Pride: First, S. C. Harlow, $1; second, W. A. Luce, 50c.

Washington: First, S. C. Harlow, $1; second, Gideon Andrews, 50c.

Yellow Egg: First, W. A. Luce, $1.

MISCELLANEOUS.

Orange tree in fruit: First, Mrs. E. E. Hussey, Brewer, $1.

Fig tree in fruit: First, Mrs. F. A. Eddy, Bangor, $1.

Exhibition of canned fruit: First, Mrs. Herman Corbett, Farmington, $6; second, Mrs. Francis Hoyt, Winthrop, $4; third, Mrs. G. N. Holland, Hampden, $2.

Canned Blackberries: First, Mrs. Francis Hoyt, 50c.; second, Mrs. H. Corbett, 25c.

Canned Blueberries: First, Mrs. H. Corbett, 50c.; second, Mrs. H. A. Hall, 25c.

Canned Cherries: First, Mrs. Francis Hoyt, 50c.; second, Mrs. H. Corbett, 25c.

Canned Gooseberries: First, Mrs. E. E. Hussey, 50c.; second, Mrs. H. A. Hall, 25c.

Canned Peaches: First, Mrs. H. Corbett, 50c.; second, Mrs. Francis Hoyt, 25c.

Canned Pears: First, Mrs. H. Corbett, 50c.; second, Mrs. H. A. Hall, 25c.

Canned Plums: First, Mrs. E. E. Hussey, 50c.; second, Mrs. Francis Hoyt, 25c.

Canned Quinces: First, Mrs. Francis Hoyt, 50c.; second, Mrs. H. Corbett, 25c.

Canned Raspberries: First, Mrs. Francis Hoyt, 50c.; second, Mrs. H. Corbett, 25c.

Canned Strawberries: First, Mrs. H. Corbett, 50c.; second, Mrs. Francis Hoyt, 25c.

Canned Tomatoes: First, Mrs. E. E. Hussey, 50c.; second, Mrs. Francis Hoyt, 25c.

Preserved Apples: First, Mrs. Francis Hoyt, 50c.; second, Mrs. H. Corbett, 25c.

Preserved Currants: First, Mrs. H. A. Hall, 50c.; second, Mrs. Francis Hoyt, 25c.

Preserved Cherries: First, Mrs. E. E. Hussey, 50c.; second, Mrs. H. Corbett, 25c.

Preserved Pears: First, Mrs. H. A. Hall, 50c.; second, Mrs. Francis Hoyt, 25c.

Preserved Plums: First, Mrs. H. Corbett, 50c.; second, Mrs. E. E. Hussey, 25c.

Preserved Quinces: First, Mrs. F. Hoyt, 50c.; second, Mrs. H. Corbett, 25c.

Preserved Raspberries: First, Mrs. F. Hoyt, 50c.; second, Mrs. H. Corbett.

Preserved Strawberries: First, Mrs. H. A. Hall, 50c.; second, Mrs. H. Corbett, 25c.

Assorted Pickles: First, Mrs. H. A. Hall, 50c.; second, Mrs. F. Hoyt, 25c.

Tomato Catsup: First, Mrs. E. E. Hussey, 50c.; second, Mrs. F. Hoyt, 25c.

Collection Apple Jelly: First, Mrs. H. Corbett, $2; second, Mrs. H. A. Hall, $1.

Apple Jelly: First, Mrs. H. A. Hall, $1; second, Mrs. H. Corbett, 50c.

Crab Apple Jelly: First, Mrs. H. A. Hall, 50c.; second, Mrs. H. Corbett, 25c.

Currant Jelly: First, Mrs. H. A. Hall, 50c.; second, Mrs. E. E. Hussey, 25c.

Grape Jelly: First, Mrs. E. E. Hussey, 50c.; second, Mrs. H. Corbett.

Quince Jelly: First, Mrs. F. Hoyt, 50c.; second, Mrs. H. Corbett, 25c.

Raspberry Jelly: First, Mrs. G. N. Holland, 50c.; second, Mrs. H. Corbett, 25c.

Rhubarb Jelly: First, Mrs. F. Hoyt, 50c.; second, Mrs. H. A. Hall, 25c.

Strawberry Jelly: First, Mrs. G. N. Holland, 50c.; second, Mrs. H. Corbett, 25c.

Maple Syrup: First, Mrs. G. F. Archer, Clifton, 50c.

Banana Plant: Gratuity, Mrs. F. A. Eddy, $1.

Cherries (Olivet): Gratuity, Mrs. E. E. Hussey, $1.

Russian Fruits: A fine and interesting collection was shown by the State College.

FLOWERS AND PLANTS.

Display of Cut Flowers: Mrs. Geo. F. Archer, first, $5; Mrs. F. A. Edely, second, $3.

Dahlias: Mrs. G. F. Archer, first, $1.50; Mrs. C. C. Barrett, Brewer, second, $1; Mrs. H. A. Hall, third, 50c.

Chinese Pinks: Mrs. W. H. Bailey, first, $1; Mrs. G. F. Archer, second, 50c.

Carnations: Miss Hattie Allen, Bangor, first, $1.50.

Japan Lilies: Mrs. G. F. Archer, first, $1.50; Mrs. E. E. Hussey, second, $1.

Asters: Mrs. G. F. Archer, first, $1; Mrs. H. A. Hall, second, 50c.

Pansies: Mrs. W. H. Bailey, first, $1; Mrs. G. F. Archer, second, 50c.

Zinnias: Mrs. C. C. Barrett, first, $1; Mrs. G. F. Archer, second, 50c.

Phlox Drummondii: Mrs. C. C. Barrett, first, $1; Mrs. G. F. Archer, second, 50c.

Stocks: Mrs. W. H. Bailey, first, $1; Mrs. H. A. Hall, second, 50c.

Balsams: Mrs. C. C. Barrett, first, $1; Mrs. F. Hoyt, second, 50c.

Chrysanthemums: Mrs. C. C. Barrett, first, $1; Mrs. G. F. Archer, second, 50c.

Petunias: Mrs. G. F. Archer, first, $1.

Gladioli: Mrs. G. F. Archer, first, $1; Mrs. H. A. Hall, second, 50c.

Verbenas: Mrs. H. A. Hall, first, $1; Mrs. W. H. Bailey, second, 50c.

Nasturtiums: Mrs. Jas. A. Thissell, Bangor, gratuity, $1.

Sweet Peas: Mrs. G. F. Archer, gratuity, $1; Mrs. Jas. A. Thissell, 50c.

Salpiglossis: Mrs. W. H. Bailey, Bangor, gratuity, $1.

Button-hole Bouquets: Mrs. C. C. Barrett, first, $1; Mrs. H. A. Hall, second, 50c.

Floral Pillow: Mrs. H. A. Hall, second, $1.

Floral Design: Miss Hattie Allen, first, $2; Mrs. H. A. Hall, second, $1.

Floral Wreath: Mrs. H. A. Hall, second, $1.50.

Floral Dinner Decorations: Mrs. H. A. Hall, second, $1.

Basket Wild Flowers: Ethel C. Pfaff, Islesboro, first, $1; Mrs. F. Hoyt, second, 50c.

Dried Grasses: Mrs. G. F. Archer, first, $2.

Everlasting Flowers: Mrs. G. F. Archer, first, $1.

Cut Flowers: Mrs. H. A. Hall, first, $1.50; Mrs. E. E. Hussey, second, $1; Mrs. F. Hoyt, third, 50c.

Fancy Basket Flowers: Miss Hattie Allen, first, $1.50; Mrs. W. H. Bailey, second, $1; Mrs. H. A. Hall, third, 50c.

Greenhouse Plants: Carl Beers, Bangor, first, $5.

Pot Plants: Mrs. H. A. Hall, third, $1.

Geraniums: Mrs. H. A. Hall, third, 50c.

Begonias: Mrs. E. E. Hussey, first, $1.50; Mrs. H. A. Hall, second, $1.

Tuberose: Mrs. W. H. Bailey, first, $1.

Dracaena: Mrs. H. A. Hall, first, $1.

Flowering Begonia: Mrs. H. A. Hall, first, $1; Mrs. Amos Salisbury, Brewer, second, 50c.

Exhibition of Coleus: Mrs. Amos Salisbury, first, $1.50; Mrs. H. A. Hall, second, $1.

Fuchsia: Mrs. Amos Salisbury, first, $1.

Carnation: Miss Hattie Allen, first, $1.

Single Pot Plant: Mrs. H. A. Hall, second, 50c.

Clinging Plant on Trellis: Mrs. H. A. Hall, first, $1; Mrs. C. C. Barrett, second, 50c.

AT THE ANNUAL EXHIBITION HELD AT LEWISTON, AUGUST 31, SEPTEMBER 1, 2, 3 4, 1896.

APPLES.

For best general exhibition of Apples: S. H. Dawes, Harrison, first, $15; C. I. Perley, Cross Hill, second, $10; J. D. Ridley, Jay, $5; Mrs. S. L. Brimmer, Tilden, fourth, $3.

For best general exhibition of Apples grown in Androscoggin County: Henry Johnson, S. Turner, first, $10; A. S. Ricker, Turner, second, $8; D. J. Briggs, S. Turner, third, $5.

For same in Aroostook county: E. Tarr, Castle Hill, first, $10; J. W. Dudley, Castle Hill, second, $8.

For same in Cumberland county: S. H. Dawes, first, $10; J. W. True, New Gloucester, second, $8; T. M. Merrill, Sabbathday Lake, gratuity, $3.

For same in Franklin county: M. C. Hobbs, West Farmington, first, $10; D. C. Averill, Temple, second, $8; J. D. Ridley, Jay, third, $5.

For same in Hancock county: Mrs. S. L. Brimmer, Tilden, second, $8.

For same in Kennebec county: J. Pope and Son, Manchester, first, $10; C. I. Perley, Cross Hill, second, $8; H. G. Fairbank, N. Monmouth, third, $5.

For same in Knox county: A. Butler, Union, first, $10; W. A. Luce, S. Union, second, $8.

For same in Lincoln county: H. J. A. Simmons, Waldoboro, first, $10; E. W. Dunbar, Damariscotta, second, $8.

For same in Oxford county: C. H. George, Hebron, first, $10; Lemuel Gurney, Hebron, second, $8; S. M. King, S. Paris, third, $5.

For same in Penobscot county: G. A. Kenniston, Arnold, first, $10; C. A. Arnold, Arnold, second, $8; L. P. Toothaker, Dixmont, third, $5.

For same in Piscataquis county: H. L. Leland, E. Sangerville, first, $10; W. E. Leland, E. Sangerville, second, $8.

For same in Sagadahoc county: L. E. Wright, Woolwich, first, $10; J. M. Lamont, W. Bath, second, $8; A. P. Ring, Richmond Corner, third, $5.

For same in Somerset county: J. S. Hoxie, N. Fairfield, first, $10; F. E. Nowell, N. Fairfield, second, $8.

For same in Waldo county: A. M. Mansur, N. Monroe, second, $8; T. W. Bartlett, E. Dixmont, third, $5.

Single Plates.

Baldwins: T. M. Lombard, Auburn, first, $5; D. J. Briggs, second, $3; Mrs. A. R. King, N. Monmouth, third, $2.

Gravenstein: A. S. Ricker, first, $3; T. M. Lombard, second, $2; J. Pope and Son, third, $1.

Hubbardston Nonsuch: Henry Johnson, first, $3; James B. Reed, Bowdoinham, second, $2; C. A. Arnold, third, $1.

Northern Spy: T. M. Lombard, first, $3; A. S. Ricker, third, $1.

Rhode Island Greening: C. H. George, first, $5; A. K. Bickford, Monmouth, second, $3; C. I. Perley, third, $2.

Roxbury Russets: D. J. Briggs, first, $3; T. M. Lombard, second, $2; Walter E. Keith, Winthrop, third, $1.

Tompkins King: S. H. Dawes, first, $3; C. I. Perley, second, $2; T. M. Lombard, third, $1.

Yellow Bellflower: J. M. Lemont, first, $3; C. A. Arnold, second, $2; Lemuel Gurney, third, $1.

Alexander: S. H. Dawes, first, $1; T. M. Lombard, second, 50c.

Bailey Sweet: C. H. George, first, $1; S. H. Dawes, second, 50c.

Ben Davis: C. I. Perley, first, $1; C. H. George, second, 50c.

Deane: J. M. Lemont, first, $1; J. D. Ridley, second, 50c.

Duchess of Oldenburg: T. M. Lombard, first, $1; F. H. L. Sleeper, Lewiston, second, 50c.

Dudley's Winter: J. W. Dudley, first, $1.

Fallawater: J. S. Hoxie, first, $1; A. A. Eastman, Dexter, second, 50c.

Fall Harvey: C. H. George, first, $1; C. I. Perley, second, 50c.

Fameuse: C. H. George, first, $1; A. K. Bickford, second, 50c.

Garden Royal: Walter E. Keith, first, $1; D. C. Averill, second, 50c.

Gloria Mundi (of Maine): Geo. K. Davis, Lewiston, first, $1; C. H. George, second, 50c.

Golden Russet: C. I. Perley, first, $1; A. A. Eastman, second, 50c.

Granite Beauty: D. H. Knowlton, Farmington, first, $1; J. D. Ridley, second, 50c.

Jewett's Fine Red: C. I. Perley, first, $1; Walter E. Keith, second, 50c.

King Sweeting: J. S. Hoxie, first, $1; C. I. Perley, second, 50c.

Large Yellow Bough: F. H. L. Sleeper, first, $1; C. A. Arnold, second, 50c.

McIntosh Red: T. M. Lombard, first, $1; C. I. Perley, second, 50c.

Milding: D. P. True, Leeds Center, first, $1; C. I. Perley, second, 50c.

Mother: S. H. Dawes, first, $1; J. W. True, second, 50c.

Munson Sweet: F. H. L. Sleeper, first, $1; C. A. Arnold, second, 50c.

Peck's Pleasant: J. S. Hoxie, first, $1; S. H. Dawes, second, 50c.

Pomme Royale: C. H. George, first, $1.

Porter: S. H. Dawes, first, $1; Wm. R. Wharff, Gardiner, second, 50c.

Pound Sweet: C. I. Perley, first, $1; J. W. True, second, 50c.

Primate: D. C. Averill, first, $1; S. H. Dawes, second, 50c.

Red Astrachan: S. H. Dawes, first, $1; C. H. George, second, 50c.

Red Canada: Mrs. A. R. King, first, $1; Walter E. Keith, second, 50c.

Rolfe: E. H. Libby, Auburn, first, $1; Walter E. Keith, second, 50c.

Russell: J. D. Ridley, first, $1; D. C. Averill, second, 50c.

Somerset: Wm. R. Wharff, first, $1; H. G. Fairbanks, second, 50c.

Stark: J. W. True, first, $1; D. P. True, second, 50c.

Starkey: C. H. George, first, $1; J. D. Ridley, second, 50c.

Talman's Sweet: A. S. Ricker, first, $1; T. M. Lombard, second, 50c.

Twenty Ounce: Eva Pickard, Arnold, first, $1; T. M. Lombard, second, 50c.

Wagener: T. M. Lombard, first, $1; S. H. Dawes, second, 50c.

Wealthy: T. M. Lombard, first, $1; J. W. True, second, 50c.

William's Favorite: H. G. Fairbanks, first, $1; W. A. Luce, second, 50c.

Winthrop Greening: A. P. Ring, first, $1; Walter E. Keith, second, 50c.

Yellow Transparent: C. A. Arnold, first, $1; C. I. Perley, second, 50c.

Acerbifolia: J. S. Hoxie, second, 25c.

American Summer Pearmain: S. H. Dawes, first, 50c.

American Golden Pippin: A. Butler, first, 50c.

Autumn Strawberry: A. Butler, second, 25c.

August Greening: F. E. Nowell, second, 25c.

Benoni: S. H. Dawes, first, 50; C. H. George, second, 25c.

Black Oxford: C. A. Arnold, first, 50c; A. K. Bickford, 25c.

Beauty of Kent: H. J. A. Simmons, first, 50c.

Benton Red: G. A. Kenniston, first, 50c; G. W. Whitney, N. Newburg, second, 25c.

Ballister: H. J. A. Simmons, first, 50c.

Bietigheimer: S. H. Dawes, first, 50c.

Beefsteak: A. S. Ricker, first, 50c; J. W. True, second, 25c.

Blue Pearmain: W. A. Luce, first, 50c; S. H. Dawes, second, 25c.

Caleph Sweet: J. D. Ridley, first, 50c.

Canada Baldwin: M. C. Hobbs, first, 50c.

Chenango Strawberry: S. H. Dawes, first, 50c; C. H. George, second, 25c.

Colvert: F. E. Nowell, first, 50c; A. Butler, second, 25c.

Cooper's Market: A. Butler, first, 50c; F. E. Nowell, second, 25c.

Detroit Red: C. I. Perley, first, 50c.

Eaton: H. J. A. Simmons, second, 25c.

Early Harvest: S. H. Dawes, first, 50c; W. A. Luce, second, 25c.

Fall Greening: W. A. Luce, second, 25c.

Foundling: H. J. A. Simmons, second, 25c.

Fall Jenneting: C. H. George, first, 50c; D. P. True, second, 25c.

Fall Pippin: S. H. Dawes, first, 50c; C. H. George, second, 25c.

Fall Orange: S. M. King, first, 50c.

French Russet: H. J. A. Simmons, first, 50c.

Grimes Golden: G. W. Whitney, first, 50c; D. P. True, second, 25c.

Golden Ball: C. A. Arnold, first, 50c; E. C. Douglass, W. Auburn, second, 25c.

Golden Sweet: C. H. Judkins, Chesterville, first, 25c.

Garden Sweet: E. A. Lapham, Pittston, first, 50c.

Golden Pearmain Russet: H. J. A. Simmons, second, 25c.

Haas: C. A. Arnold, first, 50c; H. J. A. Simmons, second, 25c.

Harris Sweet: S. H. Dawes, first, 50c.

Hawley: A. Butler, first, 50c.

Hightop Sweet: F. E. Nowell, first, 50c; A. Butler, second, 25c.

Holden Pippin: A. Butler, first, 50c.

Honey Pink: G. W. Whitney, first, 50c.

Hubbardston Pippin: E. A. Lapham, first, 50c.

Hunt Russet: D. P. True, first, 50c; Eva Pickard, second, 25c.

Hurlbut: A. Butler, first, 50c; W. A. Luce, second, 25c.

Jersey Sweet: A. Butler, first, 50c.

Jonathan: H. J. A. Simmons, second, 25c.

Keswick Codlin: A. Butler, first, 50c.

Kilham Hill: A. S. Ricker, first, 50c; F. H. L. Sleeper, second, 25c.

Lady Sweet: C. H. George, first, 50c; S. H. Dawes, second, 25c.

Lane Sweeting: J. W. True, first, 50c.

Lyscomb: W. A. Luce, first, 50c; M. C. Hobbs, second, 25c.

Maiden's Blush: J. W. True, first, 50c; F. E. Nowell, second, 25c.

Mammoth: J. D. Ridley, first, 50c.

Mann: G. W. Whitney, first, 50c; A. A. Eastman, second, 25c.

Marston Red Winter: A. S. Ricker, first, 50c.

Moses Wood: Wm. R. Wharff, first, 50c.

Mountain Beet: S. H. Dawes, first, 50c.

Naked Limb Greening: E. A. Lapham, first, 50c; C. I. Perley, second, 25c.

New England Beauty: C. H. George, first, 50c; A. A. Eastman, second, 25c.

Newtown Pippin: S. H. Dawes, first, 50c.

Orange Pippin: W. A. Luce, first, 50c.

Orange Sweet: J. S. Hoxie, first, 50c; C. A. Arnold, second, 25c.

Paradise Sweet: C. H. George, first, 50c.

Pennock Red Winter: W. A. Luce, first, 50c; F. E. Nowell, second, 25c.

Pewaukee: C. A. Arnold, first, 50c; J. D. Ridley, second, 25c.

Poughkeepsie Russet: A. Butler, first, 50c; C. I. Perley, second, 25c.

Pound Apple: C. H. George, first, 50c.

Pound Redstreak: H. J. A. Simmons, first 50c.

President: F. E. Nowell, first, 50c; A. S. Ricker, second, 25c.

Pumpkin Sweet: Walter E. Keith, first, 50c; S. H. Dawes, second, 25c.

Rambo: D. P. True, first, 50c; A. Butler, second, 25c.

Ribston Pippin: A. S. Ricker, first, 50c; C. A. Arnold, second, 25c.

River: J. D. Ridley, first, 50c; S. H. Dawes, second, 25c.

Rome Beauty: C. H. George, first, 50c; S. H. Dawes, second, 25c.

St. Lawrence: A. Butler, first, 50c; A. A. Eastman, second, 25c.

Scott's Winter: C. A. Arnold, first, 50c; G. W. Whitney, second, 25c.

Seek-no-further: C. H. George, first, 50c; S. H. Dawes, second, 25c.

Smith's Cider: J. W. True, first, 50c.

Sops of Wine: C. E. Wheeler, Chesterville, first, 50c; A. Butler, second, 25c.

Sour Bough: A. Butler, first, 50c.

Spitzenberg: S. H. Dawes, first, 50c; D. P. True, second, 25c.

Spice Apple: H. J. A. Simmons, first, 50c.

Subord Sweet: C. H. Judkins, first, 50c.

Superb Sweet: A. S. Ricker, first, 50c.

Sweet Russet: H. J. A. Simmons, first, 50c; J. S. Hoxie, second, 25c.

Tetofsky: C. H. George, first, 50c; J. D. Ridley, second, 25c.

Walbridge: J. W. True, first, 50c.

Whitney's Red: S. H. Dawes, first, 50c.

Winter Sweet Russet: W. A. Luce, first, 50c.

York Pippin: C. H. George, first, 50c.

Zachary Pippin: H. J. A. Simmons, first, 50c.

Crab Apples.

Marengo: A. Butler, first, 50c.

Hyslop: A. Butler, first, 50c.

Red Siberian: A. Butler, second, 25.

Lady Elgin: A. Butler, first, 50c.

Transcendent: F. E. Nowell, first, 50c; A. Butler, second, 25c.

Gen. Grant: C. A. Arnold, first, 50c.

Sweet Crab: H. J. A. Simmons, first, 50c.

PEARS.

General Exhibition of Pears: S. H. Dawes, first, $10; C. I. Perley, second, $8; Walter E. Keith, third, $5; D. P. True, fourth, $3.

Clapp's Favorite: A. S. Ricker, first, $3; A. Ricker, Turner, second, $2; S. H. Dawes, third, $1.

Bartlett: S. H. Dawes, first, $3; T. M. Lombard, second, $2; A. S. Ricker, third, $1.

Sheldon: S. H. Dawes, first, $3; W. E. Keith, second, $2.

Belle Lucrative: G. N. Prescott, E. Monmouth, first, $1; J. S. Hoxie, second, 50c.

Beurre d'Anjou: S. H. Dawes, first, $1; Walter E. Keith, second, 50c.

Beurre Bosc: J. W. True, first, $1.

Beurre Hardy: C. I. Perley, first, $1.

Beurre Superfin: D. P. True, first, $1.

Beurre Clairgeau: G. N. Prescott, first, $1; D. J. Briggs, second, 50c.

Beurre Diel: D. J. Briggs, first, $1.

Buffum: D. P. True, first, $1; C. I. Perley, second, 50c.

Doyenne Boussock: S. H. Dawes, first, $1; C. I. Perley, second, 50c.

Duchesse d'Angouleme: W. A. Luce, first, $1; S. H. Dawes, second, 50c.

Goodale: C. I. Perley, first, $1; T. M. Lombard, second, 50c.

Howell: J. S. Hoxie, first, $1; S. H. Dawes, second, 50c.

Louise Bonne de Jersey: W. A. Luce, first, $1; D. P. True, second, 50c.

Seckel: A. S. Ricker, first, $1; W. A. Luce, second, 50c.

Souvenir du Congress: S. H. Dawes, first, $1.

Lawrence: Chas. C. Gee, Lewiston, first, $1; Lemuel Gurney, second, 50c.

Beurre d'Amalis: W. A. Luce, first, 50c.

Bloodgood: S. H. Dawes, first, 50c.

Brandywine: D. P. True, first, 50c.

Dana's Hovey: S. H. Dawes, first, 50c.

Dearborn's Seedling: S. H. Dawes, first, 50c; Lemuel Gurney, second, 25c.

Doyenne White: S. H. Dawes, first, 50c.

Eastern Belle: J. S. Hoxie, first, 50c.

Edmunds: Walter E. Keith, first, 50c.

Flemish Beauty: Lemuel Gurney, first, 50c; Walter E. Keith, second, 25c.

Glout Morceau: D. J. Briggs, first, 50c; C. I. Perley, second, 25c.

Garber: S. H. Dawes, first, 50c.

Idaho: S. H. Dawes, first, 50.

Indian Queen: D. P. True, first, 50c.

Kieffer: D. P. True, second, 25c.

Nickerson: H. J. A. Simmons, first, 50c.

Osborne Summer: C. I. Perley, first, 50c; D. P. True, second, 25c.

Rostiezer: S. H. Dawes, first, 50c.

Rutter: S. H. Dawes, first, 50c.

Urbaniste: S. H. Dawes, first, 50c.

Vicar of Wakefield: D. P. True, first, 50c; W. A. Luce, second, 25c.

Wilder's Early: W. A. Luce, first, 50c.

PLUMS.

General Exhibition of Plums: W. A. Luce, first, $6; S. H. Dawes, second, $4; D. H. Knowlton, third, $2.

Abundance: C. I. Perley, first, $1; T. M. Lombard, second, 50c.

Burbank: J. W. True, first, $1; S. H. Dawes, second, 50c.

Jefferson: J. W. True, first, $1.

St. Lawrence: C. H. George, first, $1; T. M. Lombard, second, 50c.

Lombard: S. H. Dawes, first, $1; W. A. Luce, second, 50c.

McLaughlin: A. A. Eastman, first, $1; J. S. Hoxie, second, 50c.

Moore's Arctic: E. Tarr, first, $1: B. T. Townsend, second, 50c.

Quackenbos: W. A. Luce, first, $1.

Washington: H. J. A. Simmons, first, $1; D. H. Knowlton, second, 50c.

Yellow Egg: S. H. Dawes, first, $1; Lemuel Gurney, second, 50c.

Bavay's Green Gage: J. Pope & Son, first, $1; W. A. Luce, second, 50c.

Bradshaw: Lemuel Gurney, first, $1; C. H. George, second, 50c.

Coe's Golden Drop: D. H. Knowlton, first, $1.

Green Gage: B. T. Townsend, Freeport, first, $1; C. I. Perley, second, 50c.

Prince's Imperial Gage: W. A. Luce, first, $1; H. J. A. Simmons, second, 50c.

Purple Gage: B. T. Townsend, first, $1; W. A. Luce, second, 50c.

Red Gage: W. A. Luce, first, $1; F. E. Nowell, second, 50c.

Gnii: A. A. Eastman, first, $1; C. H. George, second, 50c.

FRUITS IN GLASS.

Strawberries: Mrs. A. M. Eastman, Dexter, first, 50c.

Raspberries: Mrs. A. M. Eastman, first, 50c.

Gooseberries: D. H. Knowlton, first, 50c; Mrs. A. M. Eastman, second, 25c.

Currants: Mrs. A. M. Eastman, first, 50c.

MISCELLANEOUS.

Cultivated Cranberries: S. H. Dawes, first, $2.

Variety Canned Fruits, etc.: Mrs. H. Corbett, Farmington, first, $10; Mrs. F. D. Grover, Bean, second, $8; Mrs. I. L.

Nevens, Lewiston, $5; Mrs. F. Hoyt, Winthrop, $1.50; Mrs. A. M. Eastman, $1.50.

Canned Blackberries: Mrs. E. A. Mann, S. Leeds, first, $1; Mrs. I. L. Nevens, second, 50c.

Canned Blueberries: Mrs. F. Hoyt, first, $1; Mrs. E. A. Mann, second, 50c.

Canned Cherries: Mrs. I. L. Nevens, first, $1; Virginia, Decoster, N. Auburn, second, 50c.

Canned Gooseberries: Mrs. I. L. Nevens, first, $1; Miss Ada E. Rose, North Greene, second, 50c.

Canned Pears: Mrs. H. Corbett, first, $1; Mrs. A. M. Eastman, second, 50c.

Canned Plums: Mrs. H. Corbett, first, $1; Mrs. F. Hoyt, second, 50c.

Canned Raspberries: Mrs. I. L. Nevens, first, $1; Mrs. H. Corbett, second, 50c.

Canned Strawberries: Mrs. H. Corbett, first, $1; Mrs. F. Hoyt, second, 50c.

Canned Tomatoes: Mrs. A. M. Eastman, first, $1; Mrs. I. L. Nevens, second, 50c.

Preserved Apples: Mrs. A. M. Eastman, first, $1; Mrs. F. Hoyt, second, 50c.

Preserved Currants: Virginia Decoster, first, $1; Mrs. A. M. Eastman, second, 50c.

Preserved Cherries: Mrs. H. Corbett, first, $1; Mrs. I. L. Nevens, second, 50c.

Preserved Pears: Mrs. H. Corbett, first, $1; Alice True, Leeds Center, second, 50c.

Preserved Plums: Mrs. F. Hoyt, first, $1; Mrs. F. D. Grover, second, 50c.

Preserved Raspberries: Mrs. F. D. Grover, first, $1; Mrs. I. L. Nevens, second, 50c.

Preserved Strawberries: Miss Ada E. Rose, first, $1; Mrs. F. D. Grover, second, 50c.

Assorted Pickles: Mrs. F. D. Grover, first, $1; Mrs. F. Hoyt, second, 50c.

Tomato Catsup: Mrs. F. Hoyt, first, $1; Mrs. F. D. Grover, second, 50c.

Collection Apple Jellies: Alanson S. Grant, Lewiston, first, $5; Mrs. E. A. Mann, second, $3; Virginia Decoster, third, $2; Mrs. H. Corbett, fourth, $1.

Apple Jelly: Alanson S. Grant, first, $1; Mrs. E. A. Mann, second, 50c.

Crab Apple Jelly: Mrs. E. A. Mann, first, 50c; Mrs. H. Corbett, second, 25c.

Currant Jelly: Mrs. E. A. Mann, first, 50c; Alanson S. Grant, second, 25c.

Grape Jelly: Mrs. E. A. Mann, first, 50c; Virginia Decoster, second, 25c.

Raspberry Jelly: Alanson S. Grant, first, 50c; Mrs. H. Corbett, second, 25c.

Rhubarb Jelly: Mrs. E. A. Mann, first, 50c; Virginia Decoster, second, 25c.

Strawberry Jelly: Mrs. F. D. Grover, first, 50c; Virginia Decoster, second, 25c.

Maple Syrup: Mrs. E. A. Mann, first, $1; C. H. George, second, 50c.

Maple Sugar: Lemuel Gurney, first, $1; E. E. Hardy, East Wilton, second, 50c.

Evaporated Apples: Walter E. Keith, first $3.

Exhibition of Grapes: S. H. Dawes, gratuity.

Snyder Blackberries: A. Butler, first, 50c; H. Corbett, Farmington, second, 25c.

Wachusett Blackberries: B. T. Townsend, first, 50c; H. Corbett, second, 25c.

Sunnyside Strawberries: C. W. Dexter, Auburn Heights, gratuity, 50c.

Wilder Currants: D. H. Knowlton, gratuity, 50c.

Agawam Blackberries: A. Butler, gratuity, 50c.

Taylor's Prolific Blackberries: A. Butler, gratuity, 50c.

Kittatinny Blackberries: A. Butler, gratuity, 50c.

Erie Blackberries: A. Butler, gratuity, 50c.

PLANTS AND FLOWERS.

Display of Cut Flowers: Mrs. B. T. Townsend, Freeport, first, $10; Mrs. G. F. Archer, Clifton, third, $5.

Dahlias: Mrs. B. T. Townsend, first, $2; Mrs. G. F. Archer, second, $1.

Chinese Pinks: Mrs. B. T. Townsend, first, $2.

Asters: Mrs. Lucy A. Chandler, Freeport, $1; Miss G. P. Sanborn, Augusta, 50c.

Pansies: Mrs. G. F. Archer, first, $1.

Zinnias: Mrs. B. T. Townsend, first, $1; Mrs. Chas. Stanley, Winthrop, second, 50c.

Phlox Drummondii: Mrs. B. T. Townsend, first, $1; Mrs. G. F. Archer, second, 50c.

Perennial Phlox: Mrs. B. T. Townsend, first, $2; Mrs. Lucy A. Chandler, second, $1.

Stocks: Mrs. B. T. Townsend, first, $1; Mrs. G. F. Archer, second, 50c.

Nasturtiums: Mrs. G. F. Archer, first, $1; Mrs. Chas. Stanley, second, 50c.

Sweet Peas: Mrs. G. F. Archer, first, $1; Edward H. Bickerton, Auburn, second, 50c.

Balsams: Mrs. B. T. Townsend, first, $1; Mrs. F. Hoyt, second, 50c.

Petunias: Mrs. B. T. Townsend, first, $1; Mrs. G. F. Archer, second, 50c.

Gladioli: Mrs. G. F. Archer, first, $2; Mrs. B. T. Townsend, second, $1.

Verbenas: Mrs. B. T. Townsend, first, $1; Mrs. Chas. Stanley, second, 50c.

Vase Cut Flowers: Mrs. Chas. Stanley, first, $3; Abbie F. Bailey, Freeport, second, $2; Mrs. A. Cummings, Auburn, third, $1.

Six Button-hole Bouquets: Mrs. Lucy A. Chandler, first, $2; Mrs. A. Cummings, second, $1.

Corsage Bouquet: Mrs. Lucy A. Chandler, first, $2; Miss G. P. Sanborn, second, $1.

Floral Design (Amateur): Abbie F. Bailey, first, $5; Mrs. Chas. Stanley, second, $3.

Dish of Cut Flowers: Mrs. A. Cummings, first, $2; Mrs. H. Corbett, second, $1.

Basket of Cut Flowers: Mrs. H. Corbett, first, $2; Mrs. Chas. Stanley, second, $1.

Exhibition of Pot Plants: Mrs. B. T. Townsend, first, $10; Mrs. A. Cummings, second, $8.

Exhibition Geraniums: Mrs. E. M. Blanchard, Lewiston, first, $3; Mrs. A. Cummings, second, $2.

Foliage Begonias: Mrs. B. T. Townsend, first, $2; Mrs. A. Cummings, second, $1.

Exhibition Coleus: Mrs. B. T. Townsend, first, $2; Mrs. A. Cummings, second, $1.

Fuchsias: Mrs. A. Cummings, second, $1.

Pelargoniums: Mrs. A. Cummings, second, $2.

Double Geraniums: Mrs. E. M. Blanchard, first, 50c; Mrs. A. Cummings, second, 25c.

Single Geranium: Mrs. E. M. Blanchard, first, 50c; Mrs. A. Cummings, second, 25c.

Ivy-leaved Geranium: Mrs. A. Cummings, second, 50c.

Pelargonium: Mrs. A. Cummings, second, 50c.

Foliage Begonia: Mrs. B. T. Townsend, first, 50c; Mrs. E. M. Blanchard, second, 25c.

Flowering Begonia: Mrs. E. M. Blanchard, first, 50c; Mrs. B. T. Townsend, second, 25c.

Coleus: Mrs. E. M. Blanchard, first, 50c; Mrs. B. T. Townsend, second, 25c.

Fuchsia: Mrs. A. Cummings, second, 25c.

Ever-Blooming Rose: Mrs. A. Cummings, second, 50c.

Display Cut Flowers (professional): Mrs. Lucy A. Chandler, first, $10; Calvin S. Goddard, Woodfords, second, $8; Miss G. P. Sanborn, third, $5.

Roses: Miss G. P. Sanborn, first, $5.

Carnations: Mrs. Lucy A. Chandler, first, $2; Miss G. P. Sanborn, second, $1.

Pansies: Mrs. Lucy A. Chandler, first, $3.

Collection of Floral Designs: C. S. Goddard, first, $10; Miss G. P. Sanborn, second, $8.

Floral Design (professional): Miss G. P. Sanborn, first, $5; C. S. Goddard, second, $3.

Greenhouse Plants: Miss G. P. Sanborn, first, $20; C. S. Goddard, second, $15; Mrs. E. M. Blanchard, third, $10.

Ferns: Miss G. P. Sanborn, first, $3; C. S. Goddard, second, $2.

Rose Plants: C. S. Goddard, first, $5; Miss G. P. Sanborn, second, $3.

Cut Wild Flowers: Mrs. C. E. Waterman, first, $3.

Pressed Wild Flowers: Eddie W. Merritt, Jr., Houlton, first, $5; Bertha Mabel Nason, Houlton, second, $3; H. W. Jewell, Farmington, third, $2.

WINTER MEETING.

Held in Winthrop, February 17 and 18, 1897.

APPLES.

Exhibition of Apples: B. H. Ridley, Jay, first, $5; Phineas Whittier, Farmington Falls, second, $4; J. W. True, New Gloucester, third, $3.

Baldwins: F. I. Bishop, Winthrop, first, $1; Chas. B. Stanton, Monmouth, second, 50c.

Ben Davis: Geo. L. Gott, Wayne, first, $1; J. W. True, second, 50c.

Dudley's Winter: E. Tarr, Castle Hill, first, 50c.

Fallawater: E. F. Purington, W. Farmington, first, 50c; A. A. Eastman, Dexter, second, 25c.

Fall Harvey: D. J. Briggs, S. Turner, first, $1; S. L. Merchant, Winthrop, second, 50c.

Fameuse: O. L. Larrabee, W. Levant, first, 50c; W. P. Atherton, Hallowell, 25c.

Golden Russet: C. A. Arnold, Arnold, first, 50c; A. A. Eastman, second, 25c.

Granite Beauty: E. F. Purington, first, $1; B. H. Ridley, second, 50c.

Hubbardston Nonsuch: Mrs. L. K. Litchfield, Winthrop, first, $1; W. P. Atherton, second, 50c.

Mann: G. N. Prescott, Monmouth, first, 50c; Mrs. J. McAllister, W. Lovell, second, 25c.

Jewett's Fine Red: Phineas Whittier, first, $1; W. P. Atherton, second, 50c.

McIntosh Red: Phineas Whittier, first, 50c; E. F. Purington, second, 25c.

Milding: B. H. Ridley, first, $1; O. L. Larrabee, second, 50c.

Mother: Chas. S. Pope, Manchester, 50c.

Northern Spy: Phineas Whittier, first, $1; F. I. Bishop, second, 50c.

Pound Sweet: B. H. Ridley, first, $1; J. W. True, second, 50c.

Rhode Island Greening: E. F. Purington, first, $1; Phineas Whittier, second, 50c.

Rolfe: Hartwood Little, Brunswick, first, 50c; W. P. Atherton, second, 25c.

Roxbury Russets: Chas. B. Stanton, first, $1; C. H. George, Hebron, second, 50c.

Starkey: D. J. Briggs, first, 50c; C. H. George, second, 25c.

Stark: E. H. Bickerton, Auburn, first, 50c; J. W. True, second, 25c.

Talman's Sweet: Phineas Whittier, first, $1; B. H. Ridley, second, 50c.

Tompkins King: C. I. Perley, Cross Hill, first, $1; H. G. Fairbanks, N. Monmouth, second, 50c.

Wagener: F. I. Bishop, first, 50c; D. J. Briggs, second, 25c.

Yellow Bellflower: J. W. True, first, $1; Mrs. J. McAllister, second, 50c.

Spitzenberg: D. P. True, Leeds Center, first, 50c; Mrs. F. D. French, Winthrop, second, 25c.

PEARS.

Beurre d' Anjou: Mrs. J. McAllister, first, 50c; D. P. True, second, 25c.

Duchesse de Bordeaux: C. I. Perley, first, 50c.

Vicar of Wakefield: D. P. True, first, 50c.

MISCELLANEOUS.

Domestic Canned Apple: Mrs. F. Hoyt, Winthrop, first, $1; Mrs. L. K. Litchfield, second, 50c.

Collection Apple Jellies: Mrs. Benson Grant, Lewiston, first, $3; Mrs. F. D. Grover, Bean, gratuity, $2; Mrs. L. K. Litchfield, gratuity, $1.

Apple Jelly: Mrs. L. K. Litchfield, first, $1; Mrs. Benson Grant, second, 50c.

Cranberries: A. C. Greenleaf, Farmington, first, $1; G. H. Perley, Winthrop, second, 50c.

Evaporated Apples: Phineas Whittier, first, $1.50; W. E. Keith, second, $1.

SUMMARY OF AWARDS.

Bangor exhibition		$381.50
Lewiston exhibition:		
Apples	$476.50	
Pears	69.50	
Plums	40.50	
Miscellaneous	89.75	
Flowers	2.36	
		$912.25
Winter exhibition, Winthrop		59.00
		$1,352.75

PUBLIC MEETINGS

OF THE

Maine State Pomological Society.

PAPERS, DISCUSSIONS, Etc.

PUBLIC MEETING,

Council Chamber, City Hall, Bangor, August 26, 1896.

ANNUAL MEETING,

Lewiston, September 3, 1896.

WINTER MEETING,

Winthrop February 18 and 19, 1897.

Noble common fruit, best friend of man and most loved by him, following him like his dog or his cow, wherever he goes. His homestead is not planted till you are planted, your roots intertwine with his; thriving best where he thrives, loving the limestone and the frost, the plow and the pruning-knife, you are indeed suggestive of hardy, cheerful industry, and a healthy life in the open air. Temperate, chaste fruit! you mean neither luxury nor sloth, neither satiety nor indolence, neither enervating heats nor the frigid zones. Uncloying fruit, fruit whose best sauce is the open air, whose finest flavors only he whose taste is sharpened by brisk work or walking knows; winter fruit, when the fire of life burns brightest; fruit always a little hyperborean, leaning toward the cold; bracing, subacid, active fruit. I think you must have come from the north, you are so frank and honest, so sturdy and appetizing. You are stocky and homely like the northern races. Your quality is Saxon. Surely the fiery and impetuous south is not akin to thee. Not spices or olives or the sumptuous liquid fruits, but the grass, the snow, the grains, the coolness is akin to thee. I think if I could subsist on you, or the like of you, I should never have an intemperate or ignoble thought, never be feverish or despondent. So far as I could absorb or transmute your quality I should be cheerful, continent, equitable, sweet.—*John Burroughs.*

PUBLIC MEETINGS.

PROGRAMMES.

Bangor, August 26, 1896.

This meeting was held in Council Chamber, City Hall, at 7.45 o'clock, P. M. The exercises consisted of a short address of welcome to the city of Bangor by Mayor Beal, and brief remarks by Prof. Munson, Chas. S. Pope, the Secretary and others.

ANNUAL MEETING IN LEWISTON, SEPTEMBER 3, 1896.

Programme was informal consisting of election of officers, and impromptu remarks.

WINTER MEETING.

Winthrop, February 18 and 19, 1897.

PROGRAMME.

Wednesday Evening—Business meeting of the society. Report of treasurer. Report of secretary.

Thursday A. M.—Tables will be in readiness for display of fruit, which must be properly entered and in place before 1 o'clock P. M. Address of welcome, J. Henry Moore, Winthrop. Response. President's annual address, John W. True, New Gloucester.

Afternoon—Music. The Russets of Maine, Z. A. Gilbert, North Greene. Discussion. The Introduction of Russian Fruits in America, Prof. W. M. Munson, State College. Discussion. Music. Small Fruits for Home Use, L. F. Abbott, Lewiston. Discussion. Music.

Evening—Music. Jelly Making, Alanson S. Grant, Lewiston. Music. Fruit as Food, not Luxuries, Miss Anna Barrows, Boston. Music.

Friday A. M.—Principles Involved in Marketing, Phineas Whittier, Farmington Falls. Discussion. The Home Market, W. H. Keith, Winthrop. Discussion. Shipping Fruit, W. P. Atherton, Hallowell. Discussion. The Foreign Market, Alfred W. Otis, Boston. Discussion.

Afternoon—Music. Hardy Roses—varieties—culture, Ernest Saunders, Lewiston. Discussion. Music. Plant Study—Its Importance in Horticulture and Agriculture, Prof. Lew M. Felch, Houlton. Discussion. Currants and Gooseberries, Prof. W. M. Munson, State College. Music.

Evening—Music. Some Scale Insects, Prof. F. L. Harvey, State College. Discussion. Music. Days with our Birds (illustrated), Mrs. Kate Tryon, Cambridge, Mass. Music.

ADDRESSES AND DISCUSSIONS.

AT THE BANGOR MEETING.

President True called the meeting to order and said:

Upon the passage of the law giving the Maine State Pomological Society an increase of its stipend from the State treasury, your officers, after paying its outstanding indebtedness, began to look around to see in what way it could extend its usefulness in lines that have been already employed, and while different plans were being discussed Mayor Beal came before us and made the proposition that our society should take charge of the Pomological Department of the Eastern Maine State Fair, and he offered such inducements that the executive committee accepted them, and we have been very much pleased. The time was short for us to make arrangements, but we have been very much pleased with the reception we have received from the officers and managers of the fair and the people of Bangor and vicinity and our society feels that it has no excuse for being except to spend this money that is entrusted to them in improving fruit culture, beautifying our homes, making them the typical homes of Maine and the world.

The President then called upon Mayor Beal, who spoke as follows:

MAYOR BEAL'S REMARKS.

Mr. Chairman, Ladies and Gentlemen:

On behalf of the city of Bangor, the Eastern Maine State Fair and the Fair community generally, I extend to the Maine State Pomological Society a cordial welcome.

The chairman has said there seems to be no better way for the Maine State Pomological Society to spend the stipend than to extend its influences throughout the State, and inasmuch as we never have had them here before in this part of the State to any extent, it seems to me that this was a proper time for them to come east and join with us, assist us what they could. The influence of the Maine State Pomological Society must be great, must be of a great deal of good to the whole State, but it could not be unless it took in nearly the whole State, extended its branches out. And I hope the seed that has been sown here at this time will take root and be fruitful to the extent that the Maine State Pomological Society may feel that it is not only a pleasure to them to come this way, but a duty that they owe the citizens east of the Kennebec river. We never have, in this part of the State, taken so much interest in pomology as we should, but I hope this will wake us up, wake up the farming interests. I have no doubt it will. They have a grand show down to the grounds this year—much better than I anticipated was possible —and the way they have conducted the affairs of the society down there it seems to me must be fruitful of good, and I hope, as I said before, that this will not be the last meeting by any means that will be held by the Maine State Pomological Society, but that it is only the beginning of a bright future for our farming community in this part of the State.

I do think that there is no better way that the State can spend a small amount of its money raised by taxation than by putting it into the hands of this society. They do not put in enough. They should put in more, that it may be used, and I am sure that it is used, to the best advantages of everybody. And I hope the legislature this winter will see to it that the Maine State Pomological Society has the assistance that it should have from the whole State and the treasury of the State, and if there is any

way that I can assist in their having it, I shall be pleased to do so.

Thanking you for the attention you have given me and for the coming this way of the society, I hope to meet you in the future many times.

Secretary KNOWLTON. Mr. President: It may perhaps be a little informal to say anything directly in response to what Mayor Beal has said. He has gone over the ground quite fully, explaining how it happened that we saw fit to come here this year to conduct this part of the exhibition. We have talked this matter over, the officers of the society, many times among ourselves, but we somehow felt a little shy about approaching people over this way, because we felt somehow that if they wanted us to come they would ask us, and so we contented ourselves with simply doing the exhibition work that we have been doing; but little by little the field seemed to enlarge and the organization which our society has for exhibition and other purposes is such that we could do better work than could be done here without any special fruit organization behind it. There seemed to be a propriety in Mayor Beal inviting us to join with them as well as a propriety in our accepting the invitation. We, as the executive committee of the society, saw fit to accept the proposition without consulting the members of the society, because there was no opportunity of doing it this year and the arrangements were such with the officers of the society here that it did not seem necessary for us to get any opinion of the members; in fact, it was not possible to do it at the time, and the season was so far advanced that it seemed to be emphatically necessary for the officers to take action at once. And just here —perhaps it is entirely proper that I should say it, because there are several of our exhibitors here who are likely to call for the explanation—the fact is when the matter was closed up between the two organizations, the premium lists for the exhibition here had been quite largely distributed, and when the matter of the revision came before us we looked the matter over very carefully, and we said just like this: Now quite a lot of these premium lists are out, and this is about the way the fair has been conducted in the past, and until we know more about it ourselves we had better let that arrangement alone. And that

is why the premium list, the arrangement of it, and the amount of premiums and everything of that kind stands just as it was first announced. Well, now, we expected there would be necessarily some little friction arising from misunderstandings, misapprehensions, etc., but we felt that time would determine just what should be done and if our relations continued with this society, as I certainly hope they may, we may be able to more fully meet the wants of fruit-growers and the public in making exhibitions here.

This exhibition work on our part is somewhat peculiar because the purpose which we have in view is a little different from that for which most of the societies, or a good many of the societies are run. Now our society is run entirely, or supposed to be run entirely in the interests of the State, and it is proper it should be so, because our receipts come almost entirely, or very largely, from the State, so that while we put in attractions at various points to give our exhibitions completeness, at the same time we feel like doing all the educational work possible along the ordinary highway of fruit culture; and I can assure you if you could know the various ways in which the society is called upon to answer questions and to take a hand in the department of fruit-culture, you never for a moment would question the usefulness of the society, and you would only regret that there could not be placed in the hands of the society an amount of funds that would enable it to reach more fully over the State so as to cover all the interests of fruit culture present and prospective.

Mr. Munson—I have no formal paper to present before the society to-night. I would like to make just a few remarks about the future of our society. It seems to me we have here in the line of the remarks of our worthy secretary, we have here a society which is essentially for the fruit-growers of the State. It is composed of the leading growers and pomological workers in our State, and the question arises, "How are we going best to make the society serve the ends for which it was organized?"

It seems to me first of all that we must have an ideal in mind. Our society, as already suggested, receives a certain amount of money from the State. It owes a certain duty to the State. Our responsibility does not end with the annual exhibition, or

even with the annual meetings. It is our duty as a society, as progressive men, to raise the standard of practice in pomological work, and for that reason it seems to me that the educational feature of the society should be emphasized. I say this with a full recognition of the very valuable labors that our officers have been putting forth for a number of years. We all recognize the earnest efforts which Secretary Knowlton has put forth to raise the standard of the work of the society, and as I look into this new report I can say that I am proud of the showing which the report of this society makes as compared with that of the other leading State societies. There are very few of the State societies which send out a report which will rank higher than that of our own. But I say we must come to the support of our officers and make our meetings specially educational in their nature so far as it is possible for us to do.

Now there has been in the past a certain amount of complaint made at some of the rulings of our experts that we get here from other states, at some of the rulings of our fruit committees, in reference to the exhibits. They cut pretty close home sometimes. But what is the reason for that? There is not a man here, I am sure, who does not, if he stops to reason with himself, recognize that there is a principle behind all that. Your committees will say that fruit is not up to a standard of excellence, and it is our business, our duty, as loyal members of the society, to raise that standard of excellence, and I am glad to say that the standard is very much higher now than it was five years ago. I say it is our duty to raise the standard and show the people what varieties, if we come to a study of varieties, are valuable for our State; to refuse to grant gratuities to unworthy varieties, and to compel observance of the rules of the society as laid down. This then is one of the educational features.

Another of the educational features is to get at some of the reasons for our work, to study methods of culture, disseminate varieties and communicate ideas. At the present time the business man, the man with a broad training, is the one who "gets there" if I may be allowed such an expression. It is not the man that knows simply how to cultivate fruits, but it is the man who knows how to market. As I go into our fruit stores in the city of Bangor, I find the California fruits everywhere,—I find

our Maine fruits nowhere. Why? Because they are not suitably packed.

Now, gentlemen, the one thing which we as progressive growers must learn to do if we are to hold our own with the California growers, and with those of some of the older states, is to learn to pack, learn to use attractive packages, to put our fruit on the market in good shape. I go here to fruit stores and they say "Why we have some very nice California fruit." Why is that so much nicer than our own? Oh, well, the California people put theirs up in good shape. The dealers recognize the importance of packages and they know what the people must have. We have a very good illustration of the importance of this good packing in the Hales Georgia Company, our most noted New England orchardists perhaps. They started in the fruit business some twenty years ago and marketed their crop from a push-cart. At the present time they have hundreds of acres in fruits and market them, not by the carload, but by the trainload. Train after train is sent out with this fruit, and largely because there has been some gumption shown, because there has been some push put into the marketing, and not because they are able to raise any better fruit than you and I are.

Well, now, when I came here a few years ago there was a great demand for work along certain experimental lines. The horticultural department of the College was established with the idea of working in connection with the Maine State Pomological Society. Gentlemen, I should be glad to know how the horticultural department of the College can best serve the interests of the pomologists of the State. We are always glad to do what we can for the society and we are always glad to receive members of the society there.

Now I will simply say that during the coming winter—I do not wish to make this an advertisement of the Maine State College, but I would say that we are going to have a course in horticulture, and if you have any boys, or your neighbors have any boys that have any idea of following in your business, of taking up horticultural work—send them along. May be we can do something that will help them. We are going to have a course in fruit growing and in vegetable gardening; we are

going to have some work in the propagation of plants, in the growing of plants under glass, in the study of fertilizers for fruits and the study of the chemistry of plants, and try to teach young men something about the plants they are working with, and give them if possible some enthusiasm in the direction of horticultural work.

Mr. Pope—Mr. Chairman, ladies and gentlemen: I have simply made a few notes, and therefore I will just give you a little informal talk, a few of my ideas, and emphasize also what Prof. Munson has said about sorting and packing.

There has probably been enough said upon this topic, but you will remember this like everything else must be repeated over and over again before we can get our people to pay any attention to it. But now you will remember this season, you will take note the reports are that we are to have an immense crop of fruit all over the country, and unless we are going to take a little more pains, we are going to get a mere nothing in return for what fruit we market, and it is a pretty serious question with us this year where we shall market our fruits.

I can't advise people who never have had any experience to pack up their fruit and ship it to England, because England is a little short. Do we understand the method of packing for a foreign shipment? If not, we certainly shall make a losing game. It is a point, and a very nice point to pack fruit so that it will reach England in such shape as to give us any return over and above expenses. There has already been sent thousands of bushels this fall of our soft fruit; nearly all of it is reported slack. A very few barrels on the whole have paid for the expenses. One reason is the fruit was too soft, to be sure; but take it with our winter fruit: If your apples are not packed closely they certainly will rattle and be reported "slack." And I think that they take an undue advantage of us over there, as the apples, you all know, were sold at auction and bid off in twenty barrel lots or over. The price there may be quite satisfactory, but when the buyer goes down to the store-room below if he can find any of that lot that is the least loose, he is going to cut down two or three, four or five shillings on a barrel, and just as many of them as is possible and probably a great many that he ought not to. If those barrels are packed too closely, one is jammed into the

other and that breaks the skin; it begins to rot, and you are just as bad off as though you had packed them loosely. Therefore, unless you are thoroughly conversant with the methods of packing, let some of the rest take the risk—let those who have experience.

But is it not time—I am not going to discourage those who are willing to come up and do a little experimental work—is it not time that we did some of this shipping ourselves and learned the proper methods, and not give the profits to the middle-man. Now our Canadian neighbors—I believe they are sharper than the Yankees are—we pride ourselves on being pretty smart, but from the reports that I get the Canadians are looking after this sharper than we are; they are getting better prices for their fruit; they are shipping this season their fall fruit, their soft fruit, in cases made purposely, in compartment cases like those we ship eggs in here, pasteboard, each apple occupying a compartment by itself. They are taking more pains in sorting their fruit, as the Southerners do in sorting their oranges. Apples of one size only are put in each box. Not all the number ones are put into one box, but the large ones are put in one box, and the smaller size are put in another box, so that they run even throughout. And when you stop to think, you know how much better the oranges look in that way, and how much better our apples would be and how much higher price they would bring than in a mixed lot—to say nothing of putting the number twos and cider apples in the center of the barrel, as some do.

If England should take as many or twice as many as they did the last year, the last time we had a big crop, when they took about a million and a half barrels, it would seem but a drop in the bucket with the crop that we have this year, therefore we had better keep our number twos at home any way.

Then the question comes up in answer to the question "Where shall we market our fruit?" What varieties have we? What shall we send abroad? What shall we sell here? It makes a wonderful difference to us what our crop is. If we have a bright red apple that will stand up well, they are ready to take it across the water; but our softer fruits and green fruits had better be kept at home. We do not take quite pains

enough to study our markets. If we have "Gravensteins," Boston is ready to take those. If we have "Nodheads" the Boston buyer says, "We are not well enough acquainted with them, don't want them up here." Portland wants them. If we have the "Starkey" apple, Bath says: "We know what that is. We will take them." The "Maiden Blush" Boston is ready for, New York or Philadelphia, because they know it. Therefore let us study our markets more if we wish to get rid of these varieties which we cannot ship. Your little markets here will take a few barrels,—I know how it is with us in Augusta and in Lewiston,—put in a few barrels of a certain kind and they glut the market, take that same apple and ship it to Boston and we can get twice or three times as much if it is a variety that they are acquainted with. Therefore, find out before you ship your apples what market wants that variety and make a little more of a study of the market.

Prof. Munson—I would like to ask whether any members of the society have tried any of these small packages, tried putting up fancy fruits in fancy packages.

Mr. Knowlton—Mr. President: The matter has been discussed once or twice before our society and some fruit growers in the State have been sending fruits in a new style package, hoping that they might get better returns from it. But some of those fruit-growers whom I happen to know have not done the job well, they have taken a great deal of pains to wrap the apples, but some of the apples were not very good. The consequence is they didn't get good returns. Now the secret of the thing is, if I understand it, to get a choice apple in the market in prime condition. When you do that you are going to get good prices, whether you wrap it or don't wrap it. Of course you can't expect for culinary purposes to do quite as you would for dessert purposes. Something Prof. Munson alluded to here,—you go about the city here most any time except winters, a surplus of autumn fruit and it is hard work finding good apples; but oranges enough come from California; you find bananas enough that come from Cuba or somewhere else a good ways off that will sell for less than you can get apples,—and worse than that you can't get any good apples. Well, now, I hope that the way may be opened for

more choice apples for dessert use in our local markets; and I wish there might be a little combination among our large growers to have a few choice Gravensteins always in the local markets where they can be got at during the season of Gravensteins, and so on with some of the other varieties, so that whatever may come, whatever may happen to the markets with reference to fruits in California there will always be some of the best Maine apples there that a fellow can get to eat. And I tell you one thing, if they could always get a good apple that you could rely on before you touched it, these two cent peaches on the street that come all the way from California wouldn't be much used.

Mr. E. M. Blanding—It has been a pleasure to me to be with you to-night and to listen to the remarks made by gentlemen who have devoted long years of study to the culture and development of fruit. Certainly the fruit history of this State of Maine is one of great prominence and its future is of exceptional promise. The Maine State Pomological Society has done a grand work, but there is a great field of usefulness still before it.

I have watched with considerable interest the history in recent years of your society and I know something of the efficient labors its officers have rendered. It is gratifying to have you come to this section of the State. I know that the society's membership is more largely composed of persons from the central and western parts of the State and I know it has not been especially convenient perhaps for you to come down this way, and I know furthermore that we of this section have not perhaps tendered invitations as cordially as we should. I remember not many years ago when you held your winter meeting in Bangor, and I know that session was very interesting and profitable. I am glad that President Beal of the Eastern Maine Fair has arranged with your society to take charge of the exhibits here and I hope that arrangement will be continued, and if so I am confident that the fruit interests of this section will be materially advanced.

I have given some personal thought and investigation to fruit culture in the orchard of my own home. I have found that the summer and early fall fruits are not to be handled very readily,

—I mean to say to raise more than you can find use for at home,—and therefore all my recent plantings have been of winter fruit. And I believe that an orchard of winter fruit is to be preferred to an orange grove in Florida or on the Pacific slope. I have visited both Florida and California and am somewhat familiar with the fruit interests in those sections and I believe that Maine has a great future before it as a fruit-raising State. In Southern California a few winters ago I heard a gentleman offer a dollar for a Maine apple. Therefore it is evident that right in the heart of the greatest fruit-growing section of this continent the Maine down-east fruit is known and appreciated. Gentlemen, I believe you are engaged in a grand work and I wish you God-speed.

AT THE WINTER MEETING.

ADDRESS OF WELCOME

By J. Henry Moore, Winthrop.

Mr. President and Gentlemen of the Maine State Pomological Society:

In behalf of the members of the Winthrop Grange and in behalf of the citizens of the good town of Winthrop I extend to you a cordial welcome.

We thank you for so promptly accepting our invitation to hold the winter meeting of your society with us. You will pardon me for what possibly may seem to you at first view, a needless mention of this little town of Winthrop. I think its history is closely blended, in an agricultural point of view, with the history and existence of the various agricultural societies in our State.

We are told by our fathers, who were the pioneers of this locality, long known as Pond Town, that more than a century ago, meetings were held, and an association formed to elevate the laborer and the calling of the husbandman.

We are told that the young men of those days began to look on farming as rather a low employment—their aspirations were

for something higher—forgetting that this was the original employment of man, and that all other occupations are sustained by it. They held that the position of a farmer was not very honorable, albeit Holy Writ said to them "The profit of the earth is for all; the king himself is served by the field."

The results were so satisfactory and gave such promise of success that the members were induced to apply for an act of incorporation, which was granted by the legislature of Massachusetts February 21, 1818.

I hope you will not deem it arrogance when we claim to be the pioneer county and town in forwarding the great work of agricultural pursuits.

Winthrop was the first town in New England and second in North America to form an agricultural society, somewhere about 1787.

It is no trivial honor to enjoy the merit of being the parental stock from which indirectly sprang into being the Maine State Pomological Society which you, gentlemen, represent here to-day.

We very well remember that in this very hall, in the good old town of Winthrop, what proved to be the society which you represent, first saw the light.

The State Board of Agriculture (always solicitous for the advancement of the interests entrusted to its care,) took the matter into serious consideration.

It was found that there was need of a permanent, active and thorough organization, which should operate by systematic agencies in all parts of the State, and upon all classes of the people; teaching them that while the successful cultivation of fruit may require more skill, care and patience, and a higher degree of intelligence, than that of ordinary farm crops, yet that the requisite attainments are within the reach of all cultivators of the soil.

All these considerations and needs of the farmer being in the minds of the members of the Board of Agriculture of the State led them to present the expediency of the attempt to organize such a society to the people of the State, with more than usual formality.

At the meeting of the Board at Skowhegan in October, 1872, previous notice having been given, the subject was considered, but owing to the small attendance, it was thought best "after discussion" to leave the matter in the hands of a committee, and Z. A. Gilbert, J. A. Varney and A. L. Simpson were appointed that committee.

That committee, prior to the next meeting of the Board, issued an "address to the fruit growers of Maine" which was published in the papers of the State, inviting them to meet in convention at the next meeting of the Board, to be held at Winthrop January 14-17, 1873.

In accordance with this invitation, a considerable number of persons interested in the subject met at the time and place designated. The first day of the session was devoted to the consideration of the subject proposed, and after full discussion it was voted "That it is expedient to establish such a society" and a committee was appointed to report a plan of organization and nominate officers for the society.

The committee reported, recommending that the society should be known as the Maine State Pomological Society, and designating the following persons as officers:

Z. A. Gilbert, President, East Turner; George W. Woodman, Vice President, Portland; A. L. Simpson, Vice President, Bangor; George B. Sawyer, Secretary, Wiscasset; J. C. Weston, Corresponding Secretary, Bangor; C. S. Pope, Treasurer, Manchester. Executive Committee, the President and Secretary, ex-officio; Samuel Rolfe, Portland; James A. Varney, Vassalboro and Albert Noyes, Bangor.

The report of the committee was accepted by the convention, the effect of this acceptance was simply to designate certain persons who might thereafter associate themselves together, and with others proceed to organize the society, under the sanction of the Board of Agriculture. Another committee was appointed to procure an act of incorporation for the society, (the legislature then being in session) who attended to that duty.

The corporators of the society met at Augusta in Meonian hall on the 27th day of March, 1873, accepted the act of incorporation, adopted by-laws, embracing the form of organization

proposed at Winthrop and elected officers who had been there nominated.

They also elected Hon. Hannibal Belcher of Farmington member of the Board of Agriculture in behalf of the society. Chose delegates to the meeting of the American Pomological Society to be held in Boston in September, then following, instructed the ex-committee to make arrangements for an autumn exhibition of fruits and flowers.

Thus we see that Winthrop is the birthplace of this society and it seems eminently fitting that you hold your winter meeting in this town, and once more mingle with its people, who are ever ready to help on a good cause, who put their shoulder to the wheel in 1873 and said organize such a society as will make us better orchardists. That will make us plant new orchards, that would teach us to take care, cultivate and prune at such a time, and in such a way that we might reap an abundant harvest of the very best varieties of fruits and fully developed to perfection if such a thing is attainable.

The Maine State Pomological Society is now very nearly twenty-four years old. What a vast amount of good has been accomplished in those twenty-four years. Looking back over the past I can see in my mind the old orchard, but not a grafted one bearing lots of fruit year after year of no good only to make up into cider for which a good price could be obtained to be drank as a beverage thereby lowering the standard of a community in which this practice was carried on. But how changed the scene, as we look upon it to-day after these years of meeting together and discussing methods and practices one with the other. We find the old orchard grafted, new ones set out, and the sentiment of the people unite in saying unless a tree is a grafted one it is of no earthly use. Forty years ago there was but little grafting done, most orchards were bearing fruit in the natural state. In my own neighborhood only one farm could be called an orchard farm. This farm known as the Major Wood farm, now owned by W. H. Keith, produced in 1863, ten years before the Maine State Pomological Society was formed about 500 barrels of apples, while other farms equally as good on the same road produced from fifteen to fifty barrels a year.

In those days we had no foreign market and even if we had there was no apples to send away. Bangor at that time offered a market for any surplus fruit, holding the same position at that time to Maine, that Aroostook does to-day. I remember in my young days the idea held by the people was that pears could not be raised in Maine, even if it were possible, it must be in the extreme southern section of York county.

Time brings its changes, but some active agency will always help along in the matter. So we can see in the formation of the Maine State Pomological Society ten years later that a new interest had been awakened, and the people of the State were alive to starting of orchards, grafting what trees they had to varieties best suited to locality, soil, and market.

But what a change has taken place, and practically we might say within the limit of time of the existence of this society, but most certainly it would date back no further than where we read of a similar society formed in 1847 but for some reason it was short lived and without doubt no great advancement was made in the early years in the cultivation of fruit.

Those same farms that then produced the small number of barrels in a year, now produce from 200 to even as high as 1,000 barrels in a single year. And where for miles in a good farming section only a single pear tree be found and that of very ordinary fruit, now we find almost every farm or garden with its pear trees and every family is supplied with this toothsome fruit.

Not only has the apple and pear come into general cultivation but plums, strawberries, blackberries and most all kinds of fruits that can be grown in our Maine climate, are successfully raised for the family and the market.

What has wrought this great change? What agency has been employed to bring about this happy consummation? Is it not the meeting together year after year, in a gathering of this kind, giving to each other their experience, successes, as well as failures, and then the printing of your transactions being spread amongst the people over the State to be read of all men, and the theories, and the practices, there advocated utilized to their advantage and future prosperity?

The crop of apples in 1896 was without doubt the largest ever produced in New England; the quality the best, and the selling

prices the lowest, while at the same time we have a grand reputation in the foreign market that Maine apples sell from two to three shillings per barrel more than apples of other New England states. Gentlemen, do not be discouraged, but rather take courage. Think no longer that Maine is a good place to emigrate from, for we have as good soil, as good a climate, and can enjoy God's blessing on our paternal acres, dotted over with fruit trees and vines bearing fruit not excelled by any state in the Union.

Most of the old landmarks or pioneers of these ancient gatherings of which I have mentioned have crossed over the river, but their record which is left us is a bright spot upon the page of history; and the generations that follow, will look back with pride upon its ancestry.

I see before me some of those men who started with this society and who having put their hand to the plow never turn back but have looked steadily forward to the goal for which this society was formed. May they feel that their labors have not been in vain, but that the knowledge imparted by this society has been a blessing to mankind and will continue to the end of time.

The first president of this society, Hon. Z. A. Gilbert, one of Maine's most practical agriculturists, "the farmers' friend." We remember him as the efficient secretary of the State Board of Agriculture for many years, always laboring for the good of the people. Holding the interests of the farmers of Maine, entrusted to his care, as sacred as his own. Always looking forward for their prosperity and happiness. Long may he be spared to give us words of counsel and wisdom.

As citizens of the town of Winthrop we thank you for the honor conferred in holding this winter meeting of your society with us; and in return we assure you that everything will be done to make this meeting one of the best ever held in the State, and that your stay with us be pleasant and remembered.

The blessings of life men count o'er and o'er,
  As they come from a hand so divine,
Yet none in the land, oh, farmer, I ween,
  But envy the joys that are thine.
The broad, level acres we look on with pride,
  The herds in the pasture that graze,
But dearer to all, both on farm and in town,
  Is the rosy-cheeked fruit that we raise.

In spring time how eagerly watch we the trees,
  As the green, pink, and white hues unfold,
And as nature so generously scatters the bloom,
  Great orchard bouquets we behold.
And then the bright summer with heat and with rain,
  Will render her aid to the trees,
So when the ripe apples in autumn are picked,
  Like old friends, we recognize these.

The Russet, Ben Davis, and Greening we prize,
  For the profit that from them we gain,
And at home or abroad what will gladden the eyes,
  Like the fair red-cheeked Baldwin from Maine!
No matter if people have different tastes,
  Such varieties of apples we find,
That with ease we select what will please every one
  Both in size, color, flavor and kind.

You may boast of the orange, lemon or peach,
  Ye men in the fair sunny lands,
But the coat of them each must be taken away
  Before eating, Dame Nature demands.
Then let us not envy our brothers abroad,
  Their products their soil can afford,
But rather for dear old New England's rich land
  And its fruit, send our thanks up to God.

I bid you God speed in your beneficient work. To such hospitality as we have, and such attentions as we can bestow, we welcome you.

RESPONSE.

By D. H. Knowlton.

I have listened with deep interest to the cordial welcome extended to us by Mr. Moore, and I assure you I fully appreciate this welcome, for the good people of Winthrop are earnest in whatever they set themselves about. Then again there is a peculiar feeling that comes over the members of the society, for as we are told by the speaker, we are to-day once more in the cradle of infancy. Yes, we are once more back to the place of our birth, no longer babes wrapped in swaddling clothes as you sent us forth many years ago, but strong in the strength of vigorous manhood. When our labors were begun here there were only a few men in Winthrop who were growing fruit for market; to-day there are nearly 300 Winthrop farmers who have surplus fruits in their cellars. More than this we find that the good old town of Winthrop raised about 27,000 barrels of apples in 1896. What is true of this town is also true of other towns in the State, so that at this time there are many thousand barrels of apples in the State ready for the market. When our work began as a society the market was only a local market, that is, a market in this country, but so widespread has fruit culture become in the United States that although the local market is large it is not sufficient to consume all our fruit, and the indications are that approaching three million barrels of apples will go to foreign markets. In this it may be well for us to note that when our Maine apples get there in prime condition they lead the list, and right here there comes in the prospect of finding a good market for our fruit at all times. Give the Maine apple a fair chance and place it in the hands of honest packers and we have nothing to fear. The low prices of fruit this year may be a sort of blessing in disguise, for it gives thousands of people in remote parts of Europe an opportunity to test the merits of our fruit in their own homes. So it is in the markets the higher we get the broader is the horizon. With lower freights and improved facilities for storing and shipping fruit, more and more the markets of the world are going to be open for Maine fruit.

Let us remember that its good name is largely in our own hands.

But on this return to our birthplace I should be remiss in my duty if I failed to call your attention to the very large increase in the production of small fruits. When we went forth from your midst, years ago, there were many in Maine who scouted at the idea of growing small fruits. Some said there were enough and to spare upon our hillsides, and others said they would not thrive. Through the influence of the agencies at work in the State there are none to-day who question our ability to grow small fruits. Where there was one farmer then who raised strawberries there are now scores, and thanks to the good work that is still going forward the number is increasing. The same is true in the culture of flowers. More flowers are grown in Maine and the end is not yet. Before our meeting is through we shall illustrate by our speakers some of the flower study that is having its influence in our schools, and the influence is a good one, for when you teach a child the name of a plant or flower and get him to studying it you have revealed to him a field of unlimited pleasure which he will be only too glad to enjoy. Nature study, the school people call it, is now being talked about by the teachers and school officers, and they are intelligently seeking out the best method of teaching the great principles of vegetable life.

I have spoken to you of these things briefly to show you how rapidly along the chosen lines of our work as a society the State has been advancing, but for all this when we look into the future we can see that the work is only begun, and that the increase of knowledge calls upon us for more work and for more intelligent work. But the fruit growers of Maine, as I see them represented here before me to-day, have no idea of turning back, and as the burdens are laid upon them there comes the increased power of bearing them, and increased ability to aid others in the great work before them. Sure, the more we know of the good things God has given us in this world and the more we know how to enjoy them ourselves, and the more we do to aid others in enjoying them, the more there is to live for and the greater is the divine light with which our lives are filled.

I thank you heartily for this very cordial welcome you have so freely tendered us, you will expect from us more than in the

years gone by, and I can assure you we have relaxed no effort to bring you the best things there are in fruit culture. However much you may enjoy our meeting I can assure you we shall be made equally happy by being among you again. Again, I thank you for your greeting, and in behalf of our society promise you the best we can bring for your entertainment.

THE PRESIDENT'S ANNUAL ADDRESS.

By John W. True, New Gloucester.

Ladies and Gentlemen:

It is pleasant for us to meet the people of Winthrop at this the annual winter meeting of the Maine State Pomological Society. We are again assembled at the place of its birth in 1873, and it is well for us to look back and see the steady growth of our society from that time until the present.

Then we were few in numbers, but strong in the faith that by hard work, good could be accomplished; and it was all hard work, for they had little money to "grease the ways" at that time, and until recently we have had but $500 per year from the State. The balance of all the funds the society has paid out, for premiums at our annual fairs, for speakers at all of our meetings and all the expenses of the society have come as the result of our own efforts. Now we are receiving $1,000 annually from the State, and we have succeeded in paying all the indebtedness to our permanent fund, which amounts at the present time to $1,300, the interest of which goes towards our annual expenses. It is our earnest hope and charge to our successors that, if it is possible for them to honorably avoid it, they shall never again encroach upon that fund; and there should be an earnest effort made to induce more of our fruit-growers and fellow-citizens to become life members of the society, as that is the only way for us to enlarge our permanent fund, or at least, it is the only way in which it has been accumulated. In other states, similar organizations have been the recipients of donations and bequests, but I fear it will be a long time before our society will be so fortunate, therefore we must depend upon our own efforts

to secure more life members and in that way to obtain better results, as every new member means another thoroughly interested person added to our number.

Our last winter meeting was held at Presque Isle, Aroostook county. The question was raised as to the advisability of going so far north to hold a fruit meeting, but the farmers of that section are realizing that they should give more attention to other crops besides the potato, and as our State stipend comes from every portion of the State it would seem to be our duty to try to assist, as far as possible, all sections, and it will probably be shown during this meeting, as it was a year ago, that apples can be raised in nearly all parts of our State.

Last spring the officers of our society received an invitation from the president of the Eastern Maine State Fair, to take charge of the fruit and flower department of their exhibition, and the terms of the invitation were such that it was thought advisable to do so. Their premium list had already been made up, and a portion of them distributed, therefore it was not deemed best to make changes in it. Your officers went into a strange building, with new surroundings, and many of the exhibitors were strangers; as it was so early in the season the fruit was very immature, but with that exception the exhibition passed off very smoothly, and if dates can be satisfactorily adjusted, we think the arrangement had better be continued.

It has been suggested that perhaps it would be well, considering the fact that the State Agricultural societies hold their annual exhibitions at so early a date that our fruit is not up to its best estate, for our society to hold the autumn exhibition by itself, at a time when the fruit has fully matured. The present would be a good time to talk the matter over and arrive at some conclusion upon the subject.

There is one matter to which I would like to call attention; I may have done so before, but if I have, it will bear repeating. While the subject of "good roads" is being so extensively discussed and plans made for improving our highways, let us see how little additional expense it would be to have our roads lined with shade trees. Let all road commissioners, or those having charge of roads, save a line of trees on either side at suitable distances from each other, and by talking the subject up, farm-

ers and others owning land may be induced to set out different varieties where there are not already young trees started to select from, so that in years to come our highways may be made more pleasant for the passer-by. As it is now in many places the bushes and young trees grow close up to the drive-way, which causes the roads to be wet a long time after rains and in the spring and fall, and it seems as if it were almost necessary that a law be passed compelling towns to keep their roadways clear, from line to line, and in doing so have an eye to the future. It may be a little off the general line of our subjects, but there is no reason why we may not discuss it, as it will tend to make our towns and home surroundings more inviting to ourselves, our young people and the public generally. We hope at some future meeting to have one or more papers taking up this line of thought.

A full programme has been provided for this meeting touching upon different subjects, to be followed by discussions. They are all of deep interest to the fruit grower and consumer alike, therefore we will not mention them at this time, but turn to some points that may not be brought up at any other time during the meeting, but are still subjects of interest to all fruit growers.

Eighteen hundred and ninety-six has passed, and with its passing many changes have taken place, some of which have been in the line of fruit culture. Questions have arisen that were not anticipated one short year ago. Then the question was what shall we do to prevent the apple scab? and the subject of spraying was the one to receive attention, and there was also its companion, the trypeta pomonella, or apple maggot. Both of these pests, as also the codlin moth, are taking a rest for the present, but we must not for a moment think that either of them has left us. "In time of peace prepare for war." Now is the time for us to prepare to fight the apple scab and to study into the ways of the apple maggot and find a point of attack from which we can hope to carry his little fort. In one of our late papers I saw a prescription or formula entitled "Manure for Orchards," by Andrew H. Ward, and I will insert it here for future reference as in the direction pointed out may be the solutionof the little trypeta problem. At least we would like to have our professors at Orono give their opinion in regard to it.

"MANURE FOR ORCHARDS.

"The following mixture contains nitrogen, phosphoric acid and soda, and has proved destructive to all grubs and worms that either live in the ground or go into it in order to pass through the pupa state and come out as full-fledged flies to work their devastation on fruit and foliage, and there lay their eggs for the perpetuation of their kind: Five hundred pounds quicklime, 300 pounds common salt, 300 pounds powdered phosphate lime, 100 pounds nitrate of soda. The quicklime should be slaked, the salt then mixed with it and allowed to remain for some thirty days for chemical changes and combinations to take place, in the meantime being shovelled over three or four times to have it intimately mixed. Then mix with it the powdered phosphate of lime and nitrate of soda.

"The mass then is ready for use, and will cost about $8. Use 1,000 pounds of this mixture per acre, and spread broadcast on the orchard. It can also be used on lawn, meadow or pasture in the same quantity.

"The use of this mixture not only increases the quality of the fruit, but also gives the fruit a better flavor, a higher quality and larger size, and puts the tree in vigorous condition for future yields. The ingredients can all be easily procured in any quantity at market prices, and the mixing can be done on the farm. It does not deteriorate in quality by keeping.—Andrew H. Ward."

We should not forget that the little pest, in all probability, has not left us, and we should continue the only practical method of fighting it, which is to keep all windfalls closely picked up and either fed directly to stock or thoroughly destroyed in some way.

The scab I am not so clear about, but it appears to be the general opinion of those people who have given the subject the closest study, that we should spray our orchards at least twice each season; but when apples rule as low as they have this season, and the expense of spraying is added to the cost of producing the crop, and we consider the other fact, that those who have done no spraying have, as a rule (there may be exceptional cases) produced as fine fruit free from scab and worms as could be desired, it would seem as though the proper course to pursue

would be to try a few trees each year, for the present, keep an exact account of the cost and watch the results. Then if it will pay on a few trees, for a series of years, it will pay to go through the whole orchard. It may be one of those things which we have to guard against, as we guard against the loss of our buildings or other property by fire, a kind of insurance.

There are many farmers and fruit growers who are seeking information regarding the fertilization of their orchards without the aid of barn dressing and if possible we would like to have it brought out at this meeting in plain terms if anyone knows what it is; just what to buy, where it can be found, how to mix it, if it requires mixing, how much to apply and how to apply it. Information covering the points suggested will be appreciated by the farmer who cannot see his way clear to keep up the fertility of his farm as it should be, and still care for the orchard. The low price that has ruled for apples the past season will probably have a tendency to cause those having the care of trees to neglect them, claiming that good care does not pay; but such is not the case. This is an exceptional year. The probabilities are that in one short year from now the Baldwin apple will be at a premium; few fruit growers, we apprehend, will be at a loss to find a place to put the crop or find trouble in disposing of it. Therefore we must give close attention to the trees, see to it that they are properly pruned and fertilized, retop the varieties that are not paying a profit in ordinary years, if they have a suitable stock, if not, cut them out in most cases, as the fruit grower as well as the general farmer of the future will be obliged to look after such things, and lop off all branches and stop all practices that do not pay, in order to succeed.

We would like to again call the attention of our society to the subject of holding a summer meeting. It would seem to us that more attention should be given our earlier summer fruits. Our State is thoroughly adapted, both in soil and climate, to the raising of many of the small fruits in their highest perfection, and there are few things that we raise from the soil that give greater satisfaction in a family than an abundance of strawberries and raspberries of the various sorts, black-caps, reds, yellow and last but not least, the Schaffers' Colossal; then the currant,

gooseberry, blackberry, and the numerous kinds of plums, including a few Burbanks,—all this will serve to fix the attention and affection of the young people upon rural affairs and farm life, and even if they leave the farm for other pursuits, it will be a pleasure in all their after life to look back to so pleasant recollections as such scenes will afford. Therefore such a work as this calls for more attention. There are many things which might be said in this connection. Our society embraces the subject of flowers as well as fruits, and we should offer encouragement all along the line, as it all has a tendency to make our homes more pleasant, and we should strive to make them typical homes, so that the homes of Maine may be taken as an example not only for our own country but for the whole world to follow.

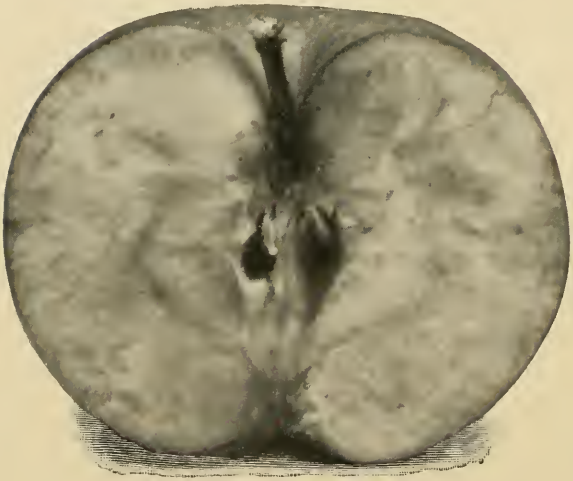
THE RUSSETS OF MAINE.

By Z. A. Gilbert.

There are many varieties of Russet apples grown in this State. Much confusion has existed among fruit growers over the names of the different varieties of these Russet apples. This is plainly shown at the annual exhibitions of this society. The officers frequently and sometimes the judges employed to award the prizes, are confused over the nomenclature of this class of fruit. At our last autumn exhibition, of a dozen or more plates in one class there were but two true to name as assembled in the space assigned. To aid somewhat in bringing something of order out of such confusion is the purpose of this paper.

In the very start, however, of our effort to classify and name the different Russets grown, the difficulty is encountered that the authorities on fruit nomenclature are in a measure puzzled and mystified over this matter, as our growers and exhibitors have been. This is the case from Samuel Cole down through the whole list to the present time. Hence studying the fruit books does not lead us out of the woods. The only course, then, is to study the fruit itself. This I have attempted to do in so far as it could be done in one season. The course taken has been to visit as many fruit shows as possible in the time and

ROXBURY RUSSET. See page 77.



take note of the different varieties of Russets on exhibition and the name under which they were shown. I have also solicited samples from the growers. Several important varieties were secured in this way, and I wish at this time to extend thanks to those who so promptly complied with my requests. So much, however, was not accomplished in this way as was desired. I wished to secure samples of all the different kinds of Russets grown in the State, but failed in meeting my desires in this direction in full.

As a matter of fact the varieties of Russets of special commercial value are quite limited in number; and those of any considerable merit for home use are still less. It is not the superior value of these apples that gives the inducement for attention at this time. So long as they are grown and put in their appearance annually at the exhibitions and on the market, we want to know their names and their merits. Were it not that the Roxbury Russet is freakish about the soil in which it thrives I am not sure but this one variety would be the only one of the name that could be recommended to the attention of growers; and even this, in the later developments of fruit interests has been shorn of a large measure of its importance. One other kind added would fill the measure of Russets that have merit sufficient to render them of special value.

LIST OF RUSSETS.

The names of the different kinds of Russets found in the fruit books are as follows: Roxbury Russet; English Russet, or Poughkeepsie Russet; Golden Russet (of Western New York); American Golden Russet; Hunt's Russet; Fletcher Russet; Red Russet; Win's Russet, or Win Russet; Kennebec Russet; Pomme Grise, which is not a Russet by name but plainly so in characteristics.

It is on the first four named that our growers get badly mixed. In this attempt to set them aright I will speak of them separately.

ROXBURY RUSSET.

It would seem that everybody ought to know so common an apple as this long time favorite. Yet they do not, for every year in our exhibitions we have more or less of Roxbury Russets

misnamed, and still more frequently have other varieties of Russets erroneously labelled this kind. The Roxbury Russet has characteristics so marked and so plainly different from any other Russet that once carefully noted it need never after be mistaken. More for the purpose of showing that other kinds are not this, than the identification of the one being described, the illustration herewith, photographed from a sample expressly for the purpose, is given.

All the books substantially agree in their description of this variety. Cole's American Fruit Book, though old, is one of the best for this State, so I copy a description from that:

"Rather large; flattish; Yellow Russet, rarely a faint blush; stem medium, slender, in a rather shallow cavity; calyx closed, in a moderate basin; flesh greenish-white, rather dry when fully ripe, slightly acid and pleasant. Pretty good for cooking, not first-rate for dessert. Late winter, spring and early summer. A moderate grower and great bearer, in a moist, strong, rich soil. Important from its late keeping. Origin, Roxbury, Mass."

The importance of this apple on account of its late keeping, from a commercial standpoint, is not as great as was formerly the case. For reasons that I will not now stop to discuss the extremely late keeping apples do not now bear the increased price, as the season advances, that they did years ago. I think I am correct in the statement that this variety is not being planted out in new orchards to any considerable extent at the present time. Still it is the best, all things considered, Russet apple we have, and among the best, if not the best, late keeper in the whole list. Its large size gives it a value over all other Russets.

This apple, though so common, has been known under several different names from time to time. Last fall when at the International Exhibition at St. John, with Secretary Knowlton, we found a Russet apple in several Nova Scotia collections labelled "Nonpareil." We also found the Roxbury Russet in some of the same collections. Our interest was awakened, and being desirous of gaining information from any source available, we investigated the matter as clearly as we were able. The apples were not fully matured, but in that condition we could not find any distinction between the apples shown under

the two names, nor could we get any satisfactory information on the matter from the exhibitors. We concluded that the Roxbury Russet generally goes under the name of "Nonpareil" in that province, and that showing the two plates under different names was a sly dodge of the exhibitor to get another prize. Later on I obtained samples of the "Nonpareil" direct from the Annapolis Valley, and have them on exhibition here, and I think you will all call them the true Roxbury Russet.

A curious fact in this connection I run across last fall for the first time. That is that there are two kinds of this well-known apple grown here in Kennebec county. I have this from good authorities. While the apples are closely identical, the trees differ essentially in type. It is not at all improbable that a fruit closely identical with that of the parent tree may have sprung from some one of the Russet orchards of this vicinity. Such facts are on record with some other varieties.

ENGLISH RUSSET, OR POUGHKEEPSIE RUSSET.

In our effort to describe, distinguish and identify this variety the confusion of Russet nomenclature begins to be encountered. This variety so closely resembles the Golden Russet (of Western New York) that very few of our Maine fruit growers have been able to distinguish one from the other, or in fact to positively identify either. Downing, Barry and Thomas all describe it in their works, all giving it the same name I have used here. Their descriptions also all agree. Downing alone figures the outlines of the fruit. His description is as follows:

"English Russet is a valuable long-keeping variety, extensively cultivated, and well known by this name. It is not fit for use until February, and may be kept till July, which together with its great productiveness and good flavor, renders it a very valuable market fruit."

"The trees grow very straight and form upright heads, and the wood is smooth and of a reddish brown. Fruit of medium size, roundish, slightly conical, and very regularly formed. Skin pale greenish yellow, about two-thirds covered with russet, which is thickest near the stalk. Calyx small, closed, and set in an even, round basin, of moderate depth. Stalk rather small, projecting even with the base and pretty deeply in-

serted in a narrow, smooth cavity. Flesh yellowish white, firm crisp, with a pleasant, mild subacid flavor. Good, January to May."

Thomas's American Fruit Culturist gives the same name, and almost identical description. The habit of growth of tree is the same. In regard to keeping it adds: "Keeps through the spring, and often through summer for twelve months."

Barry in Fruit Garden gives same name and identical description, and adds: "Tree is remarkably stout and erect, bears large crops, and the fruit will keep a year." None of them figure the fruit but Downing.

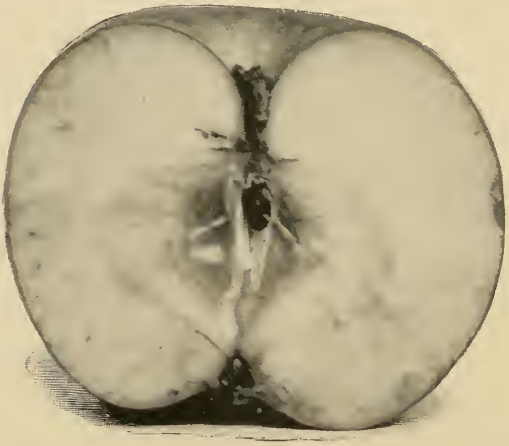
It is seen that these authors all agree as to the form of growth of the tree, and the long keeping of the fruit. At St. John last fall I found a barrel of this variety a year old on exhibition at a fruit store, and in a sound and well preserved condition.

A striking feature in identifying this variety is the growth of the tree. It will also be observed that the fruit is generally only partially covered with russet. The color, also, is only a greenish yellow, while the flesh is greenish white or only tinted with yellow, but never of a rich golden color like some other of this class of apples. "The stout, thick limbs and branches of the trees are filled with spurs which are stuck full of fruit clear to their junction with the trunk, which renders it an enormous producer. This peculiarity is not found with any other variety with which I am acquainted, and is enough of itself alone by which to identify the variety.

An apple has been grown under the name of English Russet to a considerable extent in western Penobscot county and was also frequently found a few years ago in Waldo county. In the early years of our society this apple usually put in its appearance at our exhibitions, where I became familiar with it. It is emphatically distinct from the English Russet of the books described above.

This apple is medium in size, slightly conical; color green ground splashed with russet, mostly covered around the stem end, and with bronze cheek in the sun; flavor a rasping sour, early in season, tempering down to some extent later on, but never rich or high flavored; flesh greenish white. Especially liable to wither after being stored. The shape of the apple

GOLDEN RUSSET (of Western New York). See page 81.



closely resembles the American Golden Russet, but is easily distinguished from that by its inferior quality. The variety is not being propagated at the present time.

In response to a request for a sample of this variety I received the following letter:

CHARLESTON, November 4, 1896.

Z. A. GILBERT,

Dear Sir:—Yours of 30th ult. received asking for sample of English Russet apple. Mr. Place of whom you speak was my brother-in-law. He grafted that variety extensively in this vicinity, and especially in this or my vicinity, very much to our damage. I have grafted over many of the trees of that variety in my orchard and am thinking of grafting all of them next spring. Some of them are quite large.

Mr. E. G. Lord, Mr. Place's son-in-law, says he shall graft all of his English Russet trees next spring, mostly to the Stark.

The Russets must go, for there is no sale for them when taken from the trees, and in a very short time they wither badly.

Respectfully yours,

A. W. KING.

GOLDEN RUSSET (OF WESTERN NEW YORK).

This apple closely resembles in shape and general appearance, as seen at our autumn exhibitions, the English Russet just under consideration, and is very frequently confounded with it. It has been extensively introduced in this State through New York nursery stock. Thomas describes it as follows: "Size medium, roundish and usually a little oblong, sometimes slightly flattened, nearly regular; surface sometimes wholly a thick russet, and at others a thin broken russet on a greenish yellow skin; stem slender, from half an inch to an inch long; being longest on the oblate specimens; flesh fine grained, firm, crisp, with a rich aromatic flavor. Shoots speckled; tree rather irregular. Keeps through winter. "This," he adds, "is distinct from the English Russet of straight upright growth and a very long keeper."

The twigs of this tree are long, slender and prudent, the lower branches when loaded with fruit frequently droop to the ground. The slender drooping twigs generally hold an apple grown from the terminal bud.

Another feature giving a slight distinction of this variety from the English Russet is that the stem is shorter and the cavity

in which it is set is not so deep as in that variety. The calyx also is in a broad shallow basin.

The most marked distinction between the two varieties, however, is the difference in the habits of growth of the trees.

Judging from the fruit alone after taken from the trees, so closely alike are their workings, even critical judges are liable to get confused over them. (See cut.)

The Golden Russet proper is the variety usually found. It is extensively grown all through the central and southern parts of the State and is found at our exhibitions in nearly every large collection.

So nearly alike are the two varieties in merit as well as in features and in workings that nothing serious would in any way result if either one is mistaken for the other. Even the distinction in the keeping characteristics, recorded by the several authors, in a measure disappears here in Maine, since both varieties carry well down to summer and as long as green apples retain a sprightly flavor that renders them desirable.

AMERICAN GOLDEN RUSSET.

With this old name, more than with the fruit, there has been dire confusion at our exhibitions, and of course, the same has been carried home with the growers. Because of its ancient and honorable name, I take it for granted, for I know of no other plausible reason, this variety has been kept on our lists, while the Golden Russet has been excluded. All the while it is the Golden Russet chiefly that has been grown and shown. As a matter of fact but very few indeed of the American Golden Russet have ever been grown in the State. I know of only two places in the State where this last named is now grown and in both cases they are in fruit gardens, introduced there on account of the specially fine quality of the fruit. The recent action of our society therefore in giving the Golden Russet a place in our list is a step in the right direction, the reason for which is apparent.

The American Golden Russet is noticed in all the fruit books, but is outlined only in Downings. Cole describes it as follows: "Small, roundish-ovate; dull yellow and russet, reddish in the sun; remarkably tender, of a rich, high spicy flavor. Season

HUNT RUSSET. See page 83.

winter and spring. One of the very best but lacks size for the market." He gives the origin as the Hunt farm, Concord, Mass. It is a question whether Cole has not confounded the place of origin with another russet apple which originated on the Hunt farm. Barry gives its origin as New Jersey. Downing says it "is one of the most delicious and tender of apples," and "best" in quality.

As distinguished in form from others of our common russets it is pearman shaped, that is, it is elongated and tapers towards the eye. This form easily distinguishes it from other of the russets. Another distinctive marking is the red cheek, which on specimens fully exposed to the sun here in Maine sometimes amounts to well marked stripes. The season in southern Maine is January. (See cut.)

I am thus particular in describing this variety more to show that other russets are not this kind, than to give the American Golden Russet any distinction or recommendation. In fact in these days of a multiplicity of varieties and a plentiful supply the only merit this variety has is its high quality as an eating apple, and when the Ben Davis will outrank our juicy and delicious Greenings and Bellflowers, rich flavors are of not much account.

The specimens shown here, and from which the cut was made, were from the garden of the late Henry Ingalls of Wiscasset. In forwarding them Mr. Ingalls wrote: "The only distinction that I observe in comparison with Downing is the length of the stem. But this I believe is a somewhat uncertain test.

The late R. H. Gardner sent some specimens from my trees to Mr. Downing in the lifetime of both and the latter pronounced them the true American Golden Russet."

HUNT'S RUSSET.

As Downing has it, or Hunt Russet, as it is frequently written, is a variety of quite long standing, originating on what has been designated as the Hunt farm in Concord, Mass. In response to a request sent to Hon. E. W. Wood, chairman of the fruit committee of the Massachusetts Horticultural Society. I received the samples on exhibition, specimens of which have

been photographed. (See cut.) Accompanying the fruit was the following letter:

West Newton, October 13, 1896.

Z. A. Gilbert, Esq.

Dear Sir:—I sent you yesterday by express one dozen Hunt Russet apples. I got them from William H. Hunt of Concord, Mass., who owns the farm where this apple originated. I asked him to select the fruit from the original tree if he could, but they were all picked and the fruit from several trees mixed.

There is another russet grown from seed by John Fletcher of Acton, Mass., and he has named it Fletcher Russet. It was first shown at the Bay State Fair in Boston, some four or five years ago and attracted much attention and has been quite largely grafted by our apple growers in this State and we have put on our premium list. William H. Teele showed some very good specimens at our last exhibition and I have no doubt would furnish you specimens if you wish; he lives at West Acton, Mass.

Yours truly,

E. W. Wood.

The tree is hardy, upright grower, spreading when in bearing, and an annual and good bearer. Fruit medium or below, roundish oblate, slightly conic, as you can see by the specimens. Color yellow, mostly covered with thin dull russet, with a blush of bright rich red in the sun, few brown dots. Stalk varying in length, as you see by the cuts. Cavity large, deep, acute. Basin medium, slightly corrugated. Flesh yellowish white, fine-grained, tender, juicy, rich, brisk subacid, slightly aromatic. Quality very good, or best, January to April.

There are two marked features which will aid in identifying this variety; not common to the russet family of apples. The bright red cheek, and the high quality as characterized by the tender and juicy pulp and rich sprightly flavor.

Since receiving the genuine samples of the Hunt Russet from Mr. Wood there has been no opportunity for a comparison with samples of unnamed russets grown in this State. It is altogether probable that this variety has become more or less disseminated among out fruit growers and that we shall find that at least some of the russets that have appeared from time to time at our annual exhibitions, and over which we have been puzzled, will prove this popular and valuable variety.

RED RUSSET. See page 85.

RED RUSSET.

A study of this variety of the russet family of apples may be found in the transactions of our society for 1887-8, page 89, prepared by the writer of this paper. (Which see.) It is not therefore necessary to give any detailed description of the variety in this connection. (See cut.) I have been growing the apple for several years and believe that much can be said in its praise. The tree is as good a grower as the Baldwin and bears as bountifully as that variety. The fruit is a deep red in color all over, dotted or splashed with russet, and sometimes with little or no russet appearing. In texture it is "solid as a rock," and will therefore bear the necessary handling in shipping without the slightest effect on its appearance. I believe this variety is worthy of attention among fruit growers.

FLETCHER RUSSET.

This is comparatively a late arrival. It originated in Acton, Mass., and is described in Downing's supplement, and was referred to in the letter from Mr. Wood before given. So far as I can learn this has never been introduced into this State, hence I pass it by with the mentioning.

The russets I have thus far enumerated are all of the named varieties of any special value that are grown to any extent in the State. This record might stop here were it not that the first step toward correcting the name of a fruit is to ascertain the fact that it is passing under an incorrect name.

There are several different kinds of russets grown in the State to a limited extent which appear from time to time, sometimes "name wanted" but more generally given the name of some of the familiar kinds.

KENNEBEC RUSSET.

Is a name found in the Transactions of the old Pomological Society. None of our fruit growers now know anything about it, and we never find the name at our exhibitions. I have no doubt that this apple is one of those stray varieties popping up at our exhibitions occasionally, usually labelled "Golden Russet" because it is tinted with yellow and nobody knows any

other name for it. I have frequently noted a variety coming from the central part of the State of a beautiful yellow shade and covered all over with russet—a golden russet, in fact, though not true to the record. I have thought it probable that this is the apple referred to in those old records. Alas! who is there left to-day to set us aright!

WINN RUSSET.

Is another of those old waifs. This is mentioned by Cole on authority of Maine Pomological Report. Origin is given as Sweden, Maine. The name has passed from the knowledge of this generation of fruit growers. Downing also names it, probably taken from Cole. The name has never appeared in any collections shown at the exhibitions of this society, and is only mentioned here as showing that possibly some of the russets now found in the State may be the native apples named by those fruit growers who have preceded us and have passed away, leaving only a few stray sprays of the records of their work.

At the Sagadahoc Fair last fall I found two plates of "Golden Russet" of the same kind, one from Harpswell and the other from Bowdoin. A request for samples brought me a package from Mr. C. O. Purinton, Bowdoin, and with them the following letter:

BOWDOIN, October 26, 1896.

Z. A. GILBERT,

Dear Sir:—I send you by express one dozen samples of Golden Russet. I call them at their best in December and January.

On my farm the tree seems to grow more slender limbs than the Roxbury Russet. They are good annual bearers—a little inclined to over bear which causes the fruit to be small.

Yours very truly,

C. O. PURINTON.

The apples received are truly a golden russet, but in no respect correspond with the Golden Russet of the authorities. They are a kind frequently shown at our exhibitions, and I have thought it probable might be the Kennebec Russet, if we but knew that variety. Certainly these are not the true Golden Russet.

The apple is medium size, slightly flattened, some specimens a trifle angular; calyx in shallow cavity, regular, stem long in

a very shallow basin; covered all over with a subdued golden russet; quality fairly good with subacid flavor.

From Mr. W. P. Atherton of Hallowell, I received two specimens labelled "Golden Russet of New York." As the two apples are as unlike as two russets can be, and I requested typical samples, a reasonable supposition is that on his trees no two of this kind grow alike. I have requested him to bring samples to this meeting, and after examination more can be said of them. It is plain enough, however, that neither of the two apples sent are true to the name given and that Mr. Atherton's nomenclature needs revising, or that he has put up a job on the writer.

Mr. D. J. Briggs, South Turner, shows at this meeting samples of a russet apple that I do not recall ever having met before. The apple was grafted by him for the Pomme Grise, and that is all that can be learned of it from the grower. The fruit is about the size of the English and the Golden Russet (of Western, New York) and of the form of the American Golden Russet, save that while the latter is regularly round in its perimiter outline, the apple in question is irregular, or sectionally ribbed in outline. Stem medium in length and set in a deep and broad cavity. Covered all over with thin russet, which is dotted all over with rough, projecting dots. Flesh firm, does not wither, crisp, juicy. Mild acid, and with a remarkably pronounced pear flavor and aroma. This last feature alone is enough to distinguish the variety. Flesh white, shading but slightly to yellow.

I have spent much time in search of a pointer to the identification of this variety but so far without making any progress. So choice a russet is worthy of attention. The description that comes nearest to the variety is that of the Windham Russet, a Massachusetts apple. But this makes no reference to a vinous flavor, and no pomologist describing the variety under consideration would omit this one of its most striking characteristics. I shall "keep an eye out" for this russet with a view to learning more of what it is and where it came from.

[NOTE. The writer procured samples of this variety of Mr. Briggs, and kept them, without special care, till June, sound, solid and crisp. At that time they were sacrificed to the knowledge here given, still sprightly in flavor, and of a quality best for their season.]

Sponge Russet is a variety sometimes met but of no special value. Size medium and above, slightly elongated, regular. Mild sub-acid. Never very juicy, inclined to wither.

Of sweet russets there are many kinds none of which have ever been classified, and I make no attempt to list them at this time.

POMME GRISE.

Is a russet by nature though not in name. This also is one of the varieties that have come to us from the New York nurseries. It is so distinct from other russets, and is so characteristically rich and delicious in flavor that there has been little if any confusion in regard to it. It is one of the few russetted apples that never appears at our shows labelled "Golden Russet." I mention it here only to make the list complete. Downing gives the following description:

"A small gray apple from Canada, probably of Swiss or French origin, and undoubtedly one of the finest dessert apples for a northern climate."

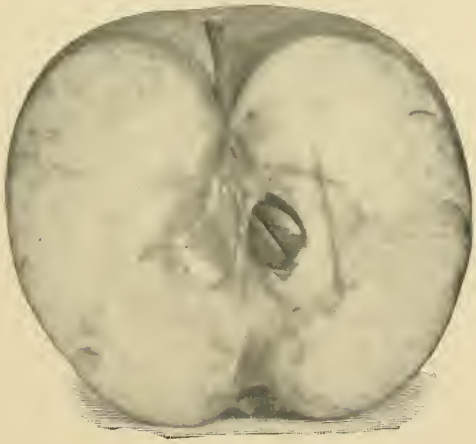
"Fruit below medium, (small grown in Maine,) oblate, roundish. Skin greenish gray or cinnamon russet, with a little red towards the sun. Calyx small set in a round basin. Flesh tender, rich and high flavored. Very good to best, December to February."

I have thus gone over the list of russets known and grown among us. I am aware that much I have given is only a record of what we don't know. But this should not be entirely without value, for in fruit nomenclature it is better to know what an apple is not than to give it an incorrect name.

There is still a numerous list of russets listed in the fruit books of which no mention has been made, and which so far as known have never been introduced among us. They are mostly if not all old varieties that have dropped out of date and probably out of knowledge, save as their names have been kept in the lists. With the exception of a few old English varieties, the most of them as given in the books are very similar in their characterictics—small in size and late keepers.

The russet apples of recognized market value, and which are now being grown and propagated to any considerable extent, are the three first named in this paper.

AMERICAN GOLDEN RUSSET. See page 82.



Roxbury Russet, English Russet, and Golden Russet (of Western New York). Of these the Roxbury Russet, on account of its size, is of most importance where it can be grown to advantage. The others are smaller than the popular demand of the market calls for and can only be recommended where the first named does not succeed. Indeed it may well be questioned whether they are found as profitable for the market as many other well known varieties which are not so late keepers. The market demand for late keeping apples is now comparatively limited. Hence the early summer price of the English Russet and Golden Russet is seldom more than the mid-winter varieties command.

But the varieties I have named and described are being grown to a considerable extent. So long as they are produced they should be correctly named. My purpose has been to so describe and figure the principal varieties of russets grown in the State and recommended by pomological authorities that they may be recognized by the growers, and the confusion of names so long met may thereby be made to disappear.

Of the non-standard russets grown my effort has been to show they are not the recognized varieties. Among them confusion must continue unless this society takes them up and gives them a name.

DISCUSSION.

Q. I would like to have Mr. Gilbert describe the American Golden Russet?

A. The tree is an upright grower and never a drooping one; the best way of identifying these trees is from this fact and the shape of the tree. You have an English Russet with stout branches sticking out high up and with the spurs prominent all up and down those branches and in bearing years stuck full of fruit. The apples are not on the ends of the branches but in looking at the tree you look through a crowd of apples. The American Russet has long pendant branches with the apples on the ends. The Hunt Russet is flattish in shape with a long stem and bright flushed cheek.

Q. Do I understand you to say that you have seen the American Golden Russet tree?

A. Yes, sir.

Q. It is evident there are two russets very much alike and eye is not keen enough, nor my experience long enough to tell them apart. The first of the season one has just the same value as the other; but later there is a russet we call the Golden Russet that commences to decay while there are others that keep very well. It is important for us fruit growers that have both varieties to know by the description of the tree. I am not able to learn just by the appearance of the fruit.

A. Mr. Merrill is probably confounding the Poughkeepsie Russet with the Golden Russet of Western New York.

SMALL FRUITS FOR HOME USE.

By L. F. Abbott, Lewiston.

A paper on a subject of considerable importance was presented Thursday afternoon by L. F. Abbott of the Lewiston Journal, it being the growing of small fruits for family use. The essayist departed somewhat from the usual course followed, and presented the ethical side of growing a supply of the delicious summer fruits for home consumption. The essay much abridged is given below:—

To talk of the small fruits for home use, is certainly not a new theme. The subject has been presented at almost every angle of observation, until it would seem there were none left to doubt the utility of the summer fruits for family use. Nevertheless, when the secretary of the Pomological Society invited me to present a few thoughts upon the subject, I accepted with the mental reservation that I would deviate slightly from the common course and exploit the theme from a somewhat broader horizon than is usually done, and endeavor at least, to show that there is an ethical side to the subject, that the moral economics of fruit growing for the home is of as much importance as any other.

It is expected, I presume, that I shall show the utility of the summer fruits for the family, and recommend certain varieties for cultivation for family use in the order of their excellence and season, treating the subject in a general way, leaving the

special side of the question as to varieties of their kind, and methods of cultivation, to others that are to follow me.

This is an age of progress, and in horticulture, as in every other occupation, there are new ways of doing things, new ideas are coming to the front. Along every line there are new lessons to be learned, new applications of old principles.

Almost everything in this world has a theoretical side and a practical side. This is the case in growing fruit.

Theory is good in its place—that evolved from practice, for instance, and from everyday, common sense facts developed by actual contact with the plants in cultivating and caring for them.

THE POINT WHICH POINTS.

The point is this: Farmers are so accustomed to hearing or reading finely written essays painting in glowing colors the beauties and pleasures pertaining to the production of the summer fruits for home use, that it would almost seem that the very air about the farmer's home must be redolent with the fragrance and perfume of strawberries and raspberries in blossom and in ripened fruit.

Most of our farmers know that while this all sounds well on paper, there are practical preliminaries to be attended to, a measure of expert work of its kind to be done, to make possible the flowery glories of the fruit garden and indulgence in its luxuries. But notwithstanding the work necessary to accomplish this, it is not of a kind that prohibits such realization.

Everybody can have a garden and raise a few fruits; everybody who can get access to earth, air, water and the sunshine. There are no trusts to freeze out the householder from enjoying these God-given bounties, no letters patent to restrict their enjoyment to a chosen few. All classes, from the mechanic, to the farmer who cultivates his broad acres, may if they will, partake of the rich bounties Nature has so liberally provided for man through the exercise, on his part, of a little well-directed labor.

According to an account I saw in an agricultural paper lately, anybody with a space of earth at command on which to set a barrel may enjoy the luxury of several bushels of strawberries grown in a very novel way, simply around a barrel. Linseed

oil barrels are preferred on account of their durability. Inch holes are bored in alternating rows eight inches apart, giving space for 135 plants. Some soil is placed in the barrel, strawberry plants are inserted in the first row of holes, then more soil filled in, and so on, till the barrel is full. The plants are easily kept watered and fed by turning water and liquid manure into the barrel.

The advantages of the barrel method of growing strawberries are that no runners grow, and the whole strength of the plant is directed toward growing fruit. The berries are perfectly clean, all cultivation and weeding are dispensed with, and there is great economy of space. Five bushels are the maximum yield of berries, and three or four the average, depending on the variety and management of one of these barrel gardens.

MORAL ECONOMICS.

Now this subject of the Home Garden involves quite a range of instructive thought, if we turn away from the purely material side of the question and discuss it from its ethical and moral bearings as it relates to home and home influences on the farm. Life it is said, is what we make it. The influences emanating from the Homes of our country exert a greater power over the lives of its citizens, for weal or for woe, than all other influences combined. The ideal home justly included in the sacred trinity of "Mother, Home and Heaven," stands in our New England communities at least, as a mighty bulwark against the floods of evil and demoralizing tendencies incident to our time.

TOWN AND COUNTY.

Effects are results of causes. For the past decade there has been a rapid increase in the population of our cities, and largely by the influx of young men from the rural country. There is a cause for this. What is it? Without attempting to answer this question in detail, I am compelled to say that one reason is lack of congenial home surroundings, coupled with the fact that farmers themselves encourage their sons and daughters to think that there are more honorable, pleasant and easier ways of gaining a livelihood than that of farming. And it is too often the case that this class of farmers set no example of dignifying their

calling, or of learning themselves, or teaching their sons the principles invested in the cultivation of the soil, and it is by no means surprising to find young men disgusted with the avocation which promises nothing else but unremitting care and a dull routine of continued and severe labor.

I saw a statement recently that surprised me somewhat. It was this: The writer says: "I have made careful inquiry, and make the statement on reliable authority, that the greatest proportion of criminal and vicious young men under 25 years of age, convicted of crimes committed in the city, are those reared on the farm until they were 15 to 18 years of age."

Now this, if true, is an alarming condition of things. It calls for earnest efforts on the part of the fathers and mothers, the home-makers of our rural country, to make the home life for the sons and daughters happy, and farm life and work pleasant rather than irksome and drudgery. The young have a firm belief that life ought to yield a great deal of pleasure, and if things are unpleasant at home they will go elsewhere in hope of bettering their condition.

Other things being in keeping in the home affairs, a bountiful supply of the summer fruits grown by the family and for the family, counts as a moral force in the home; the culture of the higher nature of its inmates whose recompense is in coin that will be current in the higher spheres.

CURTAILS DOCTORS' FEES.

There is health in the growing of the small fruits for family use. A direct beneficial effect from the consumption of the fruits themselves, and also in the work of cultivating them. Horticulture is peculiarly adapted to the capacity of women in the requirements of manual labor. In man's primeval state the woman seems to have gathered the first fruit—whether she had a hand in cultivating it is not so clear.

The small fruits are healthful of themselves as a dietary factor in the farmer's family. As appetizing promoters of health, as important factors in economizing household expenses, such as the reduction of butchers' and doctors' bills, an abundant daily use of these small fruits in the farmer's family more than compensates for all their cost and trouble.

The late E. P. Roe said: "I have known invalids to improve from the first day that berries were brought to the table, and thousands would exchange their sallow complexions, sick headaches and general interest with life and its abounding pleasures if they would only take nature's palpable hint and enjoy the seasonable food she provides. Belles can find better cosmetics in the fruit garden than on their toilet tables, and she who paints her cheeks with the pure, healthful blood that is made from nature's choicest gifts and the exercise of gathering them, can give her lover a kiss that will make him wish for another."

STRAWBERRIES FIRST IN THE SEASON.

Beginning with June we have the beautiful, delicious and ever-welcome strawberry, and these are supplemented in succession with raspberries, black and red, currants, gooseberries and blackberries, a good list of delicious, healthful luxuries, and all within easy reach of every farmer in the land, in the very height of perfection at the very lowest cost.

We class the strawberry as easily at the head of small fruits for family use. Its ease of cultivation, quickness to mature a crop after setting the plants, its beauty and the wide appreciation in which it is held by all as a table fruit, render it the universal fruit for the home. We can readily imagine that among the bounties of the Edenic existence the strawberry was among the first choice fruits, and the choicest of the first fruits given to man.

OTHER FRUITS THAT FOLLOW.

Next in value and general estimation comes the raspberry and then the blackberry. Neither are so well suited to the small garden as the strawberry, but may well be included in the farmer's garden along with the currant, and if your disposition will bear it, the gooseberry. The gooseberry is well enough in its place—floating in sugar—but it isn't a berry the majority of people hanker after—we'll except the gooseberry worms, they do. Its cultivation is not so pleasant on account of its thorns, yet many admire the peculiar acid of the gooseberry, especially its flavor in jelly for tarts, etc.

The currant fills a niche peculiar to itself. Grown to perfection as it may be by any one, but only by good cultivation, it

comes in as a handy berry after strawberries to be served when ripe either raw or cooked, or earlier when quite green for sauce or pies, and then the main crop later canned for winter use. So good a fruit and one so easily cultivated, and one that responds so readily to a little extra cultivation, should not be omitted from the home garden.

There is one point applicable to all three of the bush fruits, the currant, raspberry and blackberry, that may be urged in their favor, and that is the comparatively little care they require after the plants are set. Properly trimmed and the superfluous sprouts and new growths restricted through the summer, a plantation of either sort will thrive and bear for an indefinite time.

LESSONS FOR THE BOYS AND GIRLS.

The cultivation of the small fruits, even to the limitation of the home supply, affords a fine field for the boys and girls to cultivate and develop habits of study and observation, especially in growing seedlings and starting cuttings. Take the currant and gooseberry, for instance. In growing new plants from cuttings, the wonderful processes of nature are brought to view, and becoming interested in these things the mind is expanded and the affections broadened and deepened by the beneficent influences emanating from touch with the harmonies of Nature.

The interest once fairly started in watching and waiting the growth and development of plants which their own labor and care have developed, and the pleasure they experience in testing fruits of their own production, or in showing them to others, ought to inspire a fascination and attachment to the farmer boy's home that would lessen the desire and inclination for city life, and if they should eventually leave home to seek their fortune in town or city, they will in after life retain pleasant memories of their childhood home with becoming gratitude to father and mother.

BEST METHOD OF GROWING THE STRAWBERRY AND THE RASPBERRY.

By Charles S. Pope, Manchester.

Perhaps I had better tell you some of my failures and so warn you off the rocks. To make a long story short I will just say that why so many fail is because they do not understand the first principles of raising the strawberry and raspberry. They are induced by some agent to take a few strawberry plants with big pictures and big names. The plants are all dried up when they receive them and in nine cases out of ten they are nearly all lost at the beginning. The first two beds I set I didn't get strawberries enough to pay for setting out; I kept it up and find it one of our easiest fruits grown. First be sure that your plants are fresh, see that your ground is well prepared and enriched. Dig holes with a trowel, spread out the roots and plant them at once. Fertilize them plentifully and keep them hoed; no matter if there are no weeds there, go out and hoe that bed. I was speaking on that subject to Mr. Phillips and Mr. Webber got up and said, "my bed didn't look half so well as my little boy's just along side of it." He was interested in strawberries more than I was; whether they needed it or not he was out hoeing those strawberries. He watered them with a hoe. Fine mulching and fine dirt on the surface keep the ground moist; the secret of raising strawberries is to keep the ground rich and thoroughly stirred.

RASPBERRIES.

The great failure has been that most people put the plants too near together, allowing for lots of suckers to grow but no raspberries. Who would think of growing corn close together and getting any ears of corn; if you want fodder the thicker the better. Be sure and cut out all except a few canes right in the hill. Don't get them too near together or too deep, raspberries grow very near the surface. Keep the weeds down and the dirt loose. The varieties which are tender should be protected by simply laying over the top and then a shovelful of earth thrown against the plant and a little over them. Even last year

when the snow was only on a few weeks those that were laid down were all right and those allowed to stand up were dead to the ground.

DISCUSSION.

Q. What variety of strawberry do you prefer?

A. Depends on the soil. The Crescent and the Bubach are good.

Q. What do you fertilize with?

A. Wood ashes.

Q. Barn manure would contain too much nitrogen, would it not?

A. Not for the Crescent.

Q. How do you set out the plants?

A. Set out in rows about three feet apart and nine inches in the row and you have a solid mat of plants with a few small berries. I set mine three feet apart and two feet in the row. If they are getting too thick I thin them out.

Q. Do you use the horse?

A. I do. Some put them seven feet apart and three or four feet in the row.

Mr. CHURCHILL—I started out to-day to visit a friend of mine here and I got behind the times about a week in regard to this meeting. The first thing my friend said was I supposed you would be coming up to the meeting and we were looking for you. So you see how careless I am. I remember the first time I started out to raise strawberries I set out some less than ten acres and like the woman who planted the seeds and kept digging them up to see if they were growing I would dig down and lo and behold instead of growing up they were growing down and I began to investigate and found they had no roots at all. I got my ground ready and set out some more and I was surprised to find how many berries I got off of them. The main thing to start with is good plants. Of course there is a limit to the number to be set in a hill; if we set too many plants we get too many roots in one place and they crowd themselves. So it is a question just what to do; some will grow and make more plants than others, so we have to use different management with strawberries the same as with everything else. I set mine in sections three feet and a half apart with an alley-way of a foot and a

half and each plant six inches apart, so we can run through and cut the runners off.

As to raspberries, I noticed what the brother said and I think we make a mistake in putting our raspberries too thick. I have mine five feet apart each way and have hills so that I can walk in between. The more I thin out, the more berries I get. It pays to lay down the bushes they will bear more berries the next spring; I lay down all my plants, but you will have to stoop over some.

Mr. True—How do you trim in the spring?

A. About a quarter to a third. I used to trim in the fall but now I lay them down and trim in the spring.

Q. Do you pinch back?

A. No, sir, I do not.

Mr. Atherton—In strawberries you prefer the hill culture?

A. As a whole I do.

Q. What about blackberries?

A. They are a good berry but I never could do much with them.

Q. They are a good berry to market are they not?

A. Yes. Of course the size has a great deal to do with that.

Q. Do you give the blackberry about the same culture as the raspberry?

A. Yes, sir.

Q. Did I understand you to say that you planted raspberries in the fall?

A. Yes, sir. I planted about half an acre this fall.

Mr. True—I would like to inquire about the Quoddy Belle strawberry?

A. Where they were raising them down in Washington county, they claim it was doing well. They were getting twenty cents a box in Boston for them. [See Secretary's Portfolio for description of the Quoddy Belle.]

JELLY MAKING.

By Alanson S. Grant, Lewiston.

It is not without some misgivings that I shall attempt to speak to you this evening upon what is to me a most interesting and important subject, and I think I may add that it is a most interesting and attractive subject to any one who may have become closely acquainted with it. Our State has always been noted for the variety, the high standard and the great commercial value of its apple product. It has also, always been a source of great pride to our citizens, but while it has been a source of financial benefit to a great extent, it seems to me that one phase of its commercial value has wholly or to a great extent been overlooked and ignored.

Very few people are aware of the great value of apples for the purposes of jelly making; and strange to say this is more especially true of those who are themselves large growers of apples. It has always been the custom to prepare during the summer and fall a supply of canned fruits, preserves and jellies to have during the winter as delicacies, when we are deprived of the luxuries which we are accustomed to during the summer. The jellies which we are accustomed to see on our tables are those made from the different berries which we raise and from the fruits of other states, but the apple is more conspicuous by its absence.

The greatest factor that has brought out the jelly making qualities of our apples is our Maine State Pomological Society, which has so generously offered, from year to year, liberal premiums for the best display of apple jellies made from distinct and named varieties of apples. It has aroused an interest throughout the whole State in the subject and excited inquiries which have reached great practical value, so much so, in fact, that at our last meeting at the State Fair in September, the exhibition of apple jellies was so extensive and of such a high standard, that it was a source of pride to the officers of the society, and of great interest to the visitors at the exhibition building. Among the great number and variety of apples of

the State there are very few, if any, that are not suitable for jelly, the possible exception being the sweet apples, but I may say that I have been successful in obtaining a very good jelly from certain sweet apples, Talman Sweets and Sweet Baldwins, but as a rule they are not adapted to jelly making. The great variety in color and flavor that may be produced is really remarkable, the colors ranging from the almost white jelly of the Yellow Transparent to the deep crimson of the Red Astrachan, and the flavor from the very delicate Porter to the sharp acid of the Quince Apple.

To state a definite rule, by which to make apple jellies would be a very difficult and perhaps impossible task but I am going to give you a rule, which may be applied successfully to a majority of the apples. It does not require first quality of apples, second grade fruit being just as good, but it is very necessary that the apple has attained its growth, should be of good color and as near ripe as possible.

The rule which I am about to give is, of course, open to and subject to those little additions and corrections which from time to time suggest themselves, these additions are, of course, more readily noticed by a person who has become closely acquainted with the different apples and who has acquired a knowledge of their characteristics, but as a rule the natural instinct of the housewife, in such matters, readily grasps the different requirements of the various apples.

THE RULE.

First quarter your apples, using the whole apple, as the peel is in a great measure responsible for the color of your jelly and place the apples in a large porcelain kettle, using to every four quarts of apples, two quarts of water for fall apples and three quarts of water to four quarts of apples for winter fruit; place the kettle upon the stove and allow the apples to cook until they become just soft but be careful that they do not cook until they become mealy. Now pour them off into a large flannel and allow the juice to drip through into a dish, it may be well to squeeze the pulp a very little to get the full richness of the apple, but be careful you do not get any of the pulp into the juice as it spoils the clearness of your jelly.

Now place the juice in a porcelain kettle, having it spread over as large a surface as possible, as it boils down much quicker, and allow it to boil rapidly for ten minutes, all the time skimming off whatever scum arises to the top. While the juice is boiling the first time you should have your sugar in the oven heating allowing a pound of sugar to a quart of juice. After the juice has boiled for the first ten minutes stir in your sugar rapidly, allow the sugar to all dissolve and then strain the juice the second time to get out whatever specks there may have been in the sugar. Allow the juice to boil the second time until it will just drop in heavy drops from a spoon, this will require, on the average about twelve minutes. Now the jelly is ready to pour off into your tumblers. Allow it to cool until thoroughly hard, and place a piece of wax paper over the top and be sure the covers to your tumblers fit tightly and then place the jelly in a cool dry place.

In the making of these jellies one must necessarily depend a great deal upon their own judgment, for some apples will jelly much quicker than others, some will perhaps require a little more water for boiling and others will need more sugar, and I will say that it makes a great difference in the time of year that the apple is used, the nearer to the time when the apple is taken from the tree the better. As a rule you will find that the winter apples do not make near as clear a jelly as the fall apples, neither is the flavor of the winter apples as delicate as that of the fall apple. The winter apple though makes a heavier jelly and a more durable jelly than the fall apples for while the jelly which we made last fall is beginning to soften the jelly made from the winter apples will last through the hottest part of next summer. The lack of clearness in the jelly made from winter apples is attributable to the fact that the winter apple is a harder, firmer apple than the fall apple, and requires much more time to boil the first time. I attribute the more delicate flavor of the jelly made from fall apples to the fact that the apple is taken from the tree and made into jelly, and the apple has not lost any of its richness, which the winter apple must necessarily lose by being picked before they are ripe and then kept in the cellar for a long while before they are used.

The rule which I have given you, if followed, will, I am sure, give most satisfactory results.

For the benefit of some I think perhaps it may be well to name a few of the choicest apples for jelly. The apples which I shall name, are to my mind, the very best for this purpose, and I will say that they are picked from a list of over one hundred different varieties which my mother and myself have experimented with. Of the fall apples the following are the best, and I will give them in the order that I consider them, the Porter, the Astrachan, Duchess of Oldenburg, Killhamhill, Yellow Transparent and the Alexander. Of the winter apples the Bellflower, the Greening, the Baldwin, the Ben Davis and Tompkins King are the best. I shall place the Porter and the Bellflower at the very top of the list, the Porter being replaced in the winter by the Bellflower, and that much abused apple the Ben Davis is one of the very best apples we find for jelly. I didn't know but someone might be glad to know that it was suitable for some purpose.

I feel that I have gone pretty well over the ground of apple jellies so far as I know and now I wish to make mention of another use to which apples may be put in making jellies other than pure apple jelly. I have found in dealing with apples that there is an apple which corresponds with the nature of all of our different fruits, that is, that by using apples for a base and combining with it the juice of the different fruits a jelly may be obtained which far surpasses the clear fruit jelly. For example to make a fine strawberry jelly, take the strawberry apple, for a lemon or orange jelly use the Bellflower apple, for a currant jelly or a raspberry jelly use the Baldwin apple and so on through the whole list of fruits. In this combination you avoid two results which make the pure fruit jellies objectionable. You avoid the expense sometimes incurred in making jelly wholly from the berries and expensive fruits and then again that objection which is often raised against these jellies, namely their insipid flavor, is entirely done away with. The apple gives to the jelly that splendid tart flavor of the pure apple jelly, it gives it a firmness, it does not injure the color but rather adds to it and it reduces the expense of the jelly to such a degree that we can be able to make the fruit and berry jellies with as great freedom as we are accustomed to the apple. It is possible to make a jelly this way that is far beyond the pure fruit jelly, this is especially true of strawberries and raspberries.

FRUIT AS FOOD.

By Anna Barrows, Boston.

Miss Barrows began by saying that she had appeared before so many meetings of the Pomological Society that while she had little new to say constant repetition may serve in increasing the use of fruit as food. People are apt to look upon fruits as luxuries rather than necessities. They forget that the date and the cocoanut and the banana supply the main food of people in tropical countries. Even in our colder climate we should do well to depend upon fruits more than we do.

Fruit is valuable because it furnishes us with water in a very palatable form. Physicians tell us that one of our greatest dietetic errors is a failure to use sufficient water or watery foods. Because fruits are mainly water their actual food value is underestimated. The sugar that comes to us through fruits is worthy of consideration. Too often we lose the best flavor of a fruit by burying it in cane sugar.

The acid juices of fruits are especially desirable to counteract the effect of foods which are gross and heavy. Thus we serve apple sauce with roast goose and roast pork. We might prepare apples with fats more than we have been accustomed to do in the past, apple salads have been popular of late. The apples are pared and cored and served with a French dressing, that is oil and vinegar with a little salt and pepper or with a mayonnaise dressing. Again the apples are combined with celery or onion or nuts and served with either a cooked or a mayonnaise dressing.

The fried apples which were a standard dish with our grandmothers might often take the place of potatoes with sausages or chops to good advantage.

We have yet to learn about combining different varieties of fruits just as tea merchants give us different blends of tea. By putting two kinds together we may get something far superior to either. It is an indication of progress that we are learning to make such beautiful jellies as are displayed here, with their wide range of color and flavor. By and by instead of allowing

so much fruit to spoil, in the seasons when apples are most abundant, the juice will be expressed and put in some of these concentrated forms to keep until fresh fruit is less abundant. Such apple syrups or jellies can be used by themselves or in combination with other substances in the preparation of many puddings and ices. Apple pie is good in its place but we need a greater variety of simple desserts.

DUTCH APPLE CAKE.

Sift together one pint of flour, two teaspoonfuls of baking powder, one-half teaspoonful of salt. Rub in one ounce of butter and mix soft with one beaten egg and one cupful of milk. Spread in a shallow buttered pan, cover with rows of apples cut in eighths putting the sharp edge down. Sprinkle with one-fourth cupful of sugar in which a little cinnamon is mixed. Bake about one-half hour.

Sauce—Mix one cupful sugar and one heaping tablespoonful of flour, pour on one pint of boiling water and cook for five minutes, add one ounce of butter, one or two tablespoonfuls of vinegar or lemon juice and a little grated nutmeg or rind of lemon.

APPLE OMELET.

Beat three eggs thoroughly together, add one-half cupful unsweetened apple pulp, season with salt and pepper. Melt a tablespoonful of butter in the omelet pan, when hot pour in the mixture shaking gently to keep it from sticking to the pan. When the eggs have stiffened roll or fold and serve immediately. Or the omelet may be made without the apple and after cooking spread the sauce over the surface before folding the omelet.

COMPOTE OF APPLES.

Make a syrup with one cupful of each sugar and water, Flavor with a bit of lemon peel or cinnamon bark if the apples require it. Core and pare medium sized apples, without cutting up, and cook them whole in the syrup, turning over occasionally. When soft, drain, and fill the centres with a bright jelly, crab-apple of currant.

APPLE SALADS.

Arranged by Mrs. Lincoln for the American Kitchen Magazine.

Whip one cup of thick well-chilled cream, with an egg beater or fork until thick, then add gradually sufficient lemon juice to thin it slightly, and season with half a teaspoonful of celery salt and a spoonful of paprika. Use a thin-skinned tart apple. Wipe, quarter and core without paring, divide again lengthwise into two or three pieces, then slice very thin. For two cups of the apple use one cup of fine cut celery. Moisten with the cream dressing. Season to taste with salt and pepper. Arrange in a shallow glass dish and garnish with green celery tips and crescents of the red apples.

Chestnut, Apple and Celery Salad—Prepare the apple and celery as directed in the first recipe. Shell, parboil and skin the large French chestnuts. Boil twelve minutes, or until soft but not broken. Drain and when cool cut them into thin slices. Use one cup of each measured after slicing. Season highly with a French dressing, and keep in a cold place. Serve in a salad bowl surrounded with crisp lettuce.

Apple and Onion Salad—Boil one cup of vinegar. If strong use half water. Mix one teaspoonful mustard, one teaspoonful cornstarch, one-half teaspoonful salt, and one-half saltspoonful pepper with one well beaten egg. Stir this into the boiling vinegar and cook until creamy. Pour it over two mildly acid apples and one onion chopped fine. Serve it with lettuce cups.

Apple Salad—Place in a saucepan on the range one tablespoonful of butter and one and one-half tablespoonfuls of flour (well mixed), and when hot pour over it, stirring constantly, one cup of sweet cream. Let boil for five minutes stirring all the time. Remove from the fire and stir in one-half cup sour cream, the juice of half a lemon, a *very* little salt, and sugar to taste. Allow to become perfectly cold. Pare and slice, after coring and cutting into quarters, some mellow pippin apples. Pour the mixture over them and set on ice one hour before serving. This will please those who find they cannot eat oil.

PRINCIPLES INVOLVED IN MARKETING.

By Phineas Whittier, Farmington Falls.

In times of peril and great disaster it requires a cool head and a steady hand to do what is best to be done, and if this ever applied to the apple business it does at the present time. It is no use to get discouraged. All products we raise have their ups and downs, times of profit and times when no profit comes, and if we can manage in seasons like the present to make no loss we are doing well. I have repeatedly said that it requires greater skill and ability to care for and dispose of a crop of apples at a profit than it does to grow them and the longer I live I am more and more convinced of its truth. In times of scarcity and buyers plenty any orchardist can make a good profit on his fruit with hardly any trouble, but in seasons like the present this cannot be done. Any orchardist should be fitted up so as to put his fruit in the best possible shape for the market and know just what to do in case of a glut or high winds or any other disaster to his fruit. My motto is to put no part of the apple crop on the market only as a strictly fancy No. 1 article. You will all agree with me, that fruit should be put up in an attractive form to sell, but some good honest men think that means to put up the whole crop, good, bad and indifferent so as to be attractive by putting the good at the ends of a barrel and the poor in the middle, but then the attraction does not last long enough when it is opened. What I mean by putting all on the market as fancy is to can or evaporate all the bruised or wormy and smaller ones and take such pains with them as will make a fancy article and this can be done and with proper storage can be held for a year or two in good shape for use. In this way we can prolong the period of consumption and rid the market of poor fruit which serves to injure the sale of good fruit. When apples are as cheap as they have been this year, if any one is going to buy for that purpose he had better buy No. 1's than to take the gift of No. 2's, it is so much less work to fit them in good shape and they will make more to the bushel.

In preparing apples for market the first thing to be attended to is the proper care of harvesting. If they are roughly handled

then they can never afterwards be made to look as they should and they will not keep so well. Then, if they are to be held any length of time, the storing of them is of the greatest importance. They should be stored where the temperature does not quickly change with the outside temperature and in cool weather, until freezing weather comes, the place should be kept open and in warm weather closed and when it becomes very cold the reverse. The object being to keep as even and low a temperature as possible without freezing. They must be stored in a dry condition or they will soon decay. Good ventilation is absolutely necessary in any place that is secure from frost. I have seen apples stored in barns and out buildings where they would get very dusty and the frequent changes of the weather would cause them to become wet and the dust would adhere to them so that it was almost impossible to make them look bright and nice and the moisture and dust is most favorable for the growth of fungi on them. When apples are put in in a dry condition I have found them to keep better in large bodies in open bins or boxes than in tight barrels, except russets which should be kept from the air as much as possible to prevent shriveling.

Apples should be put into the storeroom where they are to remain as soon as they are harvested and should be put in when they are warmer than the temperature in the place of storage. If apples are left in outbuildings until cold weather it is almost impossible to store them so as not to have them become wet and they will remain wet so long that they will mold and decay. I dwell somewhat upon the proper storing of apples for it is one of, if not the most important and difficult matters to be attended to in order to have nice clean fruit free from fungi.

As to the best time to market it is no easy matter to decide. Those who are best posted and observant are very liable to be mistaken. Very much must depend on one's facilities for storing and the condition of the fruit at harvest time. It is of no use to store apples for keeping that show any signs of becoming scabby, for that will grow on them after being stored.

If anyone has used up all his inferior and defective fruit by canning or evaporating and kept the remainder so that it is bright, hard and sound he can get a fair price for it even if the market is glutted in late winter and spring; providing that it is

known to be honestly packed. If any one has not the proper facilities for storing and wishes to sell all in a green state, he had better, generally, sell as soon as possible after harvesting. We as orchardists cannot too strongly condemn the practice of putting good fruit in the ends of the barrel and poorer in the middle. It is a disgrace to the business and injures all of us and the only safety for honest packers is to have their own names on each and every package they put up. I think buyers and packers are doing a greater injury to the business than are the fruit growers themselves. The first time any one sends a really fancy, honestly packed lot of fruit to market the buyer says, Oh, I guess it is packed as usual and I cannot pay any extra for it, but when he finds it to be nice and he wants to buy again, he will inquire for the same brand and as soon as he finds that it can be relied on he will pay an extra price. In selling apples and working for a good reputation in the business it is much the best way to find the right commission merchant and stick to him and let him have all your fruit to sell. One of the most important principles for an extensive, and, I might say all fruit growers, is to look ahead and be prepared for all the mishaps that may befall his business. Some years, the present especially, No. 2 fruit is not worth anything. Some times high winds will sweep the fruit completely from the trees and many other conditions may happen that render the fruit unfit for market. At such times there is only one chance to make a profit on the fruit and I prefer to take that one chance and that chance is to prepare it for market by canning or evaporating.

If we neglect to fit up until such things come upon us it is generally too late to take advantage of them. Very much the best way is to look ahead as though we were expecting such to happen and be all ready and prepared to take care of and use up all such fruit at any time. I find it quite an alleviation to my grief at such times to be so prepared. In making preparation for taking care of the fruit crop don't forget to store up a sum of cash to draw on at such a time for it costs something to properly take care of a fruit crop, but it will pay if anything will. I should not hestitate to hire money to do so as I have had to sometimes. I have put about fifty cents into each barrel of my No. 2 apples since harvesting, in evaporating them this year. It

requires some courage but I believe it will pay me something, especially if there should be a short crop next year. In some like instances I have realized more money from my No. 2's than from the No. 1's.

It may be asked if every one used up all their poorer apples in the way I speak of, if the market would not be over crowded with such products? Well, if it should be, it would be no worse than it is to over supply it with the green fruit and it would relieve it of so much poor fruit. Seldom or never would the price of canned or evaporated fruit go so low as not to leave something to the credit of the apples, at least this has been my experience and if it is stored and held over another year and there should happen to be a light crop, then there would be a good profit and sometimes a great one. I am convinced and have been for years, that if I did not use up my poorer fruit as I do I should loose more than one-half of the profit from my orchard.

DISCUSSION.

Q. I would like to inquire how long it is since Mr. Whittier came to the conclusion that apples do not sweat?

A. As long ago as I wrote for the "Home Farm" I advanced the idea that apples do not sweat. Dr. Hoskins said it was just what he had known for a long time but he "Didn't dare to take so big a bull by the horns." It is caused by the apples being colder than the atmosphere around them. You carry a stone from outdoors and you can hardly get it down cellar before it will be wet. So it is with apples if they are stored where the temperature is constantly changing. Perhaps there will be a warm spell, perhaps a foggy spell; and a foggy spell is worse than a warm spell. Then if you let your apples stay out until they are almost frozen, when they are put in the cellar they will sweat as you call it, and it will be a long time before they dry off.

Q. When is the best time to pick winter apples?

A. I commence on those that need picking first. You can readily tell by the color of the apple and the ease with which they pick. I commence with the Rhode Island Greenings; if I let them be on the trees as long as the Baldwins they will mostly be on the ground. The Northern Spy I leave until the

last thing. One year I left them on until the frost had taken the leaves all off the trees. Not a leaf on the tree but the tree filled with the prettiest apples you ever saw.

Q. How did those that you left on so long keep?

A. The best of any I ever had. I kept them until along in April and they were just as bright as could be.

Q. Had it been cold enough to freeze those Northern Spies on your trees?

A. No, sir.

Q. Do you think it hurts an apple to freeze solid?

A. Yes. An apple may freeze so you will think it is ruined but if they are let alone the frost won't hurt them.

Q. You spoke, Mr. Whittier, regarding the disposition of your No. 2 apples which you can or evaporate. We small growers cannot go to the expense of doing that.

Mr. WHITTIER—It costs a good deal to fit up to evaporate in good shape; but to can it costs but very little. If a person has fifty or a hundred barrels he could do it at very little cost. In fitting up to can you can fit up on a small scale very easily. I have known some in our neighborhood to have a common barrel boiler set and get a cover for that and something to raise and lower the apples into it and use that for cooking their apples.

Mr. FAIRBANKS—Did they put them up in tin cans?

A. Yes, in gallon cans. The expense is very small aside from the cans.

Q. How many pounds will they make to the barrel?

A. Pretty good russets will make twenty pounds to the barrel. Of course a good many apples would go in that you wouldn't think of putting in as second quality and they would make about sixteen pounds to the barrel; Baldwins will dry out more than Greenings and Greenings more than some soft fall fruit.

Q. What proportion of your fruit do you evaporate and can?

A. About one-half this year and I had nice apples too. Some years I evaporate and can two-thirds of them.

Q. You evaporate all your apples except those that are strictly fancy?

A. In a scarce year I would make three qualities of them and make a good second quality and send them to market as No. 2.

Mr. Wheeler—Speaking of the large number of small growers; from your experience of the past what would be your advice to them in regard to canning or evaporating? You purchased and at the present time are using a large steel evaporator; that perhaps was necessary in your business, but would you advise the smaller growers to fit up with steam as you have?

A. I should advise them to fit up and can the fruit instead of evaporating it as they could run it economically on a smaller scale.

Q. Do canned apples find as ready a market as evaporated ones?

A. When they are put up in cans the people can't see them and so they buy them.

HOME MARKET.

By W. H. Keith, Winthrop.

Home market I suppose means American market—a market where we can dispose of our surplus products. To obtain the best returns from any market the first requisite should be quality. Quality of the product, quality of the person producing and quality of the person handling the product in the market.

This may seem random talk, but I believe there is more satisfaction and more profit in producing a good article and placing it in an attractive form in the distributing houses of dealers who place their goods at their customers' door, guaranteeing value received.

Within the memory of many of the older persons in this assembly, the marketing of the surplus apples of the farm was done in a meal bag and to break the monotony of the color of the apple a dusting of meal appeared on the fruit when emptied. Small fruits of various kinds growing spontaneously in the fields and around hedges were marketed in pails and baskets. Even the potato formerly was loaded into the ox cart in forty and fifty bushel loads and emptied into a spout and tumbled into the cellar. But time changes everything, such ways of marketing

and handling products of the farm have gone by and new methods have been adopted.

The home market as well as the foreign market is sensitive nowadays—quality and uniformity demanded. Insisting upon quality first next should come grade. Grade all products so that unifomrity may be found from top to bottom and from center to circumference. When this is done and the goods once introduced in the market with your guarantee behind it your market is secured. Every producer of farm and garden products who adopts and strictly adheres to the above requirements with full weight and measure will almost invariably find a home market.

I believe we are as yet in our A B C's regarding our imperative duties in producing, preparing for market and marketing our farm products. Offer no product that you demand the top market price for, unless the grade and assortment is first class to the letter.

There is, however, a class of trade, although limited, that will prefer a lower grade at lower prices and trade of that class can more easily be supplied with unsatisfactory results.

The ruling tendency to supply the markets with food products is slipshod, mixed, uneven, uninviting, profitless.

Consumers as a rule are exacting in their tastes and demands for first class products. Give them such products and satisfactory prices can be obtained.

When the producer and consumer can be brought nearer to each other for the necessaries of life and cooperate in trade in a more general way, then the home market will be appreciated and become one of the most inviting and profitable channels through which to do business.

In seeking a market for our farm products, we are too apt to overlook our nearby market. Aim to produce such products as the surrounding market calls for, anticipate the demand. Every month of the year some product of the farm is sought for by the consuming community and if those products are at hand purchasers may be found to take them.

Cater for the home demand.

SHIPPING FRUIT TO FOREIGN MARKETS.

By W. P. Atherton, Hallowell.

In 1892, I shipped two car-lots of apples to a reliable firm in Liverpool and they netted me $235.00 better than if sold to buyers on this side; that was because they happened to arrive there during two of the best weeks of the season. The next year I shipped one car-lot and waited returns before sending another, and it was well I did, for I lost $175.00 on that one venture. I sold afterwards to a Boston firm what I had left of that season's crop. The next year I shipped two or three car-lots of Baldwins and one car-lot of Spies. The former netted me $1.40 per barrel and the latter $1.70 per barrel, and all I was offered on this side was $1.25 per barrel for both varieties.

Last year, 1895, my crop was so small and fruit rather inferior, I sold to buyers in this State in preference to shipping. This year I had more than I could put into my cellar and concluded to test the markets before shipping largely, so I sent forty barrels of choice early winter fruit and thirteen cases of choice fall fruit wrapped as you would oranges. They were Gravensteins—first-class in every respect—apples that would have brought me $2.50 to $3.00 per barrel in Boston, and they netted me back just $2.19, within three cents of enough to pay for the cases; the forty barrels of choice early winter fruit—consisting of Kings, Hubbardstons, Mother, Nodheads, &c.,—netted me $12.05, enough to pay for the barrels and the packing—a most deplorable result, so Mr. Geo. A. Cochrane said. I therefore concluded that experience was sufficient for one season, and sold the bulk of my crop to Boston parties at what were considered fairly good prices. There was no fault found with the fruit, either in the cases or barrels, that was first-class in every respect and sold quite well, but at that time freights were very high and the markets thoroughly demoralized by extremely heavy shipments. Much of the shipments, too, was of a character to depress rather than help a market; it consisted of soft and inferior fruit, for people imagined that because England was short on her apple crop she would buy anything and everything and pay big prices,

but they got woefully mistaken. On account of the immense crop of apples there seemed to be a perfect craze to get rid of them somehow. Everybody, including commission merchants and buyers, were more or less infected with the excitement. In consequence shippers lost heavily; farmers either singly or clubbed together lost heavily, and one Boston firm I know of went all to smash on account of wild investments in apples.

POINTS TO OBSERVE.

In shipping apples to a foreign market as much, if not more, depends upon the state of the market as in the condition of the fruit, whether your returns will be large or small. If the markets are glutted or even overstocked, good sound stock arriving in good condition must necessarily sell lower than it otherwise would, and if a large proportion of the stock arriving out is soft, poor, or inferior, your stock, however good, will be affected and sell still lower. Therefore in shipping fruit the markets must be carefully studied from week to week, and, if possible, from day to day. Several other things must be considered. Freight charges, insurance, primage, dockage, cooperage and commission charges altogether count up quite a sum, varying from $1.25 to $1.50. In addition to this you will observe that much of the fruit arrives out slack, wet, slightly wet or open, and when that is the case it will sell from one to four or five shillings less per barrel than if marked tight. Getting there tight makes a big difference in the price. I can get more for number two apples arriving there tight than you or anybody else can for choice number one's if they arrive there slack. A large proportion of the fruit sent this season has arrived there slack.

The great secret—in reality there is no secret about it—of success in shipping fruit either to a foreign or to a domestic port, is to know how to pack that fruit in the most attractive manner and solidly. So much has been said and written upon the subject of packing that it seems almost useless to say more. In packing first-class fruit, select the largest and highest colored apples to face the barrel; then place about one-half bushel of those nearly as good close to them and fill up with first-class fruit only. Some make but one grade, when, after observing

the first two requisitions, they fill up with first and second class fruit mixed, a very objectionable method. Let your ones be ones and your twos be twos, but in packing twos it is better to select medium sized and good colored ones to face the barrel, putting about a peck or one-half bushel of pluggers close to them and filling the barrel with regular stock.

How to pack and press in this fruit so as to be solid and arrive out tight is quite a trick but those who know how can do it nearly every time; that is, barring accidents, they are reasonably sure of its arriving out tight. It is useless, however, to attempt to tell just how to do it; everybody must learn themselves through their own experience, or by observing those expert at the business.

IGNORING THE TWOS.

Some people say a number two apple should never be shipped abroad or to any market, and a good many buyers this year refused to purchase any but number one apples. This is all folly. People who talk that way really don't know what they are talking about. If there were no number two apples raised that would simplify if not settle the matter, but there always have been and there probably always will be number two apples raised. If everybody would evaporate or make into vinegar, or feed to their stock their number two apples that would reduce the amount of salable stock and advance prices, but everybody won't do it, for evaporated apple is low enough now; there would be no profit in making more cider-vinegar when that already made will not sell at paying prices, and the feeding value of apples is too small to be considered. Moreover number two apples sell better in foreign than in our own home markets and frequently bring much more than they would if evaporated.

They sometimes sell abroad within one shilling or one shilling sixpence of the best and as long as that is the case no one will be willing to throw away or evaporate that class of apples. There are too many of them. We are perfectly willing our neighbor should throw his away, but are not at all inclined that way ourselves. In order to get over the difficulty I have heard some farmers say they didn't have any number two apples this year or none to speak of. All I can say is, I should hate to buy that man's apples at his way of thinking.

Taking all things into consideration, I would advise orchardists, unless they have large lots whereby they can cover several months in shipping, to sell to good parties on this side rather than to assume all the risks themselves. Ordinarily there is too much risk for a small shipper on an uncertain market. One may strike a prize and one may draw a blank. It is too much like a lottery. From my own experience and that of many others I cannot but draw the conclusion that it is better to sell to a good commission house or to reliable parties constantly shipping.

DISCUSSION.

Q. Do you ship apples in barrels or cases?

A. I wrote to a gentleman across the water who wanted me to ship direct to him, a broker and commission merchant on the other side, and he wrote me not to ship them in cases.

Q. I would like to inquire what the condition of apples is when they are wet?

A. Well they may have acquired that by being on board the steamer where they absorb moisture and may have been wrinkled up a little. They may have acquired that by pressing in too many.

Q. How do you understand apples are sold in the foreign market?

MERRILL—I understand the apples are poured out there for the benefit of the dealers as well as the auctioneers; there are long tables running along and the dealers come up and buy them for themselves or for others doing a retail trade. When they buy those apples they open them up and they want them to look nice, and when people come along and see a barrel with nice large apples they want to see if they are good down in the barrel and they poke down into them; and if they are good they like to get that same brand the next time they come.

I noticed a report of the meeting of the New York Horticultural Society in which some of them found fault with the growers of fruit and said the trouble was there were too many varieties sent across the water and they did not pack them solid enough. That is true. There are too many apples loosely packed and it hurts the market as much as over-production.

Q. What are apples worth for fattening purposes?

A. I have fed hundreds of bushels of apples to hogs, but I never fattened one yet on apples. I don't care what you feed them to there is no fattening to apples; a boy will sit down and eat a peck, but he will eat just as much dinner afterwards as a man would.

A large fruit grower that I know went into the evaporating business and after he got well under way I said to him, "How much will it cost you? About five cents a pound to evaporate this fruit. How will you get out of it?" "Well," said he, "I am going to make a choice article." But if everybody went into evaporating fruit where would we be? That wouldn't make any more fruit and if the crop was evaporated there wouldn't be any more buyers. There are a great many number twos and we are perfectly willing our neighbor should throw his away, but we are not at all inclined to throw ours away. I have heard men say they only had number one apples. I only thought I should hate to buy their apples.

Briggs—Why can't you explain how to pack apples? The ordinary man understands how to pack apples; all there is to it is to pile in the apples and put in half a bushel or three pecks to make it square to go across the water in a tight condition and so continue it till the barrel is full, and properly filled the barrel will arrive in good condition. This is the experience of all shippers.

Atherton—The first year we shipped my fruit sold well and the prices were satisfactory; but again I noticed a good many marked flat and the prices were of course less. Well I found we had got to do something so I sent them more solid, and out of three crates I had only three marked lacking. Then a man came from Boston and he could head more apples than any other man I ever saw. He made me round them up and then press them in together and walk the barrel back and forth till I jounced them together. I said I am afraid you are going to spoil the apples by pressing in too many; well, he said, I am going to have them tight any way, and I will write you of the condition your apples arrive in. The firm wrote "the 'AA' (the mark I had for my apples) show very careful packing and are the only apples that have been well shipped."

THE FOREIGN APPLE MARKETS.

By Alfred W. Otis, Boston.

(In the absence of the writer the paper was read by Mr. W. P. Babb of Portland.)

I understand from the programme that my subject is to be "The Foreign Markets," but I have taken it to be more particularly the foreign apple markets.

American apples have been exported to European markets for a great many years but my personal experience dates back only to the season of 1880-1881. The exports that season from all American ports were in round numbers 1,300,000 barrels and many weeks the quantities were limited only to the carrying capacity of the steamers. From that time the business has grown in almost every particular. The steamship companies have done much to cater to the interests of the shippers and in building their new steamers have given particular thought to the necessities of the apple carrying trade.

In 1880 the shipping from New England was almost wholly done by the dealers in and around Quincy Market, Boston, and an issue of fifty circulars would supply each shipper with the latest information. Now instead of fifty local shippers there have been this season not less than six to eight hundred different shippers from various parts of New England, sending their consignments on Boston steamers alone.

Many farmers, believing that they might as well have the profit themselves, which they supposed of course the speculators received, have shipped their apples, and in some cases have realized not the profits, but the sad fact that "All is not gold that glitters." In some sections the entire crops are forwarded and sold for the growers' accounts, while in other localities the apples are bought up by speculators and I am free to say that in some respects the speculator has the advantage. He handles not the apples from his one particular orchard regardless of the quality, but he naturally looks for the best which he obtains upon as favorable terms as possible. If in shipping only from one orchard, his apples happened to arrive upon a low market, his

account would of course show a loss, but as a speculator he follows the market and soon has an opportunity to recover his losses and comes out with a balance on the right side.

The foreign outlet for our apples is confined almost wholly to the markets of Great Britain. The most important market is Liverpool, then comes London, Glasgow, Hull and lately to a very small degree Manchester and Bristol.

As Liverpool is the most important I will give that market my particular attention. It is important on account of the superior transportation facilities which it has in the way of many lines of large and fast steamers from New York, Boston and Montreal, and in the winter season from Portland; also because it is a large distributing centre to the large markets of Manchester, Birmingham, Leeds and other cities throughout England. Immediately upon being landed in Liverpool, apples are sorted according to marks upon the dock and different selections made according to the tightness of the packing; the different terms being "tights," "slack," "slightly wet," and "wet," the term "wet" indicating that the barrels show wet upon the sides or ends from the juice of the fruit and not wet with salt water (as some people suppose); "wet" or "slightly wet" shows to the buyer that the fruit is to a greater or less extent decayed. After selections are made, samples of each and every mark (usually about four barrels out of a 100 barrel lot) are sent to the sales room. In this one room all the brokers, or as we would call them, auctioneers, take turns selling their apples. Here all the apples as well as other green fruits importd into Liverpool are sold at auction.

The sales room is arranged something after the plan of a theatre, the auctioneer and their clerks on one side, while the buyers occupy seats arranged in circular rows on the other, and in the centre, that is between the seller and the buyers, is the elevator up on which samples come up from a room below. These samples are opened, part on the faced end and part on the pressed end and then emptied into large baskets, thus showing fully the contents of the barrels.

The sales take place every Monday, Wednesday and Friday, and are attended by buyers representing dealers from all over England and when conditions are favorable from some places on

the continent. It is owing to the system of selection which is followed allowing buyers to reject any but the "tight packed" packages which allows all England to become a buyer in this one room. If compelled to take all of a mark, whether "tight," "slack," or "wet," the out of town buyers would not buy at auction but would buy second handed where they could get only such fruit as could be safely shipped to their inland markets. With 250 buyers in one room ready to bid for such fruit as may meet their wants, it is very evident that better prices will be realized than if the bidding was confined to the comparatively few dealers in the city of Liverpool. It is true that the prices realized are not always satisfactory to shippers but this is also true of the fruit business in any market and the commission business in other lines as well. I believe it can truthfully be said of Liverpool that it has the best system for handling immense quantities of perishable merchandise of any market in the world. In London, Glasgow and the other markets the trade is not so concentrated and the demand is principally for local consumption.

The question is often asked why England does not raise its own supply of apples. The climate is such that it is impossible to grow the varieties such as we have and such as are grown there do not have the keeping quality of the American apple. Theirs are green varieties and are usually well out of the markets early in October. A year ago last fall the English crop was the largest on record and very little demand was anticipated for American fruit, but as soon as the good sound varieties appeared there was at once an active demand which continued throughout the season at comparatively high prices.

The principal apple of commerce is beyond all question the Baldwin, which is usually the standard of quotations. The apples commanding the highest prices in England are the Newtown Pippins shipped from a small section in the Hudson River Valley; these have at some seasons sold at over seventy shillings, that is $17.00 to $18.00, and two years ago one shipper received, net, clear of all expenses, over $1,400.00 for 200 barrels of apples, part of which were seconds. Other varieties that meet with a good demand as long as quantities are not excessive are Ben Davis, Greenings and later in the season Russets.

This year has been one for the establishment of records. It opened with the earliest shipment ever known, being sent early in July from New York. The heaviest single shipment that ever crossed the Atlantic was over 25,000 barrels on the steamship "Scotsman" that sailed from Boston on the 27th of November. The heaviest weekly shipment on record was the total for the week ending October 10, being over 182,000 barrels from all ports. The total shipments from all ports are altogether over 2,500,000 barrels or a million barrels more than any previous year. Boston has shipped already over 900,000 barrels and will have shipped before the end of the season considerably over 1,000,000 barrels. The largest quantity ever received at the port of Liverpool in one week was for the week ending October 24, being over 107,000 barrels. The supplies during the month of October were on an average of 12,000 barrels daily. The total receipts in Liverpool up to the 6th of this month were 1,266,262 barrels. These figures give a slight idea of the influence that the foreign markets have upon the interests of the farmers and the apple growers of this country. When prices seem low we may well ask the question what would become of the American apples if it were not for some such outlet?

As regards prices, this season cannot be said to have been generally satisfactory up to the first of January. The season opened unusually early and shipments consisted of early varieties which were not sufficiently good to attract a demand in the English market. During October enormous shipments were made in very hot weather and landing in very poor condition, the prices were disastrous in the extreme. Later in October there was a slight improvement in the quality and some falling off in receipts and prices showed an advance. Just at that time, however, all the growers and shippers hurried shipments forward to avoid freezing with the result that the markets were glutted worse than they had been at all during the season. This glut continued up to the end of December, many shipments realizing very little and in some cases absolutely nothing over and above expenses. The low prices caused shipments to stop almost entirely and the markets having a chance to react prices have since been very satisfactory. It is quite evident that if the shipments this season had been confined only to the best quality

and the seconds and poorer grades had been disposed of or even thrown away at home, more would have been realized for the crop than the actual figures show.

It is impossible in a paper of this kind to cover fully all points connected with the foreign apple markets but have endeavored to give the members a general idea of conditions attending the exportation of apples.

DISCUSSION.

WHITTIER—Do buyers in that sales room have a chance for close inspection of the apples?

A. As I understand it they do. I judge partly from the way the fruit is sold in Boston, that our auctions are carried on something as theirs; the fruit is all landed on the wharf and the fruit branded; you can very easily tell whether they are in a sound condition or not, if they have begun to decay they will look wet. They have catalogues and every buyer is furnished with a catalogue; these catalogues are left blank and the prices are not carried out. These are printed on stiff paper. A man takes his catalogue and goes to the wharf and every man has some way of ranking the fruit; some will use one hundred dollars and some one hundred as the average grade of fruit. This is his estimate of the fruit.

I think the only opportunity for an inspection of the fruit is in the sales room. He looks the fruit over and marks it off according to its rank. He then goes to the sales room and there he has a chance to inspect it; he opens his catalogue and if they are selling No. 1 he simply takes his catalogue and refers to how it looked on the wharf and then makes the foundation of his bid. He bids on tight packages but you know when the demand is good a man will take packages he wont when the market is dull; then the catalogue will go back with more slacks; there are no more slacks reported than there are but if a man makes up his mind he can make a profit on the slack apples he don't say anything about it. They bid on those apples in reference to getting tight packages and they have the privilege of rejecting the slack ones if they buy five hundred barrels, but he can't take less than twenty and if the rest are all right he has got to take his twenty barrels; it is for that reason that Mr. Otis speaks of the farmers guaranteeing their stock; you have got to in some way

stand responsible, if you don't, it will drive in another man to intervene between you.

If the farmer has apples enough he could get just as good returns as anybody. Of course the apples are what the buyers are after; here is Mr. Merrill who is shipping apples every week and if he is noted for putting up the best apples that go too Liverpool he will get the run of the market. There is a good deal in packing apples to go across the water; I have been connected with the apple business ever since I was a boy on the farm, I have bought and packed them and every apple man says he cannot see why so many slack apples turn out this year; last fall the apples that were supposed to be the hardest came in wet, but people said they took just as much pains as usual in packing them. Last fall we had very warm weather and the apples shrunk up; one man said his apples shrunk about one barrel in ten. That don't pay.

A great many people press their apples enough but they don't get them in right, most people make a cone and press them in so tight and firm they gradually press toward the outside; the right way is to press them so every apple will tighten together, in the other way your apples are all mush and you make your wet and slack apples all through your barrel. Of course as we turn apples they will pile up and leave spaces, as you turn in your apples turn in one-half a bushel and shake it down and turn in another half bushel and shake it down; that shaking should be the only shaking, shaking as you put them in.

Mr. Atherton—Apples have been packed real nice and before they got across the water they were wet, probably on account of careless handling on board the steamer.

Mr. Babb—There may be cases where that is true but a great many boats are going across the water and I don't think you will find them rolling their apples as much as they used to. The steamship people see that it is for their advantage to land their apples in good shape. We have some boats that apple shippers will shun; somtimes we will hold back a shipment so they will not strike a boat that don't land their apples in good shape and the men have taken an interest and built their vessels so they can take the apples across in good condition.

Mr. KNOWLTON—Who are the buyers there, jobbers, retailers or consumers?

A. I perhaps cannot answer that, but I think I am correct in my idea that they are both of them. If a retailer thinks it will pay him he will go there. If a retailer thinks it will pay him in Boston he goes to the auctions; I think it is likely the most are jobbers, but there is nothing to restrict the retailer if he buys.

HARDY ROSES—VARIETIES—CULTURE.

Mr. Ernest Saunders, Lewiston's well-known florist, read a finely prepared and instructive paper on hardy roses, treating of their culture and varieties. Mr. Saunders said that our hardy roses were supposed to winter without protection, but he had found it to pay to protect even the hardiest varieties, especially during winters like the present. Roses do not require a great deal of protection, simply bending them down and covering with brush and straw.

Mr. Saunders named the following varieties which he had grown and were to be recommended. In the red, the Gen. Jacqueminot is the old stand-by, and is hard to beat. Fisher Holmes, about the same color, but freer bloomer. Baron de Banstotten is the best dark crimson rose he had ever grown, and is about the color of the Black Prince, and by far the best grower.

In pink sorts Mrs. John Laing is a strong grower, free bloomer and one of the most beautiful of the hardy roses. Paul Neyron is another good grower and produces the largest flowers of any rose grown. Mme. Gabriel Luiyet, Baroness Rothschild and Magna Charta, are also very good varieties.

In white the Margaret Dickson is a strong grower and produces beautiful large blossoms. Mrs. Cleveland is also a good white rose, delicately tinted with pink. Mme. Plantier is another good grower and profuse bloomer in June but is not a perpetual. Caroline Marinesse is a profuse bloomer but flowers are small.

Mr. Saunders said he had not been able to find a good perpetual yellow rose, but the two best varieties tried were Harrison yellow and Persian yellow, profuse June bloomers.

THE CLIMBERS.

Among the climbers Mr. Saunders named first Baltimore Belle, a good bloomer in June; Crimson Rambler is a climber which is fast gaining popularity. It produces large clusters of small crimson roses and makes a beautiful display. Empress of China, when well grown, gives a profusion of flowers most of the summer.

CULTURE OF ROSES.

When the plants are received from the nursery, under no circumstances allow them to lie exposed to the sun; place them in a cellar or a damp place where the roots will be kept moist.

The first and most important requisite is the preparation of a suitable place for planting. Give them a protected situation from high winds and a sunny exposure. Roses will do best planted in beds. They will do well in almost any soil that is properly drained and enriched. If the soil is too strong a clay, work in coal ashes and lime; it should be thoroughly manured and worked to the depth of eight or ten inches. Never use green, undecomposed manure. If old manure is not at hand use commercial fertilizer and mulch with coarse manure and work it into the soil the following spring.

The rose may be set in spring or fall but spring planting is preferable. Plant about the same depth as they grew in the nursery; this for plants on their own roots. Budded or grafted plants should be set so the juncture will be three inches below the surface, to present suckers starting from the stock. Advised setting plants on their own roots, although they will not grow quite so rank as budded plants.

Have the soil well pulverized when setting and firmly pressed about the roots.

ROOM FOR PLANTS.

Regulate the distance apart to the plant by the vigor of the plants. As a rule two feet each way is a good distance. If planted in beds select the strongest growing sorts for the centre, let the weaker growers occupy the outside.

IMPORTANCE OF PRUNING.

The pruning of roses is one of the most important features of culture. All roses should be pruned before or immediately after planting. Not to do this is one of the greatest mistakes that can be made, as the roots will not feed so many buds and a weak growth ensues.

The shock of transplanting must be met by the shortening of both shoots and roots. The shoots should be cut back to three or four buds. All of the bruised roots should be pruned, cutting away to the sound wood, also the large roots should be shortened to induce sending out small, fibrous roots.

ENEMIES OF THE ROSE.

One of the chief enemies to the rose is the aphis or green fly. They are destroyed by showering with tobacco water.

Mildew is another bad thing, it is caused by change of the weather, but this can be easily overcome if taken in time by the application of dry sulphur when the dew is on the leaves.

The red spider is another pest which gets in its work in hot weather. The best way to get rid of them is to shower the plants.

Another troublesome insect is the rose hopper, a small white insect which works on the leaves. A sharp lookout should be kept for them early in the season, and as soon as discovered sprinkle the leaves with white hellebore.

DISCUSSION.

Q. How do you apply white hellebore early in the season to keep off the bugs?

A. Just sprinkle it on as you would Paris Green or anything, you can put it in a pepper box or a sieve.

Q. Don't they work on the under side of the leaves?

A. I never had any trouble when we applied it early in the season.

Q. When should roses be pruned in the fall or spring?

A. I don't know as it makes any difference either in the fall or spring. Sometimes we cut them back and sometimes they die down.

Q. Please tell us how to prepare the tobacco water?

A. Just put into water and sprinkled on, a little weak water will do it.

Q. Will you tell us of some varieties that will stand the cold winter with no snow?

A. All these varieties that I have named are supposed to be hardy in this State.

Q. You spoke of applying narcotic stimulant. In the way of a decoction or fumigation. The easier way for me is to fumigate.

A. You can't do that very well out of doors unless you are a better smoker than the most of folks. I think the plants would stand it all right but I can't say about the green flies.

PLANT STUDY.

By Prof. L. M. Felch, Houlton.

Some knowledge of plants should be possessed by everyone. This necessity has been recognized ever since man appeared upon the earth. The study of plants is probably the oldest of the sciences, authorities to the contrary, for before man began the study of the heavenly bodies, he had turned his attention, through necessity, to the study of plants, and had investigated their properties and applied them to his needs.

Botany has had a place among the natural sciences about one hundred years and wherever it has been well taught, it has been a favorite study. The first writings on botany contained a description of about eight hundred plants, at the revival of learning not more than one thousand four hundred were known. The immortal Linnaeus was acquainted with only eight thousand, while at the present day, more than 150,000 are known and additions are being constantly made. The student need have no fear that he can exhaust the subject, and that his desire to learn will ever lack material, for a long life given to any one of its departments would still leave it unfinished.

No branch of study gives so much pleasure, and as its new beauties are unfolded to the eye of the observer, he will feel as the poet felt when he wrote:

> "But who can paint
> Like Nature? Can imagination boast,
> Amid its gay creation, hues like hers,
> Or can it mix them with such matchless skill,
> And lose them in each other, as appears
> In every bud that blows?"

A knowledge of botany is necessary to enable one to select such plants as are suited to the climate and soil. The agriculturist must know the habits of plants and their modes of growth so that he can prepare his ground giving to each its appropriate food. We have to a great extent, passed the mere experimental stage, when every farmer might make his own experiments. Competition is now too active, and the products of the soil are not sufficiently renumerative to allow every farmer to work out his own methods of profitable plant production. The farmer must, like every other man who wishes, or expects to meet with success, learn all there is for him to learn, in his particular line of work; and while he may add much to the general fund of knowledge, by careful observation, yet he must, except in rare cases, turn over the work of original research to those who have leisure and opportunity for research. No calling in life requires more intelligence and all around mental development than that of the successful farmer; and of prime importance in his development, must be the knowledge of plants, with all that this includes.

Nor can we be content with what we, today, consider the useful plants. Men must be trained to observe, not alone with the eye of the past, but with added acuteness, we should see what our fathers could not, did not need to see. There are too many in the world who see nothing. Agassiz said of the great number of students he had trained, but two had become observers, two who could really see.

The plants we now deem useful are but a part of those the coming generations will find adapted to their wants. Linnaeus knew, at most but 8800 plants, and most of this number were not ranked among the useful plants. Europe now gathers 4200

plants for use. It has been said that, "He who caused two blades of grass to grow where one grew before, is a public benefactor." What then should be said of the one who can add to the number of useful plants? Many of those we now know and prize, should we meet them in their wild state, would probably be passed by as of no account.

We are constantly developing new wants, or the source of supply is too limited, and new demands are being made upon the plant realm for supply. It was but comparatively a short time ago when India rubber was discovered and brought into the general service of man. But to-day the plants which have been depended upon, are wholly inadequate to supply the demands made upon them, and new sources of supply, or an enlarging of the original, has been demanded, and already another has been discovered. And it is to fill this demand for those who are able to see, not in a general but in a particular sense, that the study of botany is particularly adapted. We have but to glance about us to see the necessity for further discoveries in order to meet the growing wants. Our magnificent forests of hemlock are nearly a thing of the past. Already we have to go long distances to see a good specimen of this noble tree, and the few that remain, will soon disappear. But we shall need leather and it must be tanned. Where are the plants to yield the tannic acid? Our magnificent lumber forests are being rapidly swept away, and the children are now born who will have to settle the question of an adequate supply of lumber. Demands upon the plant realm, in the future will be more exacting than in the past, and men must be trained who shall understand the conditions most favorable for particular plant development, and for their preservation. This is not a sentiment but a necessity. I live in the fair Aroostook, the great lumber district of our State; and within my recollection the demands upon its resources have reduced its capacity to produce one-third. The new demand which is stripping if of its small timber, is reducing it in some places I have visited, to the appearance of a barren waste. Before the paper pulp industry was inaugurated, there was some system which gave the lumber opportunity to grow. Large trees with seams, being unfit for use, were left to scatter their seeds; and the smaller trees were not disturbed. But this new industry

can make use of any tree down to five inches in diameter, and what is not cut for logs is cut for skids and handspikes. Years ago from three to seven logs constituted a load; but now fifty or sixty are taken at a load, and I read in the paper of one team hauling 150 "logs" at one load. The cuttings now resemble a clearing, while in the old time only the larger trees were taken. You can see what the effect will be. The young trees deprived of shade grow up scrubby, knotty, unfit for lumber, and even unfit for pulp. This produces conditions for forest fires and floods, such as were not found with the old system.

The hemlock, one of the most abundant of the trees of my boyhood, is now quite scarce, except in places remote from the tannery or railroad. It is a tree of slow growth; and it would take a century, if it were left entirely to itself, to restock the forest with this magnificent and valuable tree.

I could bring other instances to show the great need of intelligence in regard to the protection of our valauble plants. It is quite as easy to show that intelligence is needed in keeping out the pernicious plants. Many plants have found their way to this country which, in their native home, were not considered as great pests. The daisy, it is said, was brought to this country to beautify our meadows. The Russian thistle is another instance of foreign weeds forcing their unwelcome presence upon us. Indeed many of these plants are usurping the ground and driving out the native inhabitants. Here is an opportunity for teaching the rotation of crops. The native plants have exhausted the particular elements for their growth, while the foreign plant finds just the things it most needs.

Much valuable effort has been expended in misdirected and useless work, which a little knowledge of botany would have reduced to a minimum, and have rendered effective. As a boy it was my duty to hoe the garden and to mow the road. In both these places, the thistles had a firm foothold. How many days in the hot sun, have I worked at the thistles, with aching back and fingers full of prickles; but I did not reduce their numbers, indeed, they seemed to thrive much better than the plants I was cultivating. I mowed the road two or three times in a year with the result of augmenting instead of diminishing their numbers. By lucky chance, I helped a neighbor cut a field of thistles in

August. We were all surprised the next year to see a fine field of timothy, where the thistles had held almost absolute control. Had I known that the thistle is a biennial, and that fruiting is an exhausting process, it would have saved me much hard unprofitable work.

I have spoken of these things as reasons for the study of plant life; but there are reasons more weighty, even if we are not able to estimate their value in dollars. The child who has been rightly trained in plant study, will find his highest pleasure in it, and will never be content to live long where he cannot enjoy the companionship of his bright, beautiful, ever changing, always constant friends. Let the children learn the pleasure of the sweet companionship of plants. Introduce them so they may become friends, nay confidants, and the smell of the woods, the singing of the birds, the murmur of the brook, the thousand charms of sight and sound will be ties to keep them near the enchanted spot, where such wonders are wrought and where the miracle of spring is enacted again and again. This knowledge is of too much worth to be counted in dollars and cents, it is that which makes the cultured mind truly live.

How should botany be taught? The pupil should study plants, not books, at first, then books for the sake of plants. No study is more useless and a greater weariness to the flesh than the book study of botany. A good work can be done by having the pupils get acquainted with the forest trees and shrubs. How few there are who can distinguish our common trees! The proper study of woods is a valuable preparation for many callings in life. Here is a most favorable opportunity to teach adaption to soil and rotation of crops. The sugar maple and beech seek the dry well-drained upland, while the cedar and brown ash keep their roots near the cool water. One favorite spot for a lesson with my classes, is where a mighty wind had swept a track through a heavy growth of maple and beech; but over their prostrate trunks the fir and spruce are now growing so thick as to make it almost impossible to penetrate. Here, also, can be taught a lesson that man must bring about the proper introduction of seed, or the worthless or useless may take the place of the useful. This part of plant study can be made interesting and profitable, by having the pupils make a collec-

tion of woods. To show the necessity of this study, I refer to the fact that classes can be found in our village schools where fifty per cent of the pupils are not sure that they can recognize any tree, except the apple tree. (It was not so in the old time school, for every one of us knew the birch.)

With more advanced classes the relation of form to strength of fiber should be taught, as the fir with its pyramidal form, broad at the base and tapering to a point does not need such tough wood as the elm, with its broad top and great exposure to the force of the wind. And another, that the trees with large thin leaves, like the maple, must drop its leaves before the rude blasts of winter come on, while the pine, with its long slender leaves, may keep them all the year.

The pupils can be excited to profitable competition by seeing who can name, correctly, the greatest number of woods from the specimens. This induces careful observation of structure. No mere cursory observation will do, as so many woods are very similar in appearance; and only the closest scrutiny can detect a difference. This study carried to its legitimate conclusion would give the preliminary work so important to the architect and cabinet maker.

The study of trees and shrubs can be used when other material cannot be obtained, and can be extended over a series of years, and still enough can be found to interest and profit the pupil. It is not beyond the youngest; and food for thought and development of the reason can be found for the more advanced. It has a practical side, too, in teaching that many of our native trees and shrubs are better adapted to ornamental purposes than those brought from distant places by the nurseryman. Seeds, also, can be used to teach many valuable lessons. The composition, parts, distribution, vitality, and conditions favorable to germination, etc. These are all interesting and easily taught by observation, and are elements which would go far toward making the farmer work intelligently, and with a love for his work.

But the flowers in their season should be in every home and school. They invite our attention and study by appealing to every avenue to attention by the most attractive means. Not only do they charm the eye by their variety of color, but they load the air with their sweet perfume.

I wish to speak a word in favor of our native wild flowers. To me, there are no others of so much interest; for if they lack in size or brilliancy, they more than make it up in grace, simplicity and adaptation to their purpose in life, the production of seed. We have many that are well worth the attention of the horticulturist, and when intelligent effort has been given to their development, they will no doubt reward his efforts. The orchid is the fashionable flower at present, and some of our native species are well worth cultivation. (Demonstration of Ladies' Slipper and others.)

In all the study of plants one must work with pencil in hand, as we never truly see a thing until we attempt to reproduce it. You all know how true this is. Attempt to draw anything with which you are most intimately acquainted, and you will find that before you can give even a rough idea of it, you will have to study it again and again. It is not so hard to picture an object as it is to see it. So, in the proper study of plants the pupil gets a particular training in the art of seeing.

The old time study of Botany consisted in pulling a plant apart, counting its stamens, pistils, etc., and running it through a gauntlet of hard names until at last a high sounding name was given to the little common plant, a name which the average student was never sure he was able to pronounce, and which he did not understand. This part of plant study, too, is valuable, but the pupil should be so far introduced to the plant, and the name, that he will see that the name is but a fitting description of the plant, given to it because of its peculiar structure. The student cannot make much progress in this study without this knowledge. The pupil should make an herbarium, and with each plant a description, both verbal and by drawing, the student using his own powers of observation. This description should be compared with that of some well known authority, thus he will have an opportunity to measure his powers of seeing and expression. (Demonstration of herbarium and drawings.)

Most of the flowering plants may be studied without any aid from the microscope in their gross details, and even some of the flowerless plants can be quite well understood with but little aid from lenses. The ferns are among the plants which we should

know and cultivate, not because of their food value, as they have none, but because of their grace and beauty. Thoreau says, "nature made ferns for pure leaves to show what she could do in that line," and other plants may produce simple leaves, or make rude attempts at beauty with divided leaflets, but the fern is able to surpass them all. Ferns are found growing in all soils, and they strive to call our attention to the fact that they are adapted to fill in and cover and beautify the places which cannot support another plant. "Ferns are nature's decorative ideas, only intended for brightening up the underwood and softening the rugged outlines of gray rocks," says a writer; and why can not the farmer and gardener of to-day make use of this means of adding beauty to the home. Many of our common ferns are well adapted to indoor decoration, and a pot of ferns on the dinner table adds much to one's pleasure. (Demonstration of ferns suitable.) Most ferns thrive well if given a moist shady place, and once started need but little attention.

The process of fertilization is one which is of much importance to all agriculturists and should be well understood. The care which nature takes to insure fertilization, and the preference shown by most plants for cross-fertilization is well illustrated by the common Dandelion. (Demonstration.)

The knowledge of fertilization will lead to the proper knowledge of hybridization; a subject of great importance to the horticulturist. In order to have a full understanding of this subject, the pupil should have the use of a good microscope; indeed, the use of a microscope is quite essential to the proper understanding of many of the subjects I have named. A good microscope can now be obtained at a very reasonable figure, and every school should be supplied with one, or more, and also a teacher who knows how to use it. The selection of a microscope should not be left to anyone; but the advice of some recognized authority should be obtained. It is very necessary in the advanced study of plants and animals that the pupil be able to get his knowledge at first hand, and that it should not be filtered through a book. Other subjects of importance for study are mosses, algae, fungi, etc. In these the use of a microscope is imperative.

I have thus, briefly, attempted to put before you the importance of plant study. I hope I have not wearied you to such an extent that you have determined you will have nothing to do with it but if so, I ask you to go out into the midst of nature and let the plants, for which I have attempted to speak, use their powers of persuasion, and I am sure you will excuse me for my slow speech and blundering expressions.

REMARKS.

MUNSON—I think this lecture that we have listened to is one of the most interesting features of the meetings and one of the most important ones; but it is one whose importance is not recognized by the people of the State in general; one not recognized by the teachers of the State, i. e., the importance of coming to know and study plants instead of studying pictures. In most of our high schools plant study consists merely in studying nature text-books. But it is better to go directly to nature, and I would thereby favor giving the audience an opportunity to look over these specimens and I move that we have a recess of ten minutes for the purpose of examining those specimens.

(Recess.)

SCALE INSECTS.

By F. L. HARVEY.

INTRODUCTION.

There have been no unusual injuries done by scale insects in Maine during the past season.

We are asked no doubt to prepare a paper upon them on account of the deep interest awakened by the introduction and rapid spread of the San Josè Scale in the United States and partly because of the fear that this pest may become established in Maine and information of its habits will be needed to enable us to successfully fight it.

The short time allotted us will be devoted to a consideration of the

(a) Classification and characters of scale insects.

(b) The life history of scale insects.
(c) The common injurious scales of Maine.
(d) The San Josè scale.
(e) The San Josè scale in Maine.
(f) Remedies.
(g) Importance of legislation against the introduction and spread of injurious insects.

CLASSIFICATION AND CHARACTERS.

The scale insects belong to the Order Hemiptera, or half-winged insects like the squash bug, Chinch bug, &c. This order is divided into three sub-orders: the Heteroptera (varied winged), or true bugs, the Parasitica which includes the sucking lice and the Homoptera, (similar winged bugs.) The scale insects belong to the latter along with the leaf hoppers, tree hoppers, jumping plant lice, starchy scales, cicadas and others.

The insects of this order have the mouth parts adapted for sucking. They include a large number of species injurious to cultivated and useful plants. A few like the lac and cochineal insects are useful and some of the predaceous species are beneficial by destroying insects injurious to man.

To the Family Coc-ci- dae belong the scale insects or bark lice, Mealy bugs, &c., the subjects of this paper. Among these are some of the worst pests to fruit growers. The members of this family appear so unlike other insects that the novice is always surprised when told where they belong. They differ much among themselves and the adult males and females are very dissimilar. The adult females are always wingless and the adult males provided with one pair of wings. The males have no mouth parts these being replaced in the development of the insect by a second pair of eyes.

The body of the females is either scale-like, gall-like, or grub-like and clothed with wax. The waxy covering under which the insect lives may be powdery, composed of tufts or plates, a continuous layer, or a thin scale.

LIFE HISTORY.

The life history of scale insects varies considerable but the following are the main points. Early in spring the young lice are produced alive as in the San José scale, or from eggs as

the oyster-shell bark-louse. The young find a suitable place on the stem, leaves and fruit of the host plant and attach themselves by their sucking beaks, living on the sap. Sooner or later a scale develops over them. The female lay eggs or produces young and the body shrivels finally occupying only a small space at one end or the centre of the scale.

SCALE INSECTS OF MAINE.

We have made no special study of the scale insects of Maine. They are quite numerous attacking both wild and cultivated plants. We know quite a number of species but will only consider the more common ones that have been found doing injury to cultivated plants in the State.

THE WHITE SCALE—OLEANDER SCALE.

Aspidiotus nerii Bouche. We have received specimens of English Ivy infected with the white scale. It does not seem to be common in Maine. It may have been introduced with the plants when they came from the dealers. We know of one case where a healthy plant was infested from a neighbor's plant by leaves brought into the house. This scale is found on oranges and lemons and might be introduced by those fruits brought into the house. This species is figured and described in Maine Experiment Station Report for 1888 p. 184. We have no specimens to show you.

THE PINE-LEAF SCALE.

Chionaspis pinifoliae Fitch. This species is snow white and though small is easily seen upon the green leaves.

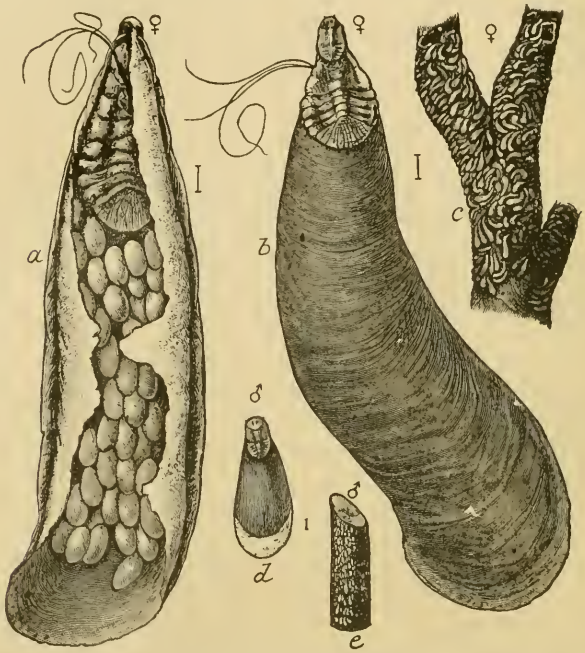
It is quite abundant on three species of pine on the university campus and also on Norway spruce.

The specimen branches submitted show the scale nicely.

THE OYSTER-SHELL BARK-LOUSE.

Mytilaspis pomorum Bouche. Is the most common injurious species found in Maine. It is widely distributed in the State and must do considerable damage to orchards. We have found it on the apple, pear, plum, round-wood, wild and cultivated currants and abundantly on willow It is introduced on young

nursery stock and spreads through winged forms of the insect and the agency of birds which carry the young lice on their feet. It is not uncommon to find apple trees as badly infected



Howard, Entomological Division, U. S. Dept. of Agriculture, 1894.

THE OYSTER-SHELL BARK LOUSE. (*Trytilaspis pomorum.*)

a, female scale from below, showing eggs; *b*, same from above—greatly enlarged; *c*, female scales; *d*, male scale—enlarged (original); *e*, male scales on twig—natural size.

as the branch I show you. This species is fully considered and illustrated in the report of the Maine Experiment Station 1888 p. 157. We are not aware that much effort is made to check it. It does not usually kill the trees, but must be a great drain upon them dwarfing the shoots and fruit.

THE ELM-TREE BARK-LOUSE.

Lecanium Caryae, Fitch var. *Canadense*, Cockerell. This is a bark louse of a mahogany brown color and hemispherical shape. It is very abundant upon elm trees all over the State and must do much damage. The branches in spring are sometimes

SPRUCE GALL LOUSE (*Chermes abietis*, L.) See page 139.

literally alive with the young lice. These remain active all winter and develop the brown hemispherical scales over themselves the following spring. They can be found during the winter months as small oblong reddish brown objects lying close to the bark on the twigs. The leaves in early summer are often alive with them. The eggs are reddish and oblong. The scales are often punctured by parasites, probably by a species of ichneumon, also a species of mite in great numbers is often found under the scales. We have had this species under observation every season for the past eight years and there is hardly an elm tree in the vicinity of Orono but what is infested. The scales drop off sooner or later exposing a circular wooly patch.

This species is fully considered in Maine Agricultural Experiment Station Report for 1894, p. 107.

SPRUCE GALL LOUSE.

Chermes Abietis, L. History—Variously called Spruce Adelges and Spruce Chermes. Native of Europe. Introduced on Norway spruces. First noticed in Illinois in 1876. Dr. Packard considered such an insect in "Guide to the study of Insects," 1869, calling it a species of Adelges. A form of Spruce Gall Louse is common at the present time in Maine both on Norway spruces and on the wild species. From what we have studied it we are inclined to think it may be a different species from the one so exhaustively studied recently by Professor C. H. Fernald. The eggs and young are smaller and the eggs in the clusters less numerous than he describes.

At this writing, June 10th, the young are hatching on the spruces on the university campus.

Distribution—Widely distributed from the Atlantic to the Pacific, but most common in New England.

Life History—The eggs may be found in the winter with the body of the female at the base of the buds or leaves enveloped in a white wooly mass. The eggs hatch at Orono the first of June. The young lice attach themselves to the base of young leaves and finally the galls in which they live are developed around them. The nymphs are mature in August. The galls turn yellowish. The cavities open, The nymphs crawl out,

shed their skins and acquire wings. Soon attach themselves and lay eggs for another brood. No males of Chermes have ever been observed. The galls are persistent on the twigs giving the trees an unsightly appearance.

Remedies—Whale oil soap, one pound to two gallons has been successfully used. Should be applied in the spring to destroy the young lice and eggs of the winter generation. Hand picking the galls while the nymphs are in them and burning them would be effectual.

Explanation of Plate—A branch showing several deserted galls. Somewhat reduced. The small white patches on the terminal twig are two egg clusters of the winter brood with the wooly covering over them. The photograph for the plate was made by Mr. L. H. Merrill from a twig taken from Norway spruce on the college campus.

THE DESTRUCTIVE MEALY-BUG.

Dactylopius destructor Comstock. This is the common Mealy bug so abundant on house plants and in green houses, readily detected by the mealy coating over the body. This is the only species of Mealy bug we have seen in the university forcing houses. The long spined Mealy bug may occur in the State.

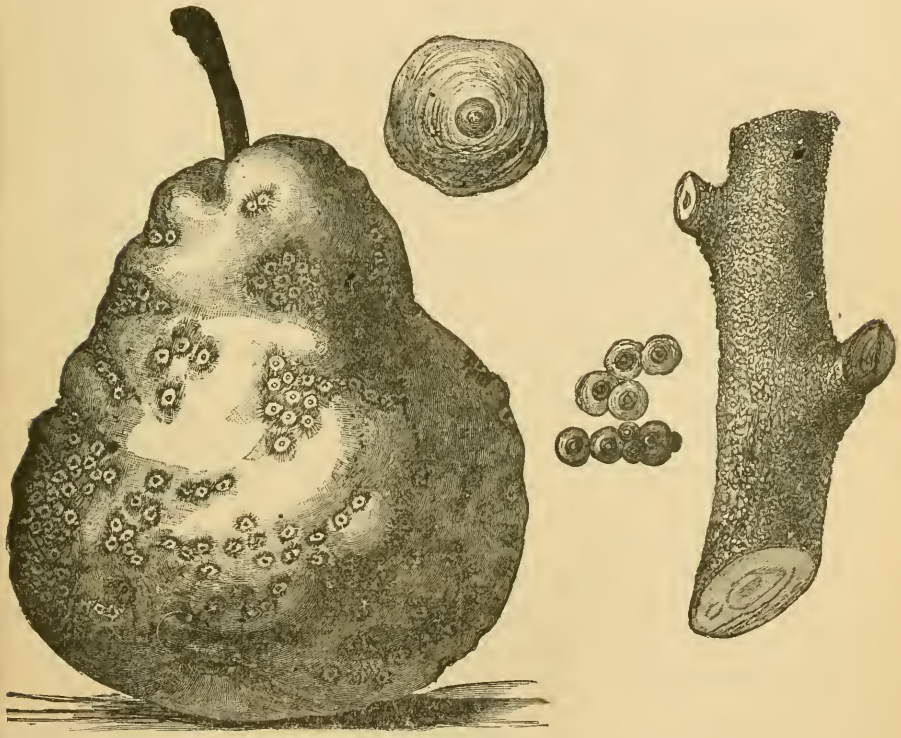
THE SAN JOSE SCALE.

Aspidiotus pernisiosus Comstock. History—Origin not known. Is found on plants from Australia, South America and Japan. Introduced in California about 1870. First attracted attention at San Josè in 1873, hence the name. It has spread to most of the Western states, and in 1893 was detected by Mr. L. O. Howard from specimens found at Charlottesville, Va. Since then it has been found in several of the Mississippi valley states and the Atlantic coast states from Florida to Massachusetts.

Food Plants—The insect is a general feeder having been found on a great number of species belonging to eleven botanical families. It is more particularly a pest of the plants of the order Rosaceae attacking most of the common species grown for fruit.

Importance—It is regarded as the worst pest of the orchard known. It multiplies rapidly. The females for six weeks give

birth to living young, several hundred in a generation, and there are at least four generations in a season. It is intimated that the progeny of a single female in a season, provided they all lived, would reach 3,000,000,000. The scales are small and not readily detected by the casual observer. It is a general feeder attacking the fruit of many kinds of deciduous trees. Millions of dollars' worth of fruit trees have been already destroyed by it, and it is spreading rapidly.



Howard, Entomological Division, U. S. Dept. of Agriculture, 1894.

THE SAN JOSE, OR PERNICIOUS, SCALE. (*Aspidiotus perniciosus.*)

On pear fruit and twig, with enlarged male and femal scales (original).

Means of Distribution—Through nursery stock. The pest has spread in the United States from infected nurseries. After it is introduced it may be spread locally by birds, other insects, the wind, teams used in cultivating, cions and buds used in grafting, leaves and fruit, and also from tree to tree by interlocking of branches and in the nursery row by thick planting.

Life History—The insects spend the winter under the scales in a dormant state. Early in the spring they give birth to minute living young, which run over the host plant and when a suitable place is found insert their sucking tubes. A scale begins to form at once over them which is completed in about a month, when young are produced. There are at least four generations. The males are minute and winged.

REMEDIES.

Natural—Scales are preyed upon by small ichneumon flies, mites and birds. The scales often have small round holes in them where parasites have emerged.

Precautionary—Carefully inspect nursery stock before setting and destroy all bark lice. Require a guarantee of all nursery stock from outside the State. Pass laws to enforce the use of insecticides by shiftless orchardists.

Aggressive—If scales are already in the orchard, and it is the San Josè scale spray thoroughly when the leaves are off, early in the winter and again just before the leaves start, with whale oil soap. Solution two pounds to one gallon of water. If *Oyster-shell Bark-louse* or other one brood species perhaps the best time to spray is in the spring when the lice are young. If the leaves are on, a weaker solution than that mentioned must be used.

For Mealy bugs in greenhouses a free use of the hose and water is said to be efficient.

For house plants, an extract of Pyrethrum, four parts of alcohol to one of the commercial powder, applied in a fine spray with an atomizer has proved efficient.

THE SAN JOSE SCALE IN MAINE.

So far as we know the scale has not been found in Maine. We have made no search for it and do not know as anybody has. As nursery stock from other states is sold in Maine it is sure to be introduced. The question that interests us most is whether it will multiply in our climate. Experience alone can determine this. It has been found in Massachusetts. We have had no experience with it, but it is generally regarded as a warm climate insect. To learn the opinion of those who have experience

with it we addressed letters to Professor J. B. Smith, New Jersey, Professor Lintner, New York, and they agree that there is no probability of its occurrence unless it finds a limited area favorable to its multiplication along the Southern coast. The specimens shown of this scale we have from New Jersey, sent us through the kindness of Prof. J. B. Smith.

LEGISLATION.

A great deal of interest is at present awakened in the matter of suitable legislation against the introduction and spread of injurious insects and fungi.

Many of the States have already passed laws.

The matter is to come up for discussion and action before the National Fruit Growers' Convention that meets at Cleveland, Ohio, in March and before a called National Convention for this purpose which meets in Washington, March 5, 1897.

The United States Department of Agriculture is doing what it can in the matter.

Resolution—As it is a subject in which Maine should be interested on her own behalf as well as for the general good of the country, we move that delegates be appointed to each of the above conventions with instructions to aid so far as possible in the passage of suitable laws against the introduction and spread of injurious insects and fungi.

DISCUSSION.

ATHERTON—When will be the time to spray?

A. It will be early in June about the time the leaves begin to come out; when you see the little white specks running over the limbs that will be the time to spray.

Q. Is the white scale you speak of a hard or a soft scale?

A. A hard scale. If any of you are troubled with injurious insects and want to know the names of them you have the privilege of sending them to the Experiment Station at Orono.

PRESIDENT—I see we have something here on the platform that look like what we call toadstools or Mushrooms, and I will ask our secretary to tell us something about them.

Mr. KNOWLTON—I don't know very much about mushrooms only that some of them are very good to eat, but Mr. Shaw is

with us tonight, and I think with a little bit of coaxing he will go forward and perhaps say something himself, and if you have any questions to ask he will answer them if he can.

TALK ON MUSHROOMS.

By Frederick A. Shaw of Winthrop.

I will be very glad to answer any questions regarding these mushrooms and about growing them. What I don't know about growing mushrooms will make a very large volume; what little I do know I am willing to impart to anyone. The one or two necessary things in growing mushrooms for profit is a warm place like a cellar, absolutely free from any draft where the regular heat of 60 degrees can be maintained from autumn to spring; mushrooms can be grown better in the winter when the gardener has more time to attend to them than any other time of the year. Perhaps this is not appropriate so much for the fruit raiser as for the truck gardener because the dressing for compost which is so essential for growing mushrooms can be used afterward on the garden and has not deterioated in the least in having raised the mushrooms. A great many of you have seed catalogues given you, giving formulas for the raising of mushrooms, but my experience is that if you follow the formula to the letter you will not raise many mushrooms, you might raise a few.

After trying it experimentally I equipped a cellar according to the latest and the very best authorities I could read up on and came out very successfully. It is like doing things a right and a wrong way. You have to do it the right way to get the best results. It is like hatching chickens in an incubator, you are very likely to cook the chickens. It is very easy done in the proper way. They should be planted about ten inches deep and in three days they will sprout, after being in sprout ten days they will bloom and should be mulched with straw to keep them moist and in three months they will bear mushrooms and should bear one pound to the square foot. A cellar as large as this room if laid in berths would raise two crops during the winter

and a ton and a half of mushrooms. The proper thing is a perfectly tight cellar where there is no draft; the most perfect heat for mushrooms is the heat from dressing, steaming dressing, and if the cellar is large enough to give a moist temperature, it will make a great difference in the crop.

DISCUSSION.

Q. I perhaps will expose my ignorance, but the first I knew of mushrooms being fit for food was last season. Last fall I had an Irishman to work for me, it was in the fall of the year in August, I saw him digging what I called toadstools. I asked him what he was going to do; he said, "Some of these toadstools are eatable. He took them to the house and prepared them as my wife did not know anything about cooking them. I understand that there are several varieties and only one variety that grows here is suitable to eat.

A. I am not very well informed on the variety of mushrooms but about the country here I should say there were a great many of them. In autumn they can be gathered quite abundantly in the pastures and one pound of mushrooms is said to be equal to a pound of beef-steak.

Q. How do you prepare them?

A. In a great many ways. They are toasted; to toast a mushroom it is peeled. An edible mushroom will always peel, i. e., the top will always peel off; this one has been under the influence of a very dry heat and peels very poorly because it is very much dried and shriveled up. The gills of a mushroom are of a beautiful pink color. If it will peel it is edible; if it is a beautiful salmon color it is perfectly edible. After it is peeled and the dirt part cut off it is placed on the toaster and broiled with a small piece of butter on the gill side and served hot; it is also served in butter and cream. In all cook books are other directions.

CURRANTS AND GOOSEBERRIES.

By Prof. W. M. Munson of the State College.

The common species of currant in cultivation at the present time is probably a native of Northern Europe. It has been under cultivation for more than 300 years, but was not considered of special importance until the latter part of the last century. The English name currant is a corruption of *corinths,* the name applied to the little Zante grape or so-called "English Currant," from the fact that the latter came largely from Corinth in Greece.

As a rule currants are not so largely consumed as are other small fruits. They are, however, very healthful and are of considerable importance for the making of jelly and for canning. There is, as a rule, a good local market for currants and the fact that they may remain upon the bushes for some days after they are ready to pick, is a great point in their favor as there is less likelihood of loss in the case of unfavorable weather.

SOIL AND CULTURE.

The currant possesses great vitality and will grow almost any where but for the best results good deep, rich, clay loam is best. I have, however, seen very good crops grown on light sandy soil; but whatever the soil it must be deep and rich for favorable returns. The currant is a gross feeder and sends its roots far into the soil. For ordinary field culture the plants are set about five feet by four and thorough cultivation should be given. If the locality is such that clean culture cannot be given, good results are some times obtained by heavy mulching, and in this way the soil is kept moist and the weeds are kept down.

PROPAGATION.

The currant is propagated almost exclusively by means of cuttings of the new wood. The cuttings may be made at any time after the new growth is mature. If practicable they should be set at once in the field. This method induces the formation of roots before winter sets in and insures a long season for growth

the following year, thus producing stronger plants than could otherwise be obtained.

If the land is heavy, or not well drained, the cuttings should not be planted till spring. In this case they are tied in bunches, with wire or willows, and buried in the soil or placed in sand in the cellar. In setting cuttings in the field, rich well drained soil which has been worked ten or twelve inches deep should be chosen. Trenches six or eight inches deep are made with the spade or with a plow and the cuttings are placed about three inches apart against the perpendicular side of the furrow; the top buds being just above the surface of the ground. In filling the trench see that the earth is packed very firmly about the cuttings. If fall setting is practiced, a mulch of straw, coarse manure or other material is essential to prevent heaving.

The plants are commonly grown in nursery rows for two years before being moved to the permanent plantation. During this time the soil should be kept thoroughly cultivated to insure strong, vigorous plants. A vigorous one year plant is far preferable for setting to one, two or three years old which has been stunted.

PRUNING AND TRAINING.

As a rule annual pruning should be practiced and all weak shoots should be removed while the more vigorous ones should be shortened to induce the formation of fruit spurs. An important point to bear in mind in pruning currants is that the fruit is borne on wood at least two years old and for this reason when it is desirable to renew a bush two years will be required to accomplish the result, provided we wish continuous crops of fruit. It is a good practice in the summer to pinch in the young growth in order to make it stocky and hasten the maturity of the wood as well as to increase the size of the fruit.

There are two principal methods of training a currant bush in common use—the bush form and the tree form. The former is for most purposes preferable, especially if there is liklihood of trouble from the currant borer. The tree form is produced somewhat as follows: In setting in the field all buds below the surface of the ground are removed. Later all but the strongest of the buds above ground are removed. The following year this shoot is cut back to about one foot in length and thus induced

to branch. From three to six shoots are allowed to grow. The third year these branches are shortened and from six to twelve shoots are allowed to grow. Each year thereafter similar training is given. The new growth is shortened and the head is kept open and in the form of a vase if possible.

VARIETIES.

Of the well known varieties of currants the Victoria is, perhaps, all things considered, one of the best. The fruit is not so large as is the Fay or the Cherry, but clusters are long and the bush is very prolific. Prince Albert is a valuable late market variety. It is rather light in color and the quality is not of the best but it is very productive and suffers less from the attacks of fungous diseases than almost any other sort. Fay does well in many localities and the fruit is very large and handsome. The important objection to this variety, however, is the habit of splitting down, and where we have heavy snows this objection is a very serious one. Moore's Ruby is considered a valuable sort for home use. We have not yet fruited this variety but shall expect to be able to report upon it this year.

North Star is a variety which is receiving much attention from some growers but in our own experience this variety has proved of little value. It is true the clusters are rather long but the fruit is but little larger than the Old Red Dutch, and we do not consider the quality as superior.

As a rule, for market purposes, the red varieties are preferred to the white. No home garden should, however, be without a few bushes of the White Imperial or the White Grape. The latter has been the leading white currant until within a very few years, but White Imperial is rather superior in quality and will rank above the other for home use.

A word should be said about the Crandall currant. This variety, sent out a few years ago by Frank Ford & Son of Ravenna, Ohio, is said to be a hybrid between the red currant and the so-called Buffalo currant of the West. It appears to be simply an improved variety of the latter which we know as the flowering currant (*Ribes aureum*) of very good quality. It lacks the strong disagreeable flavor of the ordinary English Black currant. The objection to the variety is that it does not ripen

evenly and the skin is rather tough. A few for home use are, however, desirable.

INSECTS AND DISEASES.

The leading insect enemies of the currant are the well known currant worm and the currant borer. The former may very readily be managed by spraying with Paris green in the proportion of one pound to 250 gallons of water when the eggs first hatch in the spring and before the fruit sets. After the fruit has formed we use hellebore freely. This is applied both dry and in water. If used in the dry state the addition of a little flour will render it more adhesive. In water one ounce of hellebore is mixed with three gallons. The currant borer is best managed by cutting out the canes which harbor the insects, as the larvae remain in the cane over winter.

A comparatively new insect which at present baffles all attempts at control, was described by Professor Harvey, in the last annual report of the Experiment Station. This insect is somewhat closely related to the well known *Trypeta pomonella.*

It is described by Professor Harvey as follows: "Perfect insect a two-winged fly about the size of a house fly. Pale yellow or orange with greenish iridescent eyes and dark bands across the wings. Found about currant and gooseberry bushes during June in Maine. Stings the currants, depositing an egg under the skin, that hatches and develops into a small white maggot causing the fruit to turn red and drop prematurely. The maggots when grown leave the fallen or hanging fruit, enter the ground, change to the pupa state from which the fly emerges the following June."*

Of the possible remedies suggested by Professor Harvey we may mention the destruction of a crop after the eggs are laid and before the fruit drops. This is radical treatment, but if all fruit in the vicinity is destroyed for one year the pest must be greatly reduced in numbers.

GOOSEBERRIES.

The gooseberry holds a unique position among American fruits which are commonly cultivated from the fact that fruit may be marketed in an unripe condition quite as well as when

* Report Maine Experiment Station 1895, 118.

ripe. In some localities, in fact, most of the gooseberry crop is shipped "green." In this case the fruit is often stripped from the bushes, run through a fanning mill to free it from leaves, twigs, &c., and then packed in boxes. In short it is treated in much the same way as is the blueberry crop in our own State.

CULTURE AND TRAINING.

Under good culture gooseberries will succeed well on a variety of soils but as with the currant the best results are obtained on a strong rather moist but well drained clay loam. Thorough but shallow cultivation should be given whether for home use or in extensive field culture.

As a commercial crop gooseberries are often grown between the trees in young orchards. While the best results can not be expected as the trees get older, the gooseberry does fairly well in partial shade. In ordinary field culture the plants should be set about five feet apart each way or in rows six feet apart and four or five feet distant in the row. Gooseberries like currants are trained both in the tree form and in the bush form. Ordinarily the latter is preferable as in this way the canes may be removed as they pass their most productive age.

As a rule little pruning is required during the first three or fourth years except to head back the strong new shoots and remove a few of the less vigorous ones for the purpose of developing fruit spurs all along the canes. The latter treatment consists in annually removing superfluous branches and checking growth sufficient to keep the bushes within bounds. The top should be renewed by training up new canes as often as once in five or six years. In order that there may be no cessation in the production of fruit two years should be taken in renewing the top.

PROPAGATION.

The gooseberry may be grown from cuttings as described for the currant. The European varieties are, however, very difficult of propagation in this way and the usual method practiced with all varieties is that of mound layering.

By this method the old plants are headed back to induce the formation of strong new shoots near the surface of the ground.

Late in June or in July when the new wood has become somewhat hardened a mound of earth is made about the "stool," the earth being about four or five inches deep above the bases of the shoots. In the fall the earth is removed and the rooted shoots are cut off and planted at once in well prepared soil, or they may be tied in bundles and treated as cuttings until the following spring. If care is used in removing shoots during the winter, propagation from the same plants may proceed indefinitely from year to year.

VARIETIES.

The varieties in common cultivation are included in two well defined classes. The American or those which have been developed from our native species, mostly *Ribes oxycanthoides*, and the European which belongs to a different species—*Ribes Grossularia*. The American varieties are of comparatively recent origin and it is but few years since gooseberry growing was a profitable industry in this country. The European varieties are very large and have the advantage of a great variety of coloring. They are, however, susceptible to mildew and only in certain favored localities have they proved successful.

Of the American varieties the most valuable are the Downing, Smith's Improved and Pale Red. Downing is much superior to the other in size and quality. It is a relatively large fruit and of a golden color when mature. It is not quite as prolific as Houghton but the fruit is much more attractive and therefore it is the variety most popular in the market.

Of the European sorts Industry and White Smith lead. These are very large varieties and are ready for use earlier than are the American varieties. Where known they are highly prized.

PRODUCTIVENESS OF GOOSEBERRIES.

The yield of gooseberries as reported by different growers varies greatly, but about 100 bushels is considered a fair average by many. A recent bulletin of the New York Agricultural Experiment Station cites an instance in which the yield from 800 Downing plants set four years was 2362 quarts, an average of three quarts per bushel or about 5143 quarts per acre. This was considered a full crop. Other reports place the average

much lower, some higher. From some of the bushes set in our own plantation in 1891 we harvested twelve quarts the past season. Even with an average of two quarts per bush, however, the crop is a profitable one to grow.

DAYS WITH OUR BIRDS.

By Mrs. Kate Tryon, Cambridge.

The following synopsis of Mrs. Tryon's lecture was prepared by her.

When your committee did me the honor to ask me to speak to you on my favorite subject, I at first felt it necessary that I should study long and well the food habits of my birds, that I might not commit the mistake of recommending you to love any birds which, as horticulturists and agriculturists, you never could or never ought to love. Study I did,—with a result which can be summed up in two minutes. I thought it little worth while to repeat to you tales of the wonderful reproductive energy of noxious insects—you, who know but too well the sad facts of the case. I deemed it unnecessary to tell you at this late day—what you know very well—that birds were created by a wise Providence to keep this insect host in subjection. You know that the bird-haunted country is more fertile than the birdless country, and you know the punishment that has come to countries which, like France, have allowed their birds to suffer slaughter. You know that our own birds are not protected and encouraged as they should be. I feel certain that you, as students of nature, are convinced of this. How, then, is it my duty to treat the subject of the hour? Certainly I should show myself unappreciative of my opportunity, did I not, above all, aim so to speak of your friends, the birds, as to stimulate new interest in them—so as to make you resolve that we must have more, not fewer, of them.

"Fortunately or unfortunately for my subject this morning, I myself have had absolutely no experience as farmer or gardener, and shall not presume to decide whether or not the crow and the English sparrow must go. That problem is beyond me. I leave it for your society, at some particularly lucid moment, to settle

to your satisfaction. But if in that inspired discussion you should be anxious to find out which side of 'the fence' I am on, perhaps I should exclaim with Thoreau: 'Bless the Lord, O my soul! bless Him for wildness; bless Him for crows that won't alight within gunshot!' Apropos of the English sparrow question, I might suggest that the Almighty created him—though not in America; this, in all seriousness, for I cannot now consider the English sparrow a joking matter. 'Do you think the English sparrow has driven our native birds away?' is the question a bird student meets everywhere. The questioner thinks affirmatively—that *all* our birds have been driven away. The fact is, this person never sees or hears birds anyway, and would scarcely know whether they went or staid. Perhaps as he came along the suburban street this very morning (in May), he passed a rose-breasted grosbeak, an oriole, a yellow warbler, and a red-eyed vireo. Ah, yes, we have about us, in unexpected places, a wealth of bird-life. If everybody knew this, and appreciated it, we might be still more blessed as the years go on, for then everybody would contrive to keep natural shelter and food for the birds, and the birds would pay their board and lodging with interest."

After these introductory remarks, by means of stereopticon pictures of New England scenery and birds, the audience enjoyed a series of spring and summer bird-hunting strolls. First, along an April road, a flock of crow-blackbirds were found, creaking and chucking in the tops of tall oaks. This bird, said the lecturer, bears an unpleasant reputation among growers of corn and fruit, and yet he is distinctly an insectivorous bird, and eminent authorities who have dissected hundreds of them, at all times of the year, find only trifling evidence of vegetable diet. Their case is precisely that of the robin. They are so gregarious and so numerous, that no ill-doing on their part escapes observation. If any one is inclined to shoot either of these birds, he should not do so before looking over such unbiased reports as those found in B. H. Warren's "Birds of Pennsylvania."

The bluebird's warble came from over the fields, very plainly suggested by the speaker's imitation, and the old favorite, in glowing plumage, was seen sitting on a fence-post. Here is a bird of whose usefulness there is never a question. Will not

everybody who lives where bluebirds could possibly come, put out a house or a box to catch their fancy when they arrive in March? To be sure, the English sparrows, if present in your neighborhood, may take possession; still, the bluebird is a plucky fellow and knows how to look out for number one, as the purple martin knows to his sorrow.

The familiar song sparrow was heard and seen, singing beside the meadow brook, and his relations of the finch family were also introduced—the chipping sparrow with his hair nest in the orchard; the vesper sparrow of the dry hillside; the white-throated sparrow with his clear "Old Sam Peabody, Peabody, Peabody," whistle, and the handsome crimson finch (American linnet), with his craving for the spring buds of certain trees. But what matter for this? Did anyone ever miss the small number of leaves or orchard fruit that these birds nip in the bud? And how short is the season in which they can commit this mischief. Of course if he takes a fancy to your blossoming trees, you may as well drive him off, for he has hundreds of useless wild or half-wild trees to go to.

"The red-winged blackbird of the bushy swamp and overflowed meadow, is everywhere characteristic. His 'tchuck' and 'gurglee!' are familiar to everybody. Redwings, with the robin and crow blackbird, repair to the ploughed land as soon as they come and these birds rid the soil of an incalculable number of noxious insect-grubs before the sowing. The dissector brings no bad record against this bird, and the cultivator who shoots them is very short-sighted, as regards his own interests. Indeed, to sum up this matter, a bird should never be shot because he sometimes offends. If he makes himself a nuisance for a week, or even a fortnight, he is making himself useful (although it may not be, indeed, in your particular neighborhood,) for the rest of the year. So that to grudge a bird an ear of corn is ill-treating the unpaid little workman, who made the crop possible. You can keep birds away from your crops, but to battle with the insect host is beyond all human ingenuity.

"The golden winged woodpecker's resounding reveille came ringing over the countryside from the still leafless woods. This large, gaily marked woodpecker is known to every man or boy who has ever carried a gun. Alas, that this should be so! for

here we have a truly famous eater of grubs and insects, gleaned from the soil as well as from the bark of trees. Farmers are often their own enemies, and never more certainly so than when they shoot for sport as they do, law or no law, 'one er them air yaller hahmers,' as they call them down in Maine. It is true, I suppose, that one woodpecker, the yellow-bellied sapsucker, decorates trees with those admirably even rows of holes, not for insects within the bark, but for the sap, the life-blood of the tree. But he doesn't spend all his time doing this, and he is now, in most localities, rare enough to cause regret to the bird-lover, and satisfaction to the forester."

The robin was the last of the spring birds treated. He is certainly fond of such dainty fruits as strawberries and cherries; but he has helped protect them from worse enemies. To shoot all the robins would be a dangerous experiment. From the economic point of view alone, no bird would be more missed.

The summer birds were seen in a June day's stroll through fields and groves near Boston. Each was interestingly characterized, often by original stories and imitations of notes and songs. Most prominent among these were the golden robin, kingbird, bobolink, rose-breasted grosbeak, red-eyed vireo, thrasher, scarlet tanager, indigo bird, chewink, cuckoo, the thrushes of the wood, blue jay, cedar bird, goldfinch, and some of the warblers, such as the redstart, yellow warbler, and Maryland yellowthroat. The haunt of each was shown on the screen, the bird itself in its natural colors and attitude.

"The rose-breasted grosbeak, a bird now quite common in most Massachusetts towns, is know in Pennsylvania as the "Potato-bug bird," it being the only bird known to eat this pestiferous beetle.

"In the above list of our common summer birds there are only two or three but are known as beneficial to the cultivator. Not far from the head of the list, for value, should be placed the red-eyed vireo and his numerous tribe, birds nearly allied to the fly-catchers proper. There are several species of these slim, little olive birds, and although they are little known, save to the bird-student, they doubtless far outnumber the robins. They prefer hard wood growth, chiefly maple, elm, and oak, and are common alike to forest, and suburban street.

"As soon as one begins to make a study of bird-life, (which is of the utmost importance to one who tries to cultivate anything) the study of trees and shrubs obtrudes itself also. So attached is each species to a particular tree, or kind of copse, that the farmer or fruit grower might in time have a hand in choosing his bird visitors or tenants by cultivating conditions liked by his favorite birds, and by omitting to cultivate conditions that might attract those which he considers his enemies.

"Again the season is at hand in which we are to make the earth produce goodly fruits and pleasant flowers for use and cheer. Let us add a new preparation this time—a new knowledge and appreciation of our feathered friends, without whom—did you ever think of it?—the earth could bear not even a blade of grass."

Mr. President—The question was asked "What the Outlook is for the Fruit Grower" and has found its way into my hands and I will call upon our secretary, Mr. Knowlton to give us a few ideas upon the subject.

THE OUTLOOK.

By D. H. Knowlton.

To-day the query on every tongue is what of the future in fruit growing? This season the question is brought home to us in the most emphatic manner, since so many fruit growers in the State know not what use to make of their fruit that will yield them any profit.

Profitable fruit-culture like any other profitable enterprise must result from the application of business common sense at every point. To begin with, two things must be considered. The *first* is to produce varieties of fruit that are favorites in the market; the *second* is to give the orchard such culture as to produce the most choice fruit at the least cost.

THE VARIETIES.

Don't think I am going to tell you which are the best or the most popular for I am not. This is the thing for each fruit grower to decide for himself. I do know what the best apples

are for me to raise on my own lot, but when asked the other day by a gentleman in Washington county what varieties were the best for him I could not tell. Many of our growers have to their sorrow found out that the Black Oxford and Blue Pearmain are unprofitable varieties. It isn't that they can't be grown well, it is rather that for some reason people won't buy them. It isn't for us to ask why when we learn such facts, it is rather for us to grow varieties people *do* want.

Again, it seems to me there ought to be two kinds of fruit sent to market—one for dessert, the other for cooking. When the fruit growers make the dessert apples conspicuous by the excellence of their quality and packing the consumers will be ready to pay the difference.

Again, if good dessert apples are always to be found in the market the consumption of apples will be largely increased. It may be the future will have two kinds of growers, the one who raises apples for people to eat, the other for people to cook. My own idea is that the same grower should sort and pack his fruit so as to have both kinds in the market.

INCREASED PRODUCTION.

The point to which I wish to call attention is the importance of such intelligent culture as shall cause the orchards to produce the largest amount of the best fruit grown. Too many have simply let the trees grow, this is one way, but in the future the man who knows how to make his orchard produce the most will make the most money. You ask how to do it. Nature has given you all the elements—the soil, the climate. She has never given any man a full revelation of the possibilities by which he is surrounded, but here and there she reveals her willingness to have her wealth utilized by man.

DISPOSITION OF THE FRUIT.

It is one thing to be a successful grower of fruit, it is quite another to be a good marketman. Now in the future to get the greatest success there must be some better method of selling our fruit. I have no fault to find with the buyers, for they are doing just what any of us growers would do. Buy and sell with reference to the profit. It doesn't matter to them whether the

apples are A 1, or scrubby 2's, if only they gain the profit. The apples that sell in the foreign market as well as the local for that matter for the highest price are those that are in the best condition.

This suggests to me a system of co-operation among our growers. The first point and the most important one is to establish a reputation for our apples in the market so that buyers will want Maine apples. The only way to do it is to place the best apples in the market as Maine apples. There should be in the interest of our fruit some guarantee as to quality—something that will assure the buyer he is getting what he pays for. Of course it will help for any one to put up nice apples, but none of us have enough to gain a name for reliable fruit, year after after year. Adopt some plan for selling fruit by co-operation. Suppose it costs you twenty-five cents a barrel to do it, would you not in many cases get fifty cents or a dollar more for your fruit?

The successful development of any scheme of co-operation must be based on having good storage for the fruit. Heretofore all the plans suggested involved shipping the apples to some central point and then hold them. As we are now situated there seems to be no need of operating in this way, as a simpler plan may readily be found. Inexpensive storage may be provided at many shipping points in the State. Suppose in the fall you brought your apples to a local storage house and placed some of your best men in charge of them. They could save you money in packing, by having the fruit carefully sorted and branded your reputation would be worth something another year where the fruit was sold this year. You would come out of the fight stronger than you went in.

Suppose instead of one such storage house there were others when needed. Have the whole put in the hands of good local managers and you would be in the way of reaping all the benefits of co-operation. I would have you undertake it in a businesslike way and pull together. Your cold storage in the plan proposed would be inexpensive, and your fruit would be available at any time and could be placed where it would be needed at shortest notice. It would not, in my opinion, be many years before Maine apples would be placed where they belong, at the

top of the market. Hoping these suggestions may open up discussion, and point out a way to get more profit and pleasure from our orchards, I leave the matter for your consideration.

MR. KEITH, Winthrop.

The paper presented to us by our secretary has prompted me to make mention of it if nothing more. When we moved to have the "Pomological Society" hold their winter meeting here we wanted you and we are certainly glad that you came, that you accepted the invitation and we are thankful to the people of the town for backing us up. In his paper the secretary suggested that some arrangement be adopted through which we could sell our apples with a better understanding than we have during the past winter, and we members of the Winthrop Grange propose to invite Mr. Knowlton to meet us some time soon and formulate some plans through which our fruit in the future can be sold.

SECRETARY'S PORTFOLIO.

Original and Selected Articles, having reference more or less to Fruits and Fruit Growers in Maine.

The genuine apple-eater comforts himself with an apple in their season as others with a pipe or cigar. When he has nothing else to do, or is bored, he eats an apple. While he is waiting for the train he eats an apple, sometimes several of them. When he takes a walk he arms himself with apples. His travelling bag is full of apples. He offers an apple to his companion and takes one himself. They are his chief solace when on the road. He sows their seed all along the route. He tosses the core from the car window, and from the top of the stage-coach. He would in time, make the land one vast orchard. He dispenses with a knife, he prefers that his teeth shall have the first taste. Then he knows the best flavor is immediately beneath the skin, and that in a pared apple this is lost. If you will stew the apple, he says, instead of baking it, by all means leave the skin on. It improves the color and vastly heightens the flavor of the dish.

JOHN BURROUGHS.

SECRETARY'S PORTFOLIO.

BIOGRAPHICAL.

During the year five of the oldest members have passed away. Several of them were identified with the early work of the society. There are so many things in their lives from which we may learn valuable lessons, it seems a privilege at this time to pay some slight tribute of respect to their memory.

HENRY INGALLS.

In the death of Mr. Henry Ingalls of Wiscasset, the society loses one of its earliest members and firmest friends. Our transactions show that he became a member the first year the society was formed. He was the second president of the society, succeeding the Hon. Z. A. Gilbert after several years service in 1879 and was president for two years. Unfortunately the transactions for these two years were not published, and aside from the recollection of a few of our members the public cannot judge of the strong love and friendship he bore the society.

Miss Adelaide F. Cooper, a friend of Mr. Ingalls' family, has kindly sent the secretary the following lines, which are so gracefully expressed that it is a pleasure to use them as a part of this memorial.

Mr. Ingalls was much interested in fruit culture and rural pursuits. Not only did he bring energy and intelligence and in a measure, active work to this department, but he brought also to it as one might say, affection. He loved nature and everything that came from the generous hand of mother earth he was fond of. Trees, flowers, fruit, received his most thoughtful attention. In driving through the country nothing escaped him. His was a nature to which all the beauties of vegetation especially appealed. Wayside flowers, as well as those of higher cultivation were equally pleasing to him, recognizing as he did, that

they were *all* the works of God. He had quite an extensive fruit garden and gave particular care to the raising of grapes of which he had a large variety. Conspicuous among them being the Black Hamburg. He raised many of them in a cold grapery. Whatever encomium from your personal knowledge of Mr. Ingalls you add for yourself to your work, cannot be too much, for in all respects he was "that noblest work of God" an honest man.

You remember perhaps Mr. Ingalls' noble attitude when in the Legislature at the time of the "count out" he stood boldly forth in splendid defence for the right, joining in the sentiment of his brother-in-law, the late Hon. L. Wilder Farley of Newcastle, who wrote in one of the leading papers of the day, the clarion words, "Let justice be done, though the Heavens fall."

From copy of sketch for "Men of Progress."

Henry Ingalls, president of the First National Bank of Wiscasset, was born in Bridgton, Maine, March 14, 1819, son of Asa and Phebe (Berry) Ingalls of English descent. His grandfather, Phineas Ingalls, was one of the first settlers of Bridgton, where his father, Asa, was born. Asa Ingalls was a farmer and lumberman, held various town offices and was a member of the Maine Legislature for one or more sessions, and was captain of one of the military companies stationed at Portland in the War of 1812. Both his father and grandfather were prominent citizens of their town and section. He acquired his early education chiefly in the common schools of Bridgton and at Bridgton academy, and graduated from Bowdoin College in the class of 1841. After pursuing a course of legal studies with Howard S. Osgood in Portland, he was admitted to the bar in Cumberland county in 1843, and in October of that year commenced the practice of law in Wiscasset in Lincoln county, where he afterwards resided. At that time the county of Lincoln comprised, in addition to its present territory, the important towns of Bath, Lewiston and Rockland; and for fifteen years Mr. Ingalls had an extensive, increasing and successful practice, leading an active, laborious and busy life, until impaired health compelled him to relinquish the court business of his profession, and confine himself to office business and other pursuits. He was president of the First National Bank of Wiscasset from its organization in

1865 until his death and was a director in the Knox & Lincoln Railroad for twenty years and held till he died, a nominal position on the board, and he served in other offices of trust and responsibility. He was also president of the Lincoln Bar Association. Mr. Ingalls was for many years an active and prominent member of the Democratic party, but the only political office that he held was that of representative to the Legislature from Wiscasset in 1880. He was a candidate for Congress in 1856, but was not elected. He was married December 17, 1855, to Miss Mary Farley of Newcastle, Maine, who died November, 1890. Four children were born of this marriage; three died in infancy, and one, Grace Ingalls, survives him. He died December 10, 1896.

GIDEON KING STAPLES.

This society has never had a stronger friend than the subject of this sketch. For many years he has been an exhibitor at our fairs and borne away many of our premiums. Although his orchard stands almost under the shadow of Mt. Blue, in the Boston market where his apples went usually about the first of March, they were quite likely to take the lead until they were gone. Added to the quality of the fruit it should be added that he was an honest packer, and the dealers never had to examine his fruit.

Too old to be trusted away from home for several years some of his family attended the winter meetings with him. The last one he attended was in Foxcroft two years ago; he wanted to go to Presque Isle, but the distance seemed too far to him. In September last the writer met him at Mr. Whittier's fruit meeting. In reply to our inquiry for his health he said: "I am not good for much now. I have not done anything the past summer. When is the winter meeting to be held?" He still thought of the society and its welfare. We could see that his strength was failing and only a few weeks later he passed to his rest.

His son writes: "There was no event in the year that my father anticipated with so much pleasure as he did the winter meeting of the Maine State Pomological Society and he was keenly disappointed if prevented from attending these meetings."

Exhibitors at our winter meetings have learned to respect

Mr. Staples, for as a rule he has borne away the sweepstake for best collection of apples. This year were there samples from his orchard, other exhibitions would stand not better than second and third place.

His beloved companion, who survives him, has furnished the writer with the brief sketch of his life that follows, remarking in closing her letter: "You can hardly speak too warmly of his love for, and attachment to the Pomological Society."

Gideon King Staples was born in Temple, Me., on what is now known as the Pond Lot, about three-quarters of a mile east from the spot where his late home is situated, July 13, 1812, and died October 7, 1896.

When six years of age he removed with his parents, Gideon and Sarah (Oakes) Staples to the farm where he passed his long and useful life. His education was obtained in the public schools of his native town. In the study of music of which he was very fond, and in which he acquired considerable proficiency, he on several occasions rode, (often on horse back) from his home to Farmington, a distance of eight miles to attend evening singing schools taught by the late Wm. Reed, and others.

Places of trust have been tendered him, some of which he has accepted, selectman and treasurer of his town, administrator of several estates, guardian to fatherless and orphaned children, six children not his own have found homes beneath his roof for a period of from five to twenty years each.

It may be encouraging to those somewhat advanced in life, to know that Mr. Staples' first apple orchard was set when he was forty-five years of age, but through the discouragement of seeing them all but two winter kill to the ground, for the three first winters, he continued to labor and hope, and by caring for the best and cutting off the dead and worthless shoots, he reared a valuable orchard.

His next venture of the same number of trees, was set ten years later, and from that time on until the year of his death, but one year passed that he did not set more or less trees until now those, with the reclaimed native trees on the place, number between three and four thousand.

The Maine orchardist's usual discouragements, drifting storms, summer heat, mice or borers, have been his in full measure,

but the spring beauty of foliage and blossom, the summer's promise and autumn's perfection of fruit, have compensated for all labor and rendered his work a joy and delight.

MRS. ADELINE B. STRATTARD.

For many years she was interested in the growing of fruits and flowers. Perhaps she was a little quaint in her ideas upon their culture, but when she handled the flowers she acted as if they were personal friends, who seemed glad to be placed in such combinations as she saw fit to put them. In other words, her ideas of color and taste were excellent. Her form has long been familiar at our exhibitions. She was kind-hearted and always enjoyed helping others in the culture of flowers and fruits.

The Maine Farmer contained the following sketch and tribute to her memory:

Mrs. Adeline B. Strattard of Monroe, died July 22d, aged 64 years, 6 months. She was sick only three days. She was taken suddenly and in great distress for a few hours, then was unconscious for hours, but rallied and spoke a short time before she passed away. Her native place was Massachusetts, but she has lived in Monroe a great many years and raised a large family of children, six of whom are living. Mary, who has been a clerk in Jordan & Marsh's store in Boston for years, Cora Pierce married and lives in Massachusetts, Ella Lincoln also lives there, three boys, Fred, Charles and Will also live in Massachusetts. All were present at the funeral, but Will. Mrs. Strattard was well known in that town and the State as the author of many contributions to the Maine Farmer and other State papers. She was a woman of rare talents for her station in life. She could paint anything from nature, and her fancy work, for which she has been awarded so many premiums at State and town fairs for years, also her choice collection of flowers for which she was such a dear lover and had such a gift to arrange so artistically, made her widely known. She was ever ready to do what she could for those around her, was a constant church member and always present at Sunday School in the Bible class. She will be greatly missed by the people. Her choicest flowers were

always on the church pulpit; for she took that part of the church work on herself. She will long live in the memories of those who knew and loved her.

SAMUEL C. HARLOW.

Maine never had a more zealous fruit grower than Mr. Harlow. He inherited a large estate from his father on Harlow street, Bangor, and here in one of the most beautiful parts of the city, he lived among his fruit trees. The trees surrounded the old homestead, the approach was through them and here and there beautiful snatches of landscape could be seen in the distance beyond. He was fond of experiment and took great delight in imparting to others any information possible to aid them in growing fruits. Last year at our Bangor exhibition he was the largest exhibitor and bore away many premiums.

Through the courtesy of Grace Harlow-Oliver of East Providence, R. I., the following information is received for this brief sketch:

Samuel Chandler Harlow was born Feburary 26, 1830. He was son of Nathaniel Harlow, Jr., and took great pride in tracing his ancestry directly to the Pilgrim Fathers. His grandfather was one of Bangor's early settlers and largest landowners. Harlow street, so named, being laid out by him through a portion of his estates and given to the city of Bangor.

Samuel C., married Anna Smith Wellington, January 1, 1862, to whom two children were born. His wife died January 21, 1890.

He was widely known as a man and a successful pomologist, owning extensive orchards and winning many first premiums in State exhibitions. He originated a luscious variety of plum known as "Harlaw's Seedling." He was also interested in poultry, raising and originated a strain of White Plymouth Rock fowl.

He was public spirited, a Republican in politics and a member of the Central Congregational church. He was also a firm advocate of temperance. His death, due to general breaking down, occurred January 12, 1897. Both children survive him, Mrs. W. E. Oliver of Providence, R. I., and a sister, wife of the Rev. L. G. Marsh of Lewiston, N. Y.

O. L. LARRABEE.

For several years past our exhibitions have contained more or less fruit grown by O. L. Larrabee of West Levant. He was an old man, suffering more or less from deafness, but these infirmities only intensified his enthusiasm for fruit culture. Competitors soon learned that he knew well the best methods, for his fruit was among the best.

At our Bangor exhibition he showed signs of failing health, but there was no weakening of his enthusiasm for his fruit.

The secretary is indebted to Mrs. C. C. Cloudman, West Levant, for the following facts:

He was born in Greene, Me., in 1819, went to Bangor when a young man, 19 years of age and learned the blacksmith's trade at Hinkley & Egery's and worked for them a number of years and later on worked for Muzzy & Co. In 1877 came to West Levant, bought a farm in company with his son-in-law, C. C. Cloudman, and devoted his time to the care of orcharding until within the last year, when his health began to fail and he passed away March 12, 1897, from the effects of a shock of paralysis. He married Miss Nancy G. Cowan of Hampden in 1846. He was a good neighbor and a kind father. He leaves two daughters, Mrs. C. C. Cloudman of Levant and Mrs. H. A. Locke of Cambridge, Mass., to mourn his loss.

PLUMS AND THEIR CULTURE IN MAINE.

It is very gratifying to note that there is an increased interest in plum culture in the State, 1896 was a great year for plums, and at our exhibitions there were shown numerous plates that no one was able to name. Confusion still exists in the nomenclature, and perhaps will for years to come, but there is a steady increase in knowledge among our fruit growers and more varieties are known than a few years since. Just after our exhibition in Lewiston, the secretary received a letter from Dr. S. L. Goodal of Saco, in which he writes:

"May I ask of you the favor to send me a list of all or so far as practicable of all which are found to succeed in this State in recent years, not omitting any Japanese or native American

varieties? And will you state if black knot has abated its former virulence, or if a remedy for this fearful disease has been found, and if salt is applied now more or less than it once was, say 50 or 30 years ago in the culture of this to me favorite fruit, and much oblige."

So far as known nearly or quite all of the varieties named in our premium list thrive in the State, and many more. For various reasons those on which premiums are offered are considered with most favor. The Abundance and Burbank have both been doing well in the State, and some of the trees are coming into bearing. The fruit is very handsome and some of the trees have borne very heavily for young trees. In some cases the winter of '96 and '97 was too severe for these trees, as it was also for some of our tenderer varieties. As many questions are being asked concerning the Japanese plums, which are difficult for Maine people to answer we publish an article from the New England Homestead, written by H. E. Van Deman, late pomologist. It should be borne in mind, however, that none of these plums have been grown in the State long enough to make positive statements of their value. They certainly deserve further trial.

Mr. Van Deman's Article.

The introduction of the Japanese plums in America is one of the notable pomological events of the present century. It has opened a new field, because the varieties imported direct from Japan, good as they are, are only the stock from which to propagate numerous seedlings and crosses with other species of the plum family, and some of these are already beginning to appear. The large size and handsome colors of the Japanese plums make them very attractive, and the good quality of the most of them pleases the taste. The firmness of the flesh enables the fruit to be carried almost without injury over long distances. . The trees are mostly of good shape and sturdy habit, and bear almost too well. In fact, they must be carefully watched and the fruit thinned, or the trees will be greatly overloaded and injured. The varieties range in color from almost white to dark purple, and some are as red to the stone as any cherry. The season of ripening extends from very early to very late. All varieties, except

Kelsey, seem to be hardy as far north as Massachusetts, Michigan and Iowa, yet they do well along the gulf of Mexico. They are practically proof against the ravages of the black knot and leaf-blight.

On the other hand, the trees bloom so early in the season that in some sections they are apt to have the crop cut off by frost, although there are cases where they have bloomed and set fruit, and were practically out of danger before the later kinds reached their tender stage, and were seriously hurt by late frosts. The fruit is subject to rot in some sections, and under certain climatic conditions. There is a peculiar flavor running through nearly the whole list of varieties, that in a few of them, and to some persons, is almost bitter. But considering all things, the nurseryman, the fruit grower, the merchant and the consumer, like the Japanese plums already, with but few exceptions. The canners are pleased with them, also, and there is likely to be a great future to this part of the business. I never ate any preserved fruit so deliciously flavored as Satsuma plums.

Of the varieties already well tested, there are some which may well be recommended for general planting, either for home or market use. Of these it may be well to name a few, arranged in order of ripening.

1. Red June—Size medium to large; bright red all over;flesh firm and moderately juicy; flavor sweet to subacid; a semi-cling. The best very early kind yet well known.

2. Abundance—In size, medium to large; yellow, overlaid with pinkish red; flesh firm yet quite juicy; flavor sweet, with a slight musky taste; a clingstone. One of the most abundant bearers, and must be thinned.

3. Burbank—Size medium, or large, if well thinned; orange-yellow, mottled with light and dark red, very handsome; flesh firm and juicy; flavor rich, sweet, delicious; a cling. The tree has a weeping habit, but thrifty and enormously productive. I always thought it the best of the Japan plums.

4. Satsuma—Size large; dark solid red; flesh firm, coarse, juicy, blood-red to the pit; flavor tart; a clingstone. Best when cooked. Tree thrifty and productive.

5. Georgeson—Size medium; clear yellow; flesh very firm, but not very juicy; flavor sweet; a clingstone. Keeps long after being gathered. Moderately productive.

6. Chase—Size medium to large; dull red when fully ripe; flesh firm yet juicy; flavor very sweet; a cling. The tree is strong and round headed.

Of the new seedlings of American origin, Wickson is one which was originated by Luther Burbank of California. It is a cross between Burbank and Kelsey. The originator sent me specimens a few years ago, and, while not of as delicate flavor as some of the older kinds, it is worthy because of its large size, rich, red color and good shipping qualities. The tree proves very hardy so far as tried.

One of the most interesting fruits originated by Mr. L. Burbank is a very curious hybrid from a cross of the common apricot and a Japan plum. "Many of these hybrids," Mr. Burbank writes, "are barren—some fruitful, however. The fruit of this one has a charmingly delightful flavor and a beauty unique and all its own. The trees, fruit, growth, leaves, everything, a complete and equal combination. The photo does not give the beautiful colorings under the soft velvety skin. I expect from the hybrid seed, which is good, to obtain a distinct and valuable new species."

As to the black knot some are quite sure that spraying with the Bordeaux mixture will overcome it, and it is to be hoped it may. It is well, however, to remove the fungus whenever it appears and destroy it.

BRADSHAW & MAGURA.

There are still some plum growers in the State who are not inclined to accept the Magura as identical with the Bradshaw. The secretary has followed the subject up for several years, and finds that most of the nurserymen regard them as identical, as well as the Greeley. There are very strong resemblances in the fruit of each, as well as in the tree. It certainly looks now as if there would be only the Bradshaw a few years hence. We do not believe a new name will add to the merits of that old standard variety. Some growers have doubtless been imposed upon by unscrupulous nurserymen, and this occasions much of the confusion.

THE QUODDY BELLE.

During the past year several inquiries have been made about the Quoddy Belle strawberry. The following, copied from a letter from Nathan W. Marston of South Lubec, to the secretary contains a description of the variety and its origin:

"I am the originator of that berry. I have tried many seedlings, but this one was the only one that was superior to those I was cultivating. I thought from the start this would make a large berry, for the runners were as large as a pipe stem, and whitish. I consider it a cross of the Crescent and the Sharpless. It is pistillate, and will not succeed well alone. It is readily fertilized by any staminate plant, and will imbibe all the good points of its mate; hence the necessity of mating with a good large staminate. The Sharpless, The Dew and the Chas. Downing are good ones; and the fruit of the Quoddy Belle with these nearest to it has been abundant and large. It is the largest fruit I have grown, except Sharpless, and the Dew. It has every good point of the strawberry, except the sex; and I have never seen a good staminate strawberry for a crop. I have grown berries for twenty or more years, as an amateur gardener, and have tested all the so-called best varieties, and have found them all lacking in some good point. The Quoddy is the only one that I have found that can cover all the required conditions, viz: Strong, healthy, hardy, prolific plants; prolific in large, firm, handsome, delicious fruit. (The fruit will vary some according to the fertilizing plant.) Color will vary also, to fertilizer, and quantity of sunshine. Flavor, sub-acid, and very aromatic, in the sun. I get a full crop the first year, when I take up carefully and reset at once.

TESTS OF STRAWBERRIES IN 1896.

(P. is perfect flowering. Imp. imperfect flowering.)

FIRST EARLY VARIETIES.

Michel's Early (P.)—Good grower; first ripe berries May 25; medium to small size; color light red; excellent quality; good shipper.

Lovett (P.)—Rank grower; ripe May 25; medium size in matted row; color light red; quality fair; moderately firm.

Rio (P.)—Vigorous grower; quality of the best; large.

SECOND EARLY VARIETIES.

Warfield (Imp.)—Good grower; rather acid quality; berries first ripening quite large; main crop only medium size.

Haverland (Imp.)—Vigorous grower; quality of the best; size medium to large.

Splendid (P.)—Good grower; excellent quality; medium to large.

Greenville (Imp.)—Good grower; fine quality; large; very handsome form; medium yield.

Lady Thompson (P.)—Good grower; large round shape; quite productive.

Cyclone (P.)—Good grower; oblong; medium size.

Staples (P.)—Good grower; round, handsome; skin and flesh dark red; an attractive variety.

LATE VARIETIES.

Parker Earle (P.)—Vigorous grower; quality of the best; with hill culture, large to very large; oblong; enormously productive.

Marshall (P.)—Good grower; quality of the best; large to very large; good form; like all the extra large varieties, moderate yield.

HERE AND THERE.

Mr. Henry H. Cook of Presque Isle, sent a box of seedlings to our winter meeting. They were examined with much interest. It was thought these were the Stowe Apple, though we had none with which to compare them. They were very good specimens.

From Delano Moore of Presque Isle, the secretary received a box of seedling apples from Aroostook, among which were some good specimens of Peach, Duchess, Fameuse and Dudley. Although there were some good apples among the seedlings, the secretary is inclined to believe there will be found apples better adapted to Aroostook than these. The examination, however, was imperfect at best, and not under circumstances favorable for drawing definite conclusions. It is hoped Mr. Moore and others will continue experimenting until the right varieties are found.

The Josselyn Botanical Society held its third annual meeting in Foxcroft. The papers and discussions presented at the meeting were of a high order and deserve to be published. The society is doing an excellent work in awakening a wider interest in the study of botany and are also doing much in the more practical way of studying the flora of the State.

INDEX.

ERRATA.

Page 137, beginning of second paragraph read *Aspidiotus nerii*, Bouche.

Same page, beginning of fourth paragraph read *Chionaspis pinifoliae*, Fitch.

Same page, beginning of last paragraph read *Mytilaspis pomorum*, Bouche.

Page 138, read after title of cut *Mytilaspis pomorum*.

Page 140, read *Dactylopius destructor*, Comstock.

Same page, read *Aspidiotus perniciosus*, Comstock.

Page 151 in second line from bottom read "bush" for bushel.

Page 168, ninth line from bottom read "Harlow's Seedling" instead of "Harlaw's Seedling."

Page 172, read in place of "Bradshaw & Magura," "Bradshaw and Niagara."

Also in second line of article read "Niagara" for "Magura."