# The Connecticut Pomological Society

Proceedings of the Twentieth Annual Meeting 1910 1911

PLATE I.

THE EXECUTIVE OFFICERS AND COUNTY VICE-PRESIDENTS OF THE CONNECTICUT POMOLOGICAL SOCIETY FOR 1911.

*Cuts used in making plates 1, 4, 5, 6 and 7 by courtesy of The Connecticut Farmer.*

# REPORT

OF

# The Connecticut Pomological Society

## For the Year 1910

WITH

PROCEEDINGS OF THE TWENTIETH ANNUAL MEETING

## 1911


Published by
THE CONNECTICUT POMOLOGICAL SOCIETY
1911

# OFFICERS
OF THE
# Connecticut Pomological Society
FOR 1911

*President*
ELIJAH ROGERS
Southington.

*Secretary*
HENRY C. C. MILES,
Milford

*Vice-President*
GEORGE A. DREW
Greenwich

*Treasurer*
ORRIN GILBERT,
Middletown

---

*County Vice-Presidents*

Hartford—LEWIS C. ROOT, Farmington.
New Haven—A. T. HENRY, Wallingford.
Fairfield—E. A. JONES, New Canaan.
Litchfield—EDSON G. DAVIS, Torrington.
New London—WILLIAM I. ALLYN, Mystic.
Middlesex—GEORGE W. SPICER, Deep River.
Windham—E. E. BROWN, Pomfret Center.
Tolland—PROFESSOR A. G. GULLEY, Storrs.

*Standing Committees*

*Legislation.*

C. L. Gold, West Cornwall.
J. H. Hale, South Glastonbury.
J. W. Alsop, Avon.

*Membership.*

J. H. Putnam, Litchfield.
J. C. Eddy, Simsbury.
G. C. Comstock, Norwalk.

*Injurious Insects.*

Dr. W. E. Britton, New Haven.
Prof. C. D. Jarvis, Storrs.
F. A. Bartlett, Stamford.

*Finance.*

A. B. Cook, Farmington.
N. S. Platt, New Haven.
Samuel Russell, Jr., Middletown.

*Exhibitions.*

L. C. Root, Farmington.
Prof. A. G. Gulley, Storrs.
H. B. Reed, Greenwich.

*Fungous Diseases.*

Dr. G. P. Clinton, New Haven.
E. M. Ives, Meriden.
E. W. Smith, Cheshire.

*New Fruits.*

Geo. W. Smith, Hartford.
John R. Barnes, Yalesville.
Prof. A. T. Stevens, Storrs.

*Markets and Transportation.*

J. Norris Barnes, Yalesville.
Chas. E. Lyman, Middlefield.
J. H. Hale, South Glastonbury.

*Publicity.*

E. D. Curtis, Bantam.
Stancliff Hale, So. Glastonbury.
C. L. Gold, West Cornwall.

*Auditors.*

Geo. W. Staples, Hartford.
J. C. Eddy, Simsbury.

# CONTENTS.

# Constitution and By-Laws of the Society.

THE CONSTITUTION.

ARTICLE I—The name of this association shall be THE CONNNECTICUT POMOLOGICAL SOCIETY.

ARTICLE II—Its object shall be the advancement of the science and art of pomology, and the mutual improvement and business advantage of its members.

ARTICLE III—Any person may become a member of this Society by paying into the treasury the sum of one dollar, and the membership shall cease at the end of the current year.

Any person may become a life member of this Society by the payment of the sum of ten dollars at one time. All moneys from life memberships to form a permanent investment fund of the Society.

ARTICLE IV—Its officers shall consist of a President, First Vice-President, one Vice-President from each county in the State, a Secretary and a Treasurer, to be elected annually by ballot, to hold office for one year, or until their successors are duly elected.

The President, First Vice-President, Secretary and Treasurer shall constitute the Executive Committee of the Society.

ARTICLE V—The Society shall hold its annual meeting during the month of February, the time and place to be decided by the Executive Committee, at which time the annual election of officers shall be held, various reports submitted and an exhibition and discussion of fruits take place; also other necessary business be transacted. Other meetings for special purposes may be arranged for and called by the Executive Committee whenever it is deemed advisable. Printed notice of each meeting to be sent to every member of this Society.

ARTICLE VI—The following Standing Committees of three members each, on the following subjects, shall be appointed by the President, to hold during his term of office; the appointments to be announced at the annual meeting of the society.

*Business and Legislation,*
*Injurious Insects,*
*Exhibitions,*
*Membership,*
*Fungous Diseases,*
*New Fruits,*
*Markets and Transportation,*
*Publicity,*
*Two Auditors.*

ARTICLE VII—This Constitution may be amended by a vote of two-thirds of the members present at any annual meeting.

BY-LAWS.

ARTICLE I—The President, Secretary, Treasurer and the Chairman of each standing committee shall each present a report at the annual meeting of the Society.

ARTICLE II—The President shall appoint annually two members to audit the accounts of the Secretary and Treasurer.

ARTICLE III—The Treasurer shall pay out no money except on the written order of the President, countersigned by the Secretary.

ARTICLE IV—All members whose memberships have not been renewed before the end of the current year shall be notified of the fact previous to the removal of their names from the roll.

ARTICLE V—It shall be the duty of the Executive Committee to arrange the programs for the meetings of the Society, to fill all vacancies which may occur in its officers between the annual meetings, and to have general management of the affairs of the Society.

ARTICLE VI—It shall be the duty of the County Vice-Presidents to actively represent the Society in its various lines of work in their respective counties, to arrange for at least one meeting of the Society in their county during the year, and to report to the Society from time to time the progress of the fruit growing industry in their respective sections of the State.

ARTICLE VII—The Committee on Legislation shall inform themselves in regard to such laws as relate to the horticultural interests of the State, and bring the same to the attention of the Society, and also the need of further legislation. And when so directed by the Society, shall cause to be introduced into the General Assembly such bills as may be deemed necessary, and to aid or oppose any bills introduced by others, which directly or indirectly affect the interests of the fruit-grower.

ARTICLE VIII—The Committee on Membership, with the co-operation of the County Vice-Presidents, shall bring the work of the Society to the attention of the fruit-growers throughout the State, and, by such means as they deem best, strive to increase the membership.

ARTICLE IX—The Committee on Exhibitions shall suggest from time to time such methods and improvements as may seem to them desirable in the conduct of the exhibitions of the Society, as well as fruit exhibitions throughout the State; and with the assistance of the Executive Committee shall arrange the premium lists, and have charge of all Exhibitions given by this Society.

ARTICLE X—It shall be the duty of the Committee on Insects and Diseases to investigate in regard to the ravages of these enemies of fruit culture; and to suggest how best to combat them and prevent their spread; to answer all inquiries addressed to them by the members as far as possible, and, when necessary, promptly lay before the Society timely information on these subjects.

ARTICLE XI—The Committee on New Fruits shall investigate and collect such information in relation to newly-introduced varieties of fruits as is possible, and report the same to the Society, with suggestions as to the value of the varieties for general cultivation.

ARTICLE XII—The Committee on Markets and Transportation shall inform themselves as to the best method of placing fruit products upon the market, and bring to the attention of the members of the Society this and any other information concerning profitable marketing.

ARTICLE XIII—The Society will adopt the nomenclature of the American Pomological Society.

ARTICLE XIV—These By-Laws may be amended by a majority vote of the members present at any regular meeting.

PROCEEDINGS

OF THE

## Twentieth Annual Meeting

OF THE

# Connecticut Pomological Society

---

IN accordance with the requirements of its Constitution, and with arrangements made by its Executive Committee, the Connecticut Pomological Society convened in twentieth annual session, February 1 and 2, 1911, at Unity Hall, in the city of Hartford.

Previous to the opening session the work of preparation had been going on during the morning hours, and even for days and weeks before, with the result that the convention hall presented every appearance of a great modern fruit show and convention. The stage was tastefully banked with palms, ferns and other decorative plants, and in front was massed quantities of splendid highly colored fruits shown in boxes, barrels, baskets, pyramids and mounds. In addition to the finest products of Connecticut apple orchards there were exhibits from several other New England states, from New York and even from the Pacific Coast, the whole making a most beautiful picture. Over the stage was hung a mammoth banner bearing the suggestive words, "*Fruit growing is the fine art of Agriculture.*"

In the lower hall were arranged displays of horticultural implements, spraying outfits and supplies used by the up-to-date fruit grower, the largest exhibition ever seen at a Connecticut meeting. The fruit show occupied two rooms and was attractively staged, and with the special exhibit of apples representing nearly every New England state, combined to make the largest and best fruit exhibit in the history of the Society's annual meetings.

There was a very large attendance of members and visitors on hand when the opening session was called to order at 10.40, Wednesday morning, February 1st, by the President, E. Rogers, of Southington.

PRESIDENT ROGERS: Ladies and gentlemen, the hour has arrived for us to open our meeting. The first on the program is our president's address.

## President's Address.

*Ladies and Gentlemen, Members of the Pomological Society, Friends, Greeting:*

We are about to celebrate our twentieth anniversary. Looking over the past, we see many things we have accomplished—not without some failures—but with the continued assistance of our Experiment Stations and Agricultural Colleges, we are sure to go forward. The outlook for fruit culture in our state was never brighter than at the present time.

The past year we have held several Institutes in different parts of our state, with marked results. Our Publicity Committee have sent out circulars regarding the horticultural and other resources of our state. This work, I feel, should be continued.

This year has been a successful one; the peach crop was estimated to be the largest on record.

By the combined efforts of our growers and the men, who were willing to work in conjunction with them, our crop of apples proved of the best quality and brought large prices. And not only New England, but the West, were looking for them. We have the quality and so the demand for more fruit. We have the farms and the best markets in the world, for they are near our large cities, where the people not only want, but are willing to pay for good fruit.

We are not obliged to ship our fruit 3,000 miles with railroad freight of $300 per car, but sell largely in our own state. Our New England Fruit Show, held in Boston in 1909, has helped to open good markets for our fruit.

How shall we meet this question? By bringing to a better standard our old orchards, starting new, giving them better care. We have planned this year to make an exhibit at the next New England Fruit Show in Boston, and ask each one to help us by growing fine fruit. Connecticut fruit should stand first; let us make it such.

I wish now only to add that we have a society to be proud of, large in numbers, bound together by a noble work, well worth putting forth our best efforts, and I wish for its future prosperity the same loyal support it has had in the past.

THE PRESIDENT: The next is the report of our Secretary, Mr. Miles.

SECRETARY MILES: Our worthy President has set the example of presenting a brief and comprehensive report, and I suppose that he intended that the rest of the officers should follow his example. I have only one apology to offer for the length of the Secretary's report this year, and that is the fact that we are twenty years old, as you all know, and it seems right and proper that we should take a glance backward and note the conditions existing twenty years ago when we began, and compare them with the present situation, and this I have attempted to do to a certain extent.

## Secretary's Report.

*Mr. President and Members of the Society:*

This meeting marks the twentieth milestone in the life of our Society, "the recognized organization of the fruit growers of Connecticut." We are no longer a young and struggling society, uncertain as to our work and mission, but we have attained strength through age and experience, and through the results of work accomplished have become an established factor in the agricultural life of the state.

Busy as we may be in the solving of problems connected with present-day fruit growing, nevertheless a glance backward over the past twenty years cannot help but be interesting and instructive.

In 1891, when the Pomological Society was organized, Connecticut was just in the beginning of the peach growing craze. Now, twenty years later, finds the interest of our fruit growers largely centered around the apple as the most profitable fruit. During these years peach growing has developed into a settled, paying industry in many sections of our state. The product of our peach orchards is known far and wide, and no finer fruit is grown anywhere. The apple, always "the king of fruits," is coming to be recognized as the best, and, in the long run, the most profitable fruit to plant in New England, and particularly in Connecticut. Old orchards, once thought to be past their usefulness, are being reclaimed by modern methods, and hundreds of acres of new orchards are being planted, in many cases on land before abandoned to brush and rocks. So, after all these years of neglect and failure, as well as education, experimenting and study, we see a remarkable awakening of interest in the growing of apples, which promises soon to give New England apples their rightful place in the markets of the world, rivalling even the fruit of the celebrated West.

In twenty years great changes have taken place in our fruit growing methods. Destructive insects and diseases have

come in and are important factors. Some we have learned to control, others are still with us, oftentimes "blessings in disguise." The one item of spraying has almost revolutionized our business. The last census will show that to-day there are more acres devoted to fruit growing and more money invested in orchards in Connecticut than ever before, and vastly more interest is being taken in the culture and use of fruits. It must be admitted that some of our standard fruits are not succeeding as well as they did twenty years ago, especially the pear, cherry and quince; and probably the growing of many of the small fruits is not as extensive as it once was.

But, as a whole, Connecticut fruit growing has made great progress in the twenty years, and yet, those who know tell us that we are but just on the threshold of the greatest boom in agriculture and fruit growing that New England has ever seen. It has taken years to awaken our people to the wonderful advantages and opportunities lying right at their doors, and the causes for the present hopeful condition are many, but it is not too much to say that the work and teachings of our Pomological Society have been a very large factor in bringing it about. For twenty years the Society has labored in season and out of season to promote the horticultural interests of our state, and the success that has now come to crown these efforts cannot help but be a source of gratification to those wise founders of the organization, as well as to those who have carried on the work during all these years.

Reviewing the work of the year 1910 just closed, the Society has been active along many lines. The regular work has been maintained and several important special lines of work have been taken up. It has been a year of generally successful results with our fruit growers, and where proper attention was given to the trees and plants, magnificent peaches, apples and other fruits have been grown and mar-

keted. Of course, many serious problems are yet unsolved, but the outlook for the future is bright with promise.

Reporting in detail on the past year's work, I will first ask your attention to

## Our Membership.

It is a pleasure to be able to report that our membership is growing rapidly. We have received more new members the past year than ever before, and our present membership is the largest we have ever had enrolled.

The total number of members one year ago was 529. During the past year 147 new members have been added, making altogether 676 on the roll in 1910.

Sixty-six names have been dropped from the list because of failure to renew within the time specified by our By-Laws, and two members have been lost by death. Making these deductions, the present paid-up membership of the Society is 608—26 of this number are life members.*

This very gratifying condition in membership shows, perhaps, better than anything else the increasing strength of the Society and the active interest taken in it by the fruit growers of the state. But still the goal of 1,000 members has not yet been reached, and I urge upon you all to keep up your own membership this coming year and induce others to join our ranks, as far as you can. We are doing well—but let us do still better in 1911.

## Our Finances.

From February 1st, 1910, to February 1st, 1911, I have received and paid to the Treasurer:

---

* Note.—Since this report was made a number of delinquent members have "returned to the fold," and in addition 118 new members have been added since February 1st, so that the Society's full membership to April 1st, 1911, is approximately 750.

| | |
|---|---|
| From Annual Membership Fees | $579.00 |
| From Life Membership Fees | 80.00 |
| From Sales of Fruit at Exhibitions | 21.38 |
| Total | $680.38 |

I have drawn orders for the payment of bills to the amount of $3,025.21.

These expenditures classify under the following heads:

| | | |
|---|---|---|
| Annual Meeting, 1910 | | $519.89 |
| Annual Report | | 642.32 |
| Annual Exhibition: | | |
| Running Expenses | $133.94 | |
| Premiums | 335.26 | |
| | | 469.20 |
| Institute Work | | 142.42 |
| Field Meetings | | 20.64 |
| Crop Reports | | 11.00 |
| Publicity Work | | 131.00 |
| Secretary's Office: | | |
| Expenses and Supplies | $135.25 | |
| Salary, balance of year 1909 | 100.00 | |
| Salary, on account of year 1910 | 200.00 | |
| | | 435.25 |
| Miscellaneous Printing and Advertising | | 111.74 |
| Literature furnished to Members | | 160.11 |
| Sundry Expenses and Expenses of President's Office | | 82.89 |

## Meetings.

Besides the Annual Meeting in February the Society held during 1910 ten Institutes, two Summer Field Meetings —one at the Lyman Farm in Middlefield, August 3 and 4; the other, an Apple Field Day, at Hale & Coleman's orchards in Seymour, September 23; a Peach Exhibition at the Connecticut Fair, Charter Oak Park, and the Thirteenth Annual Fruit Exhibition at Berlin, September 27-30. All these events, especially the Field Meetings, were well attended, enjoyable and profitable to our members and others interested in fruits, who were present. They were the means of introducing the

Society to many who had never come in touch with it before.

Your Executive Committee has met frequently during the year, the plans for work have received careful consideration, and in the execution of the work we have had the active coöperation of many of our interested members.

Referring to the Annual Exhibition of the Society, which was again held in connection with the State Fair at Berlin, it may be said that the showing of fruits was a splendid one, creditable alike to the growers, the Society and the state. More attention than usual was given to the exhibits of fruits packed for market, especially apples in boxes, and while it is true that our Connecticut growers have much to learn in the matter of proper and attractive packing, yet many fine exhibits were staged and the competition for the Pratt cup was very keen. We need more demonstrations in grading and packing, at our fairs and meetings, and it is to be hoped that in the future this feature will be made more prominent.

Through the liberality of the State Fair officials, the expense of our exhibition was not great, and it is certain that the show was worth to the state, in an educational way, many times its cost.

Three hundred and thirty-five dollars and twenty-six cents was awarded in premiums to some forty exhibitors.

The Society was invited to make a display of peaches at the Connecticut Fair, at Hartford, September 5-9. With the hearty coöperation of our peach growers we were able to put up the finest show of this splendid fruit ever seen in Connecticut. This exhibit was an eye-opener to many, and demonstrated what really fine peaches Connecticut orchards can, and do produce, and how important the industry is becoming.

## Institute Work.

There is nothing new to report concerning Farmers' Institute work in the state. All of the state agricultural organizations, our Society included, are carrying on this branch of educational work as far as their means will permit, and the

Institute is as popular and helpful as ever. This Society held Institutes the past season as follows: At New Hartford February 10; Milford, February 15; Lyme, February 24; Hebron, February 25; Wolcott, February 28; Chaplin, March 4; Cheshire, March 11; Monroe, March 15; Westfield, March 18; Durham, March 22. Besides these we have supplied speakers on fruit subjects for a large number of Grange meetings and for Institutes held by the other state organizations.

A lively campaign of Institute work is being mapped out for the remainder of the season. With the present widespread interest in all agricultural lines, the advantages of the Institute to every rural community should be realized and accepted, and the state should be more liberal in its support.

## Publicity Work.

This important work, inaugurated by the Society a year ago, has met with success and grown in volume and importance. Your committee having charge of this matter will make a full report, and I will only add that I believe no line of work we have yet undertaken will prove of such far-reaching benefit to the agriculture and horticulture of our state. Since the bulletins have been issued, our committee has been almost swamped with requests for further information and advice, and for farms available for growing fruit. It would seem that in the near future some sort of a central bureau must be established to properly handle these requests for help, that are pouring in from within and without the state. The whole thing only goes to show that the eyes of the public are turning toward New England as a section possessing exceptional advantages for country homes, business farming and profitable fruit growing.

The work of gathering fruit crop reports for the benefit of the growers, railroads and fruit buyers—the issuing of the Society's Annual Report and other helpful literature to our members and others—and the demonstration orchard

work, in coöperation with the State Agricultural College, have all been carried on as usual during the year and have proven the efficiency and usefulness of the organization.

We have earned the right to live and claim the support of the public and those interested and engaged in fruit growing. The future holds even greater opportunities and the promise of further success and encouragement. Our work is increasing each year, and in asking the state for more liberal support of the fruit interests for the coming two years, we shall be able to show results accomplished, and the need of further extension of the work. Funds will be needed for making a state exhibit at the coming New England Fruit Show in Boston next Fall, and our apple growers, especially, will need to be up and doing if the present good record of Connecticut is to be maintained. Our publicity work must not be allowed to stop, and the other varied lines of our work are all well worth continuing and extending, and so, it behooves us all, members and others interested in the future of Connecticut fruit growing, to support the Society in every way possible, for it has done much for the state in the past, and will continue to add to her wealth and prosperity in the years to come.

With sincere thanks to all who have so kindly assisted and encouraged your secretary in the work, and with congratulations, and best wishes that in the coming season your efforts may be successful and "profitable, laden with good fruits," this report is

Respectfully submitted,

H. C. C. MILES, *Secretary.*

Milford, Conn., January 30, 1911.

THE PRESIDENT: You have heard the Secretary's report. What action do you wish to take?

A MEMBER: I move that it be accepted and printed in the proceedings.

On vote the motion was passed.

Next in order the report of the Treasurer, Mr. Orrin Gilbert was called for. Treasurer Gilbert read to the meeting only a brief summary of the financial condition of the Society, but the full report of receipts and expenditures is given herewith:

## Treasurer's Report.

FOR YEAR ENDING FEBRUARY 1, 1911.

ORRIN GILBERT, *Treasurer*,

*In Account with* THE CONNECTICUT POMOLOGICAL SOCIETY.

| 1910. | | |
|---|---|---|
| Feb. 3. | To balance | $148.23 |
| | Cash from J. C. Eddy, account banquet | 257.50 |
| | from H. C. C. Miles, account banquet | 41.25 |
| | from rent hall space for exhibits | 28.00 |
| | from annual membership fees from Secretary Miles | 335.00 |
| 11. | from sales of exhibition fruit | 1.00 |
| | from annual membership fees from Secretary Miles | 14.00 |
| 16. | from sales exhibition fruit, annual meeting | 12.25 |
| | from annual membership fees from Secretary Miles | 33.00 |
| 21. | from state appropriation | 391.50 |
| May 3. | from annual membership fees from Secretary Miles | 21.00 |
| June 3. | from state appropriation | 362.70 |
| Aug. 18. | from state appropriation, balance year 1910 | 317.26 |
| | from annual membership fees from Secretary Miles | 38.00 |
| Sept. 26. | from annual membership fees from Secretary Miles | 32.00 |
| 30. | from sales exhibition fruit, Berlin exhibition | 8.13 |
| Oct. 12. | from annual membership fees from Secretary Miles | 25.00 |
| 18. | from Berlin Agricultural Society | 100.00 |
| 31. | from sales exhibition fruit, Berlin exhibition | 8.45 |

| | | | |
|---|---|---|---|
| Nov. | 2. | from state appropriation ..... | $466.36 |
| 1911. | | | |
| Jan. | 9. | from state appropriation ..... | 335.26 |
| | 18. | from annual membership fees from Secretary Miles ..... | 28.00 |
| | | from state comptroller, account agricultural fair fund ..... | 188.55 |
| | 31. | from annual membership fees from Secretary Miles ..... | 53.00 |
| | | | $3,245.44 |

| | | | Cr. |
|---|---|---|---|
| 1910. | | | |
| Feb. | 3. | By cash to Geo. S. Knapp, expenses and services speaker, annual meeting ..... | $4.50 |
| | | Prof. W. M. Scott, expenses speaker, at annual meeting ..... | 20.75 |
| | | Harry J. Bridge, expenses assistant to secretary, annual meeting ..... | 1.50 |
| | | W. E. Waller, expenses assistant to secretary, annual meeting ..... | 3.10 |
| | | R. S. Bascom, for cash advanced for expense bills on exhibits, annual meeting | 14.01 |
| | | R. S. Bascom, cash paid for material for packing table ..... | 2.18 |
| | 11. | check to The Garde Hotel, hotel bills speakers officers and guests, annual meeting.... | 98.80 |
| | | Conyers Farm, apples used at annual meeting ..... | 7.50 |
| | | Colt's Band and Orchestra, banquet account ..... | 13.00 |
| | | The Whitehead & Hoag Co., 500 badges and officers' badges ..... | 22.39 |
| | | The First Unitarian Congregational Society, Unity Hall rent for annual meeting, 1910 ..... | 70.00 |
| | | E. D. Sanderson, expenses speaker at annual meeting ..... | 11.55 |
| | | H. I. Spalding, operating lantern for lectures, annual meeting ..... | 19.00 |
| | | E. L. Wiggin, mgr., painting sign cards, for annual meeting ..... | 3.50 |
| | | H. C. C. Miles, Secretary, expenses and supplies on account annual meeting... | 8.35 |

| | | |
|---|---|---|
| Feb. 11. | E. Rogers, supplies annual meeting .... | $11.90 |
| | New York draft to Robert Thompson, traveling expenses attending annual meeting as speaker ..... | 43.36 |
| | check to Geo. C. Comstock, expenses assistant to Secretary, annual meeting ..... | 4.00 |
| | The Tuttle, Morehouse & Taylor Co., printing membership receipts and programs for annual meeting ..... | 24.10 |
| | Everett E. Brown, apples for use at annual meeting ..... | 9.00 |
| | R. S. Bascom, storage charges on supplies for society ..... | 3.00 |
| | Clarence H. Ryder, printing notices for annual meeting ..... | 3.00 |
| | The Hartford Printing Co., printing notices, New Hartford Institute ..... | 2.00 |
| 17. | E. Habenstein banquet account ..... | 315.50 |
| 24. | Clarence H. Ryder, banquet account .... | 3.00 |
| | Hartford Y. M. C. A., banquet account.. | 25.00 |
| | N. H. Sherwood, banquet account ..... | 12.00 |
| | A. Mugford, Inc., banquet account ..... | 10.25 |
| Mar. 16. | H. C. C. Miles, Secretary, office expenses and supplies, Dec. 1, 1909, to March 1, 1910 ..... | 42.25 |
| | Milford Post Office, stamped envelopes, annual meeting and institutes ..... | 12.05 |
| | C. H. Ryder, printing 1,000 copies publicity bulletin No. 1 ..... | 14.25 |
| 18. | Prof. C. D. Jarvis, expenses attending two institutes, Jan. and Feb., 1910..... | 14.85 |
| | John Coombs, plants, flowers, etc., for annual meeting ..... | 10.00 |
| | E. Tucker Sons Co., paper for tables, etc. | 4.08 |
| 21. | H. E. Savage Sons, apples, annual meeting | 10.50 |
| | C. G. Whaples & Co., printing institute programs ..... | 4.00 |
| | Kilborn Brothers, envelopes, stationery.. | 2.36 |
| | Chas. L. Gold, President, traveling expenses, Nov., 1909, to Feb., 1910, and annual meeting expenses ..... | 50.00 |
| | Prof. A. G. Gulley, expenses washing exhibition plates ..... | 2.25 |

| | | |
|---|---|---|
| Mar. 21. | H. C. C. Miles, Secretary, fourth payment on salary, account year 1909.... | $50.00 |
| Apr. 21. | Money order to Vredenburg & Co., 1,500 lithographed advertising cards ..... | 3.75 |
| May 3. | Check to Chas. F. Roberts, reporting and transcribing proceedings at 19th annual meeting ..... | 72.60 |
| | H. C. C. Miles, Secretary, telephone charges, Secretary's office, Jan. 1 to April 1, 1910 ..... | 16.90 |
| 21. | Clarence H. Ryder, printing 1,000 letterheads ..... | 7.00 |
| | B. C. Patterson, Treasurer, Society's portion of state institute board expenses, 1908-1909 ..... | 5.00 |
| | Wm. H. Hatton, photos for Annual Report ..... | 4.00 |
| | Clarence H. Ryder, printing programs, 6 institutes, season 1910 ..... | 14.72 |
| | The Milford Citizen, printing programs, 4 institutes, and envelopes ..... | 6.00 |
| | Prof. J. M. Trueman, expenses attending institute ..... | 5.70 |
| | Mrs. C. A. Wheeler, services and traveling expenses attending institutes .... | 9.10 |
| | Chas. S. Phelps, expenses attending executive meeting and annual meeting .. | 6.88 |
| 26. | Clarence H. Ryder, payment on account publishing annual report for 1910..... | 200.00 |
| June 4. | Prof. C. D. Jarvis, expenses attending 3 institutes ..... | 14.45 |
| 30. | F. H. Stadmueller, services and expenses attending 3 institutes ..... | 10.25 |
| | Everett E. Brown, expenses attending 2 institutes ..... | 6.50 |
| | J. H. Putnam, traveling expenses as speaker at institute ..... | 3.65 |
| | Dr. W. E. Britton, traveling expenses to institutes ..... | 1.60 |
| | Dr. E. H. Jenkins, traveling expenses attending 3 institutes ..... | 6.15 |
| | S. N. Spring, traveling expenses attending institute ..... | 2.10 |

| | | |
|---|---|---|
| June 30. | Prof. A. G. Gulley, expenses attending institute, Mar., 1910 | $4.50 |
| | Dr. G. P. Clinton, institute expenses, Mar., 1910 | 1.30 |
| | Milford Post Office, 400 stamps for mailing Annual Reports | 32.00 |
| | Clarence H. Ryder, 1,000 four-page publicity bulletins | 6.75 |
| | H. C. C. Miles, Secretary, balance of salary account year 1909 | 50.00 |
| July 6. | The Connecticut Farmer Co., quarterly payment on subscription contract | 39.18 |
| 25. | H. C. C. Miles, Secretary, first payment on salary, account year 1910 | 50.00 |
| Aug. 5. | Clarence H. Ryder, second payment on account printing Annual Report, 1910. | 200.00 |
| 10. | Milford Post Office, stamped envelopes, postals, and stamps for crop reports, etc. | 15.02 |
| 18. | Kilborn Brothers, envelopes for mailing Annual Reports, and stationery | 2.30 |
| Sept. 15. | Clarence H. Ryder, balance of bill for publishing Annual Report | 126.80 |
| | Joseph R. Clark, printing and supplies, Sept. 1, 1909, to April 1, 1910 | 48.21 |
| 26. | H. C. C. Miles, Secretary, second payment on salary, account year 1910 | 50.00 |
| 30. | Cash to Kilby Hotel, hotel bills of helpers at 13th annual exhibition | 9.70 |
| Oct. 10. | Milford Post Office, stamps, postals and stamped envelopes, field meeting and annual exhibition | 17.98 |
| | The Garde Hotel, hotel bills of judges and officers, account 13th annual exhibition. | 9.00 |
| | Prof. F. C. Sears, services and expenses as judge at 13th annual exhibition | 12.50 |
| | W. E. Waller, expenses, services and supplies as entry clerk, annual exhibition | 9.50 |
| | Money order to The Fair Publishing House, entry and judges' books, for annual exhibition | 5.00 |
| 12. | Check to H. C. C. Miles, Secretary, expenses and supplies for 13th annual exhibition | 13.25 |

| | | | |
|---|---|---|---|
| Oct. | 25. | The Hartford Printing Co., printing 250 billheads | $2.00 |
| | | The Berlin Agricultural Society, express charges advanced on exhibits | 8.79 |
| | | Clarence H. Ryder, printing 1,000 premium lists and entry blanks, annual exhibition | 15.00 |
| | 31. | P. Berry & Sons, cold storage charges on exhibition fruit | 1.55 |
| | | Prof. A. G. Gulley, expenses of self and helpers at annual exhibition | 10.90 |
| | | The Connecticut Farmer Co., payment on account subscription contract | 80.62 |
| Nov. | 7 | H. C. C. Miles, Secretary, office expenses, supplies and telephone bills, March 1 to Nov. 1, 1910 | 44.63 |
| | | Clarence H. Ryder, printing 100,000 publicity bulletins, as per contract | 110.00 |
| | | T. H. & L. C. Root, box exhibit apples for winter exhibition | 2.50 |
| Dec. | 2. | H. C. C. Miles, Secretary, third payment on salary, account year 1910 | 50.00 |
| | 5. | Conyers Farm, 3 boxes apples for annual meeting | 6.00 |
| | 7. | Clarence H. Ryder, printing letterheads for publicity committee, etc. | 4.00 |
| | | Clarence H. Ryder, binding in cloth 50 copies 1909 Annual Report | 19.16 |
| | 19. | Clarence H. Ryder, binding book of orders on Treasurer | 2.85 |
| | | Clarence H. Ryder, letterheads, field meeting programs, etc. | 9.65 |
| | 20. | Berlin Agricultural Society, cash advanced for rent of exhibition plates | 4.16 |
| | 23. | Milford Post Office, stamps, stamped envelopes, etc., for mailing reports, programs, etc. | 10.24 |
| | 24 | Premiums paid as awarded at 13th annual exhibit, 1910: | |
| | | Frederick B. Cook $2.00 | |
| | | E. F. Manchester 2.00 | |
| | | Walter Fawthrop 1.00 | |
| | | E. W. Dyer .25 | |

| | | |
|---|---|---|
| | L. J. Robertson | $4.25 |
| | Mrs. F. B. Bailey | 21.00 |
| | F. B. Bailey | 23.50 |
| | Walter H. Baldwin | 8.00 |
| | A. J. Clark | 9.50 |
| | W. I. & T. M. Savage | 14.25 |
| | Mrs. Jno. F. Chalmers | 8.50 |
| | Harvey Jewell | 1.00 |
| | Mrs. Harvey Jewell | 15.25 |
| | N. S. Platt | .95 |
| | Everett E. Brown | 15.00 |
| | Chas. L. Gold | 6.50 |
| | E. Rogers | 4.00 |
| | Mrs. E. W. Ellison | 26.50 |
| | A. T. Henry | 13.50 |
| | T. H. & L. C Root | 29.50 |
| | Albert Bernhard | 15.75 |
| | Mrs. C. O. Hanford | 17.50 |
| | Lyman Payne | 5.25 |
| | A. B. Howard & Sons | 51.00 |
| | S. W. Roberts | 3.50 |
| | H. C. C. Miles | 2.00 |
| | G. A. Drew, manager | 17.60 |
| | Oliver K. Driggs | 1.00 |
| | H. B. Buell | 1.10 |
| | Thos. K. Winsor | 1.46 |
| | Geo. F. Platt | 3.50 |
| | Willis A. Lane | 1.25 |
| | Barnes Bros. | 1.00 |
| | Hale & Pero | 1.50 |
| | Thos. Callahan | 1.00 |
| | S. G. Cook | 3.00 |
| | Herbert L. Ives | 1.00 |
| | Dennis Fenn | .40 |
| | | $335.26 |

1911.

Jan. 9. Premiums paid as awarded at 19th annual meeting, Feb. 2d and 3d, 1910:

| | |
|---|---|
| S. G. Cook | $ .25 |
| C. W. Carpenter | .25 |
| H. E. Savage Sons | 3.00 |
| E. E. Brown | .75 |
| Ethelbert Bliss | .50 |

| | | | | |
|---|---|---|---|---|
| | | Chas. M. Perry | $ .50 | |
| | | Geo. W. Staples | 9.50 | |
| | | Earl C. Roberts | .75 | |
| | | Z. H. Candee | 1.50 | |
| | | W. A. Stocking & Sons | 11.00 | |
| | | F. B. Miller | .75 | |
| | | Arthur Clark | 1.50 | |
| | | Geo. F. Platt | .25 | |
| | | F. B. Bailey | .50 | |
| | | A. B. Howard & Son | 9.75 | |
| | | Dennis Fenn | .75 | |
| | | | | $41.50 |
| | | New York draft to Tedford Bros., 5 boxes exhibition apples from Wenatchee, Washington | | 13.75 |
| | 18. | Check to H. C. C. Miles, Secretary, office expenses and supplies, Nov. 1, 1910, to Jan. 9, 1911 | | 31.47 |
| | | Geo. F. Platt, 1 bbl. apples for demonstration packing at annual exhibition | | 3.00 |
| | | Joseph R. Clark, printing and supplies, Apr. 1 to Oct. 1, 1910 | | 35.20 |
| | | H. C. C. Miles, Secretary, fourth payment salary, account year 1910 | | 50.00 |
| | | The Connecticut Farmer Co., balance of subscription contract year 1910 | | 40.31 |
| | 25. | Chas. L. Gold, expenses attending 2 institutes | | 8.40 |
| Feb. | 1. | Balance | | 220.23 |
| | | | | $3,245.44 |

## SOCIETY'S PERMANENT INVESTED FUND.

### Life Membership Fund.

| | | |
|---|---|---|
| Feb. 1, 1910. | Amount on deposit in Berlin Savings Bank as per last report | $257.68 |
| | Life membership fees deposited during year. | 80.00 |
| Jan. 1, 1910. | Interest to Jan. 1st, 1911 | 15.48 |
| | Total | $353.16 |

## AVAILABLE RESOURCES.

| | | |
|---|---|---|
| Feb. 1, 1911. | Invested in Berlin Savings Bank | $353.16 |
| | Due on account state appropriation for year ending Sept. 30, 1911 | 698.38 |
| | Balance in Treasury | 220.23 |

---

## AUDITORS' CERTIFICATE.

Hartford, Conn., Feb. 1, 1911.

We have examined the books of the Treasurer, Mr. Orrin Gilbert, and find them correct.

GEO W. STAPLES,
ANDREW KINGSBURY,
Auditors.

## Reports of Standing Committees.

PRESIDENT ROGERS: The next on our program will be the Reports of Standing Committees. We will hear first from our Committee on Exhibitions, as the chairman of that committee is obliged to leave soon. I will call now upon Mr. A. B. Cook to report.

### Report of Exhibition Committee.

MR. A. B. COOK: Mr. President, I haven't a very extended report to make. The most of it has been covered in the Secretary's report.

Early in the season it was decided to hold the annual exhibition as usual if a suitable place should be found, and it was later decided to accept the invitation of the State and Berlin Agricultural Societies and have the annual exhibit in connection with their fair, September 27-30. Other cordial invitations were received from other fair associations, particularly the Connecticut Fair Association at Charter Oak Park. It was not thought best to accept this invitation for two reasons; the date being too early (the first week in September) to make a satisfactory showing of apples, and coming, as it does, in the midst of the peach season, many of our members are too busy to think of making an exhibit with its necessary fussing. We did, however, make a very creditable display of peaches at this fair, which attracted a great deal of attention, especially that part of it contributed by Brother Hale, who showed his wonderful new peach "Selah."

The exhibit at Berlin, although not quite as large as some years, was a show of excellent fruit. It is very noticeable that the members who exhibit year after year are learning what good fruit really is, and they are bringing nothing but excellent specimens. Very nearly all of the inferior fruit that is shown is brought by those who are exhibiting for the first time, and they readily see by comparison that their fruit

is inferior, and do much better the next time. Not all of the new exhibitors show poor fruit, however, for some of them have captured many of the highest awards.

The exhibit consisted of

5 collections of apples of 15 varieties each
8 collections of apples of 10 varieties each
4 collections of apples of 8 varieties each
6 collections of apples of 5 varieties each
300 single plates of apples besides the collections
147 plates of pears
127 plates of grapes
55 plates of peaches
16 plates of plums
16 plates of quinces
20 plates of nuts

making in all 898 plates, besides over 200 plates shown by the Connecticut Agricultural College, but not entered for competition.

There were also

4 barrels of apples
16 boxes of apples, and
7 market baskets of fruit

The department of Canned Fruits and Jellies was well filled, there being

2 collections of 15 varieties of fruit each
5 collections of 8 varieties of fruit each
2 collections of 6 varieties of fruit each
3 collections of 6 varieties of pickles each
64 single jars of fruit
79 glasses of jelly
6 bottles of fruit juice

making 249 packages in all.

At the present mid-winter exhibit the Society has excluded all fruit grown outside of the state from its general classes, the premiums for which are paid from the state appropriation, and has established a class for market packages.

open to all New England, the premiums to be paid from money obtained from other sources. We believe this to be a step in the right direction, and sincerely hope that it may be continued in the years to come.

Respectfully submitted,

ALLEN B. COOK,
H. B. REED,
A. G. GULLEY,
*Exhibition Committee.*

THE PRESIDENT: You have heard the report of the Committee on Exhibitions. What action shall we take upon it?

A MEMBER: I move that it be accepted and placed on file.

THE PRESIDENT: If there is no objection it will be accepted and placed on file.

PRESIDENT ROGERS: We will next take up the report of the Publicity Committee, Mr. E. D. Curtis, chairman.

## Report of Publicity Committee.

*Mr. President and Members of the Society:*

Your Publicity Committee has to report that its activities during the past year have been directed partly to circulating information as to the agricultural and horticultural advantages of the state and partly to the collection of information concerning the extent of the fruit industry of Connecticut.

The information which has been circulated has been in the form of the two bulletins presented at the last annual meeting. As the means at the command of the Society for carrying on this work were very limited, we have endeavored to interest manufacturers and other residents of the state in distributing the bulletins enclosed with their ordinary business correspondence. We have met with a ready response to our efforts in this direction, and nearly 80,000 copies of the

bulletins have been thus distributed. The work has, however, only begun. There is no doubt that a million copies could easily be sent out if the Society could afford to have such a quantity printed and if every member would assist the committee by enclosing the circulars in his own correspondence and by interesting his neighbors, and especially the manufacturers and large business men in his neighborhood in doing the same thing.

Your committee has prepared a new bulletin, which is being distributed at this meeting. This bulletin is not intended to supersede the previous ones, but deals rather more particularly with the fruit growing possibilities of the state, and may thus appeal to persons who are interested in that branch of agriculture.

Your committee has to report that the results of its attempted fruit census have not been equal to its expectations. It sent out about 700 circulars, and enclosed in every case a stamped and addressed envelope for reply. In spite of this, less than 250 replies were received. The information obtained is deemed of value only so far as it refers to apples and peaches. For purposes of tabulation, all growers having less than two acres of either fruit have been omitted. The remaining growers were divided into two classes, those having over ten acres of either fruit, and those having between two and ten acres. Fifty-seven replies were received from the larger growers, and they owned or controlled between them 1,423 acres of apples and 2,000 acres of peaches. Some of these growers did not report both apples and peaches, there being 48 apple growers and 40 peach growers.

The class of smaller growers accounted for an additional 253 acres of apples and 119 acres of peaches, or a total acreage shown of 1,676 for apples and 2,119 for peaches. The acreage of these two fruits, as shown, is, therefore, 3,795, a figure which is not as large as the importance of the industry would justify, but which, considering the incompleteness of our returns, seems cause for warm congratulation.

The point to which we desire to draw particular attention, however, is the average size of the orchards of our larger fruit growers. If we take the owners having over ten acres of apples or of peaches separately, we shall find that there are 37 apple growers with 1,361 acres of trees, an average of 37 acres each, and 35 peach growers with 1,982 acres of trees, an average of 57 acres each. These figures are large from whatever point of view they are regarded, and seem to indicate conclusively that our members who are making a business of growing apples or peaches are finding it profitable work and are willing to invest a substantial amount of capital in it.

Your committee recommends that increased efforts be made to give to the agriculture of this state that high position with it should hold in the estimation of the country at large. In this work it should be understood that the assistance of every member is essential, especially in the distribution of the bulletins.

Your committee's chief difficulty is, however, in supplying definite and reliable information upon the different sections of the state. While a good many of our enquiries can be turned over to the Board of Agriculture, the Experiment Stations, and other bodies more competent than your committee to deal with them, yet one very important handicap has been felt in the lack of a government soil survey of the state. Such a survey has been published covering the northern part of the Connecticut River valley, and one of Windham County has recently been completed and is now being prepared for publication. Your committee believes, however, that no other one thing would be useful to non-residents or others in looking up suitable locations in the state as a soil survey. It therefore, proposes the following resolutions for your consideration and recommends its adoption:

*Whereas*, an impression has prevailed in the country at large that the soils of Connecticut are not generally suited to profitable agriculture, and

*Whereas*, the members of this Society and its friends are convinced that such impression is not correct, and have been engaged in a serious effort to disprove it, and to maintain the agricultural reputation of the state, and

*Whereas*, no other one thing is of such importance in this work as a soil survey made under the authority of the United States Department of Agriculture, now therefore be it

*Resolved*, by the Connecticut Pomological Society, assembled in its twentieth annual meeting, that Hon. James Wilson, Secretary of Agriculture of the United States, be, and he hereby is, urgently requested to have prepared and published a soil survey of the whole of the state of Connecticut as rapidly as the work can be done, so that the results can be published within one year, and be it further

*Resolved*, that our Senators and Representatives in Congress are requested to do all in their power to impress upon the Secretary of Agriculture the importance of this work to the residents of this state, and to urge upon him its immediate prosecution and completion, and be it further

*Resolved*, that one member of the Publicity Committee be authorized to proceed to Washington at an early date, to present these resolutions to the proper parties and to use his best endeavors to have the work begun.

Your Committee would further call the attention of the Society to the fact that the resolution under which it was originally appointed, provided for work in the direction of coöperative selling and buying. In view of the importance of the work along these lines now being done by other similar associations, your committee believes that the time is ripe for this Society to begin. On the other hand, the amount of work now being done by the members of this committee is not small, and if anything is to be added to their labors, they would suggest that the size of the committee be increased by one member. The committee makes no recommendation as to taking up this work, but hopes that the matter will be discussed by the members, in whose hands its success must eventually rest.

PRESIDENT ROGERS: This is a very important and comprehensive report, and I would like to put it to a vote of the Society. The committee has been doing good work, and the bulletins they have gotten out have been in demand by the people of the state, and especially by the leading business men, who have helped to distribute them.

A MEMBER: I move that the report be accepted and the recommendations adopted.

THE PRESIDENT: All in favor of accepting this report please signify it by saying "aye"; contrary minds "no." The motion is carried.

The next is the report of the Committee on Membership, Mr. J. H. Putnam, chairman.

MR. PUTNAM: Mr. Chairman, I shall have to report that I haven't any report to make; that is, I have done no work during the year. In fact, I did not realize that I was a member of the Committee till I saw the program; but I understand the Secretary has been doing good work, and that we have the largest number of members now that we have ever had; and we want to see every man in Connecticut who is interested in growing fruit a member of this association. They ought to be, not only for their own good, but for the good of the fruit interests, because it is by getting together and working together and planning together and learning from each other, that we are going to improve. The report of the committee just given shows a little of what can be done by united effort, and until we get really in close touch with each other through the association, our efforts will not be united. I hope every person in the hall who is not now a member will become a member before leaving the meeting.

PRESIDENT ROGERS: You have heard the Membership Committee's report, and if there is no objection we will accept the report. We will now take up Injurious Insects, by Dr. W. E. Britton, chairman of that committee.

## Report of Committee on Injurious Insects.

The season of 1910, unlike that of 1909, brought a comparative scarcity of plant lice. The rosy apple aphis, which caused so much damage to apple trees throughout the state last year, and which we expected might again be troublesome, was so scarce that we had to look sharp to find it at all, and then only in very small colonies. We planned to conduct further experiments in spraying to destroy this pest in both its egg and nymph stages, but had to abandon a part of our plans because we could not find the aphids to treat. In no case observed did the rosy apple aphis cause any particular damage in 1910. The 15-spotted lady beetle, *Anatis 15-punctata* Oliv., must have been in part responsible for checking this aphis, as it was extremely abundant, and from 15 to 20 yellow egg-clusters, containing altogether several hundred eggs, were found on nearly every tree in an orchard in Orange. These eggs were also noticed in Meriden and other places.

The green apple aphis was present in moderate numbers, as in 1909.

The peach sawfly, *Pamphilius persicum* MacG., defoliated many trees in some of the large orchards, and though I have not learned of any spraying being done since 1907 to check the ravages of this insect, some of the orchardists are planning to spray with lead arsenate in 1911. Probably 2 lbs. in 50 gallons of water will be strong enough.

In the summer spraying experiments carried on in various orchards last summer it was shown that lead arsenate can be used at the rate of 3 lbs. in 50 gallons in connection with the commercial or home-made lime-sulphur sprays on both peach and apple foliage, but it should not be mixed with "Sulfocide" or with sulphide of potash, because the chemical action produces soluble arsenates which cause serious injury not only to the leaves but to the young fruit and even the twigs.

The use of Paris green in these preparations causes a similar though less extensive injury.

The leaf blister mite, *Eriophyes pyri* Nal., which was studied recently by Parrott, and which has caused considerable damage to apples in New York State, is present in Connecticut apple orchards. We observed it at Meriden, where it has been noticed for at least two seasons. Samples were sent to my office from Litchfield, New Britain, Ellington, and Cummington, Mass. During the past summer this pest was so prevalent in certain apple orchards in Massachusetts, which I visited, that one-third of the leaves had dropped from the trees. It has long been known as a pest of the pear, but recently apple trees also are attacked. The best treatment, according to Professor Parrott, is to spray with a lime-sulphur mixture just before the buds open in spring.

There are many indications that the San José scale is losing its virulence or power of spread and injury to the trees. Several instances have come to my notice where old apple trees which were infested several years ago, and which I thought would be dead before this, have taken on a new lease of life, and on examining them, very few living scales could be found. There seems to be no particular parasite that is responsible for the check of the scale. The commercial lime-sulphur preparations have been used extensively the past season, and now nearly every insecticide manufacturer has a brand on the market. Oil preparations are also being used with success.

Excellent progress has been made in controlling the gypsy moth. At Wallingford last winter 8,234 egg-masses were found and destroyed. In the summer 10,000 trees were banded with burlap, 365 with Tree Tanglefoot, 904 trees were pruned, nearly 2,000 cavities in trees filled or covered, several hundred trees sprayed, and 8,936 caterpillars killed under the bands. Besides, several thousands of young caterpillars were killed by the spraying, and perhaps as many more caught in the sticky bands. In scouting the whole of the infested area

in Wallingford this winter, only 21 egg-masses could be found.

At Stonington the work has been continued, and only a few individuals remain. The gypsy moth has not yet been found elsewhere in the state, though much scouting has been done.

The brown-tail moth, *Euproctis chrysorrhoea* Linn., has reached Connecticut, probably by spreading from the infested area in either Massachusetts or Rhode Island. This area has been very close to us in both states for two years or more. Pear and apple trees at Thompson were infested in April, and on May 10th they were sprayed with lead arsenate. Later the pest was found to be even more abundant at Putnam, where a number of fruit trees in the city yards were attacked and some nearly defoliated. At the time it was too late to spray, but the whole territory will be looked over this winter, and the winter nests removed and destroyed. These nests were again brought into Connecticut this season on nursery stock imported from France. As there has never been any system of Federal inspection of such stock, the states have been obliged to inspect it for their own protection. Fourteen nests in five cases of stock from three French nurseries shipped to three Connecticut firms in different sections of the state were found and destroyed out of 707 boxes, bales and packages examined. There were a few other shipments that could not be traced. Several other insects have also been brought into the country with this nursery stock, and while we cannot say that they are pests, they may prove such. At any rate, the danger is great enough to warrant a thorough system of Federal inspection.

In spite of the advice and warnings given at these meetings and at Institutes, also in the Station publications, hundreds of apple orchards were stripped by canker worms last season. The damage covered nearly all sections of the state. When this pest can be controlled so easily by early spraying, in these days of so much talk about conservation of our re-

sources and the increased interest in apple culture, the sight of so much useless waste makes us think that there is still much educational and demonstration work to be done by this Society. Of course the commercial orchardist sprays his trees at the proper time. The other fellow either sprays not at all, or else does it after the trees begin to turn brown the first week in June. It is then too late, and the damage has been done.

Outside of fruit insects, cut worms were very abundant and did much damage.

In August and September the grey birch trees throughout the eastern and northern portion of the state turned brown and finally lost all of their leaves from the attacks of a small insect, *Bucculatrix canadensisella* Cham. This has previously been a pest in northern New England, and in certain seasons in Massachusetts and Rhode Island; but it has not, during my residence of nearly seventeen years in Connecticut, shown any such outbreak. Cut-leaf and other ornamental birches were also injured in the same manner. These may be protected by spraying with lead arsenate in July.

W. E. BRITTON, New Haven, *Chairman*,
C. D. JARVIS, Storrs,
F. A. BARTLETT, Stamford,
*Committee on Injurious Insects.*

THE PRESIDENT: If there is no objection to this report it will take the usual course.

We will next take up No. 5, report on Demonstration Orchard Work of the past year, by Prof. C. D. Jarvis of Storrs. First, however, I have an announcement to make. We have a question box here, and we also have a little booklet that is going to be distributed in the audience, and we wish you would write out your questions and send them up here, and we will try to have them read at different times, so that we can take them up for discussion.

## Report on Demonstration Orchard Work in Connecticut.

PROF. JARVIS: Ladies and gentlemen: The Secretary gave me ten minutes in which to present this first report on Orchard Demonstration Work in Connecticut. I think I can read this in seven minutes.

For the benefit of those who may not be familiar with the undertaking I should say a few words with regard to the origin of the movement. Realizing the presence of many neglected and unprofitable apple orchards in Connecticut and realizing the possibility of improving many of them and placing them on a profitable basis, the executive committee of the Society called upon the college to coöperate with them in a campaign for improved methods in orcharding. The President of the College volunteered to finance the work and offered the services of the writer. The Society seemed well satisfied with such an arrangement. After further discussion it was decided that we should select two or three neglected orchards in different parts of the state and to ask the owners to handle them as suggested by the College representative. The owner of the orchard should be asked to bear the whole expense except the traveling expenses of the College representative, and to allow his neighbors and others to visit the orchard and witness the various operations.

These plans were carried out to the extent that two orchards were selected, one at Cheshire and one at Pomfret, and the program for the first year was carried out in each of them. Two orchard meetings were held at each place, and notices sent out to as many addresses in the neighborhood as we could obtain. The first meeting in each place was for the purpose of demonstrating the methods of pruning a neglected orchard, and the second one was for demonstrating the methods of spraying, tilling and fertilizing. These meetings were well attended, averaging at least fifty people at each meeting.

THE CHESHIRE ORCHARD. This orchard is on the farm of S. A. Smith and Sons, on the New Haven and Waterbury trolley line, near Ives Corners. The orchard was about fifty years of age and had received little attention so far as pruning, feeding and cultivating were concerned. It was badly infested with San Jose scale and other injurious insects. Two rows of these old trees were severely pruned, and thoroughly sprayed with miscible oil for scale, and later with arsenate of lead and a fungicide for other insects and for diseases. The soil treatment consisted in breaking up the sod with a cutaway harrow and frequent cultivations up till midsummer. The fertilizer used was as follows:

| | |
|---|---|
| Raw ground bone ..... | 400 pounds |
| Basic slag ..... | 500 pounds |
| Sulfate of potash ..... | 300 pounds |

A clover cover crop was sown the latter part of July and has made a good growth.

The result of the first season's work in this orchard are very fittingly expressed by the senior proprietor in his letter to the *Connecticut Farmer* and published under date of January 28, 1911. A few extracts may be admissible here.

"The work in our orchard has shown up far more satisfactorily than we had any visionary hope it would."

"Our old apple trees had gotten so high that we could not spray them, and without spraying them they were valueless. I had cut down two out of nine rows, and if Prof. Jarvis had not put in his appearance just as he did I should have chopped down all of them. We demonstrated on one-quarter of what was left of the trees, over 50 years old. My faith has risen so much on the value of this work that we have begun the 'dehorning process' on the other three-quarters. When this lot is finished we shall begin on another lot of 10 acres containing trees of the same age."

"All in all, the demonstration work seems to be of marked value to anyone who will acknowledge a good thing when they see it."

THE POMFRET ORCHARD. This orchard is located on the farm of Mr. Joseph E. Stoddard and situated in one of the

best apple sections of the state and midway between Abington and Pomfret on the Willimantic and Boston division of the N. Y., N. H. & H. R. R. It is a much younger orchard than the one at Cheshire, being only about 23 years of age, and has not been neglected so long. It was, nevertheless, very severely infested with scale, and a few trees were in very bad shape. The same general treatment was given this orchard except that the pruning was much less severe. The orchard bore a fair crop of fruit, although it was the "off year" for most of the trees.

Proposed Work. It is the intention to continue the work in these orchards until such a time that the owners and their neighbors are thoroughly convinced of the profitableness of such methods. It is the intention also to establish one or two more such orchards during the present season. These undertakings are what we term permanent demonstrations, and of which we assume the responsibility for the successful conclusion, providing the owners of the orchards live up to their part of the agreement.

Another type of demonstration work that we intend to follow up this season may be called orchard demonstration and should not be confused with the demonstration orchards as described above. This new type of work consists simply in arranging with a farmer to give a demonstration in pruning or spraying in his orchard for the benefit of himself and his neighbors. In such cases we assume no responsibility for the future behavior of the orchard, and the outcome of which will depend upon the general methods of orchard management employed by the farmer.

The advantage of this kind of demonstration work is that it requires much less time and our efforts may be spread over a much larger territory without the expenditure of any great amount of money.

Acknowledgements. This paper would not be complete without expressing my appreciation to the various officers of this Society for their friendly cooperation and encour-

agement; to the Messrs. Smith and Mr. Stoddard for the willingness and promptness with which they followed the humble suggestions of the College representative; to Mr. W. O. Hollister for his valuable assistance in directing the work in the orchard, and to the press, more particularly the *Connecticut Farmer*, for advertising the meetings, and giving publicity to the work.

---

THE PRESIDENT: We will allow a few minutes in which to question Mr. Jarvis on this work.

A MEMBER: What proportion of the trees did you take off in the pruning?

MR. JARVIS: It depends on the individual trees; sometimes we took about half, sometimes three-quarters, and on some very large trees we removed as much as thirty feet.

A MEMBER: I would like to enquire if he thinks it is necessary to paint over the limbs after the sawing has been done, in order to protect the tree?

MR. JARVIS: All wounds over two inches in diameter were painted with lead and oil paint. This we did not apply until the wound dried up. I think with painting done at this time of the year there is no danger of getting disease germs into the wound, and if they are allowed to dry off a month or so, so much the better. In the meantime the cracking will be done, and you can fill up the cracks much better than when it is fresh, and probably you can't see them; it should be gone over again, or until you get the wound entirely sealed up from air and moisture.

MR. FULLER: I would like to enquire of the gentleman if those orchards were plowed?

MR. JARVIS: As I have stated in the report, the sod was broken up in both cases with a cutaway harrow. In the Cheshire orchard the ground has been in sod for a great many years, and it was just as fine sod as you will find anywhere; we simply went over it with a cutaway harrow and broke up the turf and sowed our fertilizers and we got a nice,

fine surface and had no trouble in getting a good catch of clover.

---

THE PRESIDENT: If there are no more questions, we will pass on. If there is no objection to the report it will take the usual course. We will now take up the report on New Fruits, Mr. J. R. Barnes, chairman.

## Report of the Committee on New Fruits.

The Secretary has suggested a report on "New and Valuable Varieties of Fruit," but perhaps a report on "New and Little Known Varieties of Fruit" will be of as much acceptance to the members of this Society, because it is a matter of years, frequently, before any variety of fruit, unless it be the strawberry, becomes well known outside of its home. For instance, take the

*Opalescent* apple, a valuable variety, which has been introduced between fifteen and twenty years, and we will venture to say that there are but few present at this convention who have tested this variety or have even seen the fruit. And it is often the fact, respecting the most valuable varieties of fruit, that it is a great many years before they become known as such to the general public.

Twenty years ago, the *McIntosh* apple was one of the varieties always in surplus in the nurseries; no one knew much about it, or wanted it except in a very small way; but now it seems impossible to grow this variety fast enough to meet the demand for it.

The *Northwestern Greening* apple has been fruited here in a small way, and it has been weighed in the balances, and is found wanting, at least for Connecticut culture. The tree is a thrifty grower in the nursery and in the orchard. The fruit is of a nice yellow, but varies in shape from round to oblong. This variety originated in Wisconsin in 1872, and has become somewhat known in the west as a long keeper,

and as possessing a hardy constitution; so that it has been planted along the northern border of the apple belt. But the variability in the form of the fruit, the rather inferior flavor, and the corky flesh often found within the core line, render it of doubtful usefulness to plant in this state. For a climate farther north, where the Rhode Island Greening cannot profitably be employed, this apple might fill some want, but it is not to be recommended by your committee for Connecticut planting.

The *Delicious* and the *King David* apples are now simply in a trial stage in the east, both coming here from the west. The former one is of unsurpassed flavor, and seems to fully justify the unusual title that has been given to it; and the few that have fruited it here look upon it as a promising new variety; but your committee believe that it should be planted cautiously, until it is more certain that some serious defect may not be found in it to preclude it from the list of valuable market varieties for the east. The *King David* seems much less promising here, judging from the few attempts to fruit it, of which your committee has knowledge.

In peaches, there was fruited this year, at Wallingford, a variety known as the *Slappey*. It is of southern origin, and does not seem to have been received by southern fruit growers with any great favor; but, as it fruited here last season, it is worthy of notice and further testing. It is a yellow peach, ripening with Mountain Rose, or a little before, and at a season when there are no yellow peaches that are known to be of value. It is a freestone, and shaped like Elberta, though not quite as large.

*Governor Lanham* is a Texan variety, and is like a large, highly-colored Elberta. In shape it is about the same as that of the Elberta, and in quality it is as good as, or better than, Late Crawford, with which it ripens, or about one week after Elberta. It is a regular and abundant bearer; but it has one serious fault—it is a clingstone.

In strawberries, considerable progress is being made in developing fall-bearing varieties; so that it is probable we may see, in the near future, strawberries in our markets from June 1st to November. The *Pan-American* was the first variety with this characteristic of fall bearing. Remove the blossoms, as fast as they appear, till July 1st, then, from that time, it will continue to blossom and bear fruit till the weather is so cold that the blossoms and fruit freeze. This variety is very slow of propagation, and the plants are difficult to produce, but it is the beginning of a new race of fall-bearing varieties.

Several new varieties of this class of strawberries have just been brought to public notice. Two of them are named *Productive* (imp.) and *Superb* (per.), and come from the originator of the *Pan American.*

The *Productive* is considered the most productive of the autumn-bearing class. It makes plenty of runners, but the fruit is only medium in size.

The *Superb* is the more valuable of the two. The plants are strong, healthy, and make plenty of runners. The fruit is large and attractive. Berries of this variety were picked as late as October 27th, in northern New York, last season.

There are two other fall varieties, that have originated in Iowa, and named *Americus* and *Francis.* These are less known than the former ones, but it is claimed that they are good plant makers, and that the fruit is of good size and color, and excellent in quality.

*Genesee* is a new variety of sweet cherry, red in color, and of good size, but its valuable point is its lateness in ripening, which is said to be July 20th.

In order to make the work of this committee of the most value to the members of the Society, we wish to reiterate our suggestion of last season, that we have the coöperation of all the members who are willing to report to us their success or failure with any new or little-known varieties of fruit. Your committee could, in that way, have the benefit of its service

greatly enhanced, and it could act as a sort of clearing-house for all the members, and could furnish to you a summary of its information in its reports at the annual meetings, or, upon special private request, at any intermediate times. We, therefore, respectfully solicit the voluntary coöperation of all the members in this benificent work, so that the information obtained and imparted by this committee may grow increasingly valuable to the fruit growers of the state.

Respectfully submitted,

JOHN R. BARNES,
GEORGE W. SMITH,
HARVEY JEWELL.

THE PRESIDENT: If there is no objection, the report on New Fruits will be accepted.

Report on Markets and Transportation, J. Norris Barnes, chairman, is next on the list.

## Report of the Committee on Markets and Transportation.

*Mr. President and Members of the Connecticut Pomological Society:*

As chairman of the Committee on Markets and Transportation I was recently reminded by our Secretary that a report from our committee was expected, and at first thought it seemed as though there was little to be said, the actual work done by the members of the committee for the fruit growing interests of the state being principally to negotiate with those in charge of the railroad transportation, looking to improvement of the freight service as related to handling products of the orchards, and as pointed out by the experiences of the season of one year ago. After various negotiations, the committee met several of the heads of the different departments of the road at their office building in New Haven, and crop prospects, along with the matter of our need, was quite thoroughly gone over, and an earnest effort

made by those present to arrange matters of transportation for our fruits in a way that promised to give us satisfactory entrance to practically all the large New England markets in seasonable time for the market demands. In order to reach some of the more distant markets successfully, an early shipping hour seemed necessary to be named, and in order to go by certain objections to this condition an arrangement was made, whereby a later train would be run when ten cars of fruit was offered as freight, for such special, on sufficient notice. This offer was made use of to good advantage over the division known as the "Air Line." As a result of the arrangements made we have heard but little complaint, and believe that the fruit growers in general were well satisfied and also well served.

One can best gain an idea of the changes that have come about to our advantage in matters of transportation by letting memory run back, say ten years, and note the prevailing conditions and the changes made from year to year. As I remember some years ago, one of the very large crops of peaches we had to ship had to go to market in common box cars, the New Haven road had no refrigerator cars of its own, and none were available, except at a loss of considerable time and much extra expense, and also our railroad people were somewhat skeptical regarding prospects for business from fruit to be moved. *Well* do I remember that season, a wet one, and the oft repeated returns received of "bad order," "late arrival in market," "had to carry over," or "owing to bad order had to close out at low prices." During late years contracts were made for foreign refrigerator car service at a good sized rental price over the regular freight charges. This proved a decided advantage over the lack of cars first named. Now plenty of refrigerator cars belonging to the New Haven system are to be had, free, and as appears from our later experience, the help of our transportation people will in every reasonable way be extended to help us place our fruit products successfully in any market we advise. So

your committee feel, that, after all, great advancement in transportation conditions here in New England during recent years has been made, and along with the many matchless conditions for successful fruit growing in New England, especially Connecticut, can be included that of good transportation conditions, for it is quite certain that we have proved the freight producing ability of our orchards to a degree that gives confidence.

Not always are our distant markets the best ones for us, and the thought at time comes, do we cultivate the nearby market as we should or as becomes our privilege?

Some years ago the report of this committee referred to the matter of a system of stone or trunk line state roads, the development of which promised great advantages to our fruit growers in reaching their nearby markets. These roads are now so well developed that from many of our fruit farms several of these nearby market points may be reached quite well, especially as the gasolene and other trucks now on the market seem to be so well calculated to help carry out a plan of reaching easily these nearby markets.

A well-known fruit grower recently said: "If it had been possible for me to move my fruit farm from its present nearby fruit consuming customers of say ten or twenty thousand people to a locality of ten times that number of customers, I should have thought I was doing a great thing for myself and thereby also increasing the value of my farm greatly, but of course that could not be done. However, by the use of one of these machines, I calculate I have accomplished about the same result in that I have practically brought these places near to my farm that were formerly too far away for me to reach easily by team."

I am much inclined to think that the speaker's way of looking at the matter was about right.

Truly, brother fruit growers, as we view the past from the standpoint of this committee, that of markets and transportation, we are justified in believing that we are progress-

ing, and to the one who looks ahead in confidence, it appears not out of place to expect continual advancement or betterment in conditions and opportunities for Connecticut markets and Connecticut fruits.

J. NORRIS BARNES,
*For the Committee.*

---

PRESIDENT ROGERS: We will now take up the first address of the morning, an illustrated address, by Mr. Wilfrid Wheeler, of Concord, Mass. The subject is "The Outlook for the Grower of Strawberries and Other Small Fruits." Mr. Wheeler is one of our old friends, and needs no introduction to a Connecticut audience. We are glad to have him with us.

## The Outlook for the Grower of Strawberries and Other Small Fruits.

By WILFRID WHEELER, Concord, Mass.

Mr. President and Members: This subject of the "Outlook for the Grower of Strawberries and Small Fruits" seems to me a very important one. There never was a time in the history of New England when, I think, there is a chance to develop the markets to a greater extent than at the present time. The foreign countries, take England and Germany in particular, are using the small fruits per capita to a greater extent than we are, and it seems to me that now is our time to get busy and work along their lines in order to make, not a greater market geographically, but to make a broader field of adaptability for these small fruits.

In England particularly, small fruits are used to a great extent to make jellies, preserves and jams, and in this form are served as rations every day in the English army, a quarter of a pound per man of some form of jam or jelly or preserved small fruits. The raspberry and the strawberry

figure largely in this sort of preserve. North of England, near the boundary between England and Scotland, is one vast raspberry field, where are grown thousands and thousands of acres of this fruit simply to preserve. Raspberries are hardly ever used in their raw state; and it seems to me that we have got to work along similar lines in order to make a market better adapted for our growers of these small fruits. We grow few of the small fruits except the strawberry here in New England. The raspberry, blackberry, gooseberry and currant are grown in a limited way, but only as a rule in gardens near towns where they can be marketed; but our large bulk of these fruits are imported from the west or elsewhere. This summer I had a talk with a man who had just come back from a tour of England, largely in the interest of the fruit industry, and he said that in one locality north of London, there are 800 tons of strawberries shipped to the London market every day during the season, and practically the same amount of gooseberries. We probably could not market 800 tons of gooseberries in a month. They would have no use for them in the market. It is very necessary that we educate the public in a larger variety of uses for our fruits, particularly so that they will use more fruit in a preserved form and less cheap confectionery, there is no more healthy form of sweets than pure fruit and sugar. In England when large quantities of preserved fruits are used, very much less confectionery is used than in this country. I think it is our business not only to develop their growth, but to create a larger market for this particular product. One of the most important things that we have to do is to help the grower of these small fruits, and especially with strawberries, is to have them packed in boxes that are smaller than the regular 32, 48 and 60 quart crates that we are so familiar with. As a rule the strawberries in such crates get to the markets more or less injured, and the purchaser has to use them quickly before they spoil. I think there is a great chance to develop quite a market for a smaller package, and I

am going to show you a few pictures that will illustrate this particular package that I am trying to establish.

There is another thing that I want to mention, and I am going to carry that on with my pictures, and that is, why we are not getting more money out of small fruit and making it cost less to produce them. We can do a great many things, particularly with the strawberry, to make it cost less to produce. I don't believe to-day, that with the amount of berries which come from other states, south, west, or anywhere else, into our market, we can raise the price of our berries a great deal from what was established by the earlier berries coming in here, so it seems to me that we shall have to find a way to produce them cheaper, and I have been making experiments for the last few years, particularly in growing strawberries, and I have found that I can produce strawberries much cheaper than when raised in matted rows. I am going to illustrate this method. Perhaps some few of you here have done some work along this line yourselves. I am going to show you a few pictures about growing strawberries in hills, and perhaps there are some points here that I can make clear. If not, I want you to ask questions freely, and I will try to answer them if I can.

(The hall was darkened at this point and many excellent pictures shown upon the screen).

Mr. Wheeler made the following remarks in connection with the pictures.

The land must be very well prepared for growing strawberries in hills, much better, in fact, than when they are to be grown in matted rows, for the plants are to occupy the same ground for a number of years. If the land is flat it should be plowed in beds so that surface water will drain off the plants in the winter. These beds are best made about 20 feet wide, leaving at least two open furrows on each side. Stable manure is one of the best fertilizers that can be used for the strawberry, and when applied in the late summer or

early fall and lightly plowed in, it will be in the very best condition for the plants the next season. Other fertilizers, as tankage, bone meal, wood ashes, dried blood and sulphate of potash, should be applied during the growing season in small and frequent doses.

After plowing, the field should be smoothed off and marked out in squares, so that the plants can be set 14 inches apart each way, four rows to each bed and a space of three feet between the beds. This allows for about thirty thousand plants per acre, and it must be borne in mind that these are the plants that are going to bear the fruit, so no runners are allowed to grow from them.

It is almost impossible to get help that can be taught to set runners carefully in the matted rows, while in the hill system, where all the runners are removed, the most ignorant help can be used, thus saving expense over the other system. Then all the weeding is done by wheel hoes, for the plants are set so that they can be cultivated both ways, and a horse cultivator will take care of the spaces between the beds.

The plants should be set in the spring as early as possible, in our section about April 15th to the 30th. It is best to remove about one-half of the root of the plant before setting and all of the leaves. This will insure against the loss of the plants during dry or windy weather. The cut roots quickly start new rootlets, and new leaves soon start from the cut-back crown. In a week the beds will be green and the plants will not show any ill effects from this heroic treatment. One of the difficulties encountered by those who first began to set plants in hills was winter killing; the plants were set too far apart and gave each other no protection, while setting them closer, as here shown, eliminates this danger, really making a very wide matted row, with each plant an individual unit.

As for varieties, this is a matter of local issue rather than a principal. It is impossible for me to give you a list

of varieties which would suit your needs; you have got to test out varieties for yourself, and when you have found a good one, stick to it. Glen Mary, Sample and Mead have done very well with me in hills, also in matted rows, while Bubach, Minute Man and Stevens Late Champion are excellent.

The summer care of the beds consists mainly in thorough cultivation, frequent stirring of the soil, which should not be too deep; three inches with horse-drawn tool and not over one inch with hand cultivator or hoes. This cultivation should be kept up even though weeds are not present, as nothing assists the growth of the plant more than plenty of cultivation. Of course, all runners should be removed as they appear. Cultivation should cease as cold weather approaches, and when the ground is slightly frozen toward the end of October or first of November, the plants should be carefully mulched, first with very fine horse manure, and later, when the ground is frozen, with coarse meadow grass, held in place by brush or trash wood. In the spring, as soon as danger from heavy freezing is past, a part of the mulch should be removed. This can be done from April 10th to the 30th, according to weather conditions and location. Oftentimes, especially when we have late frosts, leaving the mulch on the beds does more harm than good, for it has been repeatedly proved that frost in late May or early June does more harm to a mulched bed than to one unmulched. The theory for this is that when the ground is mulched the warmth from the ground does not radiate and protect the blossoms from frost.

It is well in the spring to apply some fertilizer to the plants, such as wood ashes or sulphate of potash, with a small amount of nitrogen, provided the leaf growth is not sufficient, but an excess of either organic or chemical nitrogen should be avoided, as it tends to soften the fruit as well as destroy the flavor. If the fruit is to be shipped to a distant market it should be picked before thoroughly ripe, and graded while being picked, so that there will be little handling and less

bruised berries. If for a local market the berries can be allowed to hang on longer, and while the picking should be done as carefully, the same problem will not have to be encountered as when picking for distant markets. All fancy berries should be packed in trays or shallow crates, so that the fruit will not be crushed or bruised, and the quicker it can be put on the market the better for all parties. It is quite necessary that growers should pack their choice fruit in smaller packages, so that it will be easier for householders to buy a small unbroken package. Consumers now very often have to buy three or four boxes of berries in order to get one good one, and consumption would be vastly increased did we but supple people with the very best quality, well packed in small packages. The hill system offers many advantages over matted rows, and briefly stated they are these:

Less and cheaper labor.
Longer life to the bed.
Larger and better fruit.
Easier to pick and handle.

Matted rows will, of course, produce splendid fruits, particularly so when much time is devoted to the beds. Setting runners, pulling weeds and cultivating has to be carefully attended to. Should I have a second choice from the hills, I would prefer the narrow hedge row. Strawberries are now used a great deal in developing young orchards, and when used in this way are particularly useful, and return some money while the young trees are growing.

It is very necessary that strawberry growers should have a few hives of bees near the beds in order to insure perfect pollenization. Set two rows of imperfect varieties to four rows of perfect.

The bush fruits—currants and gooseberries—are splendidly adapted to planting in young orchards, and as our people develop a greater appetite for these two fruits the greater will be the demand for them and a new source of income for our growers. Both these fruits need a cool deep rich soil,

highly fertilized and well prepared. It is useless to plant them in sandy, warm soil. Thorough cultivation, plenty of pruning, plenty of fertilizer are requisites in the growing of these fruits, and as more of them are used to preserve there will be a greater market for them. We must educate the public to use more and more of these small fruits. Get our boards of agriculture to publish useful information in regard to small fruits and their uses. Get our women's clubs to take up the matter, our newspapers, and have committees in all of our societies to help this end of the business.

The raspberry and blackberry also are profitable when grown near a market. Our supply of these fruits at present come from long distances, and we need to recapture our own markets. Both these fruits need good land, thorough cultivation, severe pruning and spraying to get the best results.

We are not using enough small fruits when we compare our markets with those of other countries. London, England, uses tons and tons of strawberries, raspberries and gooseberries each day. Let us work together to develop not only the growing end of the business, but most important of all the market end.

If there are any questions I should be very glad to answer them. I thank you very much for your attention.

## Discussion.

A Member: You spoke of lime?

Mr. Wheeler: I think lime every four years is plenty. The land will not stand it oftener.

A Member: Do you use lime in preparing the ground?

Mr. Wheeler: In preparing the land, generally the previous year; for strawberries I like to put lime on in the spring previous to planting the berries; anyway, that is always done in the spring.

A Member: What kind of lime?

Mr. Wheeler: I use the sifted lime; I can't tell the name; it is the sifted lime unslacked.

A MEMBER: How do you grow your plants for re-setting?

MR. WHEELER: I grow those in matted rows, regular plant beds, you have got to have plant beds to grow for re-setting the next year.

A MEMBER: How many years do you leave those?

MR. WHEELER: I have got beds only three years old, it looks to me as if they would be good for three years more; it is simply a matter of taking care of them.

A MEMBER: Do you cultivate those plants at all in the spring—do any weeding?

MR. WHEELER: No, not as a rule; I rather leave the mulch on them; the roots are very near the surface; it isn't well to cultivate in the spring.

A MEMBER: Do you run the beds more than one year?

MR. WHEELER: Three years; I have seen them seven years in good condition. That is one advantage, getting around that re-setting every other year.

A MEMBER: Do you cultivate the bed after you finish picking?

MR. WHEELER: No, just mow it off. Yes; cultivate during the summer; after picking I mow off the tops and let a new lot of leaves come up and then run the wheel hoe just the same as I do before picking; take the mulch out and away entirely. The second year's cultivation wasn't as great as the first; the second year's runners were not as many as the first year.

A MEMBER: Do you spray your plants?

MR. WHEELER: Yes, sprayed them three times each year.

A MEMBER: How did you avoid killing the bees?

MR. WHEELER: Simply used Bordeaux; no arsenate of lead.

A MEMBER: Didn't that poison them?

MR. WHEELER: I didn't see that it did; I sprayed very early before the blossoms came out, and sprayed twice in

the summer after the blossoms had gone—in May, the early part of July and then August, again.

A MEMBER: Do you burn them off after mowing?

MR. WHEELER: No, I never burn them. I don't think it a good practice. I think it hurts the crowns too much to burn them; there is a great deal of dead stuff, and it would burn too deeply.

---

THE PRESIDENT: I am sorry, but we have got to shut off this interesting discussion at this time. It is time to adjourn for lunch. We have a full afternoon's program, and we have got a large number of questions here to be discussed.

Meeting then adjourned until 1.30 P. M.

## AFTERNOON SESSION.

The Society reassembled at 1.45 p. m. for the afternoon session, President Rogers in the chair.

The attendance was very large—larger than at any previous meeting of Connecticut fruit growers. There were probably more than 700 persons in the hall, about every seat being filled, and the interest shown in the subjects under discussion was lively and enthusiastic.

PRESIDENT ROGERS: Ladies and Gentlemen, will you come forward and be seated? It is time to open this meeting. We have a whole lot of hay out that has to be dried this afternoon.

For this afternoon session our leading topic is spraying. Now the first on our program is the Report on Fungous Diseases, with results of recent experiments on peaches and apples. We have with us Dr. G. P. Clinton of the Connecticut Experiment Station, who will report on this subject. Dr. Clinton, I think, needs no introduction to this audience.

DR. G. P. CLINTON: Mr. President, Ladies and Gentlemen: Instead of the report on fungous diseases of the state which was to have been presented at this time, we present the results of recent experiments on peaches and apples.

## Experiments in Controlling Diseases of Apples and Peaches.

By DR. G. P. CLINTON, New Haven,
*Chairman, Committee on Fungous Diseases.*

### EXPERIMENTS WITH APPLES.

Instead of the report on fungous diseases of the state which has usually been made at this time, we present the results of experiments with summer sprays on apples and peaches conducted by Dr. Britton and myself the past season.

The work with apples was undertaken because of injuries in this state in 1909 from the use of Bordeaux, and because of numerous inquiries regarding the value of lime and sulphur in its various forms as a substitute for Bordeaux. The time and number of sprayings for the control of insect and fungous troubles of apples have been pretty thoroughly worked out; likewise, the value of spraying needs little further demonstration. Our object, therefore, was largely to determine if some substitute for Bordeaux could be used here that would possess the same value as a fungicide and still not cause injury to the foliage through spotting and leaf fall and the russeting of the fruit that sometimes result from the use of Bordeaux, especially in wet seasons.

Seven orchards were selected for the work, as follows: E. M. Ives, Meriden; B. F. Jones, Centreville; E. Rogers, Southington; S. A. Smith & Sons, Cheshire; C. H. Savage, Storrs; J. E. Stoddard, Abington; Experiment Station (Webb orchard), Centreville. Our station is under obligation to these men for unusual opportunities for carrying on the work, and to Professor C. D. Jarvis of Storrs, who turned over to us preliminary arrangements which he had made for spraying in some of these orchards.

Four types of sprays were used: Bordeaux Mixture, self-boiled lime and sulphur, various commercial lime-sulphurs (including Niagara, Grasselli, Sherwin-Williams, and Blanchard), and commercial sulphur sprays containing other ingredients, as Sulfocide, One for All, and Bogart's Sulphur Compound. These various fungicides were used in different strengths and at different times. Although five different periods of spraying were made in the different orchards, no one received over four treatments. These five treatments were: (1) a winter treatment for San José scale, usually given by the owner; (2) on the unfolding leaves before the blossoms opened; (3) on the young leaves just after the petals fell; (4) about three weeks later, on the very young fruit; and (5) on the small fruit about a month later, or dur-

ing the first half of July. For preventing fungous troubles in this state where only two sprayings can be given, the one made just after the petals fall and the one about two or three weeks later are the most important. If scab is bad, the spraying on the unfolding leaves is desirable, and for sooty blotch, the last spraying, in July. The winter treatment, so far as fungi are concerned, is of the least value.

In our work this year we used at least three different sprays in each orchard. In every case Bordeaux was used for comparison with the other fungicides, as well as with the unsprayed or check trees. Altogether over 350 trees were sprayed and at least 75 reserved as checks. While these trees were chiefly Baldwins, Greenings and Russets, there were also included a few trees of other varieties, such as Pound Sweets, Gravenstein, Hurlbut, etc.

The data were taken at harvest time, when the apples were picked from the trees. If the trees bore a small crop, all of the apples were included in the count, but if a large crop, only 500 to 1,000 apples were examined from different parts of each tree. Altogether 60,000 apples were examined, and records kept as to whether they were perfect, or russeted, or showed such troubles as Baldwin Spot, fruit speck, rot, scab, rust, sooty blotch, or injury such as curculio, lesser apple worm, or other insect injury. The percentage of each of these troubles for each tree and for each treatment was then worked out, and tables made for each orchard. This required considerable work, but because of lack of space only the general tables have been published by the Station in the bulletin just issued.

In considering the results of the spraying, I shall speak first of the injury caused, as one of the chief objects of the experiments was to obtain light on this subject. The injury to the foliage will be discussed first. More injury resulted last year from spraying than the preceding year, and both were perhaps somewhat unusual years because of the wet springs. Not only was there considerable injury in our own

experiments, but we had complaints from not a few growers. Of all the fungicides tried, Bordeaux gave the most common injury through spotting the foliage and subsequent leaf fall. This varied in different orchards, being quite prominent in some, where fully half the leaves fell, and inconspicuous in others. While the varieties sprayed may have had something to do with it, the stronger the Bordeaux and the more frequent the spraying, the greater was the injury that resulted. The use of arsenate of lead in the Bordeaux had nothing to do with producing the injury.

The self-boiled lime-sulphur and the straight commercial lime-sulphur sprays caused no leaf injury of importance. The commercial lime-sulphur sprays containing other ingredients, however, did produce injury, which in some cases was even more serious than that caused by Bordeaux. Bogart's Sulphur Compound, used only at the Station orchard, at a strength of 1½ to 50, produced considerable leaf injury, but little at 1 to 75. It was not determined whether the arsenate of lead used with it had any effect in producing the injury. One for All, used only in the Ives orchard, at a strength of 5 and 6 to 50, as recommended by the manufacturers, produced very serious leaf fall, but did not russet the fruit or cause it to drop. Weaker strengths were not tried. Sulfocide, used generally at a strength of 1 to 200, produced more or less injury wherever tried, and in one case very serious leaf injury and fruit fall. The trouble with Sulfocide is that it must be used rather weak to escape injuring the foliage, but chiefly that neither Paris green or arsenate of lead can be used with it without greatly increasing the injury. The manufacturers now recommend the use of lime with the Paris green to prevent this, and while we did not use it in our experiments with apples, we did on a few small peach trees, where it reduced, but did not entirely prevent, the injury. If one is to use Sulfocide in spraying, it is certainly wise, if an insecticide is combined with it, to include the lime.

Concerning the russeting of fruit due to spraying, different varieties showed quite different results. As to sprays, the Bordeaux gave the greatest percentage of injury. The commercial lime-sulphur mixtures on the whole gave an average of russeted fruit not greater than the unsprayed trees, while the self-boiled lime-sulphur gave a little more. Individual trees, however, occasionally showed an unusual percentage of russeted fruit, which amounted to very evident injury, but usually in such cases the injury was of the nature of a scald-russet, being on the side of the fruit and of the tree most exposed to the sun.

With the Bordeaux, the injury to the fruit from russeting was even more severe than the injury to the foliage. The least injury was in the Jones orchard, where the trees were only sprayed twice with the 2-4-50 strength. At the Smith orchard the Pound Sweet showed over 89 per cent of the fruit russeted as against very little or none on the check trees. At the Rogers orchard the average on the Bordeaux Baldwins was over 42 per cent, against about 12 per cent on the checks. The average per cent of russet on all the Baldwins sprayed everywhere was about 43 per cent, against about 20 per cent on all the checks. This russeting was frequently so conspicuous as to amount to a serious injury. If we leave out of consideration the benefit derived from the arsenate of lead, the Bordeaux in our experiments did on the whole more harm than good. Of course, this was a somewhat exceptional year in this respect, but we certainly would recommend that where Bordeaux is to be used on apples in this state in the future, only the spraying on the young unfolding leaves be of the 4-4-50 strength, and that the subsequent sprayings be not stronger than 2-4-50.

Not all the russeting of apples this year was due to the spraying, as there was an average of over 18 per cent on 33 check trees. On a few unsprayed trees only did this russeting run very high or become serious in character. The unusually late frosts of May and early June seem to be responsible for

this russeting of the unsprayed trees, since it was most conspicuous in the lower parts of the orchard and in the northern parts of the state, where most injury was shown on other vegetation at the time of these frosts.

Taking up the fungicidal value of the various sprays, on the whole the Bordeaux gave the best results, with the self-boiled lime and sulphur about as good. The various commercial lime-sulphurs are somewhat behind these, but as compared with each other they averaged about the same, though in different orchards sometimes one and sometimes another gave the better result. When we remember that Bordeaux and the self-boiled lime-sulphur produced the most russeting, there is some ground for believing that the less likely a fungicide is to russet, the more likely it is to be of less value as a fungicide.

Concerning individual fungi, it may be stated that while the season was favorable for scab, the varieties under experiment were not especially subject to it, so that in none of the orchards, even on the check trees, was there enough of this fungus to determine the relative value of the different sprays. Rust was quite common on certain varieties, but on the whole the sprayed trees had about as much as the unsprayed. Evidently it takes more than three sprayings to surely control this trouble. Baldwin spot we know is not a real fungous trouble, and while it was not prominent in the orchards, there was little indication that the spraying had any effect on it. Rot, sooty blotch, fruit speck and insect troubles showed considerably less on the sprayed than on the unsprayed trees. Those orchards that had been sprayed in previous years showed much less injury from fungi and insects than those that were sprayed this year for the first time. In two or three of the orchards the fungi were so inconspicuous that about as good results would have been obtained if the trees had been sprayed only with arsenate of lead for the insects.

On the whole, Bordeaux gave such serious injury and the self-boiled lime and sulphur involved so much greater incon-

venience in its preparation and spraying, that we are inclined to recommend in this state the commercial lime-sulphur sprays for summer use on the apple. But we do this with the statement that in our work they have not yet been thoroughly tested as to their real value in preventing all the fungous pests. We hope to continue the work the coming year.

### Experiments with Peaches.

Turning now to our work with peaches, we may state that while the experiments were not so extensive, the results were more decisive. About 125 trees in the Ives, Rogers and Jones orchards were sprayed. The self-boiled lime and sulphur only was used in the Rogers and Ives orchards, while in the Jones orchard, where the most extensive spraying was carried on, there were used besides this potassium sulphide, Sulfocide, and Niagara lime and sulphur. At harvest time about 25,000 peaches from the sprayed and check trees were examined for scab, rot and insect injury.

Self-boiled lime and sulphur, 8-8-50 formula, produced no injury, and was very effective in preventing rot and scab when sprayed at the proper time. There is some trouble, however, with this fungicide, from the sediment left on the fruit if the season is a dry one. Consequently it is not safe to use it later than the middle of July. No injury results to the trees by combining arsenate of lead with it as an insecticide. Not only did the self-boiled lime-sulphur largely decrease the rot in the orchards, but fruit so sprayed lasted longer on the market before rotting.

The Niagara lime-sulphur gave about as good results in preventing scab and rot as did the self-boiled, but this was not tried on so large a scale. There is not much danger of the sediment showing on the fruit from late spraying. It can be combined with arsenate of lead without injury to the trees. In our first summer treatment with this fungicide we used it at a strength of 1 to 75, which produced a very slight injury, but the second spraying at 1 to 100 gave no ill effect.

Sulfocide, 1 to 400, and potassium sulphide, 1 to 50, in the first summer spraying without an insecticide, produced very little injury, though we have seen some injury produced by Sulfocide on other trees at the same strength. In the second spraying, arsenate of lead was added to both these sprays, and as a result the trees were not only stripped of their leaves and fruit, but the young twigs were more or less injured. In fact, we have actually killed young peach trees at one spraying by adding Paris green to potassium sulphide, whereas trees sprayed with the potassium sulphide without this poison showed practically no injury. The arsenic of the poison when combined with Sulfocide or potassium sulphide is changed to a soluble arsenate, thus causing the injury. Sulfocide has to be used so weak on peach trees that its fungicidal value is somewhat doubtful, and it certainly should never be used on them with a poison.

From the results of our experiments with peaches, we certainly think it well worth while for our growers to spray their trees, especially the early varieties subject to rot. Our experiments were with those varieties particularly subject to rot, namely, Waddell, Triumph and Champion. At the Jones orchard, while the rot and scab on the unsprayed Champion occurred on 75 per cent of the fruit, on those sprayed with the self-boiled and Niagara lime-sulphur this was reduced to 27 per cent.

While almost as good results were obtained with two as with three sprayings this year, on account of the dry weather during the spraying season, we would recommend three summer treatments, as follows: (1) a week or so after the petals fall, May 10th to 15th; (2) on the young fruit, June 1st to 15th; (3) on the larger fruit, July 5th to 15th. At present we recommend for general use the self-boiled lime-sulphur, though the commercial brand tested gave as good results. We do this because we have tried only one brand, and that on a smaller scale than the self-boiled. We do not hesitate to say, however, that if experience shows the commercial forms just as efficient and no more dangerous to use than

the self-boiled, they will supersede it on account of the ease with which they may be made and applied, and because they are just as cheap, if not cheaper. They are certainly worth preliminary trials in every orchard, in order that the growers may gain experience in their use.

In concluding, we will state that the peach curl, which was so prevalent this year, was entirely prevented on trees sprayed once in the Jones orchard with Blanchard's lime-sulphur at a strength of 1 to 9, the same strength as would be used for the San José scale. This spraying was made April 1st, just as the buds began to swell in good shape.

I might add that Prof. Whetzel, who is to follow me, says that in New York state over 90 per cent of the fruit was affected with scab. We did not find a single unsprayed tree in the orchards where we worked where scab amounted to over 5 per cent of the fruit. There are varieties of apples, such as the Early Harvest and the Red Astrachan, that scabbed rather badly in this state, but unfortunately none of those varieties happened to be trees that were sprayed. It seems to me quite likely that scab is not so serious in this state as it is in New York, and it certainly was not this year, and I hear from experts in Illinois that scab is not so serious a pest here as it is there.

---

MR. STAPLES: Mr. President, I move that a committee to present names of officers for the election of officers to-morrow be at this time appointed, consisting of one member from each county.

PRESIDENT ROGERS: Is that motion seconded?

Motion seconded.

PRESIDENT ROGERS: The motion is made and seconded that we proceed to nominate a committee to bring in names of candidates for your incoming officers, to be elected to-morrow. What is your pleasure? All in favor of this motion will signify by saying aye. Opposed, no. It is carried unanimously. Will you please nominate.

Upon nominations from the floor, the following were elected as the Nominating Committee:

Hartford County—George W. Staples, Hartford.
New Haven County—George F. Platt, Milford.
Fairfield County—S. M. Foster, Westport.
Middlesex County, A. H. Gardner, Middletown.
New London County—E. Haley, Mystic.
Windham County—E. E. Brown, Pomfret.
Tolland County—Andrew Kingsbury, Rockville.
Litchfield County—E. D. Curtiss, Litchfield.

---

PRESIDENT ROGERS: It is suggested that we take up for a few moments some of the questions on the program list.

QUESTION NO. 1: "Is there any danger of overplanting apples and peaches in Connecticut?" Will somebody answer that question.

I will say for the chair, that this year we have had the largest peach crop we ever had, and by the large demand for peaches, I don't think there is any danger of overplanting of peaches.

In regard to apples, I have certainly got the biggest price I have ever received for apples, and where is the danger in apples? The only thing is we want better apples and more apples, and better peaches and more peaches.

We will take up the next question, No. 2: "What is the best plan of cold storage of fruits at the farm or orchards?" Will somebody answer that? I have been paying fifty cents a barrel, and I would like some better method than that.

We have Brother Hale with us; he is chairman of our Legislative Committee and has not yet made his report. We would like to hear from Brother Hale.

MR. J. H. HALE: Mr. President and Gentlemen, may I answer that question, although I am afraid to attempt to answer as to what is the best plan of cold storage of fruits at the farm?

THE PRESIDENT: I notice you are a little bashful.

MR. HALE: I am glad you appreciate that; the rest always have. This question of cold storage on the farm, especially as the worthy president says, he has to pay fifty cents a barrel if he stores off from the farm, is a serious one. It is a very serious question with the majority of the members of this association I imagine, because we are nearly all small growers and have only a moderate amount of fruit that we need to carry through the winter, or well into the winter, where cold storage would be of assistance. The old plan of ice overhead and a sort of ice-box of any size you might have, is almost a delusion and a snare. The only real, thoroughly first-class cold storage is the mechanical cold storage, where they have the ammonia process in the larger cities, and the other process known as the gravity brine process, in which you pipe your buildings practically as you do for the ammonia process, and have large tanks in the upper story of your buildings, and by keeping them filled with chopped ice and salt, you can bring the temperature down to the freezing point and keep your room as cold as by the ammonia process, and when the necessity of storage is over, the expense ceases, and that is the only farm process that is available and satisfactory; but that requires an investment of a considerable amount of money, and I question whether an orchardist that had less than 500 barrels of apples to store annually could afford to do that. But thickly settled Connecticut ought to be able to coöperate among members of this Society, friends and neighbors, so that there could be a fairly good big cold storage house in every orchard neighborhood. By coöperating in that way and combining in the building of a cold storage plant, it is possible, and will come in a few years.

We have had the grange in Connecticut nearly thirty years now, and we have talked and preached a good deal about coöperation, but it is most all talk. So in this association, we organize for our mutual protection and advancement,

and talk a good deal about it; but when it comes right down to practice, each fellow thinks he can go it alone and do a little better. We have tried it somewhat in peach marketing, and we are quite willing to coöperate in it. If things were not so good in Connecticut with us, it might be different. If it was going against us, we would go in and help put up a fight. If our markets were not so good, then we would have cold storage in every town on the coöperative plan. I would like to pray for hard times a few years in the fruit business in Connecticut and on the farm, and then I assure you the cold storage problem would be solved.

## Report on Legislation.

Now, as to the Legislative Committee, there is nothing doing yet, except we want something. We always do in institutions of this kind, and every institution wants something. We want our same appropriation of $1,500 a year from the Legislature to keep this association going along the same lines and better ones in the future, and I want you to help us get that.

Then the wonderful stimulus that came to Connecticut and New England horticulture through the New England Fruit Show in Boston a year ago, where our vice-president, and your worthy president, and your secretary, and some others did such splendid work that put Connecticut in the forefront. That big show at Boston has stimulated our people and all New England to have another tussle at it next year, and it is going to be a bigger, grander New England Fruit Show, and we want Connecticut to get up and show them a thing or two, but to do that takes time and money. We want the Connecticut legislature to give us $2,000 for that New England Fruit Show. If any of you think we can get $4,000 we will try for it, and we want you to come there and help us get it. We are going after it, and we are going to have it if you will help us. We want you to see your representatives at home and tell them about it. The legisla-

ture is asked to give $10,000 or $20,000 for the military, and we tell them to deduct that much and give it to us. So far as the Pomological Society and the New England Fruit Show is concerned, we want to make sure the representatives of this association are in the front every time. (Applause).

PRESIDENT ROGERS: If there is no objection to this report, it will stand approved.

MR. HALE: If you want to object, object now, but don't object over at the Capitol. (Laughter).

PRESIDENT ROGERS: There is one thing I would like to call to your attention, we are paying in our own cities more for cold storage, or equally as much, as it costs us to ship apples to Boston and then put them in storage. That is not right, and there is just one point to be remembered there.

---

The next on our program is an address, illustrated, on "Summer Spraying, Some Results with the Lime-sulphur Mixtures," by Prof. H. H. Whetzel, of Ithaca, N. Y., of the New York State College of Agriculture. I have the pleasure of introducing to you Prof. Whetzel. (Applause).

## Summer Spraying—Some Results with the Lime-Sulphur Mixtures.

By PROF. H. H. WHETZEL, Ithaca, N. Y.

*Mr. Chairman, Ladies and Gentlemen*:

I am sure that it is a great pleasure to be in Connecticut to-day, to see all of your faces, and especially to see some of the men of the Connecticut Station, whose faces I have not seen for some time. I shall not try to tell you all of the things that we have tried to do in New York, but to give you a few suggestions in regard to the work we have been doing with lime-sulphur as a summer spray.

Down at the Rochester meeting of the New York State Fruit Growers' Association some two or three weeks ago, we had a large gathering of this sort, and in connection

with the question box, there was what was to me a very interesting vote on a particular question that was asked by the man in charge of the question box, as to how many were going to use lime-sulphur during the season of 1911 as a spray mixture for summer spraying of their apple orchards. I suppose there were a thousand people in the room, and it looked to me as though all of them got up. After they sat down he asked how many were going to use Bordeaux mixture. Not a single man got up. Now that is significant, because two years before had that same question been asked, the vote would certainly have been practically the other way. It seems to me it is remarkable, that within a space of two years in the State of New York, so conservative a bunch of growers as we have, men inclined to go into a new proposition carefully and slowly, should have absolutely changed from one fungicide to another. It must be due to the fact that that fungicide is eminently successful and readily used by the average grower with success, or else we could hardly have expected so marked a change in so short a time.

Of course, the main objection which has always been urged against Bordeaux mixture, and urged more strongly as we have come to use it more extensively, is the objection, not that it does not control apple scab, because, as Doctor Clinton has pointed out to you in his paper, Bordeaux mixture controls apple scab about as well as does lime-sulphur. It has been very successfully used as far as scab is concerned. But it does, in some seasons, and under certain weather conditions, cause russeting and scab of the fruit. When it is not scab it is russet, and scab and russet do not please the man who buys fine fruit.

Then, of course, there has always been the objection to Bordeaux mixture in wet seasons also, that more or less leaf injury occurs. Now whenever the operator is ready I will be glad to have him throw some pictures on the screen and try to follow those pictures in telling you something of the work we have been trying to do at Cornell

Station in connection with this plant disease work. I might say we have undertaken the investigation of plant diseases on a plan slightly different from what has been ordinarily followed in the past, and that is, instead of trying to work at arm's length, or approximately at half a dozen arms' lengths, we have taken our laboratory equipment and the man who is to do the investigation to the orchard, or the particular locality where the problem lies. We have not tried to bring the orchard to the laboratory. We established a temporary laboratory at Sodus for the lime-sulphur work; another in the grape districts when we studied grape diseases, etc, eight in all. The results of the investigation with lime-sulphur have been obtained, not by myself at all, but by one of the men working in the department, Mr. Wallace. Practically all the results which I will show you to-day are the results of his investigation covering two years. It seems rather remarkable to me that a man in so short a time should have gotten together such a large number of interesting facts which are of such great interest to the fruit grower.

(From this point on the room was darkened and the speaker showed many lantern slides illustrating his remarks as follows.)

I shall now show you a few pictues to help emphasize some of the points I desire to make in regard to this question of the summer use of lime-sulphur.

Apple Scab. I shall first point out some of the well-established facts about the scab, that most common fungus pest of the apple. This is a fungus disease caused by a parasitic plant that lives on the apple. *This fungus winters only on the old leaves on the ground.* During the growing season the fungus lives on the surface of the leaf or fruit just under the thin protective skin or cuticle. When the leaves fall to the ground, the root-like mycelium of the fungus grows all through the leaf, and by the next spring has formed hollow pimple-like bodies in the leaf, often

thousands in a single leaf. Within these hollow pimples the winter spores are formed in great numbers. Just as the blossoms begin to show color and the young leaves are unfolding these spores ripen. Then if a *rainy, cloudy period* of a day or so comes on, these spores are shot into the air by millions. Mr. Wallace caught the spores from a square inch surface of an old apple leaf and estimated that in forty-five minutes twenty-five thousand had been discharged. This will give you some idea of how numerous the apple scab spores must be on a cloudy rainy day when apple buds are opening. These spores being very light, are carried by the slightest breeze to the leaves and the pedicles of the blossoms. Here they lodge, germinate, and in about a week scab spots appear. These facts will help you to see how it is that *the application just before the blossoms open* (when color shows in the bud), *protects the foliage and often insures a set of point.* For if the leaves are covered with lime-sulphur or Bordeaux the spores when they fall on the leaves will not be able to grow, being killed by the fungicide. The falling of the young fruits a short time after blossoming is frequently due to scab spots on the pedicles, that were started by the spores from the old leaves on the ground, scattered at this time. Growers commonly attribute this early drop to cold weather or frosts. I am satisfied that it is as frequently caused by the scab fungus, at least in the State of New York.

*Proper spraying before the blossoms open by eliminating scab infection of the leaves prevents burning of the foliage by later applications.* Extensive study and observations by Mr. Wallace during the past two seasons have shown that scabby foliage, more than any other one thing, has been responsible for much of the foliage injury reported. The fungus by prying off the protective cuticle of the leaf where the scab spot appears lets the caustic spray mixture right into the leaf tissues, thus causing the burning. Leaves protected from the scab, therefore, by the

early applications, are much less apt to show injury from later sprayings.

*The application just after the blossoms fall is usually the one which gives clean fruit.* All the fruits that are infected before the blossoms open, later fall from the trees; therefore *only clean fruits* will be left to be protected by later applications. This spraying just after blossoms drop is the most important of all. Never omit it. *Spray just before rain periods, not after them. Watch your weather maps.* If you recall that the scab spores are scattered, and infect the fruit and leaves only during rather extended rain periods, you will at once see the logic of having the spray mixture on the trees ahead of the rain. Don't let the notion that it will "wash off" deter you. If it is once dry little will wash off. The nearer you can come *to getting it on just* before the *rains* the *better*, for the more new growth you will thus protect. *The development of the buds and fruit and the character of the weather must be your guide in spraying for apple scab.*

The number of sprayings to be made will depend much on the season. Nearly all good growers make an early or dormant spray. This is for insects, blister mite, scale, etc. It has no effect on the control of the apple scab. Some seasons it may be advisable to make another application following the one made just after the blossoms fall. This is usually not profitable so far as scab control is concerned. A late application the latter part of July or first of August is in some seasons highly beneficial and profitable in preventing a late infection of the fruit, which may appear at packing time or after the fruit goes into storage.

Lime-Sulphur. We may now consider some of the more important points brought out in the past two seasons' investigations with lime-sulphur as a substitute for Bordeaux mixture. Not only in our own, but the experiments of others in different parts of the United States have shown that *lime-sulphur is equally effective with and safer than*

*Bordeaux mixture for the control of apple scab.* Taking the average of all recorded experiments comparing the effectiveness of lime-sulphur as against Bordeaux, show that the lime-sulphur has, if anything, been more efficient in reducing the scab. In our experiments in 1909, while unsprayed trees showe l 43 per cent scabby, trees sprayed with lime-sulphur showed only 3.6 per cent, as against 3 per cent on trees sprayed with Bordeaux. This past season the same variety (Greenings) showed 79.4 per cent scabby on unsprayed trees, while lime-sulphur sprayed showed only 10.9 per cent, against 17.7 per cent scabby on Bordeaux sprayed.

The fungicidal value of lime-sulphur is increased by at least 50 to 100 per cent by the addition of arsenate of lead (2 pounds to 50 gallons) to the dilute solution. This Mr. Wallace has proven beyond question, both by laboratory tests and on the trees. This fact alone is worth the cost of the investigation many times over. This means that a weaker dilution of lime-sulphur can be used with equal effectiveness and hence with less expense. On this basis we shall this next season use a dilution of 1-40 (32 degrees Baunie test) instead of 1-30. Not only is the fugicidal value of the combination greater than that of the lime-sulphur alone, but the insecticidal value is by no means decreased. Then to this may be added the fact, that *the burning qualities of the lime-sulphur are actually reduced by the addition of arsenate of lead.* Taken all together, the facts show that from nearly every point of view the addition of arsenate of lead to lime-sulphur is desirable. Moreover, *it is so far as we know at present, the only insecticide that may with safety and efficiency be used in the lime-sulphur.* Arsenate of lime, arsenate of soda, and Paris green, all tend to increase the burning and are unsafe with lime-sulphur.

Another very interesting discovery of Mr. Wallace's, is that *magnesium oxide, one of the chief constituents of impurities in lime, has considerable fungicidal value.* Both

laboratory and field tests demonstrated this. Its poor sticking qualities when used alone does not recommend its use. The value of sediment in lime-sulphur appears to depend very largely upon the magnesium oxide content.

The above remarks apply only to the question of lime-sulphur as a spray for apple scab. Of its uses on peaches, pears and other fruits, we know, as yet, too little to make definite statements. Scott's self-boiled lime-sulphur is at present the standard summer spray for the peach. Mr. Wallace's experiments with pear scab indicate that lime-sulphur may be expected to control it. If there are any questions on any of these points I shall be glad to answer them if I can.

PRESIDENT ROGERS: I am sure we are all greatly interested in this subject. There is no more vital subject before this convention. We have heard both Professor Whetzel and Doctor Clinton, and I am sure we can get a great deal of help from them. Professor Whetzel and Doctor Clinton also are here to answer questions, and if whoever asks a question will please give their name when they rise we will appreciate it very much.

DISCUSSION.

MR. FROST: Has anything ever been done to burn up the foliage on the ground to prevent scab?

PROF. WHETZEL: We have never carried on any definite experiments ourselves in getting rid of the foliage on the ground, but we have made some rather interesting observations. In 1909 in Medina we found one man who had plowed his orchard late in the fall—I don't remember for what particular reason—but after the leaves had fallen he had plowed his orchard, and in going over the orchard later that spring we found this the only one in that locality that had a small amount of foliage infection from scab. It had been reduced to a marked extent as compared with orchards that had not been so plowed. By plowing the leaves under he had gotten rid of a large part of the infection.

On the other hand, in an orchard that has been cultivated and sprayed (of course not plowed in the fall, but plowed in the spring) and sprayed systematically for twelve years, our results showed 98 per cent of scab on the unsprayed; so you must not depend upon burying the foliage. When you are considering that proposition you must not forget fence corners where leaves are stacked up; those must also be raked out and burned. I don't know whether it would be profitable to do that or not, to rake and burn them. You see this whole question of what practice you shall follow hinges on whether it is profitable or not. There are many ways of controlling diseases which are not practical, but yet which will control diseases if properly carried out, so that probably the most practical way of handling the proposition is a matter of spraying, and then plowing or burning if you think that will be profitable in addition.

MR. NEWTON: You said we should spray just before the rain falls rather than after it; what is the theory about that?

PROFESSOR WHETZEL: Take the case of apple scab, the spores of the fungus which cause the early infection are in the old leaves on the ground. They are discharged into the air only when the leaf is wet, when it rains on the leaf, then the spores are shot into the air; they are discharged only during rainy, muggy weather. They are carried by the breezes at that time to the leaves, or to the pedicles, and the pedicles get the infection. More than that, spores cannot germinate and infect a leaf in a few minutes. In the case of apple scab it takes twenty-four to forty-eight hours for the spore to germinate and establish itself, so it is the rainy period, not a shower, which brings about infection. If you wait until that is over to spray so as not to have the fungicide washed off, the fungus will already be established, and will develop under your spray. Take the case of black rot in grapes, it will develop under the Bordeaux mixture applied after the rains. So the point is, you want to have the surface

practically coated with the fungicide when the rain comes, because when the rain comes the fungus comes and the infection occurs, it does not occur afterwards. Don't delay by waiting if you think it will wash off, but just spray thoroughly before the rain with lime-sulphur, and if you believe it comes off easily, undertake the job of washing it off.

MR. STAPLES: May I ask the question if the leaves are to be burned in the spring, how early can that be done, or how late; that is, after the leaves are pretty dry in the spring? Will it do to burn them when fire would run in the grass and leaves?

PROF. WHETZEL: The time you can burn them must depend upon the buds. I should say to be on the safe side they could be burned before the buds open. If they are dry before that time, all right.

DR. BRITTON: I would like to ask if he has tried other insecticides with lime-sulphur?

PROF. WHETZEL: I think he did, Dr. Britton, but I don't recall what they were. I think he tried arsenite of lime, but I don't recall the results just at the present time. We have tried quite a number of insecticides besides the arsenate of lead, but they are of doubtful value.

MR. CURTISS: What are the respective advantages of the lime-sulphur preparations, the self-boiled and the home-boiled?

PROF. WHETZEL: Self-boiled is Scott's so-called self-boiled. I am very sorry that Scott named that "self-boiled"; it is not boiled at all, but the self-boiled is what Scott has developed for spraying peaches, summer spraying for peaches. That is quite different from home-boiled concentrate, which is to all intents and purposes just like the commercial. We carried along side by side in our spraying experiments the commercial lime-sulphur clear, commercial with sediment in it, home-boiled clear and home-boiled with sediment in it, and Mr. Wallace carried along in a good many cases, Scott's self-boiled. I think all the experiments taken

all together, the country over, showed the home-boiled concentrate lime-sulphur or commercial concentrates are the ones that are successful for proper operating for apple scab. The self-boiled is the spray for peaches. Dr. Clinton has told you something about the use of commercial concentrates for spraying peaches, and we have been doing some work for two years on spraying peaches with diluted concentrates and have got some fine results. As a practical matter, you want to use the self-boiled for summer spraying of peaches, and you can make it yourself.

MR. FROST: Did you get as good results from home-boiled concentrate as from the commercial?

PROF. WHETZEL: We have from all our experiments—I think the records show that properly made home-boiled lime-sulphur is just exactly as good as any of the commercial boiled, if it is properly made and properly diluted, and the commercial is giving just as good results as the home-boiled if it is properly made and properly diluted. They are one and the same thing, practically, for they are made out of lime and sulphur.

MR. PRATT: Mr. Chairman, I wish you would give the strength of commercial lime and sulphur for this apple scab.

PROF. WHETZEL: We are going to use next year 1-40 of the concentrate 32 degree, or 33 degree test of the concentrate diluted, 1-40 plus 2 pounds of arsenate of lead.

A MEMBER: I would like to ask how much lime and how much sulphur you use to get 33 per cent of lime and sulphur.

PROF. WHETZEL: If you make your own home-boiled you won't get 33 per cent, you should dilute according to the density of the concentrate which you get. See table for dilutions in Cornell Bulletin 280.

A MEMBER: How many pounds of sulphur and how many pounds of lime do you have to use to get that 33 degrees?

PROF. WHETZEL: Oh, I couldn't tell you, sir. I don't believe the average grower gets that 33 degrees. I know of some that have gotten the 33 degrees. I don't believe the amount of lime and sulphur will be the only factor, so I could not answer that question. Perhaps Dr. Britton could tell you a good deal better about that than I can, or Dr. Clinton.

DR. BRITTON: I don't think any of us can tell the exact amount to use to give a definite reading.

At this point Mrs. Ida Jenness Moulton rendered a recitation—a burlesque on "Women's Rights," following it with an encore entitled "How a Lawyer Would Word a Legal Document in Giving Away an Orange."

VICE-PRESIDENT DREW in the chair: We will now resume this matter of summer spraying, and taking up the question list, I am going to read No. 21, "What is the cause of the russeting of the apple " That has been discussed to a certain extent, but I don't think it would do any harm to discuss it again, and I am going to call on Dr. Clinton to give us a few words on that.

DR. CLINTON: In our work we assumed that considerable was caused by the Bordeaux in the russeting, but in order to show how much, we took a comparison of all of the checked trees, and we were rather surprised in the amount of russeting that appeared in those checked trees, so that we cannot lay all the injury of a russet nature to spraying. It seems that certain seasons are much worse for producing this russeting on sprayed trees, just the same as certain seasons produce more russeting from the spraying with Bordeaux. This year we had two very late frosts, one the latter part of May, and I believe one in June. These frosts were much more serious in Massachusetts and in northern Connecticut than in southern Connecticut, and so serious were those frosts that it was noticed in some regions the trees had their leaves

taken off. Trees perhaps that were higher or a little outside of the unfolding of the leaves, did not suffer so much. We found in the orchards that there was a difference in the position of the trees, some trees suffered much worse than others, and we found that the russeting in general was more severe in the northern part of the state than towards the Sound, where the frost injury was less, so there seems to be no question but that this russeting of the apples is due to some other cause than spraying, and the frosts seem to be, as far as I could make out, largely responsible for it.

There may also be russeting due to moisture on the fruit when quite young. Anyway, it is certain that this year not all the russeting was due to spraying, presumably largely due to frost on sprayed trees, but as 18 to 20 per cent of the apples showed more or less russeting, but on sprayed trees this went as high as 40 per cent, so that the season is a big factor in this russeting of the fruit, not only with the sprayed, but with the unsprayed trees. Now in taking this percentage of russeted fruit, we had to assume a spray of standard, because it is very difficult in this state with certain varieties like the Greening this year, to find fruit that did not show the same evidences of russeting. So we assumed in our mind a standard of only a small amount of russeting which we called free.

We had a different type of what we called scald russeting from the lime-sulphur sprays, and that usually occurred on the fruit that was exposed to the sun, on the southern side of the trees, more, and on the exposed side of the apples.

We had, too, some injury to the foliage occasionally, the spotting of the foliage, on the side of the trees that were most exposed to the sun, and I am not sure but what some injury may occur from rain on apple leaves, producing spotting of apples. We had young apples that were not sprayed that showed considerable of a leaf scorch.

There is a fungus in this state, the black rot fungus, that is quite abundant in the early spring when the leaves

unfold, and this produces a spotting, isolated brown spots in the interior of the leaf and also around the margins, and it is very difficult to tell from spray injury caused either by Bordeaux or by this very lime-sulphur or lime-sulphur mixtures with other compounds in them. This fungus really burns on the leaf, which makes it very difficult to distinguish it. And even when leaves are sent into the station, I want to know whether they have been sprayed or not, to help me decide whether it was this fungus or spraying that produced the injury, because they are so very similar.

VICE-PRESIDENT DREW: Question No. 22, "Are we all agreed that lime-sulphur is giving better results than Bordeaux?" I thing there is no question of more importance. I think that has been pretty well answered, but I will ask Prof. Whetzel to speak just a word on that again.

PROF. WHETZEL: I think the best way to answer that is to put it to a vote, and so I ask everybody that is agreed that lime-sulphur is better than Bordeaux for summer spraying to stand up. Ladies can vote for this just as well as the men you know. Now everybody that believes Bordeaux is better than lime-sulphur stand up. Bordeaux doesn't seem to have very many friends here. I think that is sufficiently answered.

PROF. A. G. GULLEY: I want Prof. Whetzel to explain to this audience clearly the exact difference between the self-boiled and the other sulphur-lime mixtures. I think there are a lot of people in this audience that don't understand why one burns and the other does not. Please give the chemical reason.

PROF. WHETZEL: As I said before, it is very unfortunate that it was ever called self-boiled. The formula for the so-called self-boiled lime-sulphur of Scott, if we choose to call it Scott's lime-sulphur, is 8-8-50, 8 pounds of lime, 8 pounds of sulphur and 50 gallons of water; put lime in a barrel, add a little water and add the sulphur while the lime is slaking and until it is all slaked, and the sulphur and lime are

in a fine mechanical mixture, not chemical unity. Dilute at once with cold water. That is really not self-boiled lime-sulphur, just slaked and then water added to stop the cooking, the natural cooking. So when you have properly made so-called self-boiled (Scott's mixture), it has little or no soluble sulphur in it, and therefore cannot burn the foliage, because it consists of nothing but particles of sulphur and the slaked lime mixed together. When that is sprayed on the tree there is no soluble sulphur to cause the burning.

The home-boiled lime-sulphur is the concentrate as I now speak of it. The home-boiled concentrate is made by boiling lime and sulphur together for 45 minutes or an hour. In that case the lime and sulphur have gone together in a chemical union, you don't get them separately, and you have so-called sulphides of sulphur and calcium, and it is this so-called soluble sulphur, calcium sulphide that burns when put on the leaves, if it is strong enough. The commercial concentrates are made the same way. Is that clear?

VICE-PRESIDENT DREW: Question 23, "Is it necessary to use more than 150 pounds pressure for spraying?" I am glad to call on Mr. Henry, of Wallingford, to tell us something on that subject. Mr. Henry, won't you give us a few words on that subject, or a few points?

MR. HENRY: Why, I haven't had enough experience in that, Mr. Drew.

VICE-PRESIDENT DREW: Won't you give us some points in your experiments, then, last season in spraying, if you don't want to speak on the question itself. I know you have had so much experience in that line everyone would be pleased to hear it.

MR. HENRY: Why, I don't believe I have anything, Mr. Drew, but what everybody here already knows. There is nothing that I know of. Prof. Whetzel has certainly covered the spraying question, and about the others, I don't know of anything that would be of interest, Mr. Drew.

VICE-PRESIDENT DREW: Anyone else that would like to talk on that subject, whether it is necessary to use more than 150 pounds pressure for spraying?

MR. S. L. LUPTON: I suggest you ask how many *use* 150 pounds.

VICE-PRESIDENT DREW: Mr. Lupton suggests I ask how many people use 150 pounds pressure for spraying. Those that do will please indicate it. I find this, we use less than that a good deal, and I find most people don't use 150 pounds for spraying.

MR. LUPTON: Did I understand someone in New York state, at the experiment station, or some official, to say that that matter was carefully tried out last year and proven that 80 pounds pressure was just as good as 100 and just as good as 125? Didn't I hear Mr. Van Alstyne, of New York, make that statement on that point? Do you know anything about it, Mr. Whetzel?

PROF. WHETZEL: I couldn't say anything about it. But I might say, Prof. H. W. Riley, of our college, has devised a machine for testing nozzles, and he has tested a large number of them, and our general opinion is that the type of nozzle will determine how much pressure you must use to get best results. For example, small nozzles of the Vermorel type give very good results at relatively low pressure, while large nozzles require much higher pressure to get the fine mist that you need for spraying. I think in our spraying we use 125 pounds pressure, and in the field from 125 to 150. Many men think they are using a high pressure, although they actually do not. We have tested it out in Prof. Riley's laboratory and put a pressure against the nozzle and at the tank, and there will be quite a difference of pressure between the nozzle and the tank.

VICE-PRESIDENT DREW: Can anybody tell us whether with 150 pounds he has gotten any better results?

MR. IVES: That means me, I guess. Why, more spraying is done in a given time, vastly more, under high pres-

sure, and the economy of spraying under high pressure, and the higher the pressure you get the finer spray you get, and I believe that is coming. We are over-spraying, we don't make it fine. We get it on and it drips and drops and runs off. We want the high pressure, so fine that it will flow on the tree like a fog, and you get more economy under high pressure, 200 pounds pressure, 250 or 400. Hence, economy, and I believe, efficiency come under high pressure spraying and make it effective and in fact a fog that will flow on the tree.

MR. FROST: I think we used as high as 250 pounds pressure in an orchard with a 12 horsepower gasoline engine, and we couldn't see any difference in the result between spraying at that pressure and hand power. Most all of it seemed to be pretty nearly perfect.

PROF. GULLEY: That matter was developed last week at Rochester, and Mr. Van Alstyne said decidedly there was no gain whatever, by this tremendous pressure, that 100 to 125 pounds was just as good as double, and I don't believe a man in this state uses 150 pounds that will be satisfied with it; 100 or 125 is perfectly satisfactory. I find a pressure not to exceed 125 has done just as good work as anything higher.

MR. LUPTON: I can agree fully with Mr. Gulley I think a good many of us are over zealous about high pressure. I have been using 80 to 100 pounds with satisfactory results, and I don't quite follow the gentleman that more than 150 is necessary, and that more spraying can be done, etc., and economy of time. It is not a question about getting spraying done in that way. You have got to cover the tree, and just the moment you cover the underside of the tree it is done, whether with low pressure or high pressure.

If you stand two or three rows away on the windward side you get the fine covering with the spray at once. I have had that experience, and again when you are trying to spray against the wind, as we sometimes have to do, why it is absolutely impossible to put that fine spray on a tree even 5 or

6 feet away. I have never been able to spray two rows of trees at the same time. We get on the windward side if we want to do good work. I am afraid some of us are over-anxious about high pressure, and we break our hose and over-tax our engine and tanks unnecessarily. That has been my experience.

VICE-PRESIDENT DREW: I think the vast majority of us will agree with Mr. Frost and Mr. Lupton about that.

MR. IVES: I never have thought I could wait for the wind to shift. I finish off my tree whether it blows from one direction or the other. I believe I can spray a tree all around and do it all up in one job, and I can spray up against the wind with high pressure.

VICE-PRESIDENT DREW: I think it would be a good thing to get from some of this audience some of their experiences in summer spraying, and I would like to ask some of the gentlemen that have experimented this year with Bordeaux and with lime and sulphur, if they would be willing to give us some of their own individual experiences now? I think it is a most interesting subject and a most vital one, and I would like to have someone volunteer without calling on them.

MR. BEARDSLEY: May I ask Prof. Whetzel in the experiment that he made with peaches, what mixture he substituted for the Scott mixture spoken of.

PROF. WHETZEL: Why, I am not very well posted on the work which Mr. Wallace did with that lime-sulphur mixture on peaches; I have not the details clear in my mind, but I can give them to you in a general way. In 1909 he tested out commercial lime-sulphur, the concentrate, the Niagara, and he tried dilutions up to 1-200, testing out with the slide method which I have described, and he found that 1-200 would prevent germination of the spores, and trees sprayed three times, finishing up just before picking, the rot was reduced from one-half to two-thirds on the peaches sold. And where he sprayed peaches just before picking, and dipped them just

after picking, in some cases they stood up two or three times better. But these were only small experiments and were not extensive. Someone said, I believe Dr. Clinton reported, they had used lime-sulphur 1-75, 1-100. That would be pretty severe, to put 1-100 on peaches. It would burn the leaves off some varieties; other varieties would stand it fairly well, so where we have used commercial concentrate we have used it about 1-200. Mr. Wallace has precipitated it and put it on 1-30, and no harm, but that is not very practical because of the difficulty of keeping the stuff in suspension with so much agitation. So the question of the strength in the use of concentrates on peaches is one we are not ready to make any conclusions on; we haven't carried out extensive enough experiments. All the experiments that we have carried out were very favorable to concentrate. He used both the commercial and the home-boiled, which are the same thing.

One point in connection with that is that where arsenate of lead was added to lime-sulphur and applied with a gas sprayer, he got tremendous defoliation. He also got later in the season defoliation where he used arsenate of lead in lime-sulphur with the ordinary sprayer. He put on another spray and worked it out and showed that the injury was not due to the lime-sulphur, but to the arsenic set free from the arsenate of lead—arsenical burning.

VICE-PRESIDENT DREW: I will again call for volunteers to tell us the spraying troubles they have had and the success.

MR. BROWN: I just wanted to say a word about the results I have noticed with lime-sulphur. I have not used it personally at all, but one of my neighbors has got about 50 acres of orchard 10 years old, and he has got more burn than others, and I looked over his orchard this fall, and the Ben Davis in particular, I think that was worse than any other variety. There was the worst case of burn I have ever seen. The commercial lime-sulphur, we figured out, knocked a

dollar a barrel out of the value of his crop. We haven't got it quite settled yet.

A MEMBER: What spray did you use in your own orchard?

MR. BROWN: I used Bordeaux and sulfocide.

QUESTION: At what strength?

ANSWER: 1-200 the first application.

QUESTION: The second application?

ANSWER: 1-200.

QUESTION: Just two applications?

ANSWER: No; three.

QUESTION: Did you use arsenical poison?

ANSWER: Paris green.

MR. BROWN: I should like to ask Mr. Drew for his experience; let's hear from him.

VICE-PRESIDENT DREW: There are so many that have carried on their experiments better than I have, there are others better qualified to speak.

MR. LUPTON: Isn't there just a little bit of danger that we are too unanimous about lime-sulphur spray? We have in Virginia a very bad apple disease known as bitter rot. It comes late in the season, and we have about come to the conclusion that lime-sulphur spray will not control the bitter rot. We have to get along on the bitter rot with Bordeaux. I don't know whether you have it here in Connecticut or not; doubtless Prof. Whetzel knows about bitter rot, and I would like to ask him if he has ever tried lime-sulphur to control bitter rot?

PROF. WHETZEL: I am delighted to say that we do not have bitter rot in the state of New York, except on one variety, and that is not a variety which is commercially valuable. I believe this bitter rot is not a factor in apple growing in the state of New York, and has not been up to the present time. I think we are a little too far north. Lime-sulphur has not been successful, and I think Mr. Lupton has made a good point, and that is, we should not go lime-sulphur crazy like we went Bordeaux crazy. Bordeaux used to be

good for everything, even chicken lice. (Laughter). But lime-sulphur is not good for everything. And I think there will be many other sprays discovered which will be more satisfactory in time than lime-sulphur. I am not at all optimistic that lime-sulphur will be with us forever, even as long as Bordeaux has been. So it is not surprising at all that lime-sulphur will not cure everything. It is good, but there is still that danger of burning from lime-sulphur, which has always been there.

MR. LUPTON: Then there is another thing; we had this year in Virginia a most serious outbreak of cedar rust (orange rust), and we found lime-sulphur was not a satisfactory spray for cedar rust. Have you had any experience with that?

PROF. WHETZEL: We have some cedar rust in the state of New York, but it is so slight as to cause little damage, so I have had no experience in the control of cedar rust, and it seems to me that until we have had several seasons' experience in fighting a disease with a given fungicide and don't get results that we ought not to be in too great a hurry to say that it will or will not do certain things.

MR. LUPTON: We had an experience with cedar rust that defoliated hundreds of orchards and russeted the apples themselves so they were not merchantable. We have had attacks of bitter rot which spread over two weeks in the hot, muggy weather, and the apples turned black on the trees almost over night, and we have not found that lime-sulphur will control those attacks as yet. I didn't know whether you people were suffering from these pests or not.

VICE-PRESIDENT DREW: I would say I had quite an experience with that this year, particularly on Wealthy, and I tried both self-boiled lime-sulphur and commercial lime-sulphur, and it did not control it.

DR. CLINTON: In our experiments we had more rust than any other fungus, and the average of rust on the sprayed trees was just as great as on the unsprayed, and it didn't

make much difference whether it was Bordeaux or the self-boiled or some other sort. I think that the rust, as I stated in my paper, will depend on the number of sprayings. Ordinarily the two or three sprayings that are given in this state will not control rust; you will have to make at least three or four with whatever fungicide you use.

VICE-PRESIDENT DREW: You mean cedar apple fungus?

DR. CLINTON: Yes. Just a word about Bordeaux. While I said I preferred commercial lime-sulphur to Bordeaux on apples, I did not prefer it on potatoes and melons. Bordeaux is the standard yet for potatoes and melons, in my opinion.

A MEMBER: How about grapes?

DR. CLINTON: I have not tried it on grapes at all.

PROF. WHETZEL: Dr. Riddick has tried out the commercial and the self-boiled in comparison with Bordeaux, and all the evidence goes to show that Bordeaux is the only thing we can use in the state of New York for black rot of grapes. A dilution of lime-sulphur of 1-75 or 1-100 on most varieties of grapes, we find, will cause serious burning, and in some cases will cause a shriveling of the fruit. We cannot use lime-sulphur as yet for grape spraying.

I saw some interesting photographs from Virginia of apples sprayed with a new type of lime-sulphur. It was not concentrate, but some other type of lime-sulphur, some commercial brand, which in the pictures looked very good, and the man in whose orchard the apples were grown, was there and swore they were all right, but I didn't see them. I have no doubt but what the diseases can be controlled with sulphur sprays of this type.

MR. HILLYER, of Farmington: It seems to me here is an opportunity for a further word, although there is a commercial element in what I have to say. Prof. Whetzel in his speech has spoken of the effect of the self-boiled sulphur as being probably due to the elementary sulphur which was used in it. Other experiments seem to show that horticulturists

are looking forward, that the horticultural experiments are tending toward the idea that it is the sulphur itself which is the real germicide. It has been stated that it is not the lime in the lime-sulphur, but the sulphur.

Prof. Whetzel has referred to some interesting photographs that he saw of a Virginia orchard, in which a particular type or substance, not exactly lime-sulphur, but something like it, was made use of. Here it is, (showing a tube of liquid) this is a new fungicide entirely different from anything which has been produced before. It is going to be put on the market, and it is made from a scientific study of the matter. Here is some of the most evenly divided sulphur which is on the market and it won't precipitate. I mixed this sample up with water before the afternoon session began, and you see it has all settled; you can stir it up, but it is not in suspension. Here is another batch of sulphur which has been prepared by a special new process which was mixed just before the other one. That has been shaken up and has been standing for some time. Here, you see, is elementary sulphur, practically that, nothing else except it is prepared by a process which keeps it in suspension. It is extremely evenly divided and ready to use as a spray. There is a little sediment, but that can be stirred up and sprayed on with it. You see the fine division of the material enables you to cover a vast surface, and it is so evenly divided that it is very active, and it can be prepared very cheaply, and I am going to speak of that. I hope you will be able to get it. It comes in the form of a paste and can be mixed up just as you mix up arsenate of lead. And speaking of arsenate of lead, this has been mixed with arsenate of lead, and you can get both your insecticide and fungicide right together. It has been used on potatoes, and peaches, and at least 100 different experiments have been made by the most conservative experiment station people, and the owner of the orchard which was referred to here, Mr. Gold Miller of West Virginia, has made experiments and writes me a letter like this: "If I had known

about Atomic sulphur last spring what I now know, I am satisfied I should have had $1,500 more fruit."

Excuse me for reading another letter from Daniel R. Freedman: "I have been using the preparation furnished by you known as Atomic sulphur, and would like to know more about it."

Prof. John B. Smith of New Jersey, writes, "I have harvested my crop of peaches and never had a cleaner lot of fruit, in fact, there is not a scab or blemish of any kind. You will be interested to learn that Mr. Blake has had the same experience." It is a very strong statement for an experiment station man to make. I don't claim it is good for everything, but I simply want to have you look into it.

VICE-PRESIDENT DREW: I was going to ask Mr. Ives if he could give us something about the results of his experiments this year. I understand he has been carrying on some experiments.

MR. E. M. IVES: Mr. President, I don't want to say anything, for the summary of these experiments is not in my hands. Dr. Clinton can answer anything I ought to answer. I have not had his conclusions, I was not in here when he read his report, and I appeal to him to answer the question. He has worked in our orchard, and he has the figures also carefully compiled. I am not prepared with the figures, I haven't had them in my hands, so I depend on the Doctor to answer that for me.

VICE-PRESIDENT DREW: I understand he has given the results of those experiments. Mr. Frost, would you like to say a word?

MR. FROST, Arlington, Mass.: I don't know just exactly what to say. I have examined a great many orchards in Massachusetts and Connecticut which had been sprayed with different materials, but the results were so contrary to what I expected, that I made up my mind not to publish any of the notes, but while you were talking about pressure, I want to speak of one experiment which we made. We had a lot of asparagus in Massachusetts to spray, and found a great

deal of difficulty in making the material stick with the low pressure. In Massachusetts we are forbidden to use a certain type, so we tried the high pressure on asparagus, and we found that by throwing the material in the air against the wind we got a stream up about 100 feet, and with the wind, even about 150 feet, and then throwing it into the air and letting it drop, we made it stick perfectly to the asparagus. I believe that is the only way high pressure can be of any value as against low pressure, even on apple trees.

I am not convinced that Bordeaux is to be given up in spraying apple trees. I see just as bad results with some cases of lime-sulphur on certain varieties, as I do Bordeaux, both in Connecticut and Massachusetts. And I would state that I examined in Pomfret with Mr. Brown, and Mr. Drew in Greenwich, orchards, and from what I have seen this year, I believe Bordeaux can be used safely on certain varieties, and lime-sulphur on certain other varieties. I think results should be waited for another year.

I am also convinced, myself, that the russeting of the fruit is due more to climatic conditions than it is to spraying, for I found fruit was russeted worse on low land, especially near the seacoast, than on the highlands. I believe the russeting may be increased by some of the materials, especially Bordeaux. Last week I was in Massachusetts, that is, up near the Vermont line, way up in the mountains, and they had very little russeting. Many of them used Bordeaux and arsenate of lead several times, and they told me there when the fog hung over the orchards, the fruit was russeted, and where they didn't get any fog on top of the hills, even where they sprayed with Bordeaux, there was no russeting. In our own orchards in Littleton, Massachusetts, we sprayed half the orchards with Bordeaux and arsenate of lead, and the other half we sprayed with nothing but arsenate of lead. Where the Bordeaux was used, the russeting was little worse than where the arsenate of lead was used. And orchards in that same town were not sprayed at all, the Baldwins were all russeted. We used Bordeaux and arsenate of lead on apples

and got scarcely any russeting. In the orchards that I examined, I am convinced from what we know of the cedar apple rust, the lime-sulphur would not control it as well as the Bordeaux. I am still going to use Bordeaux in some orchards where I have the scab, until I see another season's results, and until climatic conditions are taken into account. Seven miles from the seacoast, around Boston, on the top of the hills, I saw orchards that were sprayed with arsenate of lead alone, and there was no russeting whatsoever. In the lowlands in that same region, a great many of the varieties were badly injured. I think we have got to take the climatic condition more into account than the spraying. And I am sorry I haven't got any more information about it on this particular point. (Applause.)

MR. IVES: Just a word about varieties that were not injured so much by Bordeaux. Should we spray with one or the other, as far as you have observed? You have touched on that point a little.

MR. FROST: I should hesitate in advising anyone from one season's experience.

MR. IVES: It is leading toward something, however.

MR. FROST: I have not my notes with me because I did not expect to be called on to say anything about it, but I believe that Ben Davis should be sprayed with Bordeaux and lime-sulphur, but I am not sure about it. Fall Pippin and Fallawater I believe, however, should not be sprayed with Bordeaux, and I am inclined to think that the Baldwin can be sprayed with lime- sulphur. The Greening and the Gravenstein and the Yellow Transparent I could not say were injured by Bordeaux. I didn't see them handled with lime-sulphur.

MR. HOPKINS: I have a question I would like to ask after I have said a word about russeting of fruit. I am an infant in the spraying of fruit, have only sprayed two years, so I am no authority, but I will say that we sprayed this year but once, after the blossoms fell, only the Greenings we spray when the fruit was as big as small marbles, and this was with Bordeaux. Those were cracked, and badly cracked.

MR. FROST: With the Bordeaux mixture?

MR. HOPKINS: Yes, it was the mixture known as Pyrox. Prof. Clinton saw some of my apples, which were sent to him, which were cracked, but the russeting, I doubt, was ever caused by Bordeaux.

Now I would like to ask Prof. Clinton if black rot and bitter rot are two different troubles?

PROF. CLINTON: Yes, black rot is the common rot in this state. Bitter rot does little injury here, although in Illinois it has been a very serious thing. As far back as 50 years ago the horticulturists assembled, and one writer said it swept like the breath of ruin over his orchards. But, fortunately we do not have to contend with bitter rot in this state. We do not even have scab as bad as they do in New York.

One of our chief fungi troubles is sooty blotch, but if the season is dry we don't have that trouble, so I think, on the whole, we are rather favorably situated in Connecticut, and have escaped some fungi injuries. So in some orchards, spraying with arsenate of lead gives about as good results, at least where the fungicide was used with it. We did test, in a small way, flowers of sulphur combined with arsenate of lead. That seemed to have some value as a fungicide, but it was on too small a scale to say much definitely about it.

MR. HOPKINS: I would like to ask if lime-sulphur will cure black rot, and also does black rot kill branches and limbs of trees?

PROF. WHETZEL: Black rot occurs either on the branches, and produces cankers there and kills the twigs. It comes on with the unfolding of leaves, and produces brownish spots about a quarter of an inch in diameter, and so if you can trace these spots that are contiguous with the leaves, to some infected branch overhead, why, a thorough trimming out of the diseased wood is fairly effective in controlling that. They have proved that black rot is parasitic on the twig.

On the fruit, the black rot spot on the early varieties, comes in largely through some insecticide injury. But we

found there wasn't much difference between the Bordeaux and the commercial lime-sulphurs as to their value in preventing this trouble. But, as I have said, on the whole, in our experiments, Bordeaux showed more fungicidal value than the lime-sulphur sprays, but we didn't have such severe attacks of fungous troubles to test out this matter in such shape, as has been the case elsewhere.

A MEMBER: I would like to ask if you would use the same strength of lime-sulphur for plum rot as we do for peach rot, and if we should use them at the same time and the same number of applications?

DR. CLINTON: You use it the same number of times and the same number of applications. Prof. Scott recommended less sulphur, that is, six pounds of sulphur instead of eight pounds of sulphur. We only sprayed one or two plum trees this year, and I did not see the plums at the time of picking. We only sprayed them twice, and it did not prevent the rot entirely. At least three sprayings would be necessary, and you could use Scott's mixture.

PRESIDENT ROGERS: I wish you would call on Mr. Barnes of Yalesville to give us a little bit of his experience in spraying. We have his apples before us, they are very fine, and he must know something about spraying.

MR. BARNES: We did not practice summer spraying at all this year. I think I could not add anything to what has already been said. Our spraying was done in the spring, that is, nothing later than the spraying with arsenate of lead, we have done nothing later than that.

PROF. WHETZEL: You might be interested in the results and observations we have gotten on this question of russeting of fruit. I have here a copy of a recent bulletin of Mr. Wallace and he tested out this question, comparing Bordeaux and lime-sulphurs on several varieties.

That is to say, in all of our experiments, without exception, all those sprayed with lime-sulphur and arsenate of lead have shown less russeted fruit than those sprayed with Bordeaux, and less than those that were not sprayed. And I can

show you to-day a large number of apples in an orchard that has not been sprayed in twelve years, and any man will swear that they are sprayed with Bordeaux. They are russeted and cracked, and were all that way in the orchard.

I am inclined to think that the copper in Bordeaux mixture, and the soluble sulphur, not the lime-sulphur, play very little part in the actual russeting,—that it is, perhaps, the wetting of the fruit at a certain time under certain conditions, that brings about the russeting more than anything else.

If the hairs on the fruit are injured, it starts russeting, and the copper, which is soluble and very toxic in its poisons, gets in there and aggravates it greatly. The reason why lime-sulphur does not do that is because if the wetting kills the hairs and starts the russeting, by the time that the poison gets worked into the fruit, it is dry, and still you have got no longer the soluble sulphur. So I am perfectly satisfied in my own mind that the soluble sulphur which is in the lime-sulphur, plays little or no part in russeting the fruit, but the primary injury is due to the wetting of the fruit.

MR. UNDERWOOD: I would like to know if that theory applies to all varieties of apples? Now I spray Roxbury Russets with Bordeaux purposely to make them Russet. (Laughter.)

PROF. WHETZEL: That is a new one on me, that is a good scheme, that is one good word for Bordeaux mixture, and I have no doubt you will all spray your Russets with Bordeaux mixture.

Certainly all varieties do not suffer the same from russeting. There are some varieties that are practically immune from russeting, and if you will send to Geneva, N. Y., and ask for their bulletin on Bordeaux injury, you will get a list of varieties that are very easily russeted by Bordeaux mixture, and those that are practically immune. Baldwins are very susceptible, both to actual natural russeting, and to the Bordeaux mixture.

MR. FENN: Mr. Chairman, I want to say that I have found that Russet apples grown on young trees will invariably be green in color, they will not russet, that has been my experience, but when I sprayed with Bordeaux, and I used 5-5-50 at that, I got that fine russet appearance that ought to be on every Russet apple. I want to say also that the apples that were given the first premium at the Boston show were more than half of them green, while the apples that were russet were given the third premium. That is a fact, and Mr. Hale will corroborate that statement.

VICE-PRESIDENT DREW: I would like to call on brother Hale at this time. We have not heard a word from him in regard to spraying.

MR. J. H. HALE: Mr. President, I don't know what you want to call on me for. If you want me to prove that brother Fenn is wrong, the judges at that Boston show were pretty careful workmen and they did good work, and if they decided on an apple that was green, my brother Fenn must be color blind. I would rather stand by the judges than by Fenn. If that is what you want me to say, I am very glad to say it. (Laughter).

MR. FENN: I want to say that Mr. Hale was the gentleman who called my attention to the fact. (Applause and laughter).

MR. LUPTON: I am moved to say a word because of what the gentleman said about his experience in burning leaves, and it will be another new one for Prof. Whetzel. Speaking of fences and cleaning out the dead leaves;—in cleaning up some brush corners I made a fire which ran over one corner of the orchard, and burned up all the old leaves and also some of the trees, and the next spring I had no fungus to speak of on those trees, and a good many of the trees were killed. I wouldn't advise the people of Connecticut to take that method of getting rid of fungus. (Laughter).

PROF. WHETZEL: That goes back to the question of whether it is advisable or not to use that method. (Laughter).

VICE-PRESIDENT DREW: We have another gentleman here, superintendent of the Connecticut Valley Orchard Company, Mr. Molumphy.

MR. MOLUMPHY: I have done but little spraying, Mr. President, and I have done no experimental work, and I don't think there is anything I can say that would be of general interest. Our main spraying of apples has been to spray thoroughly with arsenate of lead, with about one gallon of lime-sulphur to 50 gallons of water, and about two pounds of arsenate of lead. That is done just as the blossoms drop. I have done almost no summer work afterwards, and I have nothing to say as to the russeting of the fruit or anything along that line, I haven't conducted any experiments along that line. I was very successful in controlling the coddling-moth by one spraying just as the blossoms dropped, and I can see no reason, on the results, for any further spraying for the coddling moth.

VICE-PRESIDENT DREW: Was that with arsenate of lead used clear, or with some commercial lime-sulphur?

MR. MOLUMPHY: One gallon of lime-sulphur in addition to about two pounds arsenate of lead in about 50 gallons of water.

VICE-PRESIDENT DREW: I see Prof. Gulley is a little uneasy. I wonder if he has something he wants to get out of his system?

PROF. GULLEY: We used lime-sulphur almost entirely this year, generally with good effect. One of the gentlemen spoke about some varieties it didn't work well on. There is no question but that it did not work as well on Fall Pippin as on some varieties, they didn't come out as clean and nice as they did a year ago. On a good many others we did very clean, nice work with the use of lime-sulphur, and we used it about 1-½-50.

A MEMBER: You are not going to use Bordeaux?

PROF. GULLEY: Well, I may use some, but not very much.

VICE-PRESIDENT DREW: We have a question here in

the box, "Can we use arsenate of lead on grass or mowing safely where the grass is to be used for stock?" Will someone answer that?

DR. CLINTON: Why, I wouldn't want to use it directly on the grass. In Massachusetts we always put up a sign: "Be careful, these trees have been sprayed and we will not be responsible for injury." The little that drops under the tree probably does not cause injury, although I understand up in Massachusetts they have had complaints from different people of injury from the spraying of trees.

PROF. GULLEY: I would like to have Mr. Wheeler answer that, how much damage they have had from the chance of getting too much on the soil? Certainly I haven't the least bit of fear of hurting an animal by putting anything on the trees.

MR. WHEELER: I know of two or three cases in Massachusetts where in spraying for the gypsy and browntail moth, we occasionally hear complaints about cattle that have been injured, and in one case, I know where a cow died from the effect of eating grass under a tree that had been sprayed with arsenate of lead, and I have heard of other cases. And one thing I know with cattle happened in my own town, where the apple trees were sprayed with a mixture of arsenate of lead, about four pounds to 50 gallons, and the cow ate the grass the next day and died within 24 hours, so that it *can* happen. Whether it is a great danger, I don't know, I hardly think it is. I wouldn't advise anybody to let their animals eat grass under trees that have been sprayed with arsenate of lead within a week. By that time the grass will have grown up. I doubt if there is any case where the grass has been cut and cured and put in the barn where the grass would injure the stock.

MR. J. H. HALE: Perhaps sometimes one question can be answered satisfactorily by asking another. Is there any member of this society who has got ginger enough to spray his trees as he ought to spray, who is growing them in sod? (Laughter).

MR. FENN: Yes. (Laughter and applause). I say right here, every exhibit of apples I have put in competition has been grown on sod. Further, I am informed that some of the nicest colored apples shown in Boston were grown on sod.

MR. BURT: My best apples grow on sod land. I took the three first prizes at the Horticultural show two years with those apples. At Manchester last fall the Baldwin apples that took the first prize were the handsomest in color I ever saw. I inquired why they had such beautiful color, and they said: "Anybody ought to know that, because they grew on sod land." Two years ago last June I sprayed with arsenate of lead on that same land, and two weeks after that I cut the grass, and was a little skeptical for fear it would injure stock, but I fed it all out and found no bad results. In that time we had but one rain after I applied the spray, until I cut the grass.

A MEMBER: I have about 12 acres of orcharding that has been in grass 25 years, and I have sprayed for nearly 20 years, with Paris Green first, and then with arsenate of lead, and I cut in the neighborhood of two tons to the acre of grass in my orchard, and I have never seen any bad effects of it.

MR. E. E. BROWN: About that poison effect, I would say for the last ten years we have used for pasture for our young calves an old orchard right by the house, we stake them out there. Of course, they are fed some milk at the same time, but they eat grass, they are kept on that during the summer. We have done that for the last ten years and I have sprayed that orchard four times a year, and never had a particle of trouble. They say we have a little extra calves for growth and vigor. (Laughter). We also keep our young chickens in this same orchard, and I don't think you will have any trouble in one case out of a hundred.

MR. WHEELER: May I ask a question? It is out of the line of spraying, but it is a very important question because it came up rather abruptly to some people in Boston, and that is in relation to the root and crown gall. I want to ask Prof.

Whetzel if it is a danger to New England orchards; the root and crown gall? Perhaps he may have heard of the case where a nursery company was sued for something like $600 for a supposed infection of the root and crown gall on some stock that they sold. I would like to ask you what you think of it?

PROF. WHETZEL: I was asked if I would testify in that case, but I didn't feel competent at that time, and I don't feel competent to testify now. In the first place, I have never done any work on that root and crown gall myself. In the second place, a great deal of work has been done, but I have never taken the time to go over all of the evidence to try to come to any conclusion, so I haven't got anything to offer about that. I may say that we are considering now extensive experiments on crown gall to determine whether it is destructive or how serious in the state of New York, and I would like to enter the proposition with an open mind. Therefore, I could not answer the question. I can only say that much progress has been made toward the solution of the problem by the discovery of Dr. Smith at Washington, who is now satisfied beyond a question of doubt that crown gall, and several types of gall up in the tree, are all caused by bacteria, it is a bacteriological disease. He has also shown pretty clearly that some kinds of organisms may pass from one kind of tree to another. And with that evidence in hand, we are now ready to make progress whether it is destructive in the case of apples. So far as my knowledge of the case goes, I do not believe that the thing has been settled.

A MEMBER: Did you ever hear of a tree or orchard in New England or New York dying from that cause?

PROF. WHETZEL: Well, I have heard men say they had trees in their orchard which died from crown gall. On the other hand, I have heard men say that they had trees set out with that gall which were still growing and bearing good crops, and they couldn't tell them from those that were not galled, and I have heard the variations between the two, but personally I don't know anything about it.

MR. UNDERWOOD: I had an apple tree in my door-yard that turned yellow in August, and half of the leaves fell off. That was the only tree I had affected. A quarter of a mile from me the trees all turned yellow, and half of the foliage fell off, and almost all of the young apples, so that the fruit in the orchard failed. Whether that is a new disease that has come to trouble us, or whether anybody else had that experience, I don't know. Later in the season the leaves looked healthy and in good condition.

PROF. WHETZEL: Were they sprayed with anything?

MR. UNDERWOOD: My tree was sprayed early, and there were other trees that were sprayed but they did not show any ill effects.

PROF. WHETZEL: The same variety?

MR. UNDERWOOD: Not the same variety.

PROF. WHETZEL: How about the other orchard?

MR. UNDERWOOD: That was the Baldwin orchard.

PROF. WHETZEL: Well, I shouldn't want to diagnose the case with just that data, I couldn't say what caused it. Sometimes spraying injury will cause the leaves to fall, sometimes injury to the roots, half a dozen different things may cause it. I wouldn't want to answer the question.

President Rogers then resumed the chair and announced the appointment of the following committees to judge the fruit exhibits: On the Special New England classes, Mr. S. L. Lupton of Virginia; on all other classes, Mr. Wilfrid Wheeler of Massachusetts.

PRESIDENT ROGERS: I want to remind you that we are to have our banquet this evening at Jewell Hall in the Y. M. C. A. building, a short distance from the Garde hotel, and we are to have it promptly at half past six. Secure your tickets and all be on hand. We will now adjourn this session if there is no further business.

At 4:35, the meeting at Unity Hall adjourned until 9:30 Thursday morning.

## The Banquet.

EVENING SESSION IS DEVOTED TO THE SOCIETY'S THIRD ANNUAL FUNCTION.

The great success of the Banquet feature at the two previous Annual meetings led the officers to arrange for a similar event in 1911.

That the members and their friends thoroughly enjoy these social occasions is shown by the demand for tickets each year, and the fact that it has become difficult to find a hall large enough to accommodate all who desire to attend.

This year's banquet was again held in Jewell Hall, Y. M. C. A. Building, and not far from 275 persons sat at the tables, all that could be comfortably accommodated. The arrangements were along the same general lines as at the previous banquets, which proved so successful. The catering was by Habenstein of Hartford. Besides the guests' table at the head of the hall, long lines of tables were arranged lengthwise, all being beautifully and tastefully decorated, through the efforts of the Banquet Committee, assisted by ladies of the Society. Fruits, of course, were a feature of the decorations. Selected large Baldwin apples, neatly arranged in vine-covered baskets, carnations and candelabra comprised the table decorations. At the rear of the head table were grouped two large American flags. The hall presented a most attractive appearance, when at 6:30 the diners marched in, headed by the officers of the Society and invited guests. The list of invited guests included many prominent in agriculture and public life in Connecticut, and leading horticulturists were present from other states. Seated at the head table were President Rogers and Mrs. Rogers; Toastmaster and former President J. H. Hale and daughter, Miss Marion Hale; the Rev. Dr. Herbert J. White, pastor of the First Baptist church, this city, and Mrs. White; Mayor Edward L. Smith, Executive Secretary Edwin S. Thomas; Vice-President of the Pomological Society George A. Drew and Mrs. Drew; Secretary H.

C. C. Miles and Mrs. Miles, Treasurer Orrin Gilbert and Mrs. Gilbert, the Hon. S. L. Lupton of Virginia, Prof H. H. Whetzel of Ithaca New York; Wilfrid Wheeler of Concord, Massachusetts; E. C. Powell of the Farm and Home, Springfield, Massachusetts; G. C. Sevey of the New England Homestead, Secretary E. L. White of the Maine Pomological Society, George V. Smith, editor of the Connecticut Farmer; President A. B. Cook of the Connecticut Sheep Breeders' Association, Worthy State Master Leonard H. Healey of the Connecticut State Grange, Treasurer R. M. Bowen of the Rhode Island Horticultural Society, President H. F. Hall of the Boston Market Gardeners' Association, Senator, J. W. Alsop, Secretary I. C. Fanton of the State Board of Agriculture, Vice-President Wilson H. Lee of the State Board of Agriculture, President G. Warren Davis of the Connecticut Dairymen's Association, President Woodberry O. Rogers of the Conecticut Poultry Association, Professor L. A. Clinton of the Connecticut Agricultural College, Professor C. D. Jarvis of the Connecticut Agricultural College and Mrs. Jarvis, former President Charles L. Gold of the Connecticut Pomological Society and Mrs. Gold, Dean W. A. Henry of the Wisconsin Agricultural College.

Grace was said by the Rev. F. B. Harrison of Southington, after which the company were seated, and for two hours the attention of all was given to the excellent menu prepared. The Colonial Orchestra played during the serving of the banquet.

The menu cards were tastefully printed, and furnished with the compliments of the Bowker Insecticide Company of Boston.

## The Menu.

OYSTER COCKTAIL, LONG ISLAND SOUND
SALTINES

*Soup*

CHICKEN, MILFORD STYLE

BREAD STICKS CELERY

*Entree*

OYSTER PATE, FAIRFIELD COUNTY

OLIVES PARKER HOUSE ROLLS

*Roast*

WINDHAM COUNTY TURKEY CRANBERRY FRAPPE

SCALLOPED POTATOES MASHED TURNIP

*Salad*

HORTICULTURAL MAYONNAISE

FRENCH ROLLS SALTED NUTS

*Dessert*

ICE CREAM FARMINGTON FRUITS FANCY CAKES

COFFEE, PORTO RICO MINTS

APPLES, CONNECTICUT BALDWINS

CRACKERS ROYAL CHEESE

---

## Speakers.

His Honor, the Mayor of Hartford.

His Excellency, the Governor of Connecticut

The Rev. Dr. Herbert J. White of Hartford.

Mr. Herbert W. Collingwood,
Editor *The Rural New Yorker.*

---

Selections by Ida Jenness Moulton.

It was after eight-thirty when the diners reached the end of the excellent menu and President Rogers arose to call the company to order.

President Rogers said: "Ladies and gentlemen, it is with a great deal of regret that I have to announce that Governor Baldwin is unable to be with us to-night. We had hoped to be favored with his presence, as well as that of several of our ex-Governors, but other duties have compelled them to send their regrets instead. But we have got one thing which I want each one of you to carry away a sample of, and that is a "Baldwin" apple. We haven't Governor Baldwin, but we have got the *Baldwin* apple, gracing the tables in quantity and quality, and I would like to have each one of you carry home a Baldwin apple.

The next thing we have here is a peach, the king of the peach, or the peach king, brother Hale. I take great pleasure in introducing as our toastmaster this evening Mr. J. H. Hale. (Applause.)

Mr. J. H. Hale—Friends: I don't blame you a bit for preferring to talk to your neighbors rather than to listen to those that are to follow. It is said:

> There was a wise old owl who lived in an oak,
> And the more he heard the less he spoke;
> And the less he spoke the more he heard,
> Why aren't we all more like that bird?

Simply because we are Americans, and when two or three Americans get together, they have to have more or less speechmaking, and you will be wearied from now on with something of this sort.

You would have dodged me if I had had the good success of the colored brother in the south who was particularly fond of vegetables, fruits and chickens, and after prayer meeting at night was wont to crawl under the neighbor's fence and help himself to what he could lay his hands on, until it became considerably burdensome, so that the owner of the plantation decided to sit up one night and trap him, and he invited a neighbor in to assist him. So when the proper time arrived,

they went out and sat near the opening under the fence with a dark lantern, and as they heard the old fellow crawling pretty well along, they flashed the lantern, the bull's eye, and said: "Here, where are you going?" "Whah is I gwine, gen'l'men, I'se just gwine to back out!" (Laughter.) If I had had such good success when the worthy president asked me to act as your *roastmaster* this evening, I would have just backed out. Lacking that, and also feeling a sort of moral obligation, or duty, to you and the State, I accepted.

There are two reasons for my being here, one of particular interest to the State, and the other of particular interest to you way down at the other end of the hall. The first one was, that being unable to attend last year and act as your toastmaster, Dr. Jenkins of the Agricultural Station at New Haven was substituted in my place. Now Jenkins is a pretty smooth article, as some of you know, and his delightful way of introducing speakers, and the many stories which he tells in an inimitable way, of course you all know. But I felt sure that if I failed to come here to-night, you would get Jenkins again, and should you do that, the entire stock of *chestnuts* in Connecticut would be exhausted, and then the horticulturists of the state, instead of working for the interests of the fruit growers, would take up their time during the next year in producing another crop for the Doctor, so in the pure interests of horticulture, I have felt it my duty to be here. (Laughter and applause.)

Further than that, I had an interest in you way down at the other end of the hall where you are crowded so close together that you can hardly get your knife into your mouth when you want to do as you do at home. (Laughter.)

Up at this end of the hall there are a whole lot of duffers, would-be politicians, near politicians, and second hand politicians, and visiting statesmen of various kinds, and various other distinguished guests who didn't pay a cent to get in. I felt you needed something, and after a little experience of last week, I decided to come. I boarded a sleeper in New York the other night going over to Pittsburg, turned in early,

and was sleeping the sleep of the just, when, somewhere, perhaps at Trenton, I was awakened by the gentle voice of a lady, saying to the porter: "Isn't there a lower berth on this train?" "No, Miss, there is no lower berth, everything was full when they left New York." "But I can't get into an upper berth." "Oh, yes, you can, this stepladder is very easy, and when you get up there it is a very fine bed." "Yes, but who is in the lower berth?" And he said: "Don't you worry about that." (This is where you come in, gentlemen.) "Don't worry about that, it is a very fine looking old gentleman in the lower berth that boarded the train at New York, and he won't do you any harm." (Loud laughter.) So that decided me to come. I think you may assume that when you have seen me and then compared me with the other gentlemen you have heard before, you will say you are getting something for your money at least.

You may not be able to understand and comprehend that fully any more perhaps than the Frenchman who called one morning to see a gentleman and was told that he couldn't be seen because he wasn't up yet, "call to-morrow." He called again in the morning and was told he couldn't see the gentleman because he wasn't down. Said the Frenchman: "Eet is ver' strange. Yesterday I call and I do not see ze gentleman because he is not up, to-day I cannot see ze gentleman because he is not down. Will you please tell me when he will be in ze middle?" (Laughter.) I am pretty near in the middle of my discourse, but I want to say a few things, I don't want to make a speech, but I just want to say something about Connecticut and its re-discovery.

Many of you here present remember with me the time when a good many Connecticut farmers, those of little faith in our soil, climate and our people, were tempted by the alluring advertisements of land agents, to sell out the old Connecticut farm for what they could get, and go down into sunny sections of New Jersey and the South, where they were told that with a few acres of land, growing grapes and berries, they could live in wealth and luxury to the end of their days.

Others were tempted to go to Delaware, selling out land at $20 an acre, and going down there and paying $50 an acre in that wonderful peach country, and they went there.

Others were tempted to go to Florida and buy a section of the pine barrens and hammock lands at $150 and $200 an acre, ten acres was to be enough to support them in luxurious idleness in the winter. Nothing was said about the hot summer and the sandfleas, or of the high rent, but the wonderful prices that were realized there. And then a little later, the railway agents blazoned this country with the wonderful prices and opportunities of the land in the Ozarks, and fruit land was bought at $15, $20, and sometimes as high as $50 an acre, because it was the land of the big red apple.

Still others were tempted to go over into California, and there buy raw land at $100, $200 and sometimes $300 an acre, and improved land with water rights at $500, $800 and sometimes $1,000 an acre, that a few acres were going to support with the wonderful orange of that remarkable country, and the wonderful markets of the world at the very highest prices.

Then in recent years we have heard a great deal of the Pacific Northwest, where the apple lands that would produce such wonderful crops in a few years, were selling at such enormous prices. They bought barren lands, selling out the good land of the East and going there and buying barren land at practically $100 or $200 an acre, and in recent years paying for them partly improved $300, $500, $800 and some of them at $1,000 an acre, to grow apples to ship East and get the money.

What about the stay-at-homes? What about the 17 members who organized this Pomological Society 20 years ago, and you that have joined with them since? What has happened? The men who left this Connecticut farmland and went to Vineland, we will say, selling out to one of the neighbors or to some incoming foreigner, while the Vineland country has produced 1,000 or 1,500 quarts of strawberries which sold for 6 cents or 7 cents a quart, making $60 or $70 an acre, while some abandoned acre at home has produced 3,000 or 4,000

quarts that are worth from 8 cents to 10 cents a quart, or $240 to $400 an acre, as against the $80 or $90 in Vineland. And as for grapes, that wonderful Vineland will yield over a couple of tons to the acre, and they are worth $40 a ton, $80 an acre, and the abandoned side hill on the abandoned farm in Connecticut, if planted with vines, are getting 4 to 5 tons an acre, which are worth $50 to $60 a ton, three times as much.

Now what about Delaware, selling out and going to Delaware to grow peaches? What has happened? Only four full crops in the state of Delaware in the last 15 years, and those have averaged less than 500 baskets per acre, worth 40 cents a basket.

Connecticut in the same time has had 12 full crops, and we get from 700 to 800 baskets an acre, and they are worth 60 cents a basket. That is the story of the stay-at-home and the runaway.

Then Florida, what has happened in Florida? The freezes have taken up every orchard, and they haven't had much to do but scratch fleas all the year 'round, those that had money enough, and those that didn't, could scratch for money to live. Get crops in four years, and sell for less money to-day in the markets of Florida, or the markets of the world, than the apples that grow on the deserted hills that the fellows deserted to go to Florida and get rich growing oranges. (Applause.)

Go on further to the land of the Ozarks, where they were going to get rich. What has happened? They have had a few splendid crops of inferior apples. Their average price in the last ten years wasn't $2.50 a barrel, their trees live to be 15 to 18 years old, many of the orchards of ten years ago are things of the past to-day. They get a good crop about once in three years, and their apples average about half the price of apples on the markets that good New England apples do to-day. Those who have stayed behind, who have filled up this society from those 17 members to more than 700 at the present time, they are responsible, in a large way, for the dis-

covery of what was in our New England soil that those people ran away and left.

What has happened in California? This same land bought for $500 an acre to $1,000 an acre does not produce any more bushels of oranges than the rocky hills of Connecticut will produce of Baldwin apples to-day on the great markets of the world, either in Europe or America. A pound of Baldwin apples is worth more money than any pound of California oranges, and the Connecticut apple grower has to pay on an average $40 an acre to reach thirty million people, and the California grower has paid $400 an acre to reach the same number of people. (Applause.) That is what you have re-discovered in Connecticut.

Go up in the Pacific Northwest, that wonderful country of apples. They told us a few years ago that there was the place to come and get rich, the wonderful growth of the trees there, and all that. And they have set us a wonderful example in grading and packing and putting of fruit on the market, but yet their yields are no greater than ours here. They told us a year ago that $1.50 would be the lowest price they ever would get, they were getting $2.50 and $3.00 for bushel boxes, almost as much as we do for a barrel, but $1.50 was the lowest they should ever take. I asked them if they wouldn't take any less than $1.50 by the carload and they said no. If any of you want a carload to-day, I will guarantee you can buy a carload for less than $1.50 in Washington and Oregon to-day, but you can't buy Connecticut apples for $2.00 a box. Those apples that came from our worthy president's orchards are worth more money in the eastern markets of to-day than any box apples that come from the West, excepting a few special lines.

That is the re-discovery of New England that has come about through the work of this Pomological Society, and it is a wonderful story. There is none of these sections of the United States that I have spoken of that can compare. Why, in this Ozark region, 10 or 15 years is the life of an apple tree. In this Pacific Northwest 10 or 15 years is the life of their

trees. Why, an apple tree in Connecticut has only just begun to do business when it is 100 years old, and at 200 it is just getting down to business. Why, Professor Gulley at our agricultural college went over to the original Rhode Island Greening tree in the state of Rhode Island, 200 or more years old, and got grafts from that tree, and it has produced apples at the college this year from that original stock of simon-pure Rhode Island Greenings. And Connecticut apples are to-day selling for more money in this market than western apples. You can buy western apples for $1.25 to $2.50 a bushel, and you can't buy a good Connecticut apple for less than 50 cents a dozen, and that is true. So I say that we want to recollect the work that this society has done in the re-discovery of the State, and there should be no compromise when there is talk of any other section of the country that is superior to ours, we want to stand up and tell the truth about Connecticut. Other people tell—well, let them tell good stories, we will just tell them the truth about Connecticut. We are head and shoulders above any other section in this country. (Applause.) If we encourage any of these people who went away, (as we should encourage) to come back to Connecticut, if we leave wide open the door for any foreigner to come in here and take up the land we cannot till, it may possibly interfere a little bit with our dividends. Those of us early in the fruit business, perhaps would have been better off if we had gone it alone, had nothing to do with this society, a few of us might have been a little bit richer, but we wouldn't have been here to-night. And so we say that the door of Connecticut is wide open for every sinner to return who left the old farm, and there is still a chance for any incoming foreigner who wants to come and make himself one with us. (Applause.)

It is hardly a fair thing to give you two preachers right in a row, but I am going to do it, and introduce the Hon. Edward L. Smith, mayor of Hartford, to say a word of welcome. (Applause.)

MAYOR SMITH: Mr. Toastmaster, ladies and gentlemen. If I identify myself correctly, I am one of the near politicians mentioned by your toastmaster, who sit at this head of this table and has not yet paid for his dinner, and from the remarks from his lips, I am supposed to be legal tender for everything from the oyster cocktail to cheese. I have a defense to that remark. The mayor of the city of Hartford, owing to his numerous social functions, has to develop his office into a sort of meal ticket; he has to use his official connection with the corporation of the city of Hartford to go out and pay with it his board bill. No longer when the mayor enters the room do they play Hail to the *Chief*, but Hail to the *Chef!* (Laughter and applause.)

It is a difficult thing to be mayor under the present circumstances, a difficult thing for a man of limited physique such as myself. My predecessor, Senator Hooker, had physical qualifications that entitled him to be mayor under the present circumstances. (Laughter and applause.)

I am a little at a loss to know what to say to you people here to-night, I see so many faces in this audience that I have met in the last four weeks. I don't dare tell one of my old stories again, I didn't come as an agricultural expert, although this dinner really represents my senior year in agricultural education. I started my freshman year with the Connecticut State Grange over in Foot Guard Hall; I continued my sophomore year with the Connecticut Dairyman's Association over in the Hotel Vendome; I finished my junior year with the Alumni Association of the Connecticut Agricultural College, and I am now about to graduate with your Pomological Society. (Applause.) I can talk as an expert after to-night, but not to-night.

Having been introduced as a near politician, it may have suggested itself to you that I could talk upon some forms of *fruits*. A statesman, according to the definition of Tom Reed, is a politician who is dead. I prefer in the city of Hartford, not to regard myself as a statesman. The politicians are at my left hand. (Laughter.) But being a near politician, I

might come with some excuse to talk about fruit, and the only fruit under these circumstances I could talk about would be "political plums." (Laughter.) Being a Democrat, I have had very little experience with political plums. (Laughter.) They don't come Democratic ways very often, they seem to be just a little ahead of us all the time, a sort of spectre vanishing, and a political plum, anyway, is apt to turn a little acetic when you get it. I find I hold no political plum. About a quarter of the time I half think it is a political quince, but you have to live it through. 90 per cent of the work is very pleasant, and the 10 per cent that represents the quince can be endured.

The mayor has to make speeches, he doesn't like to. There was once two Irishman sitting at dinner; one said to the other: "Mike, do yez like lettice?" And Mike answered and said: "No, I don't, and I'm glad I don't, for if I did, I would ate it, and I hate the damned stuff!" (Laughter.) That is more or less my relation to after-dinner speeches,—I make them because it is a part of the duty of the office. Coming to dinners, up to the time of the speech-making, is very pleasant, but for the few minutes a man is on his feet the dinner (if the metaphor is not mixed) turns into ashes of roses. (Laughter.)

I did come with a serious word to say. It is really to give your convention a welcome to the city of Hartford. We regard Mr. Hale virtually as a citizen of Hartford, and he is entitled to welcome you, and I think he has. I feel that I express the sentiment of the city of Hartford when I say officially, even though I am a Democrat, that I think the city of Hartford can express through me the hope that you will accomplish in your convention all the purposes for which you gather in convention. We are very, very proud of the work you have done, not merely because we are in the city of Hartford, but because we are proud of the state of Connecticut, and the work as described by Mr. Hale that you are doing, is doing good for the state of Connecticut. In fact, after listening to his argument, I don't know why

the present legislature will not add Baldwin apples to the list of legal investments for savings banks and trust companies. (Laughter and applause.) I know no other way out of the tremendous strength of his logic. I myself did not know the apple was so valuable. In my early youth we did not pay 50 cents a dozen for them, we got them in other ways. (Laughter.)

But I stood on my feet not to make a long speech, but to welcome you to Hartford, and I do so most sincerely. I hope you will consider that you do not need a welcome to Hartford. You are all Connecticut people, and you have an interest in the Capitol city of the state. I thank you for listening to me these few minutes. (Applause.)

THE TOASTMASTER: One might think to look over the fruit exhibit of Unity Hall and our discussions at our meetings, that the apple was the only great fruit of our State. But the members of our association know that peaches cut a very large figure in our horticultural work. Those of us who carry on the study of the peach in this country, know that the further north they can be successfully grown, the better they are. And as the president of the United States could not be here with us to-night, the city of Beverly, Massachusetts, has sent us a peach. Mrs. Ida Jenness Moulton will now entertain you.

Mrs. Moulton gave a humorous recitation entitled "Their First Quarrel," in which was related the efforts of a young married woman to learn the secrets of masonry, including the pass-word. For an encore, she gave a pathetic story of how a young man went West, and his father came to the pastor with a story of his troubles, and wished him to break the news to the boy's mother that he had been elected to the Legislature, but he didn't know what for.

THE TOASTMASTER: As the guest of Ex-Governor Woodruff, I attended the New England Governors' conference in Boston, and Governor Woodruff and I held up the

Baldwin apple as one of the worthy products of New England, while sons from other states preached about the festive clam and the frisky lobster and things of that sort. As a result of that conference, the great New England Fruit Show was carried out in Boston a year and a half ago, and what is the result? The clams have shut up pretty well down at Oyster Bay, (Laughter and applause.) while lobsters are still among us in a small way. But the Baldwins are all over the hills of Connecticut, even Capitol Hill. And while the worthy governor is not here to-night, I am going to ask his secretary, Mr. Edwin S. Thomas, to have a word to say for the governor and the State of Connecticut. (Applause.)

MR. EDWIN S. THOMAS: Mr. Toastmaster, ladies and gentlemen. Coming as I have from the busy scenes of court to-day, I was wondering, as your toastmaster referred to the politicians and the near politicians sitting at his left, who he was referring to. I knew it could not be me, and as I saw those on my left who had been actively engaged in politics in the years gone by to my personal knowledge, I concluded that he must have referred to my friends at the end of the table. When one speaks of politicians, I don't know what they refer to, it is something with which I am not acquainted. (Laughter.) To-day I am able to prove an alibi, having been busy to-day entertaining the judge of the Supreme Court, it occurred to me as Mr. Miles, your secretary, had asked me to say a few words for the governor, I was at sea, entirely lost, because anyone who could attempt or presume to say a few words for Governor Baldwin, recognizing their own limitations, and being familiar with his ability, would feel entirely lost, to attempt to say a few words in his behalf. But, as a lawyer, I was thinking coming up on the train, of a certain inscription that I read upon a tombstone in Connecticut, I think it was down in the town of Milford, a town which is renowned for the inscriptions upon its tombstones. (Laughter.) Perhaps some of you have read them. But the one that I had particular reference to ran something like this: "Here lies a lawyer and an honest man." Just then a fellow who

chanced along meditated over that inscription, and was so surprised that he spoke out loud so that his friends heard him say: "I wonder how they got both of those men in the same grave!" (Laughter.)

Seriously, if I was to make a suggestion about this program of speeches, it would seem to me that the officers of this association might make the list to read something as follows: Speakers. Mr. J. H. Hale will welcome you to Hartford. Mr. J. H. Hale will respond for the governor of Connecticut. Mr. J. H. Hale of Hartford will address you, and so on, for I have enjoyed my friend's address to you upon the re-discovery of Connecticut. It is a state that everyone of you live in and love, and have sworn to support. It is a mistaken notion, to my mind, that so many people is this state have seen fit to give away the little farms in Connecticut and wander away from home and fireside, and disappear in this great country of ours, and fail to reap the great financial rewards that they expect and hope to get. Connecticut is renowned the world over for its manufactures, for its inventive genius, and for a great many other diversified interests that are scattered all over this world. Just now it is great for having as its governor, a man who is, I tell you, my friends, administering the affairs of this state absolutely independent of any party bias. (Applause.) They have at its head a man who is interested only for the welfare of the state, a man who has in his heart only the best interests of the commonwealth, irrespective of any party interests that may be involved. Perhaps he, if he were present to-night, would not tell you so, but in the short month that I have been associated with him (and I feel greatly complimented to be able to associate with such a great man) I tell you honestly and sincerely that whatever Simeon E. Baldwin recommended in his message to the legislature, or whatever he recommends to them in the future, by way of special messages, whatever bills he may veto, or whatever bills he may approve of and sign, that the paramount question in his mind, and the

only question will be, what is for the welfare of Connecticut? (Applause.) Connecticut honored him and I know he hopes to honor Connecticut. It is a great state we live in, I say, it is very resourceful; its financial interests are the greatest in the country per capita, its investments are the best. It is conservative, but we are proud of Connecticut, which reminds me of the story of a fellow from America who went over to England, and he had some friends in London who wanted to show him the city and the town. They started out to show him all the great cathedrals, and they came to Westminster Abbey, and they said: "Just look at this, isn't this one of the finest things you ever saw?" He waved them aside and said: "Oh, pshaw, we have got lots of those in America." They looked at each other and then they said to him: "We will show you some monuments," and they showed him those vast towering monuments to the British generals who had fought, bled and died for England. He said: "That is not a patch to the Bunker Hill monument at Boston, or the Washington monument at Washington." Then they went on to show him the great and interesting buildings, but to him nothing in the world was equal to America and its sky-scrapers. Well, they finally felt a little non-plussed, so they had a whispered conversation, and it was agreed they would take him out to dinner that night, but it wasn't a dinner like this. They had this material that comes in bottles, and they set out a plan to get their friend very—well, make him so that everything would look good to him. (Laughter.) I think someone must know what I mean. They had this beautiful dinner and they got him all loaded up, so to speak, so everything looked good to him. And finally they hit upon this plan to belittle and put America to shame. So they kept pouring out the wine, and he kept imbibing, and finally he felt drowsy and finally fell asleep and was absolutely unconscious, and then they said: "We have shown him something he can't find in America, and they made up the further plan then to take him out to the nearest cemetery.

and there they found an open grave. They put him in it and lowered him down. By that time it was two or three o'clock in the morning. They all sat outside around the grave, and they were saying: "Well, I guess when he wakes up he won't tell us they have got anything in America that beats that." So the morning sun rose, and this fellow commenced to come to himself, and was gradually conscious. As he opened his eyes and commenced to sit up, he looked around and on one side he saw a great sarcophagus. He jammed down his hat, and didn't say anything. Over here he saw an immense tombstone, and in the other end he saw a great tomb. He sat up, looked around, and everything was quiet, and he exclaimed: Well, by gosh, resurrection morning and an American the first one up!" (Laughter and applause.)

So it is that faith in Connecticut, the same as the faith in America, that carries us along. It is the greatest little state there is in New England, as Mr. Hale has told us. I never had met him until this evening, but for twenty years or more I have heard of brother Hale's peaches, but I never understood until to-night how it was that those celebrated peaches had such a luscious taste, such a beautiful color, and had such a reputation throughout the length and breadth of our land, and not until to-night, until I heard him discourse about the fine qualities of Connecticut fruit, was I able to understand how it was that those peaches had such a reputation. There isn't a peach in the world equal to the Hale peach, with all due respect and deference to the rest of the peaches that are around about us. (Applause.)

But just a moment of seriousness, my friends. It is not my purpose to take your time to call your attention to only one part of the recommendations of His Excellency, the Governor, I simply ask this organization, as I know he would if he were present, to carefully consider the recommendations that he has made, particularly with reference to the re-districting of senatorial districts. This is a matter

that will appeal more to the gentlemen than the ladies that are present to-night. He has made a public speech, setting forth his reasons in detail. He has explained the constitutional difficulties that beset the work that is before us, if it is carried out upon the propositions and the plans that we have followed in years gone by.

When a man of his learning tells you and tells the state, that any proposition is beset with constitutional difficulties, you must believe what he tells you. It is not for any party purposes or any party welfare. It is because he believes honestly and sincerely for the best welfare of the state of Connecticut that his suggestion with reference to the re-districting of the state should be followed. His method with reference to the election of senators in the state in the future simply and briefly is this, that the districts be eliminated, and that senators be elected by the state at large in order that we may get in the Senate the position and the place that this state demands, independent of the question of whether they are able to get a nomination from the party machinery in any district.

Now, my friends, I have already said to you that I intended this for an absolutely extemporaneous speech, and I think I have covered the few suggestions that I desired to bring to you. And I know if the governor were here, he would wish your society, as I do, Godspeed and success, and that the suggestions that Mr. Hale has made to you be thought over carefully, be carried home and be spread throughout the state, that those who live here may continue to live here, and continue to prosper. (Applause.)

THE TOASTMASTER: I am sure the Governor's secretary has made good, and while we regret the absence of our worthy Governor, we appreciate the words of his secretary.

I had on the list here as the next speaker of the evening, our good old friend Collingwood, of the *Rural New Yorker*. As he is not with us, we must substitute someone in his place. As there are always compensations for losses,

I feel that you will not be at all disappointed. You know the story of the man who said there was a compensation for everything. He had noticed particularly wherever he saw a man with a short leg, he was pretty sure to have another one that was longer. (Laughter.) So here is S. L. Lupton of Winchester, Virginia, who will give you a longer speech than Collingwood, and you will know whether it is better when he gets through. (Applause.)

HON. S. L. LUPTON: Mr. Toastmaster. We'uns from Virginia are mighty glad to see you'uns from Connecticut, and I am particularly glad to see your near politician, the mayor of Hartford. I am something of a politician myself, and I feel like saying: "Shake, partner." I had hoped to meet your governor to-night at this banquet, because you know he has been in the public eye of late, and I have been quite interested in reading some of his pronouncements.

I know you will all unite with me in expressing your gratification at the fine appearance of our venerable toastmaster. (Laughter.) He has told you himself that he is an old man, but like the old Adam in Shakespeare's "As You Like It,"

> In his youth he never did apply
> Hot and rebellious liquors to his blood,
> Nor, with unbashful forehead, woo
> The means of weakness and debility.
> Therefore his old age is like a
> Lusty winter, frosty but kindly.

(Laughter and applause.)

Members of the Pomological Society of Connecticut, I had the pleasure of a visit to you about five years ago. Recalling that meeting and this, and making some comparisons mentally and otherwise, both in the exhibit of fruit you have pleaced before the people to-day, and here to-night at this banquet, and the speeches to which I have listened, I am reminded very much of a remark that a Kansas farmer made to his wife on one occasion when they had been in one of those terrific Kansas cyclones, and they were sailing through the air at the rate of about 80 miles an hour on a

barn door, the old farmer turned to his wife and said: "Margaret, my dear, if the Lord is with us he is going some." (Laughter.) If the Lord is with the Pomological Society of Connecticut, you have been going some in the last five years.

I would like to add just a serious thought for your consideration to-night, and it is this; there is one feature of the eastern horticultural business that you seldom hear mentioned in the West, and that, I think, is a very important one. It has been my pleasure and my duty in the last 12 or 15 years to travel throughout the length and breadth of this broad land. I have been gratified, of course, to find in almost every section of the country to which I have been, Virginians who have left their state who are foremost for the states of their adoption. That is particularly true of the West. I also find in the West numbers of young, active, enterprising men from Connecticut and from all of the eastern states. And while it is a source of deep gratification to meet these home folks when we get away from home, it been a particularly sad reflection to me that we were not able to keep our young men at home. I have read something of your abandoned farms of New England and I have always thought that the stories of the abandoned farms of New England were largely newspaper stories, if you will excuse the expression. I have never found any considerable number of those abandoned farms, but I have seen many an old couple in Virginia, toiling until the last years of their lives, while their sons have gone to the West to seek their fortunes. This seems to me altogether wrong, because I believe the opportunities for successful business in the East are greater to-day than anywhere in these United States. (Applause). And I have seen in this revival of horticultural interest in the East a means to keep our young men at home.

I wonder if the older people here to-night (myself and the toastmaster included) realize that when our boys leave home to go to the West, that they become our competitors?

Is it not much better to keep them home and keep them partners than to let them go away and become competitors? The splendid success of the fruit growing in the West is due to young men who have left Virginia and Connecticut. And I would like to come back and see you again in six years from now and find every young man who is old enough to be in the business of fruit growing, a partner with his father in Connecticut in that business. (Applause).

I have often said that no man can be a successful fruit grower unless he is constantly finding in his orchard, specimens of fruit too good to eat. In other words, there is a sentiment about it, and I don't believe that any man can make a successful fruit grower unless he also makes of himself a better man, having in mind the poetic side, the sentimental side, of fruit growing. Some years ago I happened to be in the Congressional Library at Washington, and I ran across there a little couplet addressed by one of your good New England poets to a lady friend who presented him with a basket of grapes. The sentiment in that poem was so fine, and the expressions so true to life, that it has always remained in my memory. John G. Whittier, when he wrote the lady who gave him the basket of fruit, said to her:

> Last night, just as the tints of autumn's sky
> Of sunset faded from our hills and streams,
> I sat, vague listening, lapped in twilight dreams,
> To the leaf's rustle, and the cricket's cry.
> Then, like that basket, flush with summer fruit,
> Dropped by the angels at the Prophet's foot,
> Came, unannounced, a gift of clustered sweetness,
> Full-orbed, and glowing with the prisoned beams
> Of summery suns, and rounded to completeness
> By kisses of the south-wind and the dew.
>
> Thrilled with a glad surprise, methought I knew
> The pleasure of the homeward turning Jew,
> When Eschol's clusters on his shoulders lay,
> Dropping their sweetness on his desert way.

I said, "This fruit beseems no world of sin,
Its parent vine, rooted in Paradise,
O'er-crept the wall and never paid the price
Of the great mischief,—an ambrosial tree,
Eden's exotic, somehow smuggled in
To keep the thorns and thistles company."

Perchance our frail sad mother plucked in haste
A single vine-slip as she passed the gate
Where the dread sword alternate paled and burned,
And the stern angel, pitying her fate,
Forgave the lovely trespasser and turned
Aside his face of fire: and thus the waste
And fallen world hath yet its annual taste
Of primal good, to prove of sin the cost,
And show by one gleaned ear the mighty harvest lost.

Gentlemen can we not engage in our fruit growing business with some such sentiment in our hearts as that expressed by your New England Quaker poet?

I shall carry back to Virginia with me the most happy recollections of this meeting, and if God will, I should like again to visit and meet with you at some future time and note the progress you have made.

I hope in the very near future to see Virginia, Connecticut, New York and the whole eastern United States engaged in making a splendid eastern national fruit show, where all interests can combine for the common good. We need that sort of an incentive. It is well for the New England people to have a Boston fruit show; it is well for us in Virginia to have out own fruit show; it is well for New York to have her fruit show at Rochester, but it is far better for all of us to unite at some time in a great national eastern fruit show at some central point where the whole people can be educated to the uses of the fruits grown in the east. (Applause).

I will not undertake to detain you longer, because notwithstanding the remarks of your toastmaster, I was informed before I came to the hall to-night, that if I detained you longer than ten minutes, I should be called down. I

supposed then that you were going to have a large number of speakers, and consequently the time was limited. I understand now that the reason my own time has been limited is because the toastmaster desired to use it for his own use. (Laughter and applause).

I thank you very much indeed for the opportunity of meeting with you on this occasion, and I express the very sincere hope that I shall see many of you at some of our Virginia horticultural society meetings. (Applause).

MR. HALE: I didn't mean to say a word, or in fact hardly tell the truth about our friend from Virginia, but considering the pleasant words he has said of your toastmaster, I feel that I shall have to tell a little story that the neighbors tell about him down there in Virginia. One of the old darkeys on his place had used the expression "accident" and "calamity." Finally the Judge said to him: "Sam, you used the expression accident and calamity; what is the difference?" "What's the diffunce, boss? There is a great deal ob diffunce." "Why no, Sam, they mean the same thing." "No, dey don't. If you should be crossing a stream and a plank fell in, dat would be an accident, but if anybody should pull you out, dat would be a calamity." (Loud laughter).

At this point Mrs. Ida Jeness Moulton gave another recital entitled "Town Meeting at Spodunk."

THE TOASTMASTER: Something has been said here to-night about the productiveness of apples in the far Northwest and their fine showing upon our markets, and I think we should give credit to that section of the country for the grading and packing of beautiful fruit, and putting it on the market in such an attractive way as to bring the apple more prominently before the people and the market than ever before. The splendid show of apples that has been made all over this country has come largely at first from the

Northwest, and we owe them a debt of gratitude for what they have done.

In the New York market one day last week I called upon one of the wholesalers of fine and fancy fruits, and talking confidentially about his business, he showed me the figures of his sales the day before. He had sold 56 boxes of oranges only; he had sold 247 boxes of grape fruit, and he had sold 570 boxes of apples. That is the record of one wholesaler in the city of New York, (Applause) just reversing the things of a few years ago. In the Northwest, and in many sections where they succeed well, they have to irrigate their land. Here in Connecticut, God's rainfall irrigates our land sufficiently.

We have had come from the Northwest recently a minister of the Gospel, who, I think, is slowly being converted from his wicked ways and turning toward horticulture. And I want to introduce to you next the Rev. Herbert White of this city, who will talk to you awhile about conditions in the Northwest, the true conditions in the Northwest, or the heavens above, or the earth below, or anywhere else. (Applause.)

REV. HERBERT J. WHITE: As the evening hour is drawing to a close, I have been reminded——

(MR. HALE: The evening is not closed, don't worry about that.)

MR. WHITE: I thought it was being closed around *me*. I am reminded of the son of the Emerald Isle who came to our shores, and he asked his uncle when he landed in New York, how they killed their criminals who were guilty of murder, whether they hung them or burned them or shot them. "Sure, they do none of those ways," said his uncle, "they kill them with 'elocution.'" (Laughter.)

I don't refer to the Peach from Massachusetts, because I certainly don't dare to infer any such thing as that, because she was formerly a member of my parish in the city of Beverly, Massachusetts, and I am sure it is a great joy to meet her here and renew our acquaintance. I was referring to the

speaker of the evening, Mr. Hale. I felt something like the young Scottish minister who was learning to play golf, digging up a good deal of the turf, enough to plant trees in, I presume, and breaking a good many sticks, and he said a good many things behind the back of his caddy, and one day he said: "I will have to give it up!" "Why," said the caddie, "you don't mean you will give up playing golf?" "No, no, the ministry!" (Laughter.) After this evening I shall have to give up the ministry.

I have always heard that if you want to know how to bring up children, ask an old maid to tell you how, that is,—I mean "an unappropriated blessing," I don't mean an old maid at all, and so you have to ask a minister of the Gospel to come and tell you how to raise apples. It reminds me of a story I told over in Woonsocket last week, concerning expert testimony. We have some experts here I am sure.

Perhaps you have heard of the boy in Connecticut who wanted to experiment on earthquakes, so he procured a large amount of dynamite, placed it very carefully under his father's strawstack, hitched a fuse to it, lighted it, and then he started himself toward the house. Just as he got to the house his father came out with the old dog Towser behind him. The boy says: "Father, did you ever hear an earthquake?" And the father said: "No, I never did, what are you up to?" "Well," he said, "it may not amount to anything, only don't go near the strawstack!" Of course, the father went right down there to the strawstack, and had gotten nearly there when the earthquake occurred, and they say they picked up pieces of the old gentleman all over the county, but they didn't know just how to dispose of the remains, they didn't want to mix the remains of Towser with the remains of father, and so they sent for an expert. (Laughter.) The expert came and divided the pieces into two piles, and said: "This is Father, and this is Towser," so they gave Father a decent burial. Two days later Towser came back, and they say there are very few in that town now who have any confidence in experts. (Laughter.)

I have a feeling that I will have to go to raising fruit, peaches or apples. Some people think ministers raise only lemons. But we who have been tossed from pillar to post in the ministry, beginning in the Middle West, continuing in Massachusetts, and then removing to the far Northwest, and back again to Connecticut, realize that we have no settled abiding place. Somehow, as we sit here and look into your faces and realize how the roots of your lives are striking down into the good old state of Connecticut permanently, just as your noble apple trees are getting deeply rooted in the wonderful soil of this state, we are filled with envy, and we feel somehow that this must be the last place, and we must get a little closer to the soil, and we must strike the roots down more deeply and have an abiding place. Man lost the Garden originally by being tempted with an apple in the hands of Satan, and that best thing of all the earth, the apple, was used as a temptation. But now it would seem, in the fullness of time, as though God were luring them back into the Garden with the apple, the most precious fruit that he can find. (Applause.) I look into your contented faces and realize that you are not in the grip of the monopolists, you do not seem to be deeply furrowed in brow, you have not the cares and worries that some of the folks who live in the city and are tied up to the will of fate, are obliged to worry along under, and I want to congratulate you. I have gotten as near as I could get to you by paying my little dollar and giving my name to your secretary of the Pomological Society, and after becoming a member have begun to eat of the pleasant fruit of fellowship this evening.

I am here, I suppose, to tell you how to raise fruit, and I want to say in the first place, that my interest in fruit growing began long before I was born, when my father planted apple trees up in the old town of Groton, Mass. Those apple trees are now bigger than I am, and that is going some. (Laughter). My earliest recollection is of the joys of climbing the big apple trees in my grandfather's orchard in Massachusetts, getting my mouth full at

one time of robin's eggs, and then, like the original Adam who was tempted by the apple, I had my fall, only to discover that those eggs were not exactly fresh. (Laughter). So I went on in my quest for knowledge. And do you know, as I think about apples, I never seemed to find until to-night the apples that we used to get—those red apples in the summer time, as I raced back and forth through the orchard, those same "punkin" Sweets, so yellow, sweet and full of juice, and the little red apple that never had a name. I have never found and apple exactly like it. I think when I own my farm, or I have thought, I would get some of the twigs of that tree and graft them on an old tree, and so I went on until I almost bought a farm. I went to the Massachusetts Agricultural College for three long years, studying the profession of agriculture. Now, I am telling you these things only to point a lesson, for we ministers have to preach. God called me into the fields that were sterner and harder, the fields of human life, in order that He, through me, might bring forth some of the fruits of righteousness in human character. And for twenty long years I have been going on in that way, longing for the garden and the orchard. And yet I do not think that all that was lost, my early experience and my studies in that scientific school along the line of agriculture. And do you know I have learned this great lesson, that God never gives to us a lesson at any time in our lives, never puts material into our hands, never gave us the skill and art of reading or playing on a musical instrument, but at some time before we die we are called upon to use it.

Then came the days when I needed to lay my head on tired Nature's breast, and I had to have some scrub acres where I could go and chop wood and cut brush with a big scythe in order to get back the lost vitality, and I spent some time on my 20 scrub acres in the town of Marshfield, Mass., where I followed my father's steps and set out apple trees. I think it is a mighty good thing for a man wherever he goes to set out some trees. If you can't stay in the

place long enough to eat the fruit, somebody else will, and some child will be happy some day. So I took a joy in following in the footsteps of Johnny Appleseed, the famous westerner, who threw apple seeds into the soil, from which have come some of the best apple trees they have to-day.

Then I had to abandon that, and take the trek to the land of the setting sun, and there we saw the two climates, first the beach sand country, where they raise raspberries and blackberries by the carload and by the trainload, and where we saw the apple orchards and the other orchards growing there in the moist climate. And also saw in that other climatic zone east of the Cascade Mountains, in East Washington, where they have a long winter and a hot summer, where the soil is a volcanic ash that has been sifted down from those mountains in ages past and has been rotting there in the providence of God, waiting for the sons of Connecticut to come and take possession of the fruit country. And there in that volcanic ash is a soil that seems to be fitted to grow fruit of great size and great productiveness. And I have seen there the growth of trees, rapid growth, I can't begin to tell you, because I am sure you would not believe me, of the size of the apples, the productiveness of the trees, and the beautiful fruit, and yet, like beauty, only skin deep, so far as value is concerned. For, after all, we long for the taste of the good old New England apples, the Baldwins and Hubbardstons, Non-Such, and the Rhode Island Greenings; we long for the spiciness and the juiciness of the New England fruit. And I want to say this, that while they raise a whole lot of fruit and send a lot of fruit to the New York markets, and send a good deal across the ocean, that there is a vast amount of fruit that goes to waste out there because of the lack of markets. They can send their best profitably the long distance, but vast quantities of fruit rot under the trees. I have seen peaches and apricots and cherries, I have seen small fruits galore, and an endless quantity of apples in long winrows, tons upon tons, rotting simply because

there is no market for them. It would not pay to box them up and send them to the markets, the markets are far away. And so the small grower is at at great disadvantage. The man that has not a large capital with which to do things on a big scale and send his product a long distance, has no chance of success unless he takes a great many years to build up on a solid basis the business on which he has entered.

On the whole, I feel that coming back to Connecticut I see that which satisfies me personally along the line of climate, along the line of the prospects of agriculture and fruit growing, for I am not only interested for myself, but for my three boys.

Now I want to say just a word about that climatic side of life. Many of you perhaps have read the glowing circulars that are sent out from those northwest states, and you have wondered if it could all be true, and if half of it were true. I want to say there are a lot of things that are not put into those circulars, those fleas of which we had mention, are innumerable. I used to think out there it was something like the tale that goes about Daniel in the lion's den, and the King came over and leaned against the cage and said: "Daniel, do the lions bite?" And Daniel said: "No, but the fleas are terrible." (Laughter). This is something they don't tell in the prospectusses they send out, they don't tell you about the hunger that the easterner has after he has been there about two years, a hunger for something, he can't tell you what it is, but he feels a certain vague unrest, he feels as though life were not perfectly full of satisfaction, there is something missing, and he longs for that which he cannot understand until suddenly he realizes that he is hungry for the good old New England climate. (Applause). Don't you be beguiled by the statements of men from southern California.

If I were to try to say anything in favor of the New England climate, I want to say that I have lived in New England, I have lived in the Middle West, and I have lived on

the Pacific coast, and this climate is incomparably better than any climate I have found in any other part of the country. (Applause.) There are more perfect days in a year here in the Connecticut valley than in any other part of the country I ever lived in. (Applause.) Out there the seasons are on a sort of a dead level, you get awful tired of it, you get awful tired of the rain, and then you get awful tired of the long, hot dry, dusty summer, when there is no rain you long for a change. You know Mark Twain said that New England hadn't any climate,—just had samples. Well, I am mighty glad of the samples. I had rather live here in New England's sample climate than to live out there where they have a climate of which they boast. And if you go out there to live, you will get to longing for a good, snappy cold winter. You would long for the coming of spring and the first bluebird's note, when you could see the bursting of the buds on the fruit trees, and you go out through the orchard and smell the signs of beautiful spring; you would long for the good sizzling hot summer, in which you would have a good thunder shower to break up the monotony; you would long for one of our Indian Summer falls, and then you would be glad to have things sort of close up and go to sleep, and take it a little easier, while you enjoy the fruits of a good New England home, and a well-stored cellar in a good old New England winter. (Applause.) I say that from experience. Don't be beguiled by what you read in the circulars and newspapers.

Then there is a lot of talk about money-making in those fruit regions. There is a good deal of money to be made out there, and some make a good deal of money, but there are lots of people who fail altogether. It is a fierce competition, it requires a good deal of capital, no end of nerve and a whole lot of brass. There is an unscrupulous competition, a fierceness of competition of which you know very little, and have very little experience with here in New England.

(Picking up apple from a basket on the table.) Now, taking all things and comparing one against the other, I have never seen any handsomer fruit in all the great Northwest

than that apple is. (Applause.) You can bite into that apple and get something that is worth eating, it won't be punk, and from what I can learn in reading the market reports during the last year or two, the market is beginning to go below the surface and getting in deeper than the skin. They have the sun to give color, that is true. But somehow there is that which is drawn from these old rocky hillsides, a sweetness from the breast of mother earth, and placed in the fruits which Nature hands to man. And I rejoice in the climate, soil and fruit, and proximity to markets.

I was down in New York the other day, and I looked upon the—well, what word shall I use, I can't find a word big enough to describe those two railroad stations, the New York Central being built, and the great Pennsylvania already finished. And then when I read that the Pennsylvania Railroad has built that great station at enormous expense, has tunneled under the rivers, dug through the very rocks, in order that she might serve what? The New York of to-day? Yes, but she has far more room than she needs to serve New York of to-day, great as New York is to-day, but to serve twenty millions that they say New York will have in but a few years, according to the tabulated statements drawn upon the proportion of each year's growth to the size of the city, showing all the faith those magnificent builders for the future have in this most wonderful city in this country or any other. And here we are, I say, right between Boston and New York, surrounded by cities great and small, packed in until they are touching elbows on either side, and the population growing by metes and bounds. They talk about high prices being due to Republican administration or Democratic administration, or through Socialists, or whatever it may be. High prices are simply because we are not producing food in quantities to warrant low prices, we are not producing fruit enough, we are not producing poultry enough, we are not producing enough butter, we are not producing enough meat. They tell us the reason why pork is so high is because pigs are scarce, it is simply a question of supply and demand. There is an unlim-

ited future before us. I tell you, my friends, we have got to do things a good deal better than we have been doing. (Applause.)

The other day I was called upon for a pastoral visitation way up beyond a certain town, I won't name it, but you can draw on your imagination, I think, and everyone of you will think of a different one, and I went up about 11 miles from the city of Hartford. I had just been notified by my friend the toastmaster, that I should have to make this speech, and so I began to scour through my thought repository for some ideas. And just as I started away from the city of Hartford, I said to myself, keep your eyes open for apple trees, and perhaps you can get a text. And by the way, I had a text for my speech to-night, but I forgot to say it, it was this: "By their fruits ye shall know them." Well, by their trees ye shall know them, too. I sat on one side of the car going up, and I sat on the other side of the car coming back, so I might be fair to both sides of the road, I looked at every bunch of apple trees that I came to, and there was a bunch of applee trees I think in every yard, a dozen or more apple trees, great, scrawny, long-horned, unruly beasts they were. They looked like a lot of old Angora goats, never had been trimmed, suckers had never been removed from them, growths were all around the foot of the tree. There were parasitic vines growing over them. I suppose the farmer looked upon them as a sort of trellis upon which to grow ornamental vines. Well, I didn't see going up on the left hand side of that road one apple tree that looked as though it had been trimmed in 15 years, or properly headed in the first place. I didn't see one that had the suckers removed from around its roots or upon its branches. I didn't see one that looked as though it ever had the bark properly treated or sprayed, and I didn't see one bunch of apple trees that looked as if it had been ploughed over.

Well, I came back on the other side. I think it must be that some of those farmers are enterprising enough to take care of the best friends they have got, but it is like running

across a family in which the children are being starved, running around barefooted, as I found a family down in East Hartford the other day, and my heart was opened. Those trees were old weather-beaten things that never had had any chance or opportunity, or any care or food, or any tending, or any nursing, great holes where the limbs had been broken off, where the owls, and the bugs and the beetles and the bats found their nesting places! and all that within a few miles of the city of Hartford, where the Pomological Society meets every winter. I think it is ingratitude, and I have said a good many times that I thought the sin of young America was the sin of ingratitude. We don't begin to appreciate our blessings, and it does seem to me that if there is any farmer around this neighborhood that is guilty, let it come down into your miserable soul to-night, and resolve you won't let it happen again. (Applause.) It is a sin of base ingratitude for a farmer to allow these friends of his household, the most health-giving food that he can provide for his family, that will cheer an evening by the fireside, that will keep a family in cheer throughout the winter, that which can please a poor neighbor's table, with which he can get many good solid shekels with which to advance his entire enterprise, and the friends that shade him in the hot days of summer. Have we taken care of them as we should? Are we taking advantage of the vast opportunities given us by this wonderful climate, given us in this soil that God designed should bring forth fruits for his children in great productiveness? I can't tell you how to do it, I simply want to speak this word, and I wish I might reach a lot of others who need it more than you do, but be firm and vigilant, and go through the length and breadth of this state to tell your neighbors to be kind to these living things that are so generous, whose bowels stretch forth, never having a chance to give you their luscious fruit when every brook from the bogs and hills seems to be inviting you to dig, and it will do you good.

Well, just this word to you in closing, a word that I love to speak to those who are engaged in any special vocation in

life, don't let your business, fair as it is, near to God as it is, working close at hand with Him who walks with you in the Garden of the world, of fruit growing and money making out of your business, subordinate your manhood. The greatest fruits you can grow are the sweet fruits of a lovely character. (Applause.) One of the old Puritan writers said the garden that the Almighty gave to Adam to till was not that garden of flowers and fruits, but his own heart. And is it not true, that there is given an industry to us, and much will be required of us at the end, gifts of character which must be improved and used for Him, and thus lives that are all about us, old and young, especially the boys and girls that are going back and forth from home, and the little school-lads, little fellows too small for you to remember their names, but who never forget it when you give one of them red apples, and when you get in a good word you put the seed in soil which will bring forth fruit for time and for eternity.

I want to say to you what I said last week at a meeting, a plea for higher and nobler interests than success of your own business. Some time ago when I came back to Boston, I did what I had never done before, I went into old Faneuil Hall, and I was shocked to learn that on the street floor of that old building were stalls where they sold meat, vegetables and fruits, a veritable market, it was Faneuil Hall Market. It was a busy place, men and women were passing through, back and forth, buying and selling, and I said: "Oh! for a political preacher who would come into our national temple and re-purge and cleanse it of those who bought and sold." And then I climbed the stairs, and I went up into that hall with pictures of Washington, Franklin, Wendell Phillips, and I took off my hat and stood there and was baptized anew in optimism, in love for our country and its flag, and then suddenly it broke over me that this was not sacrilege that was going on below, but it was the task of living, that it was in its right place, it was subordinate to that which was higher, and above it are those nobler interests of our wider manhood, in which we give and get, in which we sacrifice, in which we make our

great gifts to our country in industry and Christian manhood. And may you have the greatest success in growing those eternal fruits. (Applause.)

THE TOASTMASTER: That is a splendid sermon, brothers and sisters, wouldn't he have been a corker if he was a Methodist? And what he said about our New England climate was exceptionally good, and should be remembered. The hour is getting reasonably late. We will hear from Mrs. Moulton again, and then we will say good night.

Mrs. Moulton gave another very pleasing recitation, which brought the evening to a fitting close.

The Banquet closed at 10:30 amid much enthusiasm and a general impression that it had been the most successful banquet ever held by the society.

# SECOND DAY.

## Thursday, February 2.

---

## MORNING SESSION.

The second day's sessions of the Society's twentieth annual meeting were marked by an exceedingly large attendance and continued interest in the instructive program.

The morning session was called to order at 10 o'clock by President Rogers.

PRESIDENT ROGERS: Ladies and gentlemen, will you come forward, please, and take seats. We have a few moments before we call on our speakers, and can devote it to discussion. I suppose each one of you ladies and gentlemen have a program before you, and we are ready to take up any question on the program.

There seems to be quite a demand for basic slag this year. I will read question No. 8: "What results have been obtained by using basic slag on apples and peaches?" Will somebody answer that? Well, we will skip that.

We will take up the 10th question: "Name some profitable early and late apples that come into bearing quickly." Here is something I think all of us orchard men would like to know more about. I will call on Prof. Gulley to answer that question.

PROF. GULLEY: Mr. Chairman, in the first place what are you going to use them for, whether for fillers or the main orchard?

PRESIDENT ROGERS: That is for you to say.

PROF. GULLEY: Why, in Mansfield we are getting at the present time good results from several varieties. I should

put for fillers, for the early varieties, as the three best, as far as I know now, Wagener, Duchess and Wealthy. We are testing out at the college one more, which promises to be a splendid filler. It is a little bit small, but it begins to bear very early, is a good keeper, and that is the Missouri Pippin. I believe it is going to be valuable, but I wouldn't want to plant a whole orchard of it, but the other three can be used for fillers without any question, on our soil, as far as I can see and hear, all of them rugged and fairly good bearers.

So far as late varieties are concerned, we can't add to what we have already, the Baldwin, Greening and McIntosh And then, after that, you can plant about what you are a mind to, about half a dozen others, with about equal chance of having good success. Roxbury Russets and others might be added, but there are three or four that can really be said to be standard, so far as I know, that can be depended upon. Here again, we are testing out some more that promise well, and I am planting now to see what they are.

I have great faith in this state for the new western apple, Stark's Delicious. They told me up in New York state last week they were fearful about it being troubled too much with scab. On our land it doesn't work so. It bears young, is a nice grower, and I think it is going to be worthy of trial. It has two faults, however, one is ripening a little bit too early. It looks to me as if it would have to be used by Christmas or New Years. Possibly it is going to be too mild. It runs very close, when it is dead ripe, to a sweet apple. Those are the only two faults. I don't know that I will add very much to that list for general purposes. Perhaps I can pick out a list that will suit my eye better than those I have mentioned, for special purposes.

There is an apple called Dudley's Winter which I think well of, the color is about as fine in September as it is now, keeps splendid under ordinary conditions, not of a very high quality, being very close to the Duchess, but it is a handsome apple, and will sell anywhere, at any time you put it on the market. It is known as Dudley's Winter up in Maine.

## Remarks of Visiting Delegates.

PRESIDENT ROGERS: We will have to close the question discussion. We have a gentleman here from Wisconsin, and also have his son living in our state, one of the larger orchardists, a young man that has started and is building up an apple industry, according to my judgment, that is going to be one of *the* orchards in the state. I have the pleasure of introducing to you for a short address, Prof. W. A. Henry.

PROF. W. A. HENRY, of Wisconsin: Mr. President, I did not expect to say anything to this audience, and what I have to say is from a strict sense of duty. I believe I can set some of you to thinking about what seems to me to be a very serious problem to the agricultural interests.

President Taft has recommended a reciprocity treaty with Canada, in which we shall accept in this country, free of all duty, the agricultural products of Canada. In exchange, we are to let in free of all duty, and they are to allow to come in, paper pulp and a few other articles, but mostly agricultural articles. Now this reciprocity treaty is being very adroitly handled. The manufacturers of New England, of course, want their operatives to get the cheapest possible food. The president says we are going to get agricultural products free of duty, and we are going to keep up practically our protection for all manufactured articles, that is what he says. Free agricultural products to come into America, but everything that is manufactured, we must pay duties on the same as before, excepting paper pulp and a few things.

Now, the president seems to forget that the farmer is just as much a manufacturer as anybody, and that apples and potatoes and peaches and wheat and pork are manufactured products just as much as wire nails or anything else. Now, Farmers, do you realize what Canadian farmers pay now? The price of shipping a ton of hay is, and he now pays $4 a ton duty; he pays 75 cents duty on a barrel of apples, he pay five cents a dozen on eggs, he pays 25 cents a bushel on

potatoes. Mr. Taft proposes to wipe that all out with one stroke of the pen, and you farmers, when you buy a plow, a threshing machine, a harvester, a suit of clothes, a sink for your kitchen, anything on earth that is manufactured, must pay an enormous protective tariff. We bought a kitchen sink a short time ago in New Haven, and they charged us $19, and we couldn't get it for less. That means 19 bushels of wheat, three barrels of flour, 38 or 40 bushels of potatoes. Now Mr. Taft says after this potatoes can come in here from Canada, and hay and all those things, free, but he doesn't take any protection off that sink that we wish to buy, or the clothes we wish to buy.

Now in Canada, wages are cheaper. A hired man costs in Canada $20, where you pay $30. The hired man goes out to buy a suit of clothes at 20 per cent or 30 per cent, or 40 per cent cheaper than you do.

If you should go to Canada and try to bring a hired man to the United States, the United States would immediately fine you $1,000 for bringing that man into this country to work for you. I had a friend who barely got out of paying a $1,000 fine for trying it. You couldn't hire a preacher to come, you can't get a hired man to come, or a farmhand, short of $1,000 penalty to come to this country.

Now, I recollect I was a boy during the civil war, and we had a great many patriotic citizens in those days, good and bad, we had patriots who were willing to send all their wife's relations into the army. Mr. Taft and the manufacturers are willing to sacrifice every farmer in New England, if they can get potatoes for their operatives a few cents cheaper.

Now I want to warn you farmers that they are growing apples up in Canada, the government helps them, they subsidize ships, they subsidize refrigerators, they subsidize cars and granaries. You build a refrigerator in Canada under government specifications and they will pay a certain part of it to store apples in, or potatoes, or butter, or cheese. I am surprised that the farmers of New England have not been

studying this question. Now, the minute you get into politics on a question like this, I know it makes a world of trouble. I am a free trader, or light protectionist, at least. If Mr. Taft had said "Let's reduce the duty 20 per cent this year and next year 20 per cent, I would have been in favor of it. But he proposes to cut off 25 cents a bushel on potatoes, 75 cents a barrel on apples, and $4 a ton on hay at once, and five cents a dozen on eggs, and what do you farmers get for all that? What are the manufacturers giving up for this? NOTHING. It is a jack-knife handle arrangement, and you are the victims. (Applause.)

MR. RIDDICK: I would like to ask one question; doesn't the professor think that this is a step ultimately for free trade the country wide?

PROF. HENRY: I hope it is, sir, I hope that this country is big enough to let in the products of every other country free, so far as they can be. I am a free trader at heart, but I don't believe in starting in all on one side, and letting the other fellow have it his way.

A MEMBER: We have got quite a question to consider when we have the vast population of the laboring classes, and there is a good deal of sentiment about it, but it is a large question to some people. This gentleman didn't say let in fish from Newfoundland and Nova Scotia, he left that out. I don't believe in taking off duties altogether on our vegetables at present, but you must understand we are up against it. There is a large class of people that think prices of living are too high, and they have laid it all at the door of the farmers. You all of you know that it is laid at the door of the farmers because eggs are high, and butter is high, and things of that kind, and apples were high, but they don't explain that in the press or anywhere, but you must understand, when you are talking about these things, that we are up against the laboring class, the same people that are demanding these things.

PROF. HENRY: I agree with the gentleman absolutely, but let him remember this; why doesn't Mr. Taft say, "Let's reduce the duty on woolen goods?" Mr. Taft started out right when he said, "We will have a tariff commission, and we will examine into the cost of products in foreign countries, and we will examine into the cost of products in this country and adjust our tariff accordingly." The people all clapped their hands at that, and said: "We are all back of you." But now, having got that through, he says: "We will have free trade right off." Why doesn't he study the cost of producing apples in Canada and Maine, and put the tariff down where it should be, if 75 cents a barrel is too high? But, after having started a system of examination which is right, he turns right around and jumps over the traces himself by proposing free trade for agricultural products, by saying evidently those are not manufactured products. Our manufacturers will get their apples and potatoes cheaper, while they make their plows, harvesters and other tools in large quantities. They will charge you their regular price for that kitchen sink, and that plow, and that harvester, and the surplus they will ship over to Canada to be dumped on the market as such prices as they can be sold for, to keep their factory going. And those Canadian farmers will send the products that they raise, with those cheaper tools, over here to compete against you who have to buy of manufacturers protected by an enormous tariff. Now look this squarely in the face, farmers. (Applause).

MR. J. H. HALE: Mr. President, I think Prof. Henry has covered the ground exceedingly well, and there is really nothing to say except AMEN. That is really all there is to say.

PRESIDENT ROGERS: Amen.

MR. HALE: Good, get the whole crowd to join with you.

But, fellow fruit growers, from my boyhood up to the time of the McKinley bill, the farmers got nothing out of protection, yet the Republican party got the majority vote of

the farmers to help skin themselves. It is due to the work of the organized farmers, largely through the National Grange, that the McKinley bill put some tariff on it for the benefit of the agriculturists for the first time, practically, in the history of this government, and we have had it there since that time. But now they propose to take it off, and they are going to take it off the farmers first. I agree with Prof. Henry, that if they will take it off all around, I am with them, but when they begin to skin the farmers, I am "agin 'em." I don't believe we want that sort of reciprocity. Every time you talk about taking off the tariff on woolen goods, you hear a howl right away, now if they want to take the duty off of our products and skin the farmers, let us, too, begin to howl right away. Now just say AMEN to what Prof. Henry said, and back him up. (Applause.)

PRESIDENT ROGERS: We have a gentleman here from one of the smallest states of New England, it is small, but it is mighty in what it is producing. And I have great pleasure in introducing to you Mr. R. M. Bowen of Rhode Island, Treasurer of the State Horticultural society.

MR. R. M. BOWEN, of Rhode Island: Mr. President, ladies and gentlemen. I am very much pleased to be with you at this meeting. This is the first meeting of your society I have ever attended. I tried hard to come two years ago, but a business engagement prevented, and last year I had all my plans to come, but I was called to serve on the jury, and so I was kept away. This year I am with you, but I have such an awful cold I can hardly speak out loud, so you will have to excuse me from a long talk.

I did not understand that I was picked as one of the speakers, and hadn't supposed that I would be called upon to speak, only that last night at the banquet, the two governors of Connecticut were unable to attend, as was also Mr. Collingwood, the editor of the Rural New Yorker. Mr. Hale seemed to be afraid about this matter, he wanted to fill the three men's places in one, so he telegraphed over to Rhode Island for me to come and fill those three men's places.

(Laughter.) I presume I am able to do that because I think one of us Rhode Islanders is equal to any three of you Connecticut people. (Applause and laughter.)

We are very modest in Rhode Island, as you may assume from that remark, if you don't already know it, and a little bashful and diffident in talking to an audience of this kind, and we carry that to the extent that last week in Boston at the annual meeting of the New England Fruit Show Association, Mr. Perry from Vermont, claimed that they raised better Rhode Island Greenings in Vermont than they did in any other part of the United States, and he looked at me, and I suppose he thought he was going to get a fall out of me. But I told him they did, because the Vermont tree came from Rhode Island. I guess he thought the original Rhode Island Greening tree was in Vermont, because I have been trying a year to find that tree so I could write an article on the original Rhode Island Greening tree, and I found about 1,000 original trees in Rhode Island, but when I came to trace them down, I couldn't find any authority to show it. Now the fact was, this gentleman from Vermont came over to Rhode Island and got some scions from the original tree, and before I go back to Rhode Island I will see where it is, and then I will write an article, and perhaps I will read it to you.

I don't know of any man or woman whom I have less respect for than he or she who doesn't speak well of their own organization or their own home. I think a person who goes out and belittles their own home or their own organization, be it the Grange or the Pomological Society, or whatever is is, ought to be annihilated, they are not fit to live. And I think the question came up yesterday if we weren't overdoing it a little, spraying so much with lime-sulphur? It occurred to me yesterday if they were not overdoing another thing in thinking that they were the only people on the face of the earth. (Laughter.) I admire very much your State Capitol, I admire your society and the work it has done in the last few years, and I only wish Rhode Island were one-half or one-quarter as energetic as you are.

For instance, one of the questions yesterday afternoon was in regard to cold storage, and I am wondering how many men and women there are connected with this society, if a cold storage plant was built by your association or by certain class of your patrons, would patronize it if you found the cost of putting apples in this cold storage was three cents more a barrel than you could get it done somewhere else for, not necessarily more than you are paying now, but you want to recollect that in the cold storage plant, the chances are that the people who now own a cold storage plant will reduce their price and you have to reduce your price to compete with them. If you are now paying 40 cents a barrel and you can't possibly run your cold storage plants for less than 35 cents a barrel, and the other plant dropped down to 30 cents, I wonder how many members, under co-operation, who are interested in this society, will continue to pay 35 cents when you can get it done for 30 cents, even knowing, as you do, when they have wiped out competition, they would put the price back? There are many things of that kind that would have to be tried before that could be approved. I heard Mr. Collingwood three weeks ago in Rhode Island make a statement, that he supposed it was different with people in New Jersey than it was in Rhode Island or any other state. He thought it was true in New Jersey, that if they had seven men come together for co-operative purposes, either in cold storage or anything else, and the chairman or the foreman should say: "The first thing to be done is to all lay down your wallets, you all lay down your wallets here and one of the seven will take charge of those and be responsible for them and make returns as fast as he can," he said he thought they wouldn't do it. And then he said if the chairman should say: "Well, gentlemen, you have got to do one of two things, you have either got to do that or else you have got to be hung," he said he was rather of the opinion you would find seven men hanging before they would do it. (Laughter.)

Now, the vice-president from Connecticut to the New England Fruit show said last week in Boston, that you were

unable to raise the Nod Head apple here. I was very much surprised at that, because it is one of my favorite apples. I asked him what was the reason? He said that as it grew, the limb pushed the apple off and the apples all dropped to the ground. That was a new theory to me, and I investigated quite a little to find out why that was so, as I couldn't account for it. I asked two or three, but they couldn't give me any answer that was satisfactory, and so I went to see one of the professors. He said that was simple enough; he said the soil wouldn't produce those stems. I said: "Well, why?" He said: "Why, you all realize that in the soil there are certain ingredients that go to make the stem and leaves, etc., and the soil in Connecticut lacks that substance which was required to make the wooden stem." Well, I asked him why. Why, he said, as near as he could find out, and he had made quite a study of it, as near as he could tell, so much of the soil had been extracted to make wooden growth to make into wooden nutmegs, that there was nothing left for the stem of the apple." (Laughter and applause.)

Now, as I say, we are very modest in Rhode Island, and we dislike very much to bring ourselves before the public, but there are certain things I have been astonished at since I have been here, to meet so many of your people who seem to be intelligent in other ways, who seem to be lacking in one thing, and that is they know so little about other states except Connecticut. I think Brother Hale has that power of hypnotizing Connecticut people so that they feel there is nothing outside of this state worthy of living for, or that is worth much anyway. (Laughter.) He forgets, I guess, that in Rhode Island we have always boasted of our big cotton mills, and a larger number of looms in one building, and we boast about our wealth, etc., but when it comes down to horticultural or agricultural or pomological results, we have never said much about it, although, of course, it has been known for a great many years that we were the leading state in that line.

Now, you gentlemen of this society don't seem to remember that at the New England Corn Show at Worcester in November, we took the first prize for the largest production of Dent corn, we took the first prize for the largest crop of ensilage corn in New England. You seem to forget that a year ago we had the best barrel of apples that was exhibited at the New England Fruit Show. (Laughter and groans.) I hear somebody question that. We didn't take the prize for the best barrel, but we had the best barrel there. (Laughter.) And we are going to have it again this year. Now the reason I make that assertion is because I presume the judges overlooked this barrel of apples. It was really the best barrel there because, among other hundreds of barrels of apples there, a gentleman who is thoroughly an expert, and who wanted the best barrel there, was in the hall. After looking everything over, he went all through the Maine stock, all through your Connecticut stock, and I think he devoted the larger part of the day, and he finally bought a barrel of our Rhode Island apples, and wanted them sent by express. When the gentleman who raised the apples and sold them to him, asked him where they were to go, I won't be sure what he said, but they either went to Presque Isle, Maine, or New Haven, Connecticut, one of these two places. I think it was Connecticut. (Laughter.)

Now, I think if I talk much more in this line I shall probably get cabbages thrown at me, and I don't want that, for I don't like cabbages in any form. But I will tell you candidly that if you will come down to Rhode Island we can give you points on many things. We learn many things coming up here, especially from your ambition, which I admire very much indeed, and I only wish we had the same, or a small part of the same amount of ambition down there in this and other work, because I think it is of so much advantage to all. I don't think it is possible for us to come to a meeting of this kind and hear the remarks that are made by different ones, without being very much impressed, and going home much more enlightened than when we came. And if you will

come down to Rhode Island, I can assure brother Hale, who spoke about clams and lobsters, that we still have a few clams left and we will be glad to divide them with you. (Applause.)

PRESIDENT ROGERS: Will Mr. Barton of New Jersey please come forward to the stage? Ladies and gentlemen, we have Mr. Joseph Barton here, vice-president of the Horticultural Society of New Jersey, delegate from that state, whom I am going to call on to speak to you at the present time. I have the pleasure of introducing to you Mr. Barton.

MR. BARTON, of New Jersey: Mr. Chairman, ladies and gentlemen. I bring with me the greetings of the New Jersey Horticultural Society. I have enjoyed being with you yesterday, and so far this morning. You certainly have an energetic society up here, and are doing a grand work. The matter of co-operation is certainly very thoroughly set forth here. With us down in New Jersey, we are doing a large co-operative business in the way of selling our products. We have a Farmers' Exchange organized in the Oranges, to dispose of a large part of our produce where we are not in close proximity to the big markets, and it has worked out very satisfactorily. We feel that in the past two or three seasons we have greatly increased our profits through this method of selling the products of our farms. Now in certain lines, strawberries, peaches, etc., the market is very limited, but it is decidedly greater than the Philadelphia markets will take care of, and then, since the outside shipping in carload lots was forced on us, it has increased our business. If you are up against any such thing in your line of business, I think it will be worth your attention. I have appreciated being with you, and hope some of you will come down and visit us at Trenton next year. We meet in December, but the date is not yet set. I am sure we will have to have delegates sent down from your society. (Applause.)

PRESIDENT ROGERS: We also have with us Mr. Lord from Delaware, Mr. White of Maine, and Mr. Perry of

A TYPICAL PACIFIC COAST ORCHARD SCENE,

SHOWING THE VAST EXTENT OF APPLE ORCHARD AROUND WENATCHEE, WASH.

Vermont, but I do not see them before me. I am sorry we cannot hear from them at this time.

Now the first on our program this morning is an address by Prof. F. C. Sears of Amherst, Massachusetts, on "Impressions of the Apple Industry on the Pacific Coast." I am sorry to say Prof. Sears is not able to be with us, he has been ill. We wired him night before last, and yesterday he replied that perhaps he would be here. Now I regret to say he is not with us, but we have another gentleman that was to speak immediately after him on the same topic, and I feel sure will fill the bill, and without further introduction at all, I will present to you our genial vice-president, Mr. G. A. Drew. (Applause.)

MR. G. A. DREW: Our president said he was very sorry that Prof. Sears is not here, and I am sure you all feel the same, and I can assure you I am much more sorry than anyone else, because Prof. Sears was to have delivered the main part of this address, and I was simply going to make a few remarks afterwards. Under the circumstances I will do the best I can, and I hope you will bear with me.

I am going to speak of my impressions of the fruit growing industry on the Pacific coast.

## Impressions of the Apple Growing Industry on the Pacific Coast.

BY GEORGE A. DREW, Greenwich, Conn.

So many wonderful stories have been told of the great Northwest as a fruit growing section, of how King Apple has made fortunes there for one and all, that it had been my dream for several years to visit this land of promise and see for myself if all the tales were true or part were fiction. This last fall it was my good fortune to visit these famous apple regions, study their methods at close range and try to see if there were any lessons to be learned which we could adopt to

advantage here. That it is a wonderful fruit country there is no question, and while I was duly impressed with much I saw there, I came back more than ever convinced that the eastern fruit grower has as great, if not greater, opportunities at his own door.

I visited three typical sections in this Northwest fruit belt,—Kelowna, in the Okanagan district of British Columbia; Hood River, Oregon, the oldest and most famous of all; and Wenatchee, Washington, already a close rival.

At Kelowna, while there was an older section of limited extent developed, some seven years old, the main portion of the region was still raw prairie, being sectioned off in ten and twenty acre plots, with irrigation ditches in the process of development. It was most interesting to see raw prairie land transformed from a worthless tract to fruit land selling anywhere from two hundred and fifty to five hundred dollars an acre, by the simple addition of water, brought from a distance of ten miles. In Kelowna, as in other fruit sections of the Northwest, the area where fruit can be grown is limited, the valleys and not the hills being utilized, as fruit can be grown only where water can be applied. The soil of volcanic ash, which we in the East have come to regard as possessing some magic composition, looks barren and unpromising enough before water is let on. Alkaline patches are sometimes in evidence, but a sufficient application of water will wash it out. We would call the soil a rather light, sandy loam. Water changes it to a darker and richer color. There is no question as to its productiveness and ease of manipulation; its porosity is such that the moisture will diffuse evenly and quickly and not become stagnant. Being a new country, insects and fungous pests are not yet abundant, though the coddling moth has to be fought quite strenuously. Jonathan, Northern Spy, Spitzenberg, Yellow Newtown, and Ben Davis are the varieties most grown. The cool nights and the bright sunshine give a finish to the product which we of the East will find it hard to equal. The prairie towns are their markets for second

grade box fruit; England, Australia, and the Orient, for their fancy.

Hood River embraces a valley with an area equal to about eight miles in width and twenty-two miles long. The Columbia River, picturesque mountains, and evergreen-clad hills, give to this region a remarkable scenic effect. The oldest plantings are about eighteen to twenty years old and, as is natural, insect and fungous diseases have to be fought more vigorously than in the newer planted regions. Apple scab is the most serious fungous trouble and is combated mostly by spraying in the dormant season; in the fall before the leaves drop, with Bordeaux 6-6-50, and just before the buds unfold in the spring, with lime and sulphur. Summer spraying is mostly for the coddling moth, though commercial lime and sulphur is often used. Bordeaux is now never used as a summer spray.

A great part of the land is in ten and twenty acre tracts, most of the work being done by the fruit growers, with the aid of their families. This is their one business, to make their few acres give the greatest returns possible. Strawberries are the main crop that is grown between trees; Clark Seedling is about the only variety. In the earlier planting of apple trees, numerous varieties were set out and one would be surprised to find such old kinds as Blue Pearmain, King, Golden Russet, Baldwin, Greening and Spy. Jonathan, Winter Banana, Winesap, Delicious, Arkansas Black, and King David are also grown, but Hood River specialties are Spitzenberg and Yellow Newtown. Practically all the later planting is of these last two varieties with Jonathans as fillers, when this system is practiced. The valley has a complete and up-to-date irrigation system, but as there is an annual rainfall of about thirty-six inches, many of the best fruit growers do not irrigate at all, preferring surface tillage to conserve the moisture. The soil is the same volcanic ash and is very productive. I found, however, a few growers who were beginning to consider using commercial fertilizer. The people are mostly of good American stock and very hospitable, many in

fact being emigrants from New England. One is struck by the fact that many who have made the greatest success there, were not originally fruit growers or trained in any line of agriculture. Again, the *one* interest of the valley is fruit,—go into any bank or commercial club and they talk fruit. It is the one item of conversation unless you talk fruit land. If you talk the latter, you will find plenty to talk with you.

You will find no "neglected orchards" problem there. The care and thoroughness with which they attend to every detail is the lesson for us to absorb. Everybody sprays and no pest is allowed to gain a foothold; if the grower was inclined to be negligent the county inspector would soon bring him to terms or cut down his orchard. Everybody thins their fruit, once, twice, three or four times, if necessary. Is it any wonder that the per cent of box fruit sometimes amounts to ninety per cent of the total? All the trees are regularly pruned with a rather open center to allow sunlight to get through, though there is no special system.

While Hood River grows fine apples and her Spitzenbergs and Yellow Newtowns are world famous, I consider it a result of organization, co-operation, and systematic grading and packing, rather than any special locality advantages which we are prone to assume. Everything is figured to a system, the grower is taught to pick and handle his fruit carefully, but is not allowed to pack it himself. When the fruit is ready the union sends the packer there. The packer must have a union license and be registered. Each box has the packer's number, the grower's name, the variety, and the number of apples. When brought to the union a rigid inspection is made before it is allowed to be shipped out and if any imperfection is found, it is rejected.

At Wenatchee, Washington, I found climatic conditions very similar in character to those of Kelowna, British Columbia, in fact, Wenatchee is in the lower part of the Okanagan Valley. The oldest orchards are not more than nine years old, most of them only six or seven years old. It is almost a rainless country and irrigation is absolutely essential to the

production of fruit. It is also a treeless country, and inclined, I should judge, to be swept by heavy winds. Wenatchee is the home of the Winesap and Rome Beauty. These are their specialties, though Spitzenberg, Newtown, Jonathan, Arkansas Black, Winter Banana, Delicious, etc., are also grown to perfection; in fact, some of the finest fruit I saw on my whole trip was grown in the Wenatchee Valley. I wish I could picture to you the valley, miles in extent and nothing but fruit trees. I could not help but get enthusiastic about the region myself, and do not wonder at their enthusiasm. As at Hood River, the one topic of conversation was apples. The story is told of how, some years ago, Wenatchee sent some apples to compete at an exhibition with other regions and did not carry off a single prize. The fruit was all that could be desired, but they lacked the knowledge of grading and packing. Somewhat humiliated, they resolved to be better prepared at the next exhibition. Accordingly, they sent to Hood River for several of their most expert packers to instruct them in the art of grading and packing. They had them teach the children in the public schools as a regular course, established prizes for competitive exhibitions, and soon their own people could pack fruit with anyone. Again, to illustrate how these people co-operate and pull together: this last fall there was an enormous crop of apples. The problem was to get them picked. They solved it by shutting down the public school for a week or ten days so that the children could help. When the crop was picked, the school was re-opened.

I have spoken of these regions in a general way. They illustrate the conditions as I observed them in the fruit regions of the Northwest. I will add a few specific observatioins as to conditions and results, trying to be absolutely fair and impartial. *What is their percentage of first class fruit?* This varies, of course, as there are good growers and poor growers, even in the Northwest. Mr. Shepard, of Hood River, told me that some of his orchards would average ninety per cent box fruit which would pack in the fancy and choice grade.

Of this ninety per cent, some sixty to seventy-five might be fancy and fifteen to thirty choice. Mr. Shepard, however, is an exceptionally fine grower. In some cases only sixty to seventy-five per cent would be box fruit, with a varying proportion of fancy and choice grades. The high percentage of box fruit can be accounted for by their careful methods of culture, thorough spraying, and thinning the fruit, which, of course, is not such a task on their comparatively young trees. Then they or their families do most of the work and practically live in the orchard. When they see a poor specimen they pick it off. If we exercised the same care, we could undoubtedly get the same percentage of high grade fruit. *Culls.* They have cull fruit even in Washington and Oregon. I was surprised to find that they were not making a better disposition of them. Cider is the only use they are put to at about $7.50 per ton. With us, culls, if sold for what they are, bring in a considerable source of income.

Insect Enemies and Fungous Diseases. The newer sections, particularly the rainless countries, do not as yet have many fungous troubles, though they are increasing. In Hood River, apple scab, anthraxnose of the tree (like our tree canker), and dry rot of the fruit, are all to be reckoned with. The dry rot, in particular, seemed to me a serious problem in all this country. The coddling moth and the woolly aphis, the latter particularly, have to be fought in the rainless countries.

As a general rule, I found practically all of the growers using a winter fungicide, and only a limited number using a summer fungicide. Bordeaux 6-6-50 and commercial lime and sulphur were the winter sprays; commercial lime and sulphur the summer spray, where used. Arsenate of lead alone seemed to be the general rule. Bordeaux as a summer fungicide has been practically discarded for some time.

Age of Bearing. Trees in the Northwest, as a rule, bear earlier than they do with us. This is possibly due to climatic conditions, but more, it seems to me, on account of the fer-

A YOUNG SPITZENBERG TREE.

EIGHT-YEAR-OLD NEWTOWN PIPPIN.

APPLE TREES ON THE PACIFIC COAST ARE EARLY AND PROLIFIC BEARERS.

tility of the soil and the application of water to force the tree at the start. If we should force the growth as they do I believe we would get equally quick returns. It is what I have advocated for some time. Jonathan and Wealthy will bear in three to four years; McIntosh and Grimes in four to five years; Spitzenberg in five to six years; Spitzenberg and Newtown in seven to eight years. At those ages they plan on from one to two boxes of fruit per tree. You will, of course, hear of exceptional yields as Winter Banana at four years bearing six boxes, and ten boxes of Jonathans at seven years old, but the previous statements are the safest to go by.

Cost of Harvesting the Crop. I cannot do better than quote the figures which Mr. Shepard of Hood River gave me, and itemized as follows:

| | |
|---|---|
| Picking | $0.07 |
| Packing | .06 |
| Box | .10 |
| Hauling | .03 |
| Paper | .05½ |
| Wiping and Grading | .05 |
| Nailing | .01 |
| Hauling away | .01 |
| Apples on Table | .01 |
| Box Nails | .01 |
| Union | .10 |
| Spraying | .05 |
| Cultivation | .05 |
| | $0.69 |
| Freight to East | .50 |
| Total | $1.10 |

This is the cost of putting a box on the Eastern market, whether choice or fancy grade. Even now the margin of profit is comparatively small, and when the orchards now planted fruit, the margin will be narrower. While the box is the only package at present, some admitted that the barrel might yet be forced on them for second grade fruit.

Irrigation is essential, as I have said, in the rainless countries; where they can, many of the best fruit growers get along without it. One can easily ruin his crops by the careless use of water. It is a problem how much to use, and growers differ. Certain it is that its excessive use makes a sappy growth of tree and soft textured and poor quality of fruit.

Flavor of Western Apples. To be perfectly candid, I tasted apples of good quality and apples of poor quality grown in the Northwest. In many cases, as I have stated above, it is ruined by irrigation. While I still believe our Eastern fruit, well grown, is much superior in flavor, I must admit that on this point we must not count too strongly in a commercial way, unless we grow fruit free from blemishes and imperfections. Some Spitzenberg, Yellow Newtown, Winesap, and Winter Banana were found to be exceptionally good.

Color. If we claim superiority in flavor, we must grant that the Northwestern product has a certain finish which we find hard to get. Notwithstanding this, color and finish are the points we should strive hardest for. When I was in Mr. Shepard's office I saw some Baldwins from Mr. Hale's orchard, which alongside of the Western product, looked equally well.

Land Values. As the localities where fruit can be grown is limited, the land values in favored sections naturally are comparatively high, partly speculative and partly on account of irrigation equipment. Raw land varies anywhere from one hundred to eight hundred per acre, and orchards in bearing anywhere from seven hundred to four thousand per acre. While I heard wonderful stories of their income per acre, and such a reputable man as M. Horan of Wenatchee said his bearing orchard eight to nine years old would pay twenty per cent on a value of two thousand dollars per acre, I believe the values are inflated and that no one can afford to buy at those figures. The trees in many cases being twenty

by twenty feet apart, will soon have to have every other one taken out and the yield decreased.

I have touched on only a few of the many points that might be considered, but to make a long story short, would sum up as follows:

ADVANTAGES OF THE NORTHWEST.

FIRST. Trees bear earlier, on an average of two to three years sooner than with us.

SECOND. Trees bear heavier and more regularly.

THIRD. Fruit averages better color and finer finish.

FOURTH. Fewer pests and diseases to fight at present.

FIFTH. More general interest in the industry.

SIXTH. Better law to protect the fruit grower.

SEVENTH. Co-operation better developed.

EIGHTH. Better knowledge of local adaptability of varieties.

NINTH. Virgin soil needing no fertilizing at present.

TENTH. Trees are all young and in their prime.

ADVANTAGES OF THE EAST.

FIRST. Nearness to market.

SECOND. Cheaper land.

THIRD. Fruit averages better quality.

FOURTH. Labor market easier and cheaper.

FIFTH. Better roads and transportation facilities.

SIXTH. Centers of interests nearer together.

SEVENTH. More profitable disposition of culls.

EIGHTH. Better market for perishable fruit.

In conclusion, I believe that for a few years to come at least, the West will set the standard on box fruit; the East will gradually become a more important competitor. Spitzenberg, Yellow Newtown, Delicious, Jonathan, and Winesap, will be their leading box apples; with these varieties I do not believe we in New England can successfully compete. In such varieties as Gravenstein, Wealthy, McIntosh, Sutton, Baldwin, Rhode Island Greening, Washington Royal, and Northern Spy we have a list to choose from, and should be

able, when we exercise the same care, to successfully meet the competition of the West.

DISCUSSION.

PRESIDENT ROGERS: This has been an exceedingly interesting address. Perhaps some of you would like to question Mr. Drew, and if so you now have an opportunity. I would like to hear a word from Mr. Drew about the apple shows in the West. I think there were three different fairs that he attended.

MR. DREW: It was my good pleasure with Prof. Sears, to be at the apple show at Vancouver four or five days, and also at Spokane, Washington, where the third apple show was held. When I first went into the hall where the exhibit was there at Vancouver, I was taken aback to see such a wonderful display, and at first I threw up my hands and I said: "It is all up with us, I don't believe we can ever get up such a show as that." And the apples as they were displayed, certainly looked wonderful. There was a carload of Jonathans which was displayed there which finally took first prize, a carload of 600 boxes. It was certainly a wonderful display, it didn't seem as if we could ever grow fruit like it. But when I came to look around, I observed the fruit and found out how it was grown, picked and selected, and how it was packed with such care, and everything like that, I wasn't so much surprised. For instance, that carload of 600 boxes I was told by a gentleman who was there, in fact, by the man who packed them, that they picked over 10,000 boxes of their commercial Jonathans to get those 600 boxes for a prize. If we would only do that, I think we could exhibit good apples ourselves.

Again, there were some very fine prize fruit there in the five and ten box classes, and in all those cases they were certainly wonderful. They picked over a great many boxes to get those. Those were not commercial boxes, they were put on for exhibition, and they could afford to do it because of the prizes, which were so very liberal. In fact, the government in Canada this year gave them a wonderfully large ap-

VIEW OF A CONNECTICUT ORCHARD THAT PRODUCES APPLES RIVALING THE FRUIT OF THE PACIFIC COAST.

propriation, and it enabled them to offer such attractive prizes that they got a great many people there from across the line. A great many people from Wenatchee went there, and I guess a great majority of the prizes were taken by Wenatchee, but I think the prize carload went to Kelowna, British Columbia.

I was greatly surprised to find in the competition there that they had a lot of kinds of apples grown in the east, the Blue Pearmain, Baldwin and Northern Spy. Then another apple they had there was the Redcheeked Pippin, which was very fine, and the Winter Pearmain, but the greatest apples in that exhibition were Jonathans. In that exhibition I think there were about twenty carloads. I passed over to Spokane and there were possibly about forty carloads in that exhibition, something like that. Of course, at Spokane the great apples were Spitzenbergs, Newtown Pippins, Jonathans. Spitzenberg apples I believe took the prize, and I believe Hood River took first prize, although it didn't have as perfect a car as the carload at Vancouver.

MR. UNDERWOOD: Do they raise the Baldwin out there?

MR. DREW: Yes, I saw some very fine Baldwins out there. There is an apple nearly the shape of the Baldwin which they call the Oregon Red, they get color out there, but they don't get as good flavor as we do here.

PRESIDENT ROGERS: There is a question here on our question list, No. 28: "Why are western boxed apples selling lower this year than ever before, while eastern barrel apple are higher?" Mr. Drew, can you answer that question?

MR. DREW: The reason western boxed apples are selling lower and eastern barrels are higher, I guess, is because the people are beginning to appreciate the eastern apple. That is the only reason I can think of.

MR. J. H. HALE: Mr. President, I think I can answer that, in a small degree at least. I have been studying the markets largely at New York, some in Philadelphia and Pittsburg, for the last two months, and it is unquestionably true that the western boxed apples are selling very much

lower this year than they ever have sold before, and that the eastern apples are selling much higher, higher than in a number of years. The enormous growth of apples in the Northwest this year and the rather swell-headedness on the part of the growers that they had the best of everything, and they could take the highest prices, caused more or less trouble, and then the trees are already at their best, and the apples are beginning to drop off in quality. They dropped off last year, they dropped off considerably more this year, and some of their fruit must be handled over-ripe, and the handling of their fruit is exceedingly rapid, so the wholesale prices have been very much lower than in former years. Then, as Mr. Drew said, I think the people are getting on to the fact that the quality of the eastern apple is better and as a result of the work of this society, and the work of all the eastern horticultural societies, and the aid that the government and the experiment stations have given us in knowing how to better beautify and color up the fruit, has given us fruit of better appearance.

Then we have felt that sharp competition of that better packing and grading in the west in former years, until we have learned to pack and grade better. All those things have combined, and resulted in giving lower prices to western box apples and a higher price to the eastern barrel apple, and I believe, as we stand to-day, we shall maintain that lead in the future, because I believe we are going to improve the quality and appearance of our fruit very much. I think that answers the question, at least answers it to my satisfaction.

May I say a word about that address of Mr. Drew? It seems to me that is one of the most important business talks we have had before this society in a long time. Those who are interested in the production of apples have seen those wonderful productions from the Northwest, and we have been scared just a little bit. I think we all appreciate the work of those people in the West in their fine grading and the beautiful fruit that they put on the markets to tempt people to use apples as they have never used them before. The

American people have just awakened to the apple as an eating fruit, and the fruit-stands in all our great cities to-day show that. And we owe a large debt of gratitude to the Northwest for stirring us up in the way of better marketing, packing and grading. And the secret of their success is what Mr. Drew has told us about their work there points the future, and it is the point of view of how it has been done. The whole key-note of it all has really been co-operation, working together, that is the key-note of his whole story, it seems to me, of their success. And isn't it up to us to do the same thing? Of course, we read about certain favored districts, but the whole state of Connecticut is almost accessible to us, that is one central point from all over Connecticut. If those growers in Wenatchee found it necessary to get together, we can do the same thing here when we are ready. The only trouble, as I said yesterday, is we have been blest with too good opportunities. Each of us have been able to go to town with our peaches and potatoes and get some cash for them. The majority of the growers in the State this year sold their apples at $3.00 a barrel, I don't know of any under $3.00 a barrel. We have sold all our apples for at least $5.00 a barrel because we worked together. That is a good big percentage to pay for working together. I ran over in my own mind (I am not good on percentages),but taking our crop at Seymour this year where some of the boxes came from, about 6,000 bushels, there was less than five per cent of culls. There was about six per cent of what we called culls, and those culls sold at an average of $2.50 a barrel because they were culls. They are good fruit, and the balance of the fruit graded as A and AA grade, and the A grade, which is really seconds, is sold throughout the season directly from the orchard at $5.00 and $4.50. I made one sale yesterday of 58 barrels at $5.00 for seconds, and the higher grades are worth more, and it is a smaller percentage of reductions in the orchard here in the East when we follow the methods of our friends in the West. And as to what he said about diseases and their insect pests this year, those of you who read the paper called "Better

Fruit," published in the West, remember there was on one page an advertisement to induce you to come out and buy some of the land in that wonderful country, and it told the story, as Mr. Drew did, of the quick growth, and the air, and the beautiful fruit, and the high prices of raw land was from $200 to $300 per acre, four or five years planted it was worth $500, $800, up to $2,000 an acre. And on the other page were 16 advertisements of insecticides, sprayers, and various things to get rid of the troubles they had. That seemed to me to tell the whole story. (Applause.)

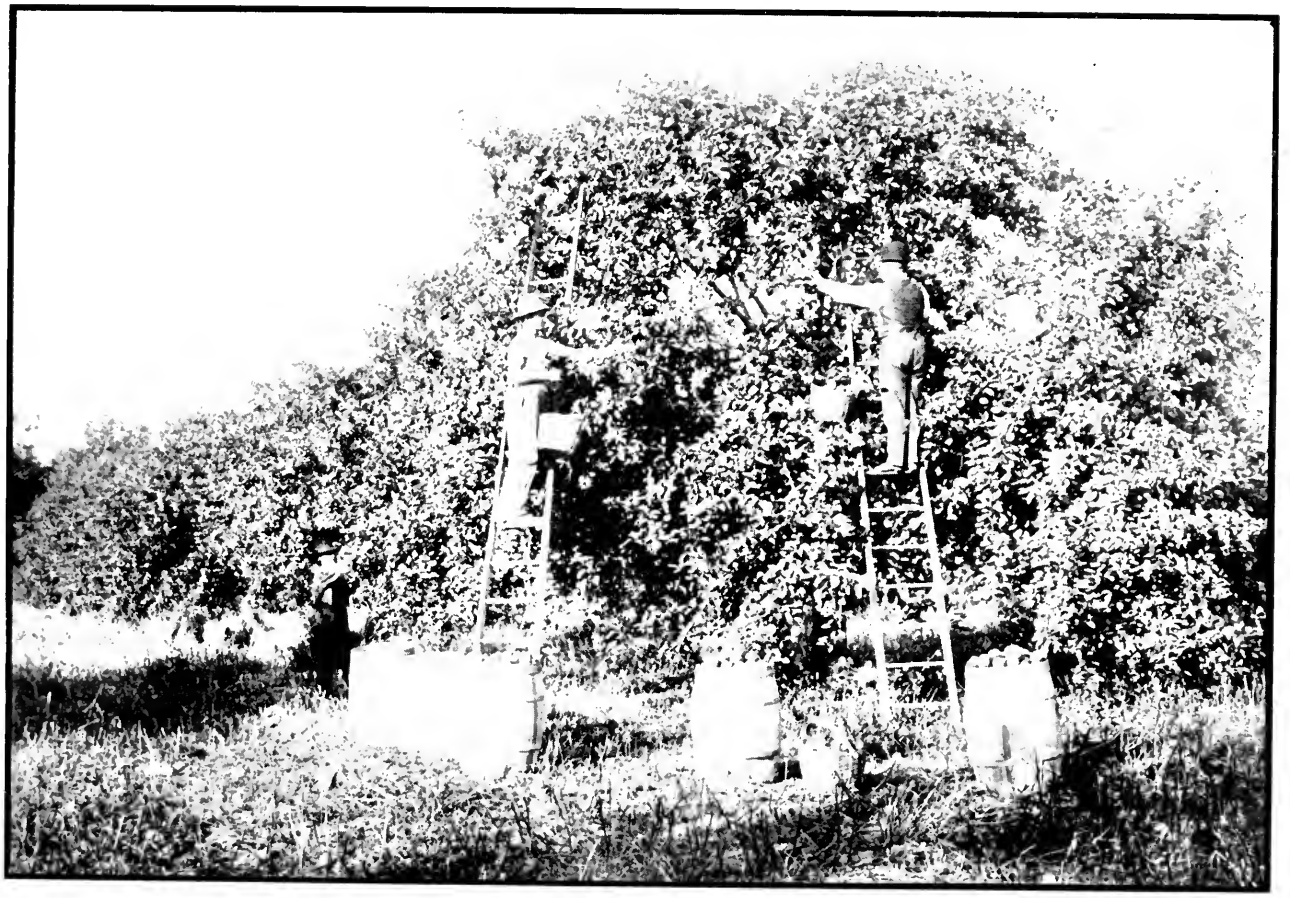
PRESIDENT ROGERS: We shall be obliged to close this discussion at this time. I am sorry to do so for it has certainly been very interesting and instructive, but time is passing.

The next on our program is an address, "The Virginia Apple: How It is Grown and Marketed," by Hon. S. L. Lupton of Winchester, Virginia. I have the pleasure of introducing to you Hon. S. L. Lupton, whom many of you will remember as a former visitor to our state.

## The Virginia Apple: How it is Grown and Marketed.

By S. L. LUPTON, Winchester, Virginia.

Mr. President, ladies and gentlemen of the Connecticut Pomological Society. Upon the invitation of your secretary, I have come here from Virginia to tell you about the Virginia apple, how it is grown and how it is marketed. I shall have to ask you to aid me in my talk, being a modest man, but you are anxious to know about the country and its products in the great Shenandoah Valley. Perhaps you would like first to know something of the country in which these Virginia apples are grown, and I may say that the great plateau which lies between the Blue Ridge Mountains on the east, and the foothills of the Alleghanies on the west, extends down from



HARVEST TIME IN A WELL-CARED-FOR CONNECTICUT APPLE ORCHARD.

New York State to the western North Carolina lines, so that the Mohawk Valley in New York, the Cumberland Valley in Pennsylvania, and the Shenandoah Valley in Virginia are practically one and the same country, and for all commercial purposes her people are the same class of people.

In the earlier days the people from Pennsylvania, moving along the lines of least resistance, passed down south into the Shenandoah Valley and settled that country, so that if you should go through that valley to-day you would find a list of good old Pennsylvania names such as "Van Housen," "Diefendorfer," and "Cooperstein;" indeed, in a part of the valley of Virginia the people still speak quite broken English. We have no colored population in that valley to speak of, only a few of that race living in the pines, and in the cities, but practically none at all in the country. The labor is entirely American, entirely white and entirely native. In fact, my friends, you would be surprised to know what a fine class of citizens the Pennsylvania Yankee makes after he has lived for a hundred years or so in Virginia. (Laughter.)

Now Mr. President, I am especially partial to that word Yankee. To me it is a better word than American. We have enough Americans,—"South Americans," and "Central Americans," but they are all different people. But there is but one breed of Yankee, and in my interpretation of that word he is a fellow that is always *doing things*. I don't think, my friends, that I have ever seen a genuine Yankee that was lost, he always seems to know where he is going, and generally knows when he gets there. (Applause and laughter.)

Another peculiar thing about a Yankee is that you can't locate him. If I should ask you people here in Connecticut where the Yankee lives, you would undoubtedly tell me in Rhode Island. If you go into Pennsylvania, and ask who the Yankee is, they tell you: "Why, certainly, he comes from Connecticut." If you go down into the valley of Virginia where I live, and ask for a Yankee, they would tell you: "He is a Pennsylvania Dutchman," and if you go over the Blue Ridge Mountains into Eastern Virginia and ask those people

to locate the Yankee for you, they tell you: "He lives in the Shenandoah Valley of Virginia," and incidentally, they will caution you against trading horses with a Virginia Yankee. (Laughter.) And if you go down into Mexico and ask those people where the Yankee lives, they will tell you everything north of the Rio Grande River is a Yankee, but always the term means he is the man who is *doing things*.

And so, by your invitation, I am come here to-day to tell you that the Virginia Yankee, horticulturally speaking, has arrived. (Laughter.) So much for the people living in that country of the Shenandoah Valley.

Now just a word about the country itself. Doubtless, many of you think from the name "Shenandoah Valley" that it is a level country, and perhaps that name would be synonymous in the minds of some of you, with a river bottom country, a flat country. Such is not the case at all. The valley of Virginia proper is about, on an average, fifteen miles wide, in some places as wide as thirty, and about a hundred and twenty miles long; is an elevated plateau, almost as cold as this Connecticut country. We have already had this winter a month of sleighing, and we have not been able to do much outdoor work so far, and the country is rolling, three or four high ridges running parallel with the main chain of mountains through the entire length of the valley, a country very much like yours, except probably with a little more rain-fall and a little longer summer season.

Some years ago quite a number of Connecticut people visited the valley of Virginia, but unfortunately at that particular time a large number of our leading citizens happened to be absent from home, or else we might have given you a more cordial reception, which no doubt we would liked to have done. After the Connecticut visitors had returned to their homes and our people had come back, they found a condition of things there that was somewhat distressing. Now, gentlemen, understand that we are not repining or complaining about things that have happened in the past. Who knows but what the sorrows of the terrible time of the Civil

War was the very web and support we needed to encourage us to our best efforts; who knows but that the hills of Virginia never would have blossomed with the apple, if our soil had not been reddened with the blood of brave men? And just by way of contrast, I gathered up a few pictures before I left Winchester on Monday of this week, and have brought them up here to give you an idea of the road over which we fruit-growers have traveled in the last twenty or thirty years. And I am going to show you the first picture that I have, which will indicate the condition of our country after the visit of our Connecticut brothers. And then, by contrast, I am going to ask you to look at another picture which was taken in the valley of Virginia last year, that one with the traction engine.

The picture at my left hand, as you will see, represents a scene in the valley of Virginia at the close of the war, when there was not a single apple orchard in that country. The picture on my right represents a scene in that country last year when we were drawing apples to the depot with a traction engine, taking 250 barrels at a load. (Applause.)

Incidentally, I am going to say that the gentleman who owns the orchard from which those apples were drawn with the traction engine, is a Pennsylvania boy who came down to Winchester a few years ago, and has not only acquired, perhaps, what is the best apple orchard in the state of Virginia, but he has also acquired quite recently a beautiful Virginia wife. While we are looking at these pictures, I am going to call your attention to this one that is now being held up before you, to show you what is one of the oldest bearing orchards in the Winchester section, belonging to Mr. Stuart Bell, whose photograph can be seen in the middle of the picture.

I brought this picture especially to tell you that that particular part of the orchard that is shown in the photograph yielded Mr. Bell last year an average of 75 bushels of apples per tree. Those apples were sold at $3 a barrel f. o. b. Winchester, making pretty close to $3,000 gross receipts per acre.

Now if I should come from Hood River or Wenatchee, I would probably leave that statement just where it is, and leave you to go away thinking that the whole orchard had done so well. The fact of the business is, that the corner of the orchard which you see there, where the apples are some 30 or 40 feet high, are by the road. The apples hung down over the road, the limbs almost meeting, some 30 feet above the ground, and that is in one corner of his orchard just below the barnyard, which shows the result of fertilization and careful management.

Mr. Bell has about 75 or 80 acres in orchard, no other part of which does so well as the 15 or 20 or perhaps 30 trees.

I will show you just one more picture. I have brought along another orchard scene which shows one of those sod orchards that Mr. Hale objects to so seriously. One that has never been ploughed, to my knowledge, since the trees were planted, and the orchard scenes represent the apples being packed for export, and they go direct from the orchard to London. I am not quite familiar enough with that orchard, which is three or four miles from me, to know how much fruit it produces, but something over 5,000 bushels.

Now I shall try in the remainder of the time allotted to me, to tell you some of the bad things as well as some of the good things. Personally, I have too much orchard; but then, you know you will always find some fellow in every neighborhood who wants to be the biggest thing in the neighborhood, and it has been a source of satisfaction to me, up to this time, to have the largest orchard in that section, and I am going to try and have the best orchard in that section. Now if I fail in having the best orchard, then I am going to sell some of my acreage, and still try again for the best instead of the biggest. (Applause.)

However, there is some apology for my undertaking 350 acres of apples, for, as a lad in my father's orchard on my father's farm in Virginia, I helped to plant the first commercial apple orchard ever planted in that great valley, and I own that orchard to-day. I have discovered that I am still quite

a young man, and there is a sort of a sentiment about it. My father owned the place, and my grandfather owned the place before him, and my great-grandfather before him, and no man knows how old the house is, an old stone mansion. We have got its history back a hundred and forty years, and in some way we feel attached to those old places in Virginia. I don't know of a single farm for sale. If any of you gentlemen should rise in your places and ask me the price of land, I couldn't tell you. If any of you should ask me if I could tell you where you could buy an orchard in Frederick county, Virginia, I should have to say to you: "There is none for sale." Almost every part of the country is held by people who have lived there two generations, and there is a sentiment about it that you feel attached to.

Now the old orchard that I spoke of, which I helped to plant, has not been well cared for. I expect if some of you gentlemen should happen in that old Pippin orchard, you would think you were back in some of the neglected orchards in Connecticut. We didn't know much about fruit growing when we planted that orchard, at least my father didn't, and we tried almost every way we knew how to kill those trees, and I sometimes think we tried more than 57 varieties of ways to kill them. And I sometimes wonder if we fruit-growers are not making a mistake in not pausing to think more about what we are doing and how much money we are making, and urging others to go into the fruit business, but I don't feel alarmed, because I feel pretty sure you are going to make the same mistake I made, notwithstanding all my advice.

I expected to buy the cheapest trees, and I suppose all of you who are going to plant trees next spring are going to buy the cheapest trees you can get, you are not going to get the best, you get the cheapest. That is what I did. I expect when you plant those trees you will have to get some crops off that land as I did. Perhaps if you are corn growers you will put corn in the orchard, and perhaps if you are hay growers you will put some hay in the orchard; anyway, you try to get

some crops from the orchard before the trees come into bearing. Then you want to mix in some peaches with the apples as I did, and find out four or five years later you made a mistake, as I did.

Then you all will need that orchard land for pasture. Perhaps you don't keep sheep up here, but we all do down in Virginia, and it is a mighty good place to turn the sheep in an orchard, and let them clean up everything, grass and weeds and apple trees. (Laughter.)

Then I expect you will mow some grass in that orchard, and that will supply money to get a mower to try to cut down the apple trees with, and then after you are all through, turn in the old cow, in the good old summer-time, and she will want to knock off all the apples she can reach, and break down the trees, and I think of all the 57 ways I have tried to kill an orcharad, that an old cow, costing about $30, with a pair of good horns is about the best way to do it. (Laughter.)

I was thinking, as some gentleman told the story last night, about the peculiar appearance of some of our orchards, where you stand and look up underneath the trees, they are grown up to the first limbs just as level as a floor, it is about four feet on the average, perhaps not quite so high, we will say three and a half, but the under side of those limbs is just as level as a floor. It looks as though somebody had been down on their knees and gone through with a pair of sheep shears or clippers and trimmed off those trees about three and a half feet from the ground. When you see an orchard like that in Virginia, it means sheep have been in there, and they have eaten everything off as far as they can reach, and usually they reach up about three or four feet. So that is the natural way that we grow fruit in the valley of Virginia. We are getting better posted as the years go by, and we are finding competition from the Northwest and competition from Connecticut, and just incidentally I want to say that, while we think of Winchester, Virginia, as the Hood River of the East, we have heard of the Connecticut Pomological Society, and we

are inclined to think that of all the eastern associations our closest competitors are going to be the Connecticut people.

When I came through Washington on Monday, I stopped at the Agricultural Department to tell some of my friends I was coming up to Connecticut to the Connecticut Horticultural meeting, and the officials of the Department of Agriculture told me: "You will find some live wires up there, those are hustling, go-ahead people." And when I stopped in New York to see a friend from Virginia who has an orchard down in Virginia, he said: "Tell the Connecticut Pomological Society they don't know it, but I joined and paid my dollar because they are live, go-ahead people and I want to be with them," and that is the estimation in which you are held outside of your own state. (Applause.)

While I am telling you these somewhat fragmentary stories I have a series of photographs here that I am going to ask the Secretary to pass around to the audience, and you will find at the bottom of each picture a legend describing the view. You see there is a method in this scheme, because it is easier for me to talk if you are looking at the photographs and not paying so much attention to the speaker.

Now they say we are developing in the little valley of Virginia in some ways along correct lines. In other ways we are just as far behind as anybody can be. We have not been able yet to perfect any fruit growers' association so far as selling our produce is concerned, but we have developed an organization for some other purposes, and if I have time I would like to make some suggestions to you on that line. We have an organization with regard to making fruit exhibits, and incidentally you have a photograph there of a part of an exhibit recently made at the State Horticultural Society at Frederick. The judge at that show was the same that was the judge at the great apple show at the Pacific Northwest apple show, and he made the statement publicly after the show was over, that it was the best exhibition of non-irrigated fruit that he had ever seen up to that time. Of course, that was diplomat-

ic, because he didn't want to put us in competition with the irrigated fruit in the Northwest.

We had at that little state meeting not so many people as you have here, but about 600 boxes of apples on exhibition.

We are developing in another way, and I was a little bit surprised to hear some of your people say yesterday that you paid about 50 cents a barrel for cold storage.

We only pay for cold storage at Winchester 30 cents a barrel, and we have a capacity there of about 60,000 barrels, and the proprietor of the cold storage plant has pledged himself to the fruit growers to keep up with the demand whatever that may be.

I think that when I was here with you five years ago I made the statement that, with the trees then planted, the Shenandoah Valley of Virginia would produce a million barrel of apples in ten years. My brother Hale denies that statement and says I told you that the valley of Virginia would produce 100,000,000 barrels in ten years. And in that connection, if you will pardon somewhat the digression, I am reminded of a little story I saw not long ago about a witness on the witness stand in court, and the attorney was trying to get him to say something he didn't want to say, and he said: "Now Mr. Jones, if you were going along Main street at one minute past nine on Monday morning, and a brick should fall off the scaffold and hit you on the head, what would you call it?" Mr. Jones promptly said: "I would call that an accident." "Well, now, Mr. Jones, suppose you went by that same place at one minute past nine o'clock on the next Monday morning, and another brick should fall off that same scaffold and hit you on the head, what would you call that?" And Mr. Jones said: "I would call that a coincidence." "Well, suppose you passed by the same place at one minute past nine o'clock the next Monday morning, and a piece of brick fell off the scaffold and hit you on the head, what would you call that?" And Mr. Jones said: "I would call that a habit." (Laughter.)

Now scientific exaggeration is an accident with me, on

certain special occasions it may be coincident, but with J. H. Hale it is a habit. (Laughter and applause.) With him it is what the moving picture people call a continuous performance, (laughter) so I don't believe that I told you that.

We have great times down in Virginia sometimes with our farmers' institutes. We have big farmers' institutes that run three or four days, we get sometimes 1500 people in the opera house, and whenever things get a little dull, somebody gets up on the platform and makes a crack at an old Dutchman by the name of Solenberg, and he always comes back and starts things going and livens up the meeting. Now I miss my guess if Hale isn't your Solenberg. (Loud laughter.)

However, I think I told you six years ago that we would raise a million barrels of apples in the valley of Virginia in ten years. This year, with four years to spare, the railroads report to us that they moved 780,000 barrels of apples from the valley this year. I think that probably I will reach the limit before the ten years are up.

The prices that we secure for our fruit are varied, as it should be, because it is varied in quality. The best growers last year received three dollars a barrel for red fruit, which with us means everything except the Albemarle Pippin, and four dollars a barrel for the Albemarle Pippin.

Now one of the surprising things to me is that in looking over your list of varieties for which you offer premiums, there is not a single apple on that list that we grow, except Ben Davis. I have often wondered what the Ben Davis was good for, and now I believe it was made to be the connecting link between the North and the South.

When we think of the tremendous number of varieties that are successful under varied conditions of soil and climate, it only gives me an idea of what our country is capable of if properly developed.

Now just a word about our varieties. The York Imperial, which you don't grow here at all, is our great money maker. The yield of fruit it carries is tremendous, the tree is a good grower and grows very rapidly, and altogether, it is

the most satisfactory apple we grow. It has some weaknesses, it is subject to cedar rust. And I think if you good Connecticut people have never seen an orchard badly infected with cedar rust, you have something to learn. We see whole acres practically defoliated with cedar rust, and it is a very serious problem with us. A good many of us are planting some of the varieties of fancy box apples.

At the recent State Horticultural Show at Roanoke, was a box of Virginia Delicious, and the originator of that apple, who was at the show, bought a box of Delicious and sent it back to Oregon, as an example of what the apple would do grown in the East. I presume he was expecting, first of all, to undertake to show that it was satisfactory over a wide extent of country.

We are growing Jonathan to some extent, although it develops two bad faults, it drops early and doesn't keep. It develops what some people call the Baldwin spot, but it is more serious than that. The Winesap is not grown extensively on the west side of the mountains, but is grown on the east side. The Albemarle Pippin in Virginia, is nothing more than the old Newtown Pippin, or the Hudson River Newtown Pippin, which is known in the European market. If you will go into the question, you will find it originated as the Hudson River or Virginia Newtown Pippin, or the Albemarle Pippin, as it is called down there. It is the great apple that we grow at Winchester, but I don't think it excels the New York apple of the same name, although a trifle bit more shiny. It does not excel the New York Pippin in flavor.

When I came up from Virginia this week, I thought I brought with me four boxes of Newtown Albemarle Pippins, as we call them, but I found when I got up here that my man had made a mistake and I had got only three boxes of Pippins and one box of Ben Davis. Of course, I am not going to offer you a sample of Virginia Ben Davis this afternoon, but I am going to ask your officers to have a table placed in front of the platform here, and put these three boxes of Albemarle or Virginia Newtown Pippins down on the table, and

I would like very much to have every one of you, as far as they will go, take a sample of the genuine Albemarle Pippin. (Applause.) We don't regard the Albemarle Pippin as being the best money-maker, although of the highest quality fruit. It is not a prolific bearer, and will not come into profitable bearing under ten or twelve years, and is subject, the apple and foliage both, to every disease known to horticulture, still we manage to grow them fairly well.

We are progressing in another way in Virginia, especially at Winchester, the county seat of Frederick county. We are beginning to talk fruit down there almost as continuously as they do in Hood River and Wenatchee. Our people are taking it up, and one of our National Banks, the Farmers' and Merchants', has bulletin boards in the main lobby of the bank, and each man's name is put on the bulletin board, and the number of bushels he has to sell. No further information is given, but when a buyer comes to Winchester and wants to know how many apples there are and who has got them and where the man is, he goes to the bank and they tell him. And as soon as any man sells his crop of apples, he goes to the bank and there is a little card displayed opposite his name "apples are sold." The president of that bank told me just before I left to come here, that his bank paid out over $600,000 this year for apples, the apple dealers having that for their headquarters.

Another development took place this year in Winchester for the first time, there were 40,000 or 50,000 bushels of apples handled in Winchester that were not grown in the state of Virginia. I mean by that that the buyers come there as headquarters, half a dozen or twenty of them during the apple season, and the growers are now beginning to understand they can come to Winchester any time between the first of August and the first of September and find a number of apple buyers ready to do business, and they sometimes bring samples of their fruit, and usually if they take the buyer to their orchards in Maryland, in Pennsylvania or western Virginia, the buyer comes back to Winchester and the business is trans-

acted from that point. We regard that as a very hopeful sign, and if we make that the central point of the apple business in Winchester by increasing our cold storage capacity and inducing the buyers to make that their headquarters, and induce the growers to come there and sell their goods, we think we are going to get railroad facilities much more than we have had before. The great market for us is the south, they want the fruit we grow, and the Norfolk and Western railroad which runs directly south, passes within nine miles of Winchester, and there is some talk of making a connection over there by trolley or steam branch, connecting with the Norfolk and Western. A few years ago we got the Pennsylvania railroad into Winchester, also we have the Baltimore and Ohio, and there is some talk now of getting the Southern railroad, one of the chief branches of which runs within about eighteen miles of us, and we are hoping very much when this is done we can get the attention we deserve.

Without in any way boasting, I really believe that the meadow section or lower part of the Shenandoah Valley is attracting more attention to-day in the way of apple culture and apple growing than any other one place east of the Rocky Mountains.

We have some serious trouble, as was brought out here yesterday. The warm, muggy days of August are apt to bring us severe attacks of bitter rot. Some years ago it seemed as though bitter rot would exterminate our orchards, but the government came to our rescue and established a station down in Albemarle county, and Professor Scott and others whom you are familiar with, spent two or three days in work down there, and finally discovered a method of treatment for bitter rot, so we are not now seriously troubled.

In that same connection about four years ago, the government established what in effect was an experiment station in our own orchard. They have fifteen acres of orchard of my own, composed of York Imperials, Ben Davis, and the Yellow Newtown, and they are trying all sorts of experiments in spraying, cultivation and fertilization, and we have

got the greatest benefit. I never feel like talking to an audience of horticulturists without expressing my gratitude for the work that the United States Department of Agriculture has done for us in Virginia. We are only about two hours and a half from Washington, so that the gentlemen can come up easily, and last summer what I conceived to be a rather remarkable circumstance occurred in my orchard, and I am going to take time to tell you about it, thinking maybe something of the sort might help you.

Dr. Waite of the Department of Agriculture, had been conducting those experiments in the orchard all summer. In the latter part of August he had a field meeting; and it was an interesting thing to the apple growers, one hundred and fifty of whom were present. I was interested to find out how they took the lecture, that they came to hear. I had that same idea, that a man ought to know where he is going, for if he doesn't he will never know when he gets there, and I wanted to see how many of those fellows had that disposition. So I circled around on the outskirts of the crowd, and observed, to my surprise, and somewhat to my chagrin, that a good many of the fruit growers were cranky, they wanted to be shown, they didn't know about this spray or that spray, and they didn't know about this way to trim trees, and I didn't altogether like the attitude.

About two weeks later, when I had fifty or sixty men in the orchard picking apples, I said: "Dr. Waite, will you try that experiment over again, I am going to have all my men, just ordinary farm labor, come down out of the mountains for apple picking work, and I am going to have those fellows come here at dinner time, and I want you to take them through the experiment, and lecture to them just like you lectured to our people." Well, the first sign I noticed was a feeling of pleasure on the part of those men at the fact that we had been considerate enough to take them through that course. Some of them had been working at it all summer, but didn't know anything about it. Dr. Waite took those men, a good many of whom couldn't read or write, and spent half a

day in going around through that fifteen acres, and explaining what kind of material this tree had been sprayed with, or what he had done to this tree, and how this one had been treated. And I stepped around the outskirts and listened, and those men were just as intensely interested, and they hung around, and Dr. Waite was crowded so that he could hardly have elbow room, and they found all sorts of things on the gound under the trees, on the limbs, in the trees and on the fruit, that they wanted to know about, that I believe, my friends, that when we got through with that experiment, those men were better apple pickers, and they did better work for me the next day than they had ever done before, and they are coming back again next year. I believe that was the first attempt with anything like that sort of a crowd of workmen in the state of Virginia.

With regard to our exhibits, the State Horticultural Society, like yours, had been in existence some twenty-five years, but up to nine years ago had never made an exhibit of fruit. Nine years ago we had our meeting in Lynchburg, Virginia, and before the meeting I thought the time had come to make some sort of a fruit exhibit. So I went around through my county, and I went out to what we call the Pine Hill section of the state, land which is not considered very valuable, and I bought half a bushel of peaches that I had happened to see out there on another occasion, which was very fine. Then I went to another farmer and he gave me those big turnips that I had stumbled on, and then I came back through a neighbor's orchard. I wrapped the peaches and turnips and apples in paper, including some York Imperials from a neighboring orchard, and Pippins from my own, and took them in a flour barrel. And when I landed in Lynchburg, I had to go and buy two kitchen tables and put on the floor in the main hall right down in front of me, and that was the first apple show ever made by the State Horticultural Society in Virginia, nine years ago. So we are making progress, and you are making progress.

I came here to see you some six years ago, and according to my best recollection, there wasn't an apple exhibit in your meeting. I think we are a little ahead of you yet, and I think we can keep ahead.

We want something else beside money, but we are going to try to keep ahead there in Virginia, and we are going to, if it takes some time. We are going to advertise our stuff, and we think we have got a pretty good proposition.

Now, it is approaching the hour of adjournment, but I am going to risk tiring you just five minutes longer.

Last winter a number of apple dealers from Chicago and New York came to Washington to appear before the Committee on Agriculture and advocate the LaFean bill, which was nothing more nor less than to standardize apple grading and packing, making a standard barrel and box and packing and grading, and I met Hale there, of course I always meet him where there is anything to be done for the fruit interests of the country, and we appeared before the Committee on Agriculture. We also met from fifty to sixty men from Washington and Oregon, violently opposing that standardization of apple packing and packages. They had for their personal counsel Mr. Benjamin Poindexter, who has since been elected to the Senate of the United States, and I understand largely on account of the interest he has taken in the fruit growers of his state, and they were opposed to any standardization of apple packing and packages, and they beat the bill. Now I don't know why. We have been taught to believe that Oregon and Washington were the two states of all the Union that wanted standardization, but apparently they do not. I prophesied this, that the time would come when they would be knocking at the doors of the Capitol to get the very bill through they were opposing at that time.

Well, at that time the Oregon people were particularly bumptious, as I thought, about what they were doing, and I had secured some figures from the Agricultural Department before I had gone up to the Capitol, and I made this statement. I made the statement that Winchester, Virginia,

which is the county seat of Frederick county, had shipped more apples in the year 1909 than the whole state of Oregon, and that the adjoining county in West Virginia had shipped as many as the whole state of Washington. At once there was an uproar, but fortunately the authorities from the Agricultural Department were present in the room and had the figures. I merely mention that to show the development here in the East. And what struck me as being one of the most practical things about that statement, after I got through and the Committee adjourned, a representative from Virginia, my own state, from Richmond, who expects to be chairman of the Committee on Agriculture of the next House, came down on the floor of the committee and introduced himself to me. I knew him before but he didn't know me, and he said: "I am very glad to know you, Mr. Lupton, and I am surprised at the statements you have made about the way you are growing apples. I didn't know Virginia grew any apples." Now there you are, a man that expects to be chairman of the Committee on Agriculture in the next House who didn't know that his own state was growing apples. So you see what we have got to overcome.

As a result of that meeting in Washington, we found out these eastern apple growers were not united on anything, not because our purposes were not identical, but simply because we didn't get together. So about two months ago a number of men representing West Virginia, Maryland, Pennsylvania, New York, New Jersey, and Delaware, organized what was called at that time the Eastern Fruit Growers' Association, the objects of which were to secure such legislation as would be of interest to the fruit grower. First we thought we might have something to say about the parcels post; then we thought we would like to have the Secretary of Agriculture give authority to prevent the sending of infected nursery stock. Then we thought we would like to have some standard packing and packages. We didn't say anything about the tariff, because I guess we didn't quite dare to.

It pleases me to come up here from Virginia, I declare, gentlemen, it does me good, to hear you Connecticut fellows scrapping about the tariff. I am reminded of a little couplet that some congressmen got off in a tariff debate a year or two ago. The condition was exemplified here this morning when Professor Henry got through with his remarks. As indicating the situation in the mind of the people about the tariff, he said when the battle began:

"Come Billy boy blue,
Come blow your horn nice,
Blow hell out of cotton
But don't touch rice."

Although I am ready to discuss apples, I know just a little more about where I stand myself, and I am not ready to discuss tariff questions with Connecticut. My experience leads me to believe that if we had an Eastern Fruit Growers' Association, we might at least tell our representatives to let apples alone on the reciprocity business anyhow. But, however that may be, we have gotten along in the way I told you, but we want your co-operation. We want you to send delegates from your society, we want your personal co-operation. And to repeat what I said last night, I understand you expect to have an Eastern New England Fruit show in Boston next year, then I understand there is going to be a fruit show at Rochester next year, and there is to be one in Virginia next year, and maybe one in Maryland.

Now, my friends, it is the same old story over again, and that is a fact, that united we stand and divided we fall. I, for one, believe it is true that these fruit shows all over the East divide up our interests, divide up our ability to make a greater exhibit. Why, those western fellows are united and are going to keep ahead of us. Now I believe that if we can get together on some sort of a program which will obviate such jealousies and local criticisms, get together on some sort of a united plan of having a big Eastern Apple Show either next winter or the winter after, we will just put a crimp on those fellows

from the Pacific Northwest that they will never get over, and I should like exceedingly to see that done.

I am very sorry I didn't bring more apples. I have plenty of them in cold storage. Now don't understand these apples that are being distributed are any better than your Connecticut apples, but they are just different, that is all.

Now, Mr. President, I think I have detained you people about as long as I ought. It is about time for adjournment, and with your permission, I think I will close my talk at this point. (Applause.)

Mr. Lupton's splendid address of nearly an hour, was attentively listened to and appreciated by all present. The audience especially appreciated Mr. Lupton's gift of samples of Virginia grown Albemarle Pippin apples which were distributed at the close of the address. All were glad of an opportunity of tasting the high quality of these famous apples, several boxes of which had graced the stage earlier in the meeting. Mr. Lupton's presence and the inspiration of his address added greatly to the success of the convention.

PRESIDENT ROGERS: We are going to open the session this afternoon at one-thirty. Vice-President Drew will be in charge and Prof. Wilson of New York is going to give a demonstration in apple packing right on the stage before you. Be sure and be here on time. We will now take a recess until one-thirty.

## AFTERNOON SESSION.

The final session of the annual meeting opened at 1:45, with Vice-President Drew in the chair.

The contents of the Question Box and questions from the program list were taken up for discussion.

VICE-PRESIDENT DREW: A gentleman has just handed me this questoin: "Why should 90 per cent of a 400-tree apple orchard be barren after blossoming full, and the next orchard over the fence be bearing fine?"

PROF. GULLEY: You mean full of blossoms? Did the gentleman see the orchard after they bloomed?

MR. EDDY: Yes.

PROF. GULLEY: Both the same varieties?

MR. EDDY: No, different varieties.

PROF. GULLEY: There might be a dozen different reasons. If one of them was scabby the year before that might account for it. To my mind you might have a storm or wind on your farm, and on the next orchard not severe, and that wouldn't surprise me at all. Simply because the two farms adjoin, I hardly ever like to make a diagnosis. We know that one part of the orchard not being thoroughly sprayed might make considerable difference. Then it is a matter of setting of the fruit. The varieties might make some difference. It would be very hard to tell about all the conditions. It will happen in all sorts of orchards. Full blossoming doesn't mean a setting of fruit always, by any manner of means.

VICE-PRESIDENT DREW: We have still quite a number of questions on the program list that haven't been taken up yet. Possibly some of these you are interested in, and if someone will suggest some of these questions we will take them up for discussion.

A MEMBER: Number 21: "What new apples are worth planting?"

VICE-PRESIDENT DREW: That was pretty well thrashed out yesterday afternoon.

MR. WILCOX: Number 27, "Who would advise planting grapes in Connecticut for profit, and what about currants?"

VICE-PRESIDENT DREW: I will call on Prof. Gulley again.

PROF. GULLEY: As to currants, I don't know. As to grapes, a man who is handling fruits for local markets, especially if he has got peaches, it is very nice to have grapes to go with them, to carry out the season, but for money in grapes in this state, there isn't any money in it, and that is true. Those New York fellows can put them down here much lower than we can. Some of those foreigners may make a success in growing grapes, but for the ordinary fruit grower, except in connection with other stuff, to carry out the season, I don't believe in it, myself.

VICE-PRESIDENT DREW: Now about currants, I believe currants in Connecticut are a highly profitable proposition. Most of the currants in the Boston and New York markets come from along the banks of the Hudson, and I don't know why we can't grow them as cheap as anybody else. The market is unlimited and the market in every other state is good, and currants can be grown so cheaply that an enormous quantity can be grown on one acre. In fact, I met a man in Rochester who took in $900 of gross receipts off from one acre. He is very enthusiastic, he has got acres and acres growing in the western end of New York and is shipping them to Boston.

MR. PLATT: I would like to know about number 3: "Is there any use of buying potash to fertilize our rocky hill lands?" Mr. Hale, if he was here, could probably answer that as well as anyone. What would you say, Mr. Drew?

MR. DREW: I should imagine if anybody was growing fruit on rocky hill lands, they would find it probably advisable to use a certain amount of potash, at least some potash in some quickly available form.

Question number 8: "What results have been obtained by using basic slag on apples and peaches?"

VICE-PRESIDENT DREW: There are other people here more competent to answer it, or answer it a good deal better than I can. There is Mr. Barnes, of Barnes Brothers, you have seen their fruit, and I believe he is a large user of basic slag, in fact, I think most of the large growers in Connecticut are using it in preference to acid phosphate. For myself, I have used it for the last five years on peaches and apples, and I thoroughly believe in it. You hear a lot of people telling about using lime on fruit lands. And if you can get it in that connection, why, basic slag would be good, too, from 17 to 19 per cent of phosphoric acid, and anywhere from 30 to 50 per cent of lime. And the experiment stations tell us when they use this Wagener method of analysis you have about 16 per cent of that, that is available, (that is phosphoric acid), and the basic slag is soluble, and that is what is now sold. For all practical purposes it is just as valuable. And I take it from the orders that all these large people in Connecticut are giving, and the amount they are using, that they believe in it. There is one thing about it that hasn't been mentioned, and that is that basic slag contains a large amount of iron, and a lot of people think that may account for the very deep green color it gives to the foliage. Of course, a certain amount of iron and phosphate might help that. Now there is a question, will basic slag help color the fruit? I think, myself, it is in particularly good form to do that. All other conditions being favorable, I think it will aid in getting a good color on the fruit, and I think that is one of the greatest problems in New England. I think basic slag, in connection with potash, is the best fertilizing element to use.

A MEMBER: How does it compare in price with acid phosphate?

MR. DREW: I don't know, I don't buy acid phosphate, so I don't know what the price is. I imagine slag is $13 or $14 a ton, and I should imagine where you buy it in large quantities it is even cheaper than that. The growers in Con-

necticut this year have combined pretty well, and bought it to very good advantage.

A MEMBER: Less than $13 by the car load?

MR. DREW: I don't know just what they paid for it, I wouldn't say exactly, but I think there has been some very large orders put in for several hundred tons, where they have bought it as cheap as that.

A MEMBER: Is there any danger in using acid phosphate?

MR. DREW: Why, I don't know, myself. I think on some things acid phosphate is all right. If a person is growing asparagus it is all right. I wouldn't use basic slag on potatoes, it will make them scab, and some people believe that strawberries and blackberries do well on an acid soil. Still, I think probably there are some soils on which acid phosphate would do just as well for the phosphoric acid as basic slag would, but on apples and peaches and pears, and most of the tree fruits, I believe phosphoric acid as, supplied by basic slag, is better than acid phosphate, but still, of course, it is a question where people differ.

A MEMBER: How much to the acre?

MR. DREW: Depending entirely on your land. Some fruit growers in Connecticut use it as high as 1,000 pounds per acre, and I don't know but more. I have never used it more than 400 or 500 pounds, myself.

Question Number 5: "What are the best combinations of cover crops?"

VICE-PRESIDENT DREW: Will Mr. Frank Platt answer that question?

MR. PLATT: I have tried some cover crops, and I have fallen back on Russian vetches. I haven't used it in orchards so much, but I have used it as an incentive to grow crops of corn. I usually sow about a couple of pounds to the acre. Crimson clover is a little too uncertain. A good crop with us, is the exception rather than the rule. We have very good results with red clover, but not as good as with vetches. Vetches have been prohibitive in the past on account of the

high price of the seed, but at the present time the price is within reach, and the crop has never failed.

PROF. GULLEY: Last week I heard of a new mixture, one bushel of oats, 15 pounds of vetches, 8 pounds of clover, and half a pound of cow-horn turnip. I thought that was a pretty good mixture.

VICE-PRESIDENT DREW: Here is another question which has been called for: "What is the best treatment for winter apples during the first month after picking?" If a person had cold storage, I don't think there would be much question what to do with them when you got them picked and packed, and that is to put them into cold storage. If you haven't got cold storage facilities, why, the best thing is the old-fashioned cellar storage, I should suppose.

A MEMBER: I would say I have had the best success in putting them in the cellar, opening it when the wind is good, and shutting it when there is moisture. I certainly should not advise piling them up outside, or even barreling them up and putting outside, as we used to do.

VICE-PRESIDENT DREW: Here is a question: "Why is the chemical action superior with the home mixture of lime and sulphur?" That is, I understand it, why is the commercial lime and sulphur superior? Do I understand that is the question, why is commercial lime and sulphur superior to the home made mixture? Is that the meaning of that question?

A MEMBER: Hardly, but I think the question there is one we had up yesterday, as to why is a concentrate or a dilution of lime and sulphur preferable to the home-mixed lime and sulphur?

DR. CLINTON: Going back to the question of the commercial, compared with Scott's mixture, I think if I may answer the question, the point is that at last we have come to the opinion that the reason that the concentrate, properly diluted, is more satisfactory than home-boiled lime and sulphur for the control of apple scab, is that when the spray dries on the trees, the sulphur, which is the active principle, is much

more finely divided, more evenly divided, and acts more effectively on the fungus.

A MEMBER: I would like to hear question number 31, and especially the quince part of it: "Why are we not giving more attention to growing such fruits as the cherry, plum and quince?" Quinces are getting to be in good demand at the present time.

MR. GEORGE F. PLATT: Mr. Chairman, about thirty years ago I planted an acre of quince orchard, and with two exceptions I have had a good crop every year since. They are quite a profitable crop with us, and we get sometimes 500 baskets to the acre, and from that down to 200. Every year we get a crop, and since we have been spraying, we get pretty good fruit, and get a pretty good price. It is all right with us.

A MEMBER: Do you cultivate?

MR. PLATT: I think I cultivated for about fifteen years. The trees are 20 feet apart, and they came so close together it is very difficult to cultivate. Now I let my stock run through it and do not cultivate it at all. We sprayed the trees with Bordeaux once, and I have no trouble with blight at all. About ten years ago we were troubled a little with blight, but it is not like the pear blight, it doesn't spread over the orchard. We haven't had any of the blight for ten years.

MR. WILCOX: When do you spray?

MR. PLATT: I spray when the quinces are about as big as marbles.

MR. WILCOX: Any borers?

MR. PLATT: Yes, we have borers, but we don't prune our trees. The quince naturally throws up a great many sprouts, and some of the old trunks are pretty well pierced with borers, but there is enough left to make a tree, and enough young ones come up so that the orchard keeps growing every year. We cut out the branches that the borers have killed and still have tree enough left. We tried to kill the borers in the quince, tried to get them out when the orchard was young, but they are such a bad insect to kill with a wire or by cutting out, that they go

right into the body of the wood, the body of the tree, in the center of the trunk, and you can't get the plaguey things out. So twenty years ago I thought I would try to get ahead of them, for it was cultivated then, so I made a mound around each tree four feet high and five feet in diameter, way up into the branches, and I thought as the borer usually worked close to the ground, I would get ahead of him, but I couldn't do it. They went to the top of the mound and started right in there just the same. But the mounds are still there and we get good fruit, and it is quite a profitable acre.

VICE-PRESIDENT DREW: We will now have to take up the first address of the afternoon, on "Up-to-Date Methods of Packing Apples." We are very fortunate in having with us Prof. C. S. Wilson, of the New York State College of Agriculture, who I am pleased to introduce.

Professor Wilson then gave a very practical and illuminating address on apple packing, having on the stage a modern packing table and the various appliances with which to illustrate his remarks.

## Up-to-date Methods of Packing Apples.

By PROF. C. S. WILSON, Professor of Pomology, New York State College of Agriculture, Ithaca, N. Y.

Mr. President, ladies and gentlemen, it is a source of great pleasure to be able to meet with you fruit growers of Connecticut, my neighbor fruit growers, so to speak, to discuss your problems with you, and to see what you have been doing, as is shown by the exhibits here.

I am very much pleased to see the apple growers of Connecticut start packing in boxes. While coming here,—coming down through the state, I will say this with all sincerity, I am enthused with the work you are doing and with the opportunity which you have before you. I, myself, have been, as Mr.

Drew has, through the widely advertised sections of the West, and I will say this, there are just as great opportunities for fruit growing right here in the East as there are in any of those western sections; with the same kind of intelligence and labor, the economic returns would be the same.

As I said, I am glad to see the growers of Connecticut starting to put up their fruit in boxes. I believe the question of packing of apples is one of the greatest questions, the greatest problems, which the fruit grower of the East has before him at the present time. I believe that the time has come when we must improve or totally reconstruct our methods of packing. Now you are all familiar with the success of the western grower with box packing. Many of you here this afternoon probably, many of you growers, possibly feel that the barrel which we are now using is not the package for some particular varieties. Don't misunderstand me now. I will explain myself. Some of you, as shown by the exhibit downstairs, have already used the box package; probably more of you would have used the box package this fall if you knew where to get the boxes and about packing, etc., that is, you didn't exactly know what to do or how to do it, and it is the purpose of my little talk this afternoon to put before you such information regarding the box and the methods of packing as will enable you to put up a first class box package, and I want to speak incidentally of better packing for barrels, which I think is also an important question.

Now the first question that comes to us when we approach this box packing problem, is what varieties shall we in the East put up in a box, that is, when we are starting out. I will frankly confess that it is a mighty hard question to answer. After thinking it all over, I have come to this conclusion, that when we start out, let us start out for the box package with our fancy varieties and see how they work out. We may find that the box is adapted to all varieties, and we may find that the box is not the package for us here in the East, but I think we will find it is best for our fancy varieties.

Now let us approach that problem from the standpoint of the market. Most of us here know that a large part, possibly the larger part, of our apples, are used for cooking purposes. I think that is a common ground, we will all agree to that, such as the Baldwin. For those varieties, it seems to me, that the barrel which we now use is well adapted. I don't see any reason for fancy packed apples of that kind at the present time. We might mention such varieties as the Baldwin, Rhode Island Greening, Ben Davis and varieties of that kind.

We are, however, growing a large number of fancy varieties for eating purposes, that is, varieties that go on the tables of those who are willing to pay a fancy price for them, and the number of those varieties which we are growing is constantly increasing. For those varieties the box is the better package, it seems to me, than the barrel. As a matter of fact, the barrel is not well adapted for those fancy varieties. In the first place, it is too big, in the second place, it does not adapt itself to careful packing and attractive packing. The box is the better size, it is smaller, and it also adapts itself in a manner for careful and attractive packing. We might mention such varieties as the McIntosh. And by the way, I saw a box of McIntosh reds that certainly was fine. If you people in Connecticut can grow the McIntosh as that box was, then I say for goodness' sake grow the McIntosh. It is way up in quality, at the very top, and sells high in price, and is very fine. It is one of the best varieties. It is a crime for any man to put a McIntosh into a barrel. I won't say it is a crime, but I think it is a pity. The McIntosh, the Spitzenberg, the Yellow Newtown, the King, Jonathan, Wealthy, and those varieties, are well adapted to boxes.

Then we have some varieties which we might say come right in between the box package and the barrel package. Baldwins, for example, might be mentioned, that is, we might put the Baldwins in a barrel or box, according to the market. And by the way, if I were Mr. Hale, and could grow as fine Baldwins as he has down there in that barrel, I believe I would put them in a box. They were certainly fine Baldwins, and

with all due respect to Mr. Hale, I don't believe that any of us,—I will put it this way, I haven't seen any better Baldwins this year than Mr. Hale's Baldwins, and put up in boxes they are certainly fine.

So I say the Baldwins might come in either a barrel or a box. Then we might mention also Rhode Island Greenings. Possibly the Greening would pack well in a box. But, fruit growers of the East, let me say this, and I appeal to you strongly, when you are beginning to put apples in a box, for the reputation of our fruit here in the East, do not put such varieties as the Ben Davis into a box. I don't believe that is any place for it. (Applause.) In the first place, you all know you ought not to be growing Ben Davis anyway, and in the second place, don't put it in a box, and I might say some of our best growers in New York state, the largest growers, put the Gano and Ben Davis in boxes this fall, and that is going to give New York apples a bad reputation. I say, if we are going to begin this box packing, let us begin right, put the right varieties in and then put up a good pack. (Applause.)

Now right here I want to correct an opinion that seems to me is an erroneous opinion, in regard to the boxing of apples. Some of the growers seem to think that in order to put up a box apple it is necessary to pick out from the run of an average all fine specimens, thus depreciating the rest that they put in the barrel. Such is not the case. To be sure, box fruit ought to be first class, but, in the case of a box of fruit, graded as to size, small, medium and large, the small being put in a box by themselves, the medium by themselves and the large by themselves; hence, if our fruit is first grade, it is going to fail in one of those sizes, and the small size is no less valuable than the larger sizes. If we pack our best varieties in a box, then we would put into that box the run of the average, graded on a basis of size, the box and the pack adapted to that size.

Now the purpose, as I said before, of my little talk this afternoon, is to show you methods of packing apples, so I will get right at that immediately. In order that you might have

something definite to carry away with you this afternoon, instead of what I might merely say, I have had prepared and passed around a little folder. I think this folder will give you in a nutshell the information which you want in case you were going to pack apples in a box, and I will refer to that as I talk.

There are one or two changes I want to make. I have changed my mind since I made that out, and I want to make a few corrections.

In the first place, I want to make a distinction between a well-packed box of apples and a poorly packed box of apples, because I want you men here in Connecticut, if you start this box package, and I hope that some of you will, as a matter of fact, I know you will,—I want to see you start right. It certainly means a lot for the reputation of your fruit. Let me see if I can explain what I mean.

Here is a well-packed box of apples, every apple fairly uniform in size and color, neatly wrapped, every apple placed systematically and regularly in a layer, and snugly, so there is no moving, one layer placed snugly and neatly on top of the other, at the top a proper bulge, and then the top of the box nailed on neatly, I think you will all agree that a box packed like that is an attractive box.

Now as to the practical operation of

## Apple Packing.

The packing of apples is an exceedingly important question at the present time. We New York and New England growers are beginning to realize that the time has come to improve, if not wholly reconstruct, our methods of packing. The success of the box package in the West has been brought forcibly to our attention. Some of us, perhaps most of us, believe that the western box is the best package for some of our varieties, and a few of our growers have tried boxing some of their fancy fruit. Probably more would have tried the box had they known what pack to use and how to make it, where to get the boxes and the press. The difficulty was that we knew hardly what to do or how to do it. The purpose of my

talk this morning is to discuss briefly with you the varieties we may pack in the box and to place before you such information regarding the box, packs, and packing as you would need to put up a first-class box pack. I wish also to discuss briefly better packing for our barrels.

The first question which comes to us as we approach the problem is: What varieties shall we pack in the box? Let us analyze this question from the standpoint of the market, that is, how and by whom are our apples consumed? Keep in mind now the varieties which we grow. A large part, the larger part, perhaps, of our apples are used for cooking purposes—Rhode Island Greenings, Ben Davis, Baldwin, and the like. For such varieties the barrel, which we now use, is well adapted. There is no need of a fancy package.

We are, however, growing a large number of high quality varieties for dessert and eating purposes. For such varieties the box is admirably adapted and I believe should be used more widely. As a matter of fact, the barrel is not well adapted to such varieties. In the first place, it is too large, and in the second place, it is not adapted to careful packing, on account of which too many of our apples are bruised. The box is a much better size, and adapts itself economically to careful and fancy packing. For this pack we would use such as the Northern Spy, McIntosh, Fameuse, Esopus, Spitzenberg, Twenty Ounce, Wagener, Yellow Newtown, Jonathan and the like. Some varieties might be packed in either the box or the barrel, according to the market. The Baldwin, for example, would be such a variety. The King might also be mentioned here. We should not, however, for the reputation of our boxed product, in the beginning, at least, box such varieties as Ben Davis, Gano and the like. Some of our growers, I regret to state, have been putting such varieties into the box.

I wish here to correct an erroneous impression which seems to prevail in regard to boxed fruit. Some of our growers think that, in order to get a good grade of apples for boxing, it is necessary to sort out the fancy specimens of a variety, thus depreciating the value of the rest, which we pack

in the barrel. Such is not the case. To be sure, boxed fruit should be first class, but all such fruit is graded into different sizes, small, medium and large, all of the small fruit being packed together, the medium by itself, and so on. If, then, an apple is first grade, as first grade should be, it will fall into one of these sizes, and the smaller size is no less valuable than the larger. Whatever we pack in the box, therefore, would be the first grade fruit of the variety as it runs, sorted into different sizes and packed in a box adapted to the size.

METHOD OF PACKING. I wish particularly this afternoon to explain to you what a first-class box pack is and the method of packing, so I shall proceed with this immediately. In order that you may have something definite to carry away with you, instead of mere spoken words, soon forgotten, I have prepared and passed around this little folder. In case you wish to try the packing in boxes, this will give you the information in a nutshell.

In the first place, I want to explain what a good pack is and to show the difference between a good and a poor pack. If we in New York and New England begin the box pack, we must begin right. A poor pack will harm more than help. Some growers who have used the box in this state have made awful work of it. Let us start right.

WHAT IS A GOOD PACK? Apples uniform in size and color; all neatly wrapped in paper; each specimen packed snugly in its place; each layer firm and tight; with proper bulge at the top and bottom. In a box thus packed, there is no shaking or bruising, or shrinking in transportation.

WHAT IS A POORLY PACKED BOX? Apples uniform in size and color, but not wrapped; instead of snugly placed, apples loose in the rows, some shaking and rolling. A lining paper is placed on top and another layer similarly set in; so on to the top. No uniform bulge; fruit loose, rattles when the box is shaken; bruised more or less. Contrast this with the well packed box. If we are going to pack any fruit, let us pack it well.

Box. Two size boxes are used in Oregon—Standard and Special—with dimensions as follows: Standard, 10½ inches by 11½ inches by 18 inches, inside measurement: Special, 16 inches by 11 inches by 20 inches, inside measurement. In both cases the thickness of the box material is: Ends, ⅞ inch, sides, ⅝ inch, thick enough not to bend or bulge and thin enough to make light sides. Top, two pieces, ¼ inch, thick enough to be of sufficient strength, thin enough to bend and make a good bulge. There should be two cleats for each top and bottom. The sides of the box should be nailed with four nails at each end of each side. The cleats should be put neatly on the box and four nails driven through them and through the top or bottom into the ends of the box. Five-penny cement-coated nails are preferable; six-penny nails may be used.

Packing table. A good type is shown. The bed is made usually four feet long and three feet wide, with two by fours for legs. One end is extended on each side about a foot, on which to rest the top of the box. Another board is extended, also, about a foot on each side and is screwed on the bottom of the framework of the bed, and on this is rested the lower end of the box. The table is covered with canvas, preferably double. The top layer should be loose, so that one can conveniently shake off the dirt or leaves which may collect. It is convenient to have shelves beneath the table on which to place wrapping paper, lining paper, and the like. Also a hod should be provided for each packer. This should be of convenient size to hold wrapping paper, and so built that it can be hung on the side of the box.

Box Press. This is the type of box press common in the better fruit growing sections of the West. It is so arranged, as you see, to permit the bottom of the box to bulge when the head is nailed. It is also arranged for different length boxes, within certain limits. The ends of the top of the box are caught and pressed down by means of the forked arms, the work being done in such a manner as to avoid bruising the apples.

WRAPPING PAPER. Wrapping paper in the East can be purchased at a wholesale paper store. Either light Manila wrapper or white newspaper grade may be used. The grower should have two sizes at hand, some 8 inches by 10 inches, and some 10 inches by 10 inches. The approximate cost of this paper is 30 cents per thousand sheets.

LINING PAPER. The lining paper is made from newspaper stock, size 18 inches by 24 inches. Approximate cost $1.15 per thousand sheets.

LAYER PAPER. In some cases it is necessary to use layer paper to raise the height of the pack a little, in order to come out right at the top. The grade of paper for this purpose is colored tagboard. The size is $17\frac{1}{4}$ inches by 11 inches or 20 inches by $9\frac{3}{4}$ inches, according to the box. The approximate cost is $7.50 per thousand sheets.

PACKING. Before placing the apples on the packing table they are usually graded into different sizes. This facilitates very much the work of the packers. A sizer of this kind can be used at the beginning, but one soon trains the eye to recognize the sizes. Every apple is wrapped. The operation is simple and easy and a matter of "knack" and practice. The wrapped apple is then placed snugly in its position in the box. Several different kinds of packs are used, the most common and best being the diagonal pack, as you see here. Another kind of pack, less desirable, but quite commonly used, is the straight pack. In order to give you definitely the make-up of these packs I have had them printed in the circular. These are the different sizes, number of rows, number of apples per row, and the different size boxes, as used in Hood River this fall.

The height of the box is so adapted to these packs that one comes out at the proper height very easily. It is necessary for the packer, however, to get the proper bulge. This is done by choosing a slightly thicker apple for the center of the box, or in the case of a flat apple, to turn it on its end at the ends of the box. When the box is full the bulge in the center should be about one and one-half inches, and at the

ends, the apples should extend above the box about a quarter inch.

HEADING. The box is taken from the packing table to the press and the top pressed in, placed, and nailed in this manner. An inch and a half bulge gives, after nailing, a bulge of three-fourths of an inch on both top and bottom. This keeps the apples firmly in place and takes up any shrinkage in transportation. When piled up, the boxes are placed on their side, which, if the box is properly made, should not bulge.

I think you will all agree with me that this box represents an extra fine pack. Every apple, as you see when I shake it, is held firmly in place. It will stand handling and transportation without bruising the apples.

If we growers in the East are planning to use the box package—and I hope we all are for our fancy varieties—let us use it right. Let every box which we put up be well packed.

TABLE OF COMMERCIAL BOX PACKS.

| Size-Expressed in No. apples per box. | Tier. | Pack. | No. apples in row. | No. layers in depth. | Box used. |
|---|---|---|---|---|---|
| 45 | 3 | 3 St. | 5-5 | 3 | Standard |
| 54 | 3 | 3 St. | 6-6 | 3 | Special |
| 63 | 3 | 3 St. | 7-7 | 3 | Special |
| 64 | 3½ | 2-2 Diag. | 4-4 | 4 | Standard |
| 72 | 3½ | 2-2 Diag. | 4-5 | 4 | Standard |
| 80 | 3½ | 2-2 Diag. | 5-5 | 4 | Standard |
| 88 | 3½ | 2-2 Diag. | 5-6 | 4 | Standard |
| 96 | 3½ | 2-2 Diag. | 6-6 | 4 | Special |
| 104 | 3½ | 2-2 Diag. | 6-7 | 4 | Special |
| 112 | 3½ | 2-2 Diag. | 7-7 | 4 | Special |
| 120 | 3½ | 2-2 Diag. | 7-8 | 4 | Special |
| 128 | 4 | 4 St. | 8-8 | 4 | Special |
| 144 | 4 | 4 St. | 9-9 | 4 | Special |
| 150 | 4½ | 3-2 Diag. | 6-6 | 5 | Standard |
| 163 | 4½ | 3-2 Diag. | 6-7 | 5 | Standard |
| 175 | 4½ | 3-2 Diag. | 7-7 | 5 | Standard |
| 185 | 4½ | 3-2 Diag. | 7-8 | 5 | Special |
| 200 | 4½ | 3-2 Diag. | 8-8 | 5 | Special |

BARREL PACKING. I wish to mention briefly one other matter which it seems to me is exceedingly important at this time, and that is, a better pack for our barreled apples. The time has come, I believe, when we should grade our barreled fruit in reference to sizes. In fact, such will be necessary if we compete with our southern neighbors, who, though they still use the barrel, put up an exceedingly attractive package.

Our present practice is, considering size only, to class all specimens above two and one-half inches in diameter as No. 1's, putting all different sizes in the barrel together. Thus we have in the same barrel apples varying in size from two inches to the largest—a medley of sizes—which look exceedingly unattractive, to say the least. With but little additional labor we could separate our different sizes, putting the small apples together, the medium size apples together, etc., and then carefully pack these different sizes separately in barrels. Certainly this would improve the appearance of our fruit immensely, and we would realize enough more for it to pay for the additional cost several times over.

The proposed LaFean bill provides for this sizing. It seems to me that this bill is a big step in advance, and even though the eastern and western grower may have minor differences, such minor differences should be set aside and the more important features agreed upon and pushed. Whether or not this legislation be enacted, we New England growers can improve our barrel packs by thus grading into sizes, and then with a little more careful heading and handling, we can place a much more superior article on the market.

In conclusion, permit me to point out the important points which I wish you to remember. First, the varieties of our fruit which you may pack in the box; second, what a good box pack is and how to pack it, and above all things, for the reputation of eastern fruit, let us begin the box pack right: third, the grading of our barreled apples according to size, which appears to me to be an exceedingly important question

at the present time. I leave these thoughts with you for your earnest consideration.

I thank you for your attention.

DISCUSSION.

A MEMBER: Why is the bulge indispensable?

PROF. WILSON: The bulge acts as a spring to take up any slack in transportation, that is, with the proper bulge, a box of apples starting on the Pacific Coast can be brought clear across the continent, shipped to England, and still, when it gets to England, be tight, because if there is any slack, that spring will take it up.

A MEMBER: I would like to inquire right here, has there been any estimate made of how much the shrinkage will be?

PROF. WILSON: I know of none. All we do know is this, that a bulge of an inch and a quarter or an inch and a half has given us, after shipment to the market, a very fine box, tight and all right. I can't answer that question any further.

I think everyone of you will agree that that is a neat package (pointing to box on the stage) that those apples on the market will be attractive. And, by the way, I wish some of you would go down to the markets and see the barreled apples as they are rolled out onto a table to sell. I think all of us would be surprised, and some of us who saw them packed would swear up and down and all around, that they were not the same apples after they got to the market. If you don't believe that go right to the market and see it yourself. It doesn't look right, it has a bad reputation.

Now a box of apples which comes from the West has a fine reputation. Why couldn't you men in Connecticut have such a reputation for grading and packing apples, not only in a box, but in a barrel, so that whenever your apples come on to the market, Connecticut fruit will mean *quality*, and you can have that reputation just as well as you can have any other reputation.

It seems to me that the time has come when we must pack our fruit in a barrel differently, that is, we should begin to grade our barrel through on the basis of size. Why can't we, with a very little extra labor, size the apples, putting the smaller apples by themselves, and the larger apples in other barrels by themselves? Certainly, with very little labor and time we could do that, and a barrel packed that way, when rolled out, would look much more attractive properly packed and graded as to size.

I referred to the LaFean bill. The LaFean bill provides for such grading as to size for our barrel apples, and it seems to me it is a good step in advance. Although this bill may not be the best, I think if you Connecticut fruit growers should begin now to grade your barrel apples on the basis of size, you would be surprised, I think, at the returns which you would get.

In conclusion, then, I want to bring out first, the varieties which you would pack, if you were going to pack in a box, don't put Ben Davis in a box, put nothing but our best varieties.

Second, if you pack in a box, for the reputation of our fruit, pack well, and I would, in this connection, wrap every single fruit. And then, in regard to the barrel fruit, think over the proposition of grading our fruit as to size for the barrel.

A MEMBER: Do you put a layer paper between each layer of apples?

PROF. WILSON: Well, that depends. Generally speaking I put a layer paper in the bottom and one on the top. If the apples are large enough they will come out properly without the layer paper between the layers. If, however, they come out a little shy, put in a piece of layer paper. I like, however, to use no layer paper between the layers of apples.

A MEMBER: I would like to inquire as to that matter of the size of apples and grading in the LaFean bill. A great many customers don't feel like buying a barrel of apples, and the greatest question comes here with apples in a barrel, they

don't know what size they are inside, and they say: "Are those apples merchantable in their quality?"

Another thing. Seconds generally mean seconds, and it is a bad thing to say seconds. You might say No. 2, but what are you going to do, have a No. 3 grade also?

PROF. WILSON: You mean how are we going to distinguish sizes, and still keep the quality?

A MEMBER: Yes.

PROF. WILSON: The LaFean bill says they shall be distinguished U. S. Standard size A, U. S. Standard size B, and U. S. Standard Size C. Size C is just as high in quality as A or size B. As a matter of fact, I had rather have size C than size A, because they are not so big apples.

MR. J. H. HALE: Mr. President, I want to endorse what Prof. Wilson has said about that grading of apples, and the remarks on the LaFean bill. It is absolutely right that our apples should be graded into a proper size, whether it is size A, size B, or size C, they should be No. one of that class.

Talking to a dealer in this city within half an hour, he told me, while a few of our Connecticut growers have graded according to that law in the last two years, that if he buys a barrel of any one of those grades, he can sell *eleven* pecks of them of the same kind. If he buys a barrel of Baldwins or Greenings of the other ungraded kind, the best he has been able to do this year is to sell *seven* pecks of *good* apples out of it. He also told me that for those ungraded or unsized apples he has had to pay over $4 a barrel, but that he is willing to pay $5 for the B grade and $6 and $7 for the A grade, because he knows exactly what he is getting. There was a difference of one and two dollars a barrel for proper grading. This is from a business standpoint.

But the consumers have been swindled over and over again. Everyone who has sold any apples to a consumer, where the apples were not graded, have swindled the buyer every time, or else he, knowing that he was being swindled at the start, has only paid as for culls and made us throw in a

few good ones, one or the other. Every time a farmer in Connecticut sells a barrel of apples that is not the same all the way through, dock him a certain per cent, the same as they would in a bank. If you intended to put $100 in a bank and only put in $90, they would give you credit for only $90. (Applause.)

I want to most heartily endorse what Mr. Wilson has said about grading. I knew him as a boy in the orchard business. He is the young son of a mighty good old father. (Applause and laughter.)

PROF. WILSON: How much do you want for that compliment? I haven't anything but small change.

MR. HALE: I will take half a dollar now and the rest when you settle up that $10 you borrowed of me the last time you were here. (Applause and laughter.)

MR. TUTTLE: I would like to ask what the cost of packing is?

PROF. WILSON: I had a slip giving exactly all the figures right straight down through the orchard, of all operations in the West, but I lost it, and so I didn't say anything about it, but I can give it to you approximately, anyway. The girls pack more apples than the boys, girls can do this seemingly better than the boys. I don't know why, it is one of those things where the fingers come in handy, and girls' fingers twist around better. They get 6 cents a box for the packing; grading 10 cents; then the box in the West costs 10 cents, we have to pay about 12 cents here, possibly we could do it for 11 cents if we went to the largest manufacturers and asked for large quantities. Then pruning, spraying, hauling, picking, harvesting, and drawing to market, and the grading and packing altogether 40½ cents per box. That includes the cost of the box.

A MEMBER: Is it practical to use a grader?

PROF. WILSON: I don't believe so, I don't believe we want to try any grader for our fruit. The best graders are the human hands, it seems to me, because they will not bruise the fruit.

I might say in this connection, that a large grower in Grand Junction, Colorado, has gotten up a grader for grading apples according to size this year, and that grader works so that apparently there is no bruise on the fruit. But I want to see it tried out a few more years before I say we can use a grader. I don't think we want to use it for apples.

A MEMBER: Where can those boxes be had?

PROF. WILSON: You can get them of two or three dealers. I think this particular box came from Mulqueeny Bros. of Buffalo, New York. Coles & Co. of New York make them, and there is also a firm of Bacon Bros. in New York State who make a box. You can get them of two or three firms.

MR. MANSFIELD: I would like to inquire if anybody has used the half-bushel basket? It seems to me that it is a very desirable package in many ways, a very convenient package for the wholesaler to have, and a convenient basket in the orchard. I would like to inquire who has used it?

A MEMBER: I would say I got some of those baskets very cheap from the South, and they are pretty handy, but they bruise the apples twisting around, and they are not satisfactory at all.

PRESIDENT ROGERS: Any more questions on this packing of apples?

MR. UNDERWOOD: I would like to inquire if anybody knows about this box business? I think I mentioned yesterday, there are two opinions about these box apples. A dealer in Springfield yesterday morning told me to pack in a barrel by all means. He said he had some western apples from Washington that had been sampled a little and a few of them cut open. He unpacked and took the covers off from six boxes and put them into two barrels, and he sold these two barrels to a Springfield dealer last week for $6.00 a barrel. A day or two after that he came in and was perfectly satisfied, but he could not sell those apples all boxed up and wrapped

in papers at $2.00 a box, and the dealer took some native apples instead of the western boxed. That is what a Springfield dealer told me, and he advised me by all means to put my apples in barrels.

PROF. WILSON: That is very interesting.

---

PRESIDENT ROGERS: If there are no further questions on Prof. Wilson's address we will take up the matter of election of officers, which is the next order of business for the afternoon. I am going to call on the Committee on Nominations for their report. Mr. Staples is chairman of that Committee I believe.

## Election of Officers.

MR. STAPLES: Your Nominating Committee beg leave to report the following nominations:

*For President,* Elijah Rogers, of Southington.
*For Vice-President,* George A. Drew, of Greenwich.
*For Secretary,* H. C. C. Miles, of Milford.
*For Treasurer,* Orrin Gilbert, of Middletown.

*For County Vice-Presidents:*

*Hartford,* Lewis C. Root, of Farmington.
*New Haven,* A. T. Henry, of Wallingford.
*Fairfield,* E. A. Jones, of New Canaan.
*Litchfield,* Edson G. Davis, of Torrington.
*New London,* William I. Allyn, of Mystic.
*Middlesex,* George W. Spicer, of Deep River.
*Windham,* E. E. Brown, of Pomfret Center.
*Tolland,* Prof. A. G. Gulley, of Storrs.

VICE-PRESIDENT DREW IN THE CHAIR.

VICE-PRESIDENT DREW: Gentlemen, you have heard the report, what is your pleasure?

MR. GOLD: I move that the report of the Nominating Committee be accepted.

VICE-PRESIDENT DREW: It is moved and seconded that the report of the Nominating Committee be accepted. Those in favor please say aye, those opposed no. It is so ordered. Now how shall we proceed to elect these officers?

MR. STAPLES: I move you that the Secretary be instructed to cast one ballot for the names of officers as contained in the Nominating Committee's report.

VICE-PRESIDENT DREW: It is moved and seconded that the Secretary be instructed to cast one ballot for the list of the officers of this society as read. Is that your desire on this matter? Those in favor say aye, those opposed no. It is a vote and so ordered.

SECRETARY MILES: According to that vote I hereby cast one ballot for the following list of officers:

*President*, E ROGERS, Southington.
*Vice-President*, G. A. DREW, Greenwich.
*Secretary*, H. C. C. MILES, Milford.
*Treasurer*, ORRIN GILBERT, Middletown.

*County Vice-Presidents*:

*Hartford County*, LEWIS C. ROOT, Farmington.
*New Haven County*, A. T. HENRY, Wallingford.
*Fairfield County*, E. A. JONES, New Canaan
*Litchfield, County*, EDSON G. DAVIS, Torrington.
*New London County*, WILLIAM I. ALLYN, Mystic.
*Middlesex County*, GEORGE W. SPICER, Deep River.
*Windham County*, E. E. BROWN, Pomfret Center.
*Tolland County*, A. G. GULLEY, Storrs.

The above named were then declared the duly elected officers of the Society for the ensuing term of one year.

VICE-PRESIDENT DREW: We will next take up a subject left over from this morning's program, a paper on the "Results of a Dwarf Apple Orchard," by Prof. A. G. Gulley of our State Agricultural College. (Applause.)

PROF. A. G. GULLEY: Mr. Chairman, I was asked to say a few words on this dwarf apple question because I am indulging in growing them a little at the college. Now I might first explain that my interest in this question of dwarf apples did not begin with the few that we have at the college, but is a matter of years of attention and study.

## Results of a Dwarf Apple Orchard.

By PROF. A. G. GULLEY, Storrs.

My present experience with dwarf apples is not the first. When a boy I made a trip to Rochester, New York, and with friends visited the then, and still noted ornamental grounds of Elwanger and Barry, and saw a block of apple trees, each tree not higher than my head, and loaded with apples. Their striking appearance remains almost as vivid in my mind as does that of the block I have, at present, in charge.

Some twelve or fifteen years later for several seasons I was interested in the collections of a large society exhibit of fruit. While at that work, it occurred to me that those little trees could be made to produce fine specimens for exhibition. I planted at that same time fifteen or twenty varieties and brought them to bearing age. In handling them I gained some experience that has been valuable since.

When the block at the Connecticut college was started, it was for the purpose of growing good specimens, but more to have a tested tree where scions could be obtained of the newer as well as rare varieties. This is the reason why those now beginning to bear do not embrace any of the more common kinds. The latter have all been added since. We now have about one hundred and twenty-five varieties tested,

and about one hundred more that have not fruited on the college grounds. We are already getting information as to varieties that are desirable, and those not fitted for dwarf stocks. The oldest trees in the block were planted eight years ago next spring, the youngest four years. No attempt has been made to obtain early results in bearing, but to get perfect shaped trees. Many of the older ones have been top worked a year or two after planting, to other kinds, and each season some of the younger ones are so changed as new kinds are procured.

It may be well to state just what dwarf apple trees are. They are any kind of an apple budded on *paradise* or *doucin* stocks. The *paradise* stock used for true dwarf apples is simply a bush form of apple from Europe, and never attains much size. It is claimed that it will grow on very dry or poor soil.

The *doucin* is another slow growing, small, sweet apple, once very common and wild over central Europe. This stock grows larger and stronger than the *paradise*, putting it about half way between the latter and the natural seedling apple. It is said to be much more hardy, and probably better adapted for general use. Both kinds are propagated by layers and cuttings and not by seed.

One thing noted in my first plantings of these trees, was a liability to break off at the union with the stock, probably from the top growing too fast. So in our present orchard all are planted with the union from eight inches to a full foot below ground. The latter depth is due to some trees purchased that were too high-headed to suit me, so we disposed of the extra trunk in that way. My aim is to have all trees headed not over one foot from the ground. We have not lost one in over four hundred from breaking. Many of the earliest planted have established roots above the bud, and all are doing well. Mr. Powell, of New York State, who is growing many of these trees, and adopted this method of deep planting, after seeing the college block, thinks it is a very valuable addition to the health of the tree. So far, we have planted all trees on

*paradise* stock eight and one-quarter feet apart each way, six hundred and forty to the acre. Those on *doucin* stock are ten feet, four hundred and thirty-five per acre. In this last lot we have fifty trees of McIntosh and Gravenstein to see what they will do commercially. My early experience taught me that no long-armed branches were wanted, but short, stiff, stocky limbs with plenty of chance for fruit spurs. This has been the aim in growing the present lot of trees. How well we are succeeding can be judged by those who have seen them. The oldest trees, all on *paradise*, began bearing on some of the kinds three years ago. The past season about thirty varieties produced fruit, from two specimens to a bushel, several a half bushel or more. As already stated, no attempt was made to induce early bearing, but I think that quality has been over estimated. Judging from the same kinds in our trial orchard, on standard stocks, I should think the average gain may be one or two years. The site of the present planting was chosen because it was good apple land, but particularly because it was protected by timber from heavy north and northwest winds. This was a mistake. They need no protection, being so low and so close together. On the other hand, it will be much more difficult to produce perfect fruit, owing to the woods being a hiding place for curculio and other insects. This trouble has already demonstrated itself. I should select an open field for another planting. Our cultivation so far has been clean for four or five years, then let the land grass down and mow it over four or five times during the season. Have so far, used very little fertilizer, as the trees have grown fast enough. But shall, from this on, use potash and bone or basic slag on the trees, as they come in bearing. So far, the trees have been as healthy as the same number of standard trees, and the losses from any cause no greater than would have occurred in the same number in an orchard. There is no doubt that some varieties are better adapted to this method of growth than others. I would not use the strong growers like Fallawater or Hurlbut, unless more room was given. But McIntosh,

Wealthy, Delicious, Yellow Transparent, and Grimes Golden are all satisfactory, as are several others not so well known. We have not done the summer pruning and pinching in, so much used in Europe on the same type of trees. I do not think it practical or necessary.

What are the advantages of these trees? Having the trees occupying the whole surface almost from the planting. We did intercrop with vegetables the first two seasons. Ease of management. The oldest trees stand to-day about five feet high and broad. They can be allowed to reach seven, and those on *doucin* stock about two more, and when so grown, all would be within easy reach from the ground, whether to prune, spray, thin, or pick, and with proper care nearly every fruit would be No. 1. How much of a crop will they produce? I do not know yet as a whole. But that they can and will bear a bushel per tree is evident, which would be at the rate of over two hundred barrels or six hundred boxes per acre. Those trees on *doucin* stock I think can readily double this amount per tree. Even a much less crop would make them very profitable.

Some of the disadvantages would be the first cost of the trees, and they could not be grown, so close at least, on rough lands. As to the price of the trees. I think they are too high at present. There is no reason why they should be any more expensive than standards, particularly at the present price of seedlings. I notice that one nurseryman this year quotes them the same. They are in every respect as easy to grow. We have grown nearly all of our own stock.

No doubt the question would be asked, would you use them? In reply, I will say that I did personally use, the past season, all the surplus that we had as fillers, for which they are eminently adapted. I think they will need more particular care at first to get into shape, but not so much later In the hands of an orchardist, I feel sure they can be made profitable. On all small places they should be used much more extensively.

So far as the college block is concerned, I may say that later should I find the trees are too close for convenient working and the varieties are worth saving, I should go in with a man, horse, and set of blocks and thin out by pulling up, and replanting in a new location.

PRESIDENT ROGERS: What varieties are you setting out?

PROF. GULLEY: I have often used the dwarfs as fillers and such standard varieties as Wealthy, Duchess, etc. If I were planting a whole orchard of Dwarfs I should put in the same varieties as I should use in the standard. For fillers, there is no question but what they can be used and used satisfactorily.

MR. RICE: Is there any danger of setting those trees too deep?

PROF. GULLEY: Well, I don't know. I have gone down at least a foot above the bud, and they are doing as well as the rest. I only went a foot because I had that much. If there had been another foot, I would have gone that.

A MEMBER: Isn't there danger of planting so deep that they will make new roots and form a standard tree?

PROF. GULLEY: No, sir, they will make the roots all right, but I have no fear about forming the standard, they will only grow stronger.

A MEMBER: If you were planting an entire orchard of that stock would you plant them as close as 11 feet?

PROF. GULLEY: If I had plenty of room I would give them a little more, 12 or 13 feet at least. I think those Mr. Wood spoke of were 15 or 16.

VICE-PRESIDENT DREW: The society is very fortunate in having re-elected Mr. Rogers as president for another year. I want to call on Mr. Rogers at this point to say a word or two.

PRESIDENT ROGERS: My friends of the Pomological Society, it has been a pleasure for me in the last year to work with you, and for this reason: I am a member of several different societies of this state, I have worked with several different associations, but I never worked with an association that gave me more support than the Pomological Society has given me. All I am going to say now is merely to thank you for the honor you have visited upon me by re-electing me to this high position, and, thanking you all, we will proceed with our business.

MR. CURTISS: Mr. President, I think the Publicity Committee with their report offered a resolution, and I think no action has been taken upon that resolution. I would ask that the secretary please read the resolution.

SECRETARY MILES read the following:

RESOLUTIONS.

*Whereas,* An impression has prevailed in the country at large that the soils of Connecticut are not generally suited to profitable agriculture, and

*Whereas,* The members of this society and its friends are convinced that such impression is not correct, and have been engaged in a serous effort to disprove it, and to maintain the agricultural reputation of the State, and

*Whereas,* No other one thing is of such importance in this work as a soil survey made under the authority of the United States Department of Agriculture. Now, therefore, be it

*Resolved,* By the Connecticut Pomological society, assembled in its twentieth annual meeting, that Hon. James Wilson, Secretary of Agriculture of the United States, be and hereby is, urgently requested to have prepared and published a soil survey of the whole State of Connecticut as rapidly as the work can be done, so that the results can be published within one year, and be it further

*Resolved,* That our senators and representatives in Congress are requested to do all in their power to impress upon the Secretary of Agriculture the importance of this work to

the residents of this state, and to urge upon him its immediate prosecution and completion, and be it further

*Resolved*, That one member of the Publicity Committee be authorized to proceed to Washington at an early date, to present these resolutions to the proper parties and to use his best endeavors to have the work begun.

MR. CURTISS: I believe the resolution is a good one, and that we should take some action on it, and to get the question before the house, I move the adoption of the resolution.

Motion seconded.

PRESIDENT ROGERS: It has been moved and seconded that we adopt this resolution as read. Would you like to remark on this resolution? If not, all in favor say aye. Contrary minds, no. I hear none? It is passed, and we will leave this matter with our Publicity Committee if there is no objection. If there is none, it is so referred.

PRESIDENT ROGERS: The next business on the table, I believe, is the auditor's report. I will call for the auditor's report on the treasurer's accounts.

Mr. Staples presented report of the auditors (see page 19) and the report was accepted.

PRESIDENT ROGERS: The next subject to come before us is "Market Gardening." We have with us Mr. H. F. Hall of Waban, Massachusetts, who is prominent in the market gardening industry of New England and he is also the President of the Boston Market Gardeners' Association. I have the pleasure of introducing Mr. H. F. Hall, who will speak to us on "Market Gardening in New England." (Applause.)

## The Future of Market Gardening in New England.

By H. F. Hall, Waban, Massachusetts.

Ladies and gentlemen: I thought my talk would be almost unnecessary, as it is getting late, and I will assure you I will not detain you very long. I thought perhaps I would be something like the man who wrote an anthem and he wanted to try it out in the church sometime, and they finally told him when they had a supper one night they would try it on the audience and see how it hit them. So, on this particular night, the chorister said he would bring it in at the proper time. It went on and the author got tired of waiting and he went out and waited. When he came back the audience were going out. The author said: "Why didn't you sing my anthem?" The chorister replied: "I don't think it is necessary, they are going home without it. (Laughter.) So I thought perhaps you would go home without my address.

I have been here during the day and listened to the very interesting talks on fruit, and I have almost been persuaded to go home and set out trees on our vegetable land. I am glad to see the fruit men are optimists, and we vegetable men must take the same position. In fact, a great deal has been said here in regard to grading and packing that can be applied with equal force to the vegetable industry in New England, and when I speak, I speak more particularly of New England. One thing I have generally noticed throughout New England is that grand and undying loyalty every grower seems to have for his particular state. I think that we have noticed that particularly at this meeting. Now, I am primarily a New Hampshire man now living in Massachusetts, and while I spent most of my time in New Hampshire, I feel that Massachusetts is my home state, and my thoughts run almost parallel with the man from Boston who once said if he were to be born a hundred times he would go back to Boston every time for that important event. (Laughter.)

The future of market gardening in New England is a very broad subject, and requires a prophet rather than a practical grower to discuss it. I have a few suggestions for you along this line, and then I will take up, and talk a few minutes on, our methods of growing in the section about Boston.

First I want to say your problems here in Connecticut are very similar to those in Massachusetts, and the growers about Hartford and the large cities in Connecticut, are confronted with practically the same problems with which we are confronted in the Boston trucking section, one problem being southern competition, which we feel very severely about Boston. The time was when early beans and early peas, early bunch beets and bunch carrots first came on the markets, they brought large prices, people were anxious, they were hungry for them. Now they can buy them months before ours come on the markets, that come up from the South, from the Norfolk section and further south, and they lose that appetite, that spring appetite, for the first few radishes, beans, cucumbers and peas, and consequently will not pay those prices that we used to receive for certain vegetables during the first few weeks that we were able to secure them. So it has materially reduced the price of our outdoor-grown vegetables; but the greenhouse man is perhaps the one who feels this competition most keenly.

Lettuce is one of the greatest crops grown in the South. This is shipped to the northern markets, not a great deal into New England, but we feel it nevertheless. A few years ago before this competition was as burdensome as at present, New York was the large market for New England-grown hothouse lettuce. The South, by their crops of heavy head lettuce, have practically taken that trade away from us, and left nothing but our local markets for us to supply. This has so supplied the market that the price has been very low on this account, as we have been building greenhouses every year in large numbers to supply the New York trade, as well as the home trade, and to have it wiped out almost at once left us with too many greenhouses for our local demand, and the

results since that time have been that, barring unfavorable conditions and freeze-ups and heavy storms in the South, prices have invariably ruled rather low for our greenhouse lettuce. This year, fortunately for the New England man, and unfortunately, I suppose, for the southern grower, prices have ruled much higher. New York has been buying our lettuce in large quantities. Lettuce has been shipped to the western part of New York state and even farther west than that, and these outside demands have kept our market clean and in a healthy condition, and lettuce has ruled at a good price, something like the old times. But, taken as a whole, the southern competition is becoming keener and keener. It seems to me that the southern grower is rather outstripping us. While he started way behind us, as it has been said that the western fruit grower started behind and had to follow the examples of the eastern men for awhile. I think we will have to admit that the western fruit grower can teach us a few lessons in intensive methods and perhaps in packing his stock. So it is with vegetables. A few years ago the southern growers were laughed at. I think it was five years ago, at a meeting of this sort, I was talking on vegetable gardening, and I said we would have to look ahead to southern competition, and one of the most prominent market gardeners in the Boston trucking section got onto his feet as soon as I was through, and he began to criticise me for the statement. He said he had recently visited the southern section, and they were 25 to 50 years behind us in intensive methods, and there was absolutely no danger of their becoming keen competitors of ours. At that time lettuce was selling for $1.00 and $1.50 a bushel. It wasn't long, perhaps four years after that, when we were selling lettuce at 10 cents a bushel, that this same man said he thought I must be a prophet, he didn't know as much about the conditions as I did. But I knew of a number of eastern men down South who would bear watching. And I rather suspect the reason the western men are giving you eastern fruit growers such a run is because they were eastern men, and the eastern man in

the West or South makes the most progressive man of all. (Applause.) That has been my experience. There is something in the air that seems to make them work more closely together. And organization, gentlemen, is the keynote of the future progress of agricultural work, it certainly is. I am sorry to say it, because it is such a difficult problem to solve. I don't think there is anything so hard to do for the average New England farmer as to organize and get him to trust others in the same business he is in. But in order to make any great success in the future in market gardening, I feel sure we must organize more closely, we must have greater confidence in others, and we must meet these various problems, which now confront us, with a strong, organized front, otherwise I am a little fearful of the future.

There is another line of competition that is meeting us in Massachusetts, especially about Boston, and I presume you feel some of it here, and that is competition from the Italians. It may seem rather absurd for us to admit that the Italian can outstrip us at the business in which we have been engaged for years, that has grown up with us. It does seem ridiculous that we should be obliged to give in to this class of competitors, but nevertheless it is a situation we have got to face.

### Packing and Marketing Our Products.

One of the leading problems before the New England farmer to-day is that of selling his crops to advantage and thereby obtaining his share of the consumer's dollar.

Our New England growers of fruits and vegetables naturally fall into three classes: First, growers who seldom fail to produce crops of inferior quality, and are therefore unable to pack a high grade mark. Such growers usually find it difficult to dispose of their crops at anything like the market quotations; in many cases receiving much less than the cost of growing, after deducting transportation and commission charges. In the second class will be found farmers who are careful growers, but for some unknown reason fail to realize the importance of business methods in packing and selling

their crops. The reason for this neglect may be a lack of knowledge of market requirements and the importance of appearance, or it may be due to the diversity of crops and operations. Trying to do a little of everything usually results in neglect somewhere. The third class is comprised of men who are not only successful producers of crops of high quality, but business-like enough to realize that their crops—properly graded and packed, are half sold. The growers in this class attend to every detail of packing and marketing, as well as growing, thereby not only receiving a good profit for their crops but helping to increase the demand through satisfied consumers. This class is altogether too small. How can its membership be increased? I will suggest a few ways. The New England farmer needs to do more book-keeping; he should count the cost of everything he produces for market. He would thereby be enabled in selecting his crops to plant only such as had returned a fair profit under his method over a period of years. This would tend toward the growing of fewer crops on a larger scale, or specializing in the production and sale of a few crops found most profitable under his conditions.

It would result in less detail, more intensive methods, larger crops of better quality, lower cost of production, better system of packing and selling, and therefore greater net profits. Many farmers spread themselves over too many acres and dabble too much. They are farming on tradition and trying to grow every known crop as did their forefathers, apparently losing sight of the fact that the wonderful changes made in all business lines during the past 30 years have been due to specialized effort. Business and professional men have long since realized that the day of the generalist has passed, and that all progress rests with the specialist. The farmer has been slower to make this change than any other class, but he must get in touch with the progressive spirit of the times if he would keep company, and profitably do business, with the rest of the business world.

The specialist can cut many corners. Aside from those already mentioned, he can market his crops at a lower cost of transportation. He is known and recognized by the large dealers who pay high prices for large lots of uniformly packed produce than for small, irregular quantities. He would thus be able to sell direct to dealer and avoid commission men, who are believed by many farmers to be an important factor in making their profits uncertain.

Some of the claims made by shippers being: That, while in most cases honest returns on the basis of cash received is not questioned by the shipper, it is sometimes charged that the receiver fails to take proper interest in securing top prices for him. This may be true in many cases, while in others due to a biased opinion of the grower in favor of his goods, or to a lack of knowledge on his part of what constituted the market standard of first quality on the day his shipment was sold. Another complaint is that some commission dealers who also buy and sell produce on their own account, sometimes make low priced leaders of commission goods, on the strength of which they hope to make larger sales or greater profits on the goods they own.

And again, it has been said that in the case of a rising market, returns are sometimes made the shipper at market prices on day shipment was received, while the same goods were in the possession of the receiver several days later, and being sold at an advanced price. Whether these statements are well founded or otherwise, there is certainly need of closer business friendship between grower and commission dealer, but such a change is unlikely to develop except through progressive and specialized efforts on the part of the former. As commission men are human, and therefore not infallible it is not to be expected that where the opportunity is so great some will take dishonest advantage of shippers; this, however, should not lead to the belief that honest commission men are not to be found. From my own experience with such dealers, I can say that I have found and dealt with many whom I believe to be absolutely honest; of others with whom I have

dealt I have nothing to say. It would be a good investment of time and money for a farmer to visit, at least once a year, a large market like Boston or New York to observe the requirements of package, grading, varieties, etc.; in fact, all conditions under which farm products are sold. Besides, he would become better acquainted with the dealers who handle his crops, which is important, as at present between the commission dealer and the farmer there too often exists a feeling of mutual distrust and suspicion, due largely to a lack of knowledge on the part of each of the conditions under which the other is laboring. When a grower packs number two apples or vegetables in the middle or bottom of a package and marks it number one, it is often due to his belief from past experience that goods so packed will give greater net returns than the same goods if properly graded. In other cases it may be due to a lack of knowledge of proper methods of grading and packing such goods. I fear such methods are often adopted with an idea of misrepresenting the contents of the package and with disregard for seller and consumer. An attempt at justification on the ground that honesty avails nothing when selling on commission, is rather far-fetched. The grower should deal fairly with the commission man and then demand from him similar treatment.

Co-operation for the farmer has been much discussed, and while but little progress has as yet been made, it can and doubtless will, solve many of the present-day problems of selling and distributing farm crops. We often hear it said that extremely low prices are entirely due to over-production. In the case of our common vegetables and fruits, the cause is not so much from over-production as a lack of proper, rapid and cheap distribution and a little advertising. It often happens that when the grower is receiving a very low price for a certain crop, in fact below the cost of raising, due to a plentiful harvest, the consumer buys no more of this crop, as the price to him is but little, if any, lower than under normal conditions.

As a rule, our fruits and vegetables pass through too many hands before reaching the consumer, resulting in increased cost and loss of quality, both of which curtail demand and tend toward a condition of under-consumption, often improperly termed over-production. In many cases, produce is shipped a long distance to a large market to be sold, and after passing through from two to four hands, is often shipped back over the same road and delivered to dealers in the town or county where it was grown, the result being an increase in cost of 40 to 60 per cent for double railroad transportation, carting, handling, commission and dealer's profit, besides deterioration of goods from age, exposure and frequent handling. If such loss and delay is a part of our present indirect and awkward system, can we not see the need of a cheaper and more direct route from the farm to the consumer's table? How can this be obtained? First by a reduction of at least 50 per cent in the number of dealers now handling fruits and produce. But what will become of those dealers is asked. Let them become producers, as there will be an increased demand under reduced cost of delivery.

As there is little prospect of this reform, we will consider another way in which this problem can, and doubtless will, be solved, namely through the establishment in all large cities of large co-operative distributing stores or clearing houses for farm produce, to be owned by growers, who would furnish the necessary capital by each purchasing a share of the company's stock. Expenses to be divided pro-rata, according to the amount of sales of each member or stock-holder.

The success of such an enterprise will depend upon the business-like and harmonious management by the board of directors and in no less a degree upon the superintendent or manager, who must be a broad business man as well as an experienced and efficient marketman. Under such a system of distribution, grower and producer would alike profit in many ways, a few of which I will briefly outline. Many of the orders received at the store would be filled by shipping direct from the farm to the retailer. Methods of grading and

packing would improve through the closer relationship of grower and retailer and also by a rule, which could be ordered by such an association, requiring the grower's name on every package. Information regarding crop and market conditions in this, and in some instances foreign countries, could be gathered through the various selling associations throughout the country, thus forming a basis for establishing equitable prices and a steady market. Prices are now fixed with a lack of knowledge of all conditions, and therefore often fluctuate sharply, to the disadvantage of all.

In connection with such an association, canneries might well be established within easy reach of the members, to dispose of the second grades of such crops as apples, berries, squash, tomatoes, sweet corn, etc. during periods of low prices. The members could be called together whenever conditions required, for practical instructions and demonstrations in proper methods of grading and packing, packages to use and varieties best suited to meet the public demand. At such a meeting it could be shown that quality and appearance are always at a premium; that it pays to honestly grade, and pack in clean packages; that highly perishable truck should be shipped as soon as possible after being gathered in the field; that the barrel is still the standard package for New England apples, boxes to be used only in packing very fancy dessert apples; that the specialized and intensive methods of the western growers must be adopted with their package and without which the western box and the eastern apple will remain as now, a misfit.

In conclusion, I will say that I believe the call is strong for a new order in growing, packing and selling our farm products. Changes similar to those I have outlined would materially benefit producers and consumers, and I believe, give an impetus to our New England agriculture such as could be secured in no other way. Action has already been too long delayed. Shall we now heed the call?

DISCUSSION.

A MEMBER: You have thrown out a good many suggestions in regard to vegetables; I would like to ask you what you are going to do with the waste vegetables? The question is with the ordinary market man, he has got to keep the prices up and make a few bunches of radishes pay for the whole lot. The moment the ordinary market man will not take any more than the ordinary customer will pay for, you are up against it; what are you going to do with the surplus?

MR. HALL: That same question came up in New York last winter when lettuce was selling for about 10 cents a bushel. About 25 of the largest greenhouse men about Boston and also members of the Merchants' Association, thought we could form a closer association, and the question came up as to what we should do. We found that every grower was there and had responded to the invitation to attend this meeting, and they were much interested in it. One gentleman said: "I believe the thing to do is to throw away all over No. 2 lettuce, make everything into No. 1." He said there would be still a fair price for our lettuce crop if we would throw away a certain per cent. They all agreed that would be a great thing to do. Another gentleman got up and said: "I have another idea; it seems to me it would be a proper thing for us to form a co-operative selling organization here in town, that would send a man to New York and Chicago and work up a demand for our lettuce; there must be a lot of places where they would buy this lettuce if they could get it at the proper price; we could ship some of it out during the glut at these low prices, and we could get it on the market where they are using no lettuce now, and we can clean up our market in that way."

There were a number of suggestions along those lines, and finally it was thought best to postpone the meeting for two weeks. In two weeks it was called, and at that time the price had gone up to 25 cents a bushel. So instead of having 25 at our meeting, we had only 10 or 13. We thought we

would postpone it two weeks more. At the end of two weeks we got together, and during that two weeks lettuce had gone up to 40 cents a bushel, and it seemed pretty good, we had less than 7 at that meeting, so we just disbanded and gave up the idea.

What should we do in the case of low prices in the summertime? Along at the last end of early tomatoes, and in spinach, radishes and beans, when the price is ruling way down below the cost, a great many ploughed them under and planted another crop. We very often plough under a crop of spinach when it is worth 5 cents a bushel and plant it over to spinach, and we usually get good prices for that crop, because when prices are very low on anything, most people are usually careful about planting that crop. If you sow the seed of these crops when prices are low, way down below the cost of production, you will usually hit a good market. If you sow the seed when the price is high, you will find you are at a loss, because everybody will feel like planting on good prices.

When it comes to the question of handling our surplus, that is something we can't do at the present time, and never will until we are organized more closely, until we can plan these things. That is a problem that is being considered by a great many people, that is, a distributing organization throughout the country in a large sense. Some of those things will help us.

A MEMBER: I would like to inquire about the Skinner irrigation scheme.

MR. HALL: The Skinner irrigation plan is a simple system. All there is to it deserving the name of Skinner is the nozzle, which we buy from the Skinner Company. There are several different nozzles made, but the Skinner nozzle has given the best satisfaction of any of them, and is more generally used. In visiting a western trucking section this fall, I found it was used generally. Small brass nozzles are inserted in holes which are drilled and tapped into small iron pipes about an inch, depending on the length of the line, and these

are inserted about 3 or 4 feet apart along your line, which will run about 200 to 400 feet in galvanized iron pipe. These nozzles have a small round opening. At one end of the line we have a loose stuffing joint on the pipe, so that this long line of pipe 200 or 400 feet long can be drawn around and turned over, and the stuffing box makes the joint tight. We turn the pipe and we throw it off in that direction from the pipe, about 35 feet, and it waters that side. We turn it over and it will water 35 feet on the other side, and we tip it over in that way, so under 60 pounds pressure the Skinner system will throw 35 feet on either side, therefore covering 70 feet in width. It has the advantage of putting it on like a mist, it throws it out in a summer rain storm 35 feet, then before falling it breaks into a fine mist and comes down naturally, and comes nearer to being the natural method than any other method. And it is also cheaper to build. It is unnecessary for a man to stand with a hose. One of our gardeners told me in the drouth last summer his cost of labor for watering was over $40 for putting it on with a hose, and this man has about 100 acres in vegetable work. With this system, perhaps once in half an hour a man goes and turns the pipe over. It has to be turned over four times to water this space of 70 feet wide. The cost, I think, is something like $50 an acre to install it, and will last for a number of years. Some of our growers lay the pipe on the ground between the two rows of lettuce or raised slightly off the ground and it turns very easily. Others prefer to put it up 6 or 7 feet out of the way, so that they can walk under it and plough under it. In that case, a stake is driven into the ground and a fork at the top in which the pipe rests.

It is a very simple method of irrigation, and since it first came into use about three years ago, it has come into very common use with strawberry men, and for long close work, and for very extensive work outdoors. On high priced land, under the intensive method, where they don't care to take the chances of losing their crop, it is especially valuable. It is especially valuable for celery, because we have got to get

celery in at such a time, and if we don't get it in in time, it is a failure. If the soil is very dry it won't grow, and even after it is set it has to be watered, and in a great many cases it means the difference between success and failure in our celery crop.

PRESIDENT ROGERS: I wish we had more time so we could question Mr. Hall, but the time is slipping by, and I think we will have to take up other matters of business. We have several reports to hear yet.

The New England Fruit show report is next, and I believe Mr. C. L. Gold is chairman.

MR. C. L. GOLD: I will just call your attention to these apples on the stage and the apples exhibited downstairs. Was it possible to find such apples here in Connecticut two or three years ago? You could not do it anywhere. To-day we are growing such apples as you have seen yesterday and to-day, and the fruit show in Boston two years ago was very largely responsible for the improvement in the quality of the apples we have got here now. I don't mean to say that the fruit show was altogether responsible for it, but very largely. It fired us with enthusiasm all through Connecticut and New England. The New England fruit show is expecting to hold another show this coming fall; they have met and organized and elected officers, and are going ahead and making arrangements for the show. It is up to us people here in Connecticut to go there and put up a respectable show for Connecticut. And for this exhibition undoubtedly liberal premiums will be offered. We all know that Connecticut took a first class stand at that show two years ago, and now you have got to get busy, and mighty busy, too, to maintain the position which we occupied then. The other fellows are going to come back there with a determination to put up a better show than we, and we want to hold just as good a position next fall as we can, and I want to have you begin right off to grow some fruit to carry to the show, something that is creditable to the state.

I also want to call your attention to a matter that was mentioned yesterday. We have made an application to the Legislature for $2,000 to finance a show from this state, and we want you to invite your members of the Legislature in your several towns to go and to favor that bill. It is none too much, it is only a drop in the bucket for what the state is expending for other items. The other day a bill was introduced asking for $75,000 for an armory. We only ask for $2,000, and we want your help in securing it. (Applause.)

SECRETARY MILES: I know we all take great interest in this exhibit in connection with the New England fruit show, and I am glad Mr. Gold has seen fit to say what he has. I would like to propose the following vote:

*Voted*: "That the Connecticut Pomological Society desires to express its hearty endorsement of the coming New England Fruit Show, to be held at Boston in the fall of 1911; and hereby instructs its Executive Committee to use every effort to plan for and carry out the best possible exhibit of Connecticut fruits at the coming show."

PRESIDENT ROGERS: You have heard the resolution; what action will you take?

MR. GOLD: I move that it be adopted.

PRESIDENT ROGERS: All in favor of this resolution say aye. Contrary minds no. *The ayes have it* and it is adopted unanimously.

SECRETARY MILES: There is another matter I would like to mention. The American Pomological Society holds their annual convention in Tampa, Florida, on the 10th of February, and we have been asked as a society here, to be represented by delegates. The present condition of our treasury does not warrant our sending very many delegates. But I understand that Prof. C. D. Jarvis of Storrs has decided to go to that meeting, and I believe it would be a very nice thing if this society would make him its delegate. I would like to move that Prof. C. D. Jarvis be appointed our delegate at this coming meeting at Tampa.

MR. GOLD: I second the motion.

PRESIDENT ROGERS: It is moved and seconded that Prof. C. D. Jarvis be appointed our delegate.

On vote the motion was passed.

MR. GOLD: I would like to hear from Mr. Lupton about three minutes in regard to a compressed air sprayer which he has.

PRESIDENT ROGERS: I think the Secretary has another matter to come up first.

SECRETARY MILES: I have a resolution here on my desk which reads as follows:

*Resolved*: That we, the members of the Connecticut Pomological Society, at this, our annual meeting, herewith earnestly protest against the passage of the pending reciprocity treaty with Canada, believing that such treaty will be a serious blow to the agricultural interests of Connecticut and New England. We deem it the duty of our senators and congressmen to use all legitimate means to prevent the passage of said treaty.

The Legislative Committee is hereby instructed to appear before the Ways and Means Committee of Congress, if they deem proper, and present our protest, and solicit their aid in defeating the passage of this treaty. Also the Treasurer of this society is instructed to pay the expenses of this Legislative Committee while in Washington."

This resolution was introduced by Mr. J. S. Forbes.

PRESIDENT ROGERS: Gentlemen, you have heard the resolution read, what is your pleasure about it?

MR. L. J. ROBERTSON: I would like to move that the resolution be laid on the table. President Taft has been working along to get in closer union with Canada, and I prefer that this society should not meddle in politics with that question. I am as much of a protectionist as anybody else is, but I think it is entirely out of place for this society at the present time to meddle with that question.

A MEMBER: I second that motion.

PROF. W. A. HENRY: If this society is meddling when it tries to help right the affairs of this country, it seems to me that Connecticut and this society are in a strange condition. Here is a proposition to let in all the agricultural products of Canada free, and only let into Canada a few of our things.

Now I am a free trader, but I don't want all the free trading put on my side of the house at once and without any excuse at this time. I want to offer a warning. If the people of Connecticut want to suffer from this one-sided arrangement, all right. Mr. Taft said he wanted a tariff commission, he wanted to have $400,000, in order to have a proper tariff. Now he says: "We want free trade with Canada for the country." You remember the McKinley bill put $4 a ton on hay, 75 cents a barrel on apples, 25 cents a bushel on potatoes, and it has been kept there. Now Mr. Taft proposes to obliterate that without a single investigation of our producers. He has not asked the farmer in the state of Connecticut anything, he has not said: "What is the cost of production?" but he says: "We want free pulp and lumber." We give up all these agricultural products because they are not manufactured, and you go on buying your plows and your machinery at the high prices you now pay, and still have the Canadian farmers buy their machinery in this country, and at a lower price.

We can stand it on my farm because we are peach growers. If I was a hay grower, an apple grower or a potato raiser, I wouldn't want that 25 cents taken off. They will be shipping millions of bushels of potatoes here. They shipped three million bushels year before last from England. Now if you want to go into this, go into it with your eyes open. And when you get stung, don't squeal. (Applause.)

MR. ROBERTSON: There is no question but what has two sides to it. A year ago this fall I sold my potatoes for a dollar a bushel, 15 or 20 bushels in a lot. The Maine people had potatoes, and the merchants here sent up and tried to buy their potatoes at reasonable prices, which was 10 or 15

cents less than ours. The Maine people would not sell them. I say let them come in from Canada. God bless Canada. If the farmers don't have their eyes open, I say let them come in with us. I am not here to oppose a legitimate question, because that gentleman that last spoke is a free trader and I am not. I am a protectionist from the bottom of my feet to the top of my head and from the bottom of my heart. Whenever we have had protection we have prospered, and whenever we have had free trade we have gone back.

MR. G. W. HULL: I am not a Republican, but I have been a good friend of Mr. Taft, and I think this proposed treaty with Canada is one of the finest things Taft has done, and it would be a very unfortunate thing at this hour, with only a handful of the members of the society present, to pass any such resolution. We know a good many of our senators and representatives are very sensitive to the feelings of their constituents, and we haven't got one-tenth of our members present, and if we pass it, it will be published far and wide. I believe the feeling of my friend on the other side of the hall (Mr. Henry) is largely imagination. I don't think it would injure the farmer one iota. I think it would be folly for us to go back on any movement of this kind which means a closer union between our country and Canada, and say: "We don't want you." I am decidedly opposed to the passage of any such resolution. (Applause.)

MR. J. S. FORBES: I was the introducer of this resolution, Mr. Chairman, and to my mind it is a matter of self-preservation. I am a fruit grower in a small way, and a farmer in a general way; but I am convinced that it is not anything but a question of self-preservation with us. I am sure it is. The situation is simply this with this reciprocity treaty for the New England states, it means that we must sell under free trade and buy under protection, and how can we stand up under such a load as that? I believe in this law of self-preservation, and I am convinced that this resolution should be endorsed by this meeting. I am very sorry there

are no more here, but there is more than a handful here. There is probably one-third of the house in their seats yet, and it is a very good representative body. I hope the resolution will pass. (Applause.)

PRESIDENT ROGERS: If I understand the motion that is before the house, gentlemen, it is a motion to table this resolution, which has been moved and seconded. All in favor of tabling this resolution please stand and remain standing until they are counted. All opposed to tabling the resolution will stand. The motion to table is lost.

Now the original motion is before the house. What action do you wish to take upon it? (Cries of question.) All in favor of passing this resolution, rise. All opposed rise. I think the resolution is passed without doubt. (Applause.)

## QUESTIONS AND DISCUSSION.

MR. GOLD: I want to hear a word from Mr. Lupton about a compressed air sprayer he is using.

MR. S. L. LUPTON: Mr. President, several gentlemen have asked me if I was using compressed air for spraying, and I have told them that I was. I have been using compressed air for four years, and, according to my best recollection, I haven't lost ten minutes of time from repairs. That is, my machine has not been out of order, so far as I now recollect, ten minutes. Of course, I have had the ordinary wear and tear, the hose wears out and the valves wear out and the nozzles wear out, but the machine has given perfect satisfaction without a minute's loss of time.

I bought the compressed air tanks and the liquid tank from the Owen Spray Company, of Sandusky, Ohio. I first started with a small compressor, which was too small for my work, the big pressure of 250 pounds of air was too much, so I discarded that compressor and bought one from the Berry Compressor Company. I had a gasoline engine on my place that I was using to cut fodder and saw wood, about 10 horse

power, and I can load up a tank with compressed air at a pressure of 225 or 230 pounds in about 7 minutes, and at the same time load the other tank with liquid, and in that way I can keep six sets of tanks going in an orchard all the time. I use six sets of tanks, which require six teams and two men with each team and a pair of horses, and in that way we can cover a 350-acre orchard, if the weather is good, in about a week or 8 working days. The spray tanks are like two sawlogs lying on a wagon, they are about 8 feet long and 3 feet in diameter. They are tested up to a pressure of 250 pounds, but I load one with compressed air at a pressure of 225 pounds, and the other with liquid. We drive out into the orchard, we connect the two tanks by a valve, and when the air flows into the liquid tank, the pressure begins at once.

I was afraid I was going to have trouble in regulating the pressure, but I found no trouble at all, except, if anything goes wrong with the hose, or the nozzle stops up, they have to shut off, but ordinarily they have no trouble, for they turn the air in just fast enough to balance the liquid which goes out, and there is a constant flow of air. We are spraying big Albemarle Pippin trees 30 and 40 feet high without any serious difficulty. I think I have done a mighty good job. I took an orchard infested with San Jose scale and got that cleaned up and I think we did pretty well. I couldn't get along without it. All my land is rough and hilly.

A MEMBER: Are those tanks of equal size?

MR. LUPTON: They are of equal size, yes, sir.

A MEMBER: What is the capacity?

MR. LUPTON: 135 gallons.

A MEMBER: What does the outfit weigh?

MR. LUPTON: About 600 pounds, and I put it on my ordinary farm wagon, I trussed up the tanks and set them up myself. I made a cradle and fastened it down tight with a piece of iron tire or iron rope, lifted the cradle up and put it on an ordinary farm wagon, and when I got through with the spraying I took off the tanks and put them in the barn, and

used those wagons for my ordinary farm work. I thought I needed a bigger tank, but I found I did not. With 135 gallon tanks, it takes about three-quarters of an hour to spray out, and by using six sets of tanks I can keep one spare tank at the mixing station, and the man brings the filled tank into the orchard and brings the empty tank back.

A MEMBER: How do you keep your solution agitated?

MR. LUPTON: The compressed air going through a small pipe which runs down on the bottom of the liquid tank keeps the liquid constantly agitated. I have never had any trouble with agitation. I have always had just a little doubt about it. I have had experts down there from Washington, they have analyzed the material, and they find sufficient agitation.

---

MR. H. F. HALL: On the 24th of next September, we are to open in Boston a very large vegetable exhibit, and this will be in conjunction with the Vegetable and Market Garden Association. We are to have a large convention there and the large growers from all over the country will be present. We expect to have the largest vegetable show ever held in this section, along the lines of the New England Fruit Show, and we would like to see many of the vegetable growers of Connecticut there at the show, not only in attendance, but also with exhibits. We have over $2,000 offered in cash prizes, besides medals.

We also would like you not only to visit the convention, but we would also like the exhibits of many of you market-men, and we would like to have you become members of this association which is doing so much good work towards solving our problems, and I hope to see a great many of you market gardeners there.

SECRETARY MILES: I want to say just a word now that our meeting is about to close, and that is, we all feel very proud of the success of this meeting, and I want to say to you all, that the membership receipts have been the largest of any meeting in the history of our society. Still, there are a few membership dues I have not received for 1911, and I hope those of you who have not yet renewed your membership will send it in by mail.

A motion to adjourn was then offered.

PRESIDENT ROGERS: It is moved and seconded that we adjourn. All in favor say aye, opposed no. It is a vote, and this twentieth annual meeting of the Connecticut Pomological Society stands adjourned.

It was just 4:45 o'clock when the adjournment was taken, bringing to a close what all agreed had been the most enjoyable, enthusiastic and successful Annual Meeting in the history of the Pomological Society. It was indeed a splendid and fruitful meeting, probably the best ever held in New England, and fully realized the hopes of all who labored so hard for its success. As a result of this great horticultural gathering, a new impetus will be given to Connecticut fruit growing, and every fruit grower in the state will labor with increased zeal to produce better fruit and more of it.

## Report of the Special Committees on Fruit Exhibit, with List of Awards.

The following awards of prizes were made under the schedules of prizes offered for the Society's regular winter exhibit, which this year was restricted to fruit grown within the state:

### CLASS I.

LARGEST AND BEST DISPLAY OF FRUIT.

First Premium to E. E. Brown, Westland Farm, Pomfret Center ..... $3.00

### CLASS II.

COLLECTION FIVE VARIETIES MARKET APPLES.

First Premium to E. E. Brown, Pomfret ..... $2.00
Second Premium to E. C. Roberts, Middletown ..... 1.00

### CLASS III.

COLLECTION FIVE VARIETIES DESSERT APPLES.

First Premium to E. E. Brown, Pomfret ..... $2.00
Second Premium to E. M. Ives, Meriden ..... 1.00

### CLASS IV.

SINGLE PLATES APPLES.

*Akin.*

First Premium to E. M. Ives, Meriden ..... .50

*Russet.*

First Premium to S. G. Cooke, Branford ..... .50

*Baldwin.*

First Premium to George F. Platt & Son, Milford ..... .50
Second Premium to Thomas Griswold & Co., Wethersfield .... .25

*Roxbury Russet.*

First Premium to O. P. Burr, New Canaan ..... .50
Second Premium to E. E. Brown, Pomfret ..... .25

*King and Fall Pippin.*

First Premium to O. P. Burr, New Canaan ..... .50
Second Premium to E. E. Brown, Pomfret ..... .25

*Rhode Island Greening.*

First Premium to E. E. Brown, Pomfret ..... .50
Second Premium to H. E. Savage Sons, Berlin ..... .25

*Northern Spy.*

First Premium to E. E. Brown, Pomfret ..... .50
Second Premium to E. C. Warner, Clintonville ..... .25

*Sutton.*

First Premium to A. J. Clark, Durham ..... .50
Second Premium to T. H. & L. C. Root, Farmington ..... .25

*Golden Russet.*

First Premium to E. M. Ives, Meriden ..... .50

*Blue Pearmain.*

First Premium to Myron R. Gilbert, Gilead ..... .50

*Wagener.*

First Premium to George W. Florian, Thomaston ..... .50
Second Premium to H. E. Savage Sons, Berlin ..... .25

*Hubbardston and Maiden Blush.*

First Premium to E. E. Brown, Pomfret ..... .50

*Ewalt, Banana and Mann.*

First Premium to John B. Parker, Windsor ..... .50

*McIntosh.*

First Premium to E. E. Brown, Pomfret ..... .50
Second Premium to A. M. Shepard, Simsbury ..... .25

*Rome Beauty.*

First Premium to F. B. Miller, Bloomfield ..... .50

*Opalescent.*

First Premium to E. J. Hawley, Bridgeport ..... .50

*Walker's Beauty, Westland Sweet and Ontario.*

First Premium to E. E. Brown, Pomfret ..... .50

*Fallawater.*

First Premium to S. G. Cooke, Branford ..... .50
Second Premium to E. E. Brown, Pomfret ..... .25

*Gravenstein.*

First Premium to E. E. Brown, Pomfret ..... .50

*Belleflcur.*

Second Premium to E. E. Brown, Pomfret ..... .25

*Pennock.*

First Premium to L. J. Robertson, Hartford ..... .50

*Ben Davis.*

First Premium to H. E. Savage Sons, Berlin ..... .50
Second Premium to S. G. Cooke, Branford ..... .25

*Peck's Pleasant.*

First Premium to E. M. Ives, Meriden ..... .50
Second Premium to George F. Platt & Son, Milford ..... .25

*Pewaukee.*

Second Premium to Thomas Callahan, Newington ..... .25

*Limbertwig.*

First Premium to H. E. Savage Sons, Berlin ..... .50

*Westfield.*

Second Premium to H. E. Savage Sons, Berlin ..... .50

*Parson Sweet.*

First Premium to Myron R. Gilbert, Gilead ..... .50

*Grimes Golden.*

Second Premium to Myron R. Gilbert, Gilead ..... .25

*Haas.*

First Premium to W. A. Stocking & Sons, Weatogue ..... .50

*Stark.*

First Premium to George F. Platt & Son, Milford ..... .50

## CLASS V.

SINGLE PLATE PEARS.

*Anjou.*

First Premium to W. A. Stocking & Sons, Weatogue ..... .50
Second Premium to F. B. Bailey, Durham ..... .25

*Lawrence.*

Second Premium to W. A. Stocking & Sons, Weatogue ..... .25

*Vicar.*

Second Premium to H. E. Savage Sons, Berlin ..... .25

*Clairgeau.*

Second Premium to F. B. Bailey, Durham ..... .25

## CLASS VI.

BEST AND MOST ATTRACTIVE PACKAGE MARKET APPLES.

First Premium to T. H. & L. C. Root, Farmington ..... ..... 2.00
Second Premium to W. A. Stocking & Sons, Weatogue ..... 1.00

CLASS VII.

BEST PACKED BARREL APPLES.

No Entries.

CLASS VIII.

BEST BOX CHOICE APPLES.

| | |
|---|---|
| First Premium to T. H. & L. C. Root, Farmington ..... | 2.00 |
| Second Premium to W. A. Stocking & Sons, Weatogue ..... | 1.00 |

The exhibit of plate apples at this meeting is especially good so late in the season. The specimens to a marked degree show greater care in growing, better spraying and more careful selection for exhibition than in former years.

Especially to be commended is the splendid exhibit from the Connecticut Agricultural College, in which there are over 75 varieties, all well grown, of good size, splendid color, and free from blemishes. The apples from Westland Farm are also of very high quality and well grown. Many single plates show remarkably well grown specimens, particularly of Baldwin, McIntosh, Sutton, Roxbury Russet and Northern Spy.

Practically no scale-marked specimens are on the tables and less apple scab was noted than in former years.

A few commercial packages of apples show that in the near future Connecticut boxed apples will be a feature on the market.

Respectfully submitted,

WILFRID WHEELER,

*Committee of Awards.*

## Special Classes, Open to all New England.

CLASS A.

BEST BARREL APPLES.

No Awards.

CLASS B.

BEST BOX APPLES.

First Premium to A. B. Howard & Son, Belchertown, Mass .... $10.00
Honorable Mention to George F. Platt & Son, Milford, Conn.

CLASS C.

BEST BARREL FOLLOWING VARIETIES APPLES.

*Baldwin.*

First Premium to E. N. Sawyer, Salisbury, N. H. ..... 8.00
Honorable Mention to Hale & Coleman, Seymour, Conn.

*Roxbury Russet.*

First Premium to R. S. Griswold, Wethersfield, Conn ..... 8.00
Honorable Mention to E. M. Ives, Meriden, Conn.

CLASS D.

BEST BOX FOLLOWING VARIETIES APPLES.

*Baldwin.*

First Premium to A. B. Howard & Son ..... 5.00
Honorable Mention to E. M. Burt, East Longmeadow, Mass.

*King.*

First Premium to G. A. Drew, Greenwich, Conn. ..... 5.00

*McIntosh.*

First Premium to G. A. Drew, Greenwich ..... 5.00

*Sutton.*

First Premium to T. H. & L. C. Root, Farmington ..... 5.00

*Hubbardston.*

First Premium to G. A. Drew, Greenwich ..... 5.00

S. L. LUPTON,
*Committee of Awards.*

## Report on the Trade Exhibits.

The display of farm and orchards implements, spraying fits and supplies, fruit packages, nursery stock, etc., was larger than at any previous meeting, all available space in the lower hall was taken up by this "trade exhibit" and in educational interest it was one of the best features of the convention. Manufacturers and dealers show an increasing desire to display their goods at such gatherings of fruit growers, and the Society welcomes their coöperation, appreciating the value of having the latest and most approved tools and supplies shown from year to year. The wide-awake fruit grower realizes that he must keep up to date in the matter of the development and improvement of the best tools for his work.

The following firms were represented in the extensive exhibit:

*Orchard and Farm Tools:*

Cutaway Harrow Co., Higganum, Conn.
The Frank S. Platt Co., New Haven, Conn.
Olds & Whipple, Hartford, Conn.
F. E. Boardman, Agent, Middletown, Conn.
E. W. Auckland, Hartford.
Barnes Bros. (Auto Truck), Yalesville, Conn.

*Spraying Outfits and Supplies:*

W. & B. Douglas, Middletown, Conn.
The Bean Spray Pump, E. M. Ives, Agent, Meriden, Conn.
Goulds Mfg. Co., Seneca Falls, N. Y.
The Frank S. Platt Co., New Haven, Conn.
Spray Motor Co., Buffalo, N. Y.
Harvey Jewell, Agent, Cromwell, Conn.
Cadwell & Jones, Hartford, Conn.
Frost Insecticide Co., Arlington, Mass.

*Insecticides and Fungicides:*

Grasselli Chemical Co., New York, N. Y.
Hemingway's London Purple Co., New York, N. Y.
Sherwin-Williams Co., Newark, N. J.
Vreeland Chemical Co., Little Falls, N. J.
Jas. A. Blanchard Co., New York, N. Y.
Bowker Insecticide Co., Boston, Mass.
Frost Insecticide Co., Arlington, Mass.
B. G. Pratt Co., New York, N. Y.
Geo. L. Warncke Co., Cut-Worm Food, Cannon Station.

*Fruit Packages, Baskets, Boxes, Etc.:*

H. R. Lindabury & Son, Frenchtown, N. J.
Frank C. Eno, Agent, Simsbury, Conn.
G. P. Read, New York, N. Y.
A. D. Bridges Sons, Hazardville, Conn.

*Nursery Stock:*

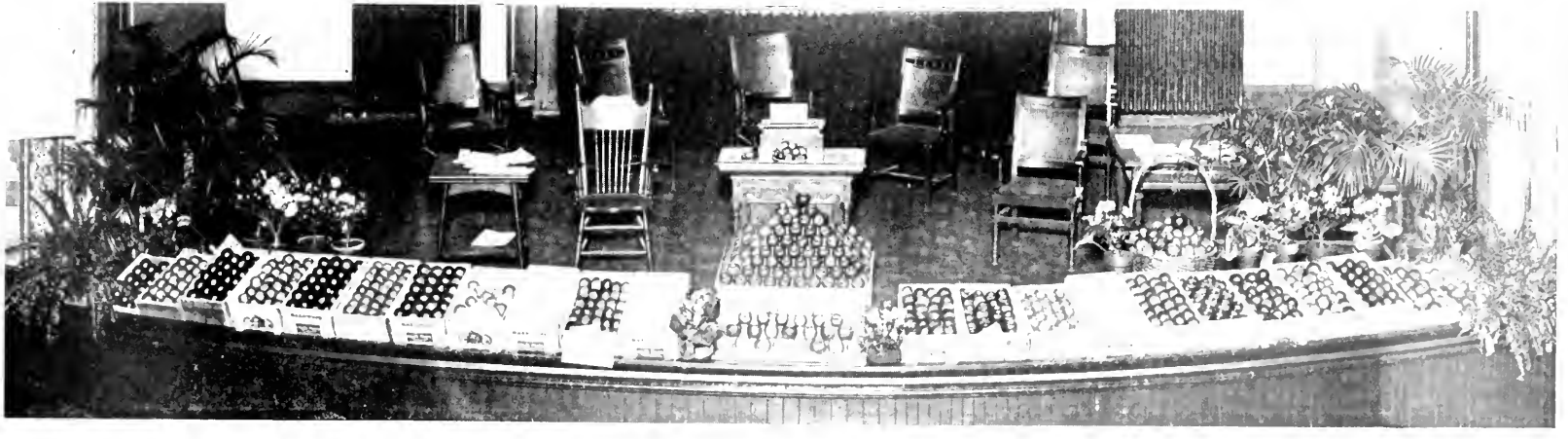
Harrison's Nurseries, Berlin, Md.
Barnes Bros. Nursery Co., Yalesville, Conn.

## Packing Demonstrations.

In an adjoining room, demonstrations in the most approved methods of packing apples for market were given each day by Prof. C. S. Wilson, of the New York State College of Agriculture, Cornell University, Ithaca. This feature proved of much benefit to all the growers present. We firmly believe that such practical features should be continued at future meetings.

A. T. HENRY,
*Chairman of Committee.*

PLATE VI.



VIEW OF THE STAGE AT THE SOCIETY'S TWENTIETH ANNUAL MEETING, 1911.

The Entire Front was Banked with Some of the Finest Apples Ever Grown in Connecticut. Beside Them were Boxes of Superb Fruit from Six Other States.

# PART TWO

## *A Brief Record of Field Meetings, Exhibitions, Institutes, etc., held in 1910.*

### Summer Field Meetings, 1910.

Unlike most of the horticultural organizations of other states, which are content with holding an annual convention and perhaps one meeting during the summer season, the Connecticut Pomological Society has always followed the practice of getting its members together as often as possible throughout the year. It firmly believes in keeping in touch with the membership at every season of the year, thus making the Society a vital factor in the life and work of the fruit growers of the state.

For this reason the summer field meetings have become a permanent feature of the Society's work, and the great success of these popular outdoor gatherings, year after year, has done much for the promotion of the fruit interests of the state, as well as adding to the prestige and value of the organization itself. No indoor gathering can be made half so interesting, instructive and helpful as these meetings held right out in the open field or orchard, surrounded by the growing plants and trees as object lessons. An observing man or woman interested in all the varied problems of fruit culture will certainly learn more in a day spent at one of these field meetings than is possible in any other way, and this is especially true when the gathering takes place on a fruit farm where the best meth-

ods are practiced and a large degree of success has been attained.

The plan of the field meetings of this society has been copied by the other agricultural organizations of the state and by other states as well, and have now become a fixture wherever farmers and fruit growers are organized.

Following the Society's annual meeting in February, and after the farmers' institutes of the spring are over, the attention of the officers naturally turns to planning for the campaign of summer field meetings. The Executive Committee, at a meeting held in May, 1910, voted to hold three or four field days during the summer, beginning with the strawberry season in June.

However, the fruit growers' busy season coming on with a rush, and the partial failure of the strawberry crop, because of drouth and other causes, it was found to be impractical to hold a meeting in June. It was not until July 25, at a meeting of the officers at Savin Rock, that plans really materialized for the summer gatherings. This executive meeting was attended by fourteen of the officers and committees, and an enthusiastic interest in the work of the Society was shown. A dinner at the shore resort was enjoyed and plans discussed for pushing the summer's campaign with unusual vigor. Invitations to hold field meetings were received from Barnes Bros. at Wallingford and Durham, Mr. Charles E. Lyman of Middlefield, and Hale & Coleman of Seymour.

It was decided to accept the Lyman and the Hale & Coleman offers. Arrangements were perfected to make the Lyman meeting a great "peach field day," inasmuch as the peach crop promised to be a most bountiful one, and the work of gathering peach crop estimates would be greatly helped by this means, and also the coöperation of the railroads and fruit buyers could be secured—a matter of considerable importance to the peach growers of the state. August 3rd was selected as the date for the

## First Field Meeting of the Season

and the following notice sent out indicates the scope of the meeting:

PEACH GROWERS' FIELD DAY.

THE CONNECTICUT POMOLOGICAL SOCIETY

Announces its

ANNUAL PEACH FIELD MEETING

to be held at

**The Chas. E. Lyman Farm, Middlefield,**

**August 3, 1910.**

---

Mr. Lyman cordially invites the members and friends of the Pomological Society to visit his big farm and orchards at **Middlefield, on Wednesday, August 3.** This will be **a Great Peach Meeting** from start to finish, and the culture, harvesting, shipping and marketing of this season's peach crop will receive special attention.

**No wide awake fruit grower can afford to miss this great field meeting!**

Another splendid opportunity to visit the Lyman Farm, which is well known as one of the most extensive and best managed in the state. It comprises over 1,000 acres devoted to special crops of peaches, apples, hay, corn and the fattening of winter lambs.

The Peach Orchards, embracing some 400 acres, are expected to yield this year a crop of **100,000 baskets** if weather conditions are favorable. 1,000 apple trees in bearing. 700 tons of hay have just been harvested. There are also 60 to 70 acres of newly set orchards, all affording valuable object lessons for the fruit grower and general farmer.

---

**Everyone interested in peaches should not fail to attend!**

**The dinner will be strictly on the basket lunch plan,** and visitors should bring well-filled baskets. A general table will be arranged with a committee in charge. Tables, dishes, lemonade, etc., will be supplied by the host.

After lunch there will be an informal program of speaking. Prominent fruit men will address the meeting, and Mr. Lyman will explain his orchard and farm operations. Also plans will be discussed for handling the coming peach crop, and it is expected that reports will be made of the fruit crop conditions in the state.

Representatives of the N. Y., N. H. & H. R. R., also leading

commission men and fruit buyers, will be present to confer with the peach growers.

**Peach Growers! Don't fail to be on hand, prepared to give an estimate on your crop and make known your shipping requirements.**

This gathering, like previous ones held at Mr. Lyman's farm, was a tremendous success. The weather was ideal, and the attendance proved a record-breaker, more than five hundred persons being in attendance.

Anyone who has ever had the privilege of visiting Mr. Lyman's great farm knows the unbounded hospitality of the owner, and on this occasion Mr. Lyman did all in his power to make the day one of pleasure and profit to his many guests. Teams met the visitors at the trains and trolley, and all day long they were in service, carrying the crowds of fruit men and women through the various orchards and to every part of the farm.

Mr. Lyman's farm is an ideal place for a field meeting, especially a pomological meeting, as he is one of the largest orchardists in the state, as well as being one of the most extensive business farmers to be found in New England. Mr. Lyman's peach orchards are well located on rolling land, and in the heart of one of the best peach belts of the state. This year's crop he estimates at 100,000 baskets, and the apple trees, which are just beginning to bear heavy crops, will yield many hundreds of barrels this season. Most of the apple orchards are interplanted with peach trees. In the matter of feeding the trees, Mr. Lyman is acknowledged an expert, and much of his success has been due to the fact that he knows how and when to fertilize for the best and largest fruit crops. The heavy expense for chemical fertilizers is abundantly justified in the large yields of fine fruit.

Besides being an extensive fruit grower, Mr. Lyman is known the state over as an authority on grass culture. Hay is an important crop on this farm, nearly 1,000 tons being cut annually. A winter crop, to which Mr. Lyman

devotes much attention, is the fattening of lambs for the high-class market, and in this business he is one of the few in New England who has attained success.

During the noon hour the company gathered for a basket lunch in the beautiful shady meadow adjacent to the Lyman homestead. Following this President Rogers of the Society called the company to order, and a short while was spent in listening to brief speeches by some of the prominent fruit men present.

Of course, the host, Mr. Lyman, was first called on. He gave all a hearty welcome and said he was proud to have so many guests. Mr. Lyman explained his farm operations and told of his failures as well as his successes. "We all make mistakes sometimes in our farming," said Mr. Lyman, "and we learn as much from them as from our successes." He referred to the splendid outlook for the peach crop, and said that the treatment of the orchard must vary from year to year, according to the conditions of the season.

Brown rot is the peach grower's worst enemy. He will try to evade this by thorough spraying to offset the bad weather that often comes at harvest time. He will spray several times, using the lime-sulphur solution, which, however, is still in the experimental stage as a summer spray. The San Jose Scale is not feared any longer by the grower who sprays thoroughly during the dormant season. The spraying given just before the leaf buds open in spring has been found to control the peach leaf curl.

Mr. Lyman said that up to a few years ago hay and mutton were his leading crops, and peaches only a side issue. Now, with over four hundred acres devoted to orchards, peaches are his main crop. Asked how he accounted for the good set of fruit on his apple trees this year, when other orchards were showing but a partial crop, Mr. Lyman said his trees had been well fed, and plenty of fruit buds was the result.

Mr. J. H. Hale was the next speaker, and, as usual,

had something interesting and witty to say. He complimented Mr. Lyman on his success as a fruit grower, saying: "He has opened our eyes to what can be accomplished on our Connecticut soil. Brains, energy and capital have done it, and Mr. Lyman should be given full credit. Such examples of peach growing success are attracting attention in other sections, as well as all over New England. There is a banner crop of peaches in Connecticut this year, and the orchards are being given better attention than formerly. Most of our fruit goes to Boston and other leading New England cities. Because of lack of proper freight facilities at the New York end, very little of our fruit reaches that market. However, the railroads are anxious to do all they can for our fruit shippers and are giving us splendid service to the markets we attempt to reach." Mr. Hale referred to the peach crop in Georgia and Texas, the harvested there being just over for the season. Eight thousand five hundred cars were shipped from these sections in five weeks. Summer spraying of peaches in Georgia has helped to save the crop from brown rot, which is the scourge of southern peach orchards. He had used compressed air in spraying and the peaches were sprayed three times with the self-boiled lime-sulphur wash. This resulted in getting rid of the brown rot and improved the firmness and quality of the fruit.

Mr. T. K. Winsor of Rhode Island was next called on. He said it was an inspiration to come and see this splendid farm and fruitful orchards, one of the greatest object lessons to be found anywhere in fruit growing. He told of his work in spraying this season with arsenate of lead.

Prof. A. G. Gulley followed with a brief talk, in which he complimented Mr. Lyman on the successful management of his extensive farm.

Mr. Orlando Harrison, a prominent fruit grower and nurseryman of Berlin, Md., was the next speaker. Mr. Harrison said we all learn much from such men as Lyman, Hale and others who are pioneers in fruit growing. He

told of a trip to Colorado where $4,000 per acre is asked for peach orchards, no better than those located on New England soil. The trend has been toward the West in years past. This must change, and the boom will be toward the East hereafter.

At this point the growers present were requested to hand in estimates of the probable yield of peaches for the season, and the matter of crop reports for the benefit of the growers, the transportation companies and fruit buyers was discussed. It was announced that the Society would receive and tabulate the figures and publish the same for the benefit of those concerned.

Other speakers who addressed the meeting were H. O. Daniels of Middletown and N. S. Platt of New Haven. The latter referred to the light apple crop in the state this season and in comparison the remarkable yield promised in Mr. Lyman's orchards.

Mr. Wickham, representing the N. Y., N. H. & H. R. R., was present, and discussed with the growers the arrangements for car service and shipping of the coming peach crop. He promised improved service and every assistance to the growers in quick and satisfactory handling of their fruit.

The speaking closed at this point to allow of further inspection of the orchards, the extensive barns and other interesting features on the Lyman farm. The peach men discussed business matters with the large number of fruit buyers and commission men present, this being an important feature of the gathering.

As the afternoon waned, the visitors began leaving for home, after expressing their thanks to Mr. Lyman and his family for their hospitality and willingness to entertain the Society on this and former occasions, which was thoroughly appreciated by all.

Thus closed the 1910 "Peach Meeting," the largest, most enthusiastic and successful in the history of the Pomological Society.

## Second Field Meeting of the Season.

For some time the Society had been promised an opportunity to visit the orchard venture of Brother J. H. Hale, located at Seymour, Conn., and known as the Hale & Coleman orchards, but not until the fall of 1910 did the long-looked for event materialize. Along in September, with an unusually fine apple crop in sight, Mr. Hale suddenly gave the word to arrange for the meeting, and the following invitation went out to the fruit growers of the state:

AN APPLE FIELD DAY

at the

**Hale & Coleman Fruit Farm, Seymour,**

**September 23, 1910.**

Our members and their friends are now to have the long-promised opportunity to visit Mr. Hale's Seymour Orchards and see what has been developed from one of the roughest pieces of land in Connecticut. The peach harvest is over, but the apple crop is in fine shape, just ready for picking. A yield of about one thousand barrels of splendid fruit is promised.

**Apple Culture—Apple Gathering—Apple Packing—and Apples** as the most important money crop for the Connecticut fruit grower, will be discussed and demonstrated at this meeting.

**Don't fail to come!** Take the time to attend **even if you are** busy.

Dinner will be strictly on the **Basket-lunch plan.** Don't forget to bring your lunch basket!

Busses will meet visitors at Seymour Station on arrival of 9:32 train from New Haven and other trains and trolleys. Bus fare, 50c. round trip.

**Brothers Hale and Coleman will welcome all interested.**

**Don't miss this profitable meeting!**

Although this meeting was necessarily held on short notice, there was a good attendance, over one hundred members and other fruit growers turning out for the trip. The visitors were met at Seymour by big busses, and a

ride of some three miles to the top of Moose Hill in Oxford, where the Hale & Coleman farm is situated, was enjoyed. No special preparations had been made to receive the visitors, but a warm welcome from Brothers Hale and Coleman and Mrs. Coleman awaited all who came. The orchards were never in better condition, and the magnificent crop of superb Baldwin apples, reddening under the September sun was a sight to delight the eye.

Probably no orchard in Connecticut has been watched with as much interest and criticised so severely as this orchard in Seymour. It is located on some of the very roughest hill lands in the state, where it seemed to the writer a man might plow for several days and have no trouble from a sticky mold-board. The first tract that the Hale & Coleman Orchard Co. bought was in 1896, at which time Mr. Coleman and family went to live in an old dilapidated house on one of the farms. The first work was to plow, and they have plowed ever since; just keep going lengthways and crossways, but kept ploughing, stirring what soil they could and turning over the stones to find more soil. In 1897 they set out 14,000 peach trees 15 foot apart, the Elberta being the largest of any one variety. Two years later, in 1899, they set 3,000 Baldwin apple trees between the peach trees. After cultivating they sow clover between the trees, never cutting, but plowing under for fertilizer. These first planted apple trees have a very fine crop this year. One tree which the company viewed was estimated by the experts to yield six barrels of fruit; they also have some very fine-looking Ben Davis, but none of the visitors were anxious to taste them.

On the James farm of 150 acres, which was bought four years ago, they have one orchard of 30 acres—all peaches. It has been reported that the company was getting out of peach growing in this section. This does not look like it, and 7,000 baskets were shipped from their old orchard this season, finding a ready market in nearby cities —near enough so the deliveries were made by wagon direct

from the orchard to the market. Four years ago Mr. Coleman built a very fine large house on the top of this great hill, where a most beautiful view can be had of the surrounding country, and the Sound. Even the shores of Long Island can be readily seen. All of the heavy timber in the house was cut from the land where the peaches and apples are now growing. The other buildings, which are many in number, were all built from this native lumber. The well on top of this hill is 128 feet deep, 10 feet through earth and 118 feet through solid rock. After the majority of those present had taken a two mile walk through the orchards, lunch was served on the piazza of the Coleman home, and it was a pleasant social occasion.

Then President Rogers called the company to order to listen to words of welcome from Mr. Coleman, which were heartily expressed. He referred to his partner's (Mr. Hale's) enthusiasm in fruit culture and how it had inspired him to do his best work in these orchards. It had been a big work and hard work, too, but success seems likely to crown the effort.

Mr. J. H. Hale was greeted with applause as he took the floor to speak. He said, "These splendid trees themselves speak more eloquently than I can of the possibilities in our Connecticut soil for the production of choice fruit."

Mr. Hale said he did not want anyone to be deceived by looking at those trees laden with fruit, for it means much work. No one can invest a little money, do a little work and wait for such results. It means work all the time, and said Mr. Hale, not one man in a thousand can do the kind of work that Mr. Coleman has done for years and come up smiling every time. You people are all welcome to these 400 acres, view them as you will, but I take off my hat to Mr. Coleman, the man who has done most of the work to improve them and make them bear the fruit you now see."

The visitors applauded this statement, thus expressing their appreciation of Mr. Coleman's ability and what he

THE "MEN BEHIND THE GUNS" OF THE HALE & COLEMAN FRUIT FARM—MESSRS. HALE AND COLEMAN AND THEIR SONS.

THE PARTNERS INSPECTING THEIR 1910 CROP OF APPLES, HALE & COLEMAN ORCHARDS, SEYMOUR.

has accomplished in spite of many discouragements and most unfavorable conditions.

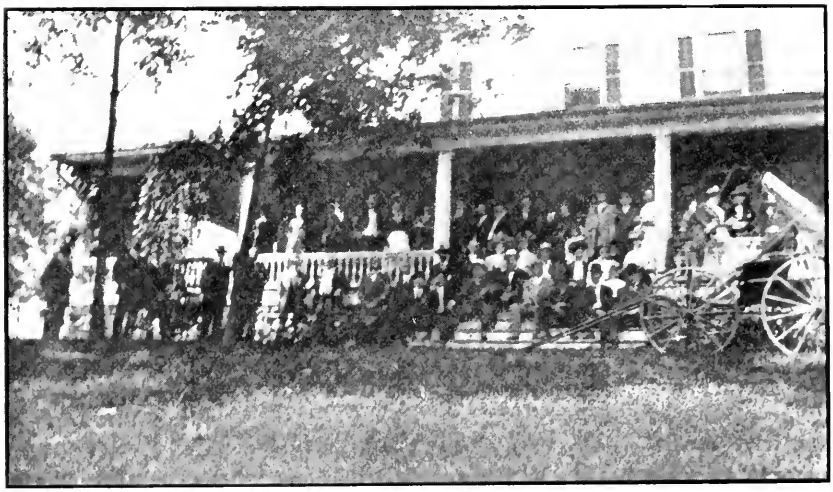
Mr. Hale said further that both he and his partner had faith in the venture, and that they expect to win out in the end. It has, however, cost a lot of labor and capital, and many mistakes have been made. The peaches have not been an entire success, but apples grow to perfection on this location and will bring ultimate success to the undertaking, showing what can be done on our rough New England hills in producing as fine fruit as ever grew in the far West, and with it all, concluded Mr. Hale, we have had our share of the fun as we went along.

The Rev. W. W. Bowdish, one of the prominent Methodist clergymen of the state, was called on for a speech, and responded pleasantly, complimenting Messrs. Hale and Coleman on the work they are doing, which he considered almost marvelous. It shows that fine orchards may be established on what was once, thought he, but waste land.

Others who spoke expressed their wonder that such fine results had been accomplished under such great difficulties, and all present were unanimous in awarding to the hosts the first prize as successful orchardists.

The rest of the day was spent in going over the orchards and admiring the beautiful fruit. While it was seemingly rocks and boulders on every hand and good soil and level ground hard to find, yet there were the fine, vigorous apple trees, thousands of them, all laden with splendid high-colored fruit, as fine as anything ever grown in New England, thus proving that such a soil and location is capable of producing the best apples when properly handled, and brains and energy and capital are applied with faith in the results. And yet many of those present were tempted to question Mr. Hale's judgment in locating on such rough soil, when land less rough and equally as well situated could be had for nearly the same price and far less cost to clear and cultivate.

All in all, it was a great day, a great meeting, and the orchards were a great eye-opener to all interested in the horticultural development of the state. There are no other orchards like them to be found in Connecticut, and may success come to Messrs. Hale and Coleman, for they richly deserve it, and their Moose Hill Baldwin apples should make them famous.



FIELD MEETING AT SEYMOUR SEPT. 23, 1910.

The Visitors Gathered for Lunch at the Coleman Homestead.

## Institute Work in 1910.

In the furtherance of its educational work for the fruit growers and farmers of the state, and supplementing the good results of its annual winter meeting, the Pomological Society has carried on each year a campaign of one-day institutes in the towns throughout the state. For several years practically all the Farmers' Institute work in the state was carried on by the Pomological Society, the Dairymen's Association and the State Board of Agriculture, and without very much concerted action. More recently other agricultural organizations of the state have taken up the work, and for the past two or three years an "Advisory Board of Institute Work" has been formed by five of the six state organizations engaged in holding institutes, resulting in more or less successful coöperation in the work.

As a result of these changes more joint institutes have been held, with programs of a mixed character, and a less number of purely Pomological institutes. However, during the institute season of 1910, following the annual meeting, our Society conducted 10 institutes, distributed over the state as follows: At New Hartford, February 10; Milford, February 15; Lyme, February 24; Hebron, February 25; Wolcott, February 28; Chaplin, March 4; Cheshire, March 11; Monroe, March 15; Westfield, March 18; Durham, March 22.

This was a very successful series of meetings. All were well attended and productive of much good to the fruit interests of Connecticut. In addition to the above list, the Society supplied a large number of speakers on fruit topics for institutes held by the other state societies and for local meetings of granges.

There is an increasing demand each year for this class of educational work, and the sending of a single speaker to address grange meetings is quite largely taking the place of the all-day Farmers' Institute. The Society is looked to

to supply such speakers—men who have a practical knowledge of fruit culture and are capable of instructing others in up-to-date methods. While this is a good form of institute work, especially where the grange meeting is thrown open to the public, as the Advisory Board now requires, yet it can hardly take the place of the regular day institute meeting with its full program of addresses and discussions and ample time and opportunity to reach and benefit the largest number of people.

The fact is, our state has been pretty thoroughly covered and organized in the line of institutes during the past few years, and some changes in plans and methods seems inevitable. As the granges multiply, some form of institute work is carried into practically every section of the state, and great good to the farmers is being accomplished. It now remains for those organizations which have been engaged in the work to agree upon a plan of closer co-operation and more efficient management under one central head, thus eliminating the chances for waste of labor and funds and the duplication of work that is so likely to occur when several distinct organizations are engaged in institute work.

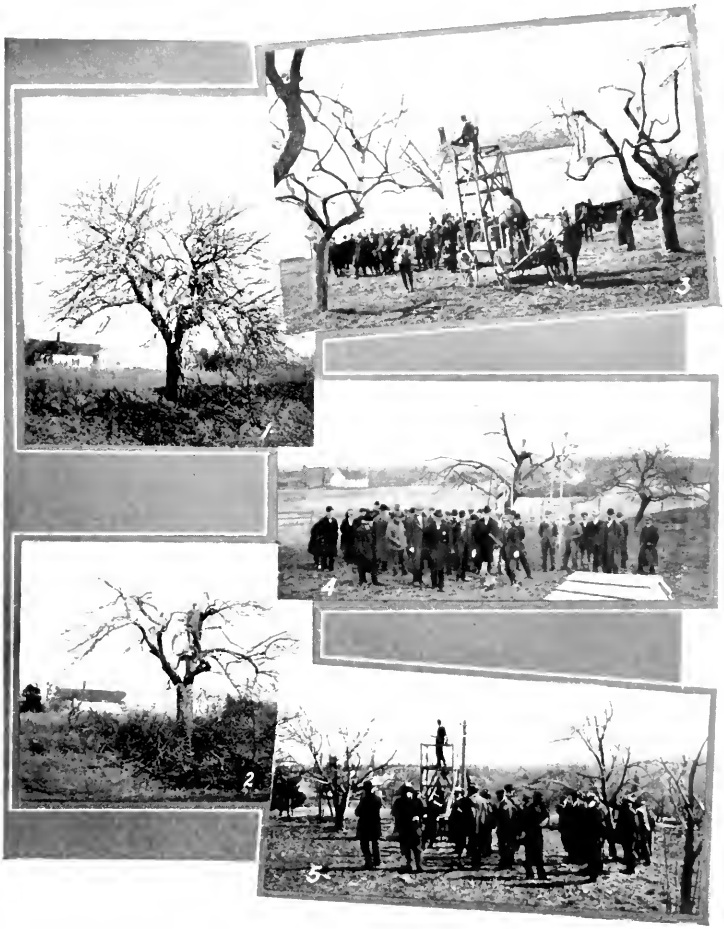
As a means of arousing interest, especially in institutes devoted to the promotion of the fruit growing interests, the Society issued the following circular early in the winter of 1909-10:

HOW ABOUT A FARMERS' INSTITUTE IN YOUR TOWN THIS WINTER?

The Pomological Society in co-operation with some of the other state agricultural organizations is prepared to arrange for and carry out institute meetings in any part of the state. An invitation from the grange, or other local organization, or from interested citizens, signifying a desire for such a meeting, is all that is necessary to afford your community one of these very popular and helpful gatherings.

While speakers may be secured to discuss such subjects as Dairying, Poultry Keeping, Fruit Culture, Forestry, Bees, Sheep, General Farming and Home Improvement, it is, however, urged that *the im-*

PLATE VIII.



## A FEW SNAPSHOTS OF THE ORCHARD DEMONSTRATION INSTITUTES, 1910-11.

1. Neglected apple tree at Pomfret before renovation treatment.
2. Same tree after treatment.
3. A gathering at the Cheshire demonstration orchard the trees one year after pruning treatment.
4. Pruning demonstration at Cheshire, 1911.
5. Demonstration of spraying in Pomfret orchard, 1911.

*portant question of the advantages and possibilities for profitable Fruit Growing in Connecticut be made the leading topic wherever possible.* Our Society is about to start a general movement in the interests of orcharding in Connecticut—following the splendid results of the recent New England Fruit Show—and the institutes are expected to be a strong factor in this great work.

We know you are deeply interested in the success of the fruit growing industry of our state, and we ask you to use your influence in having an institute in your town this coming winter. Urge your local grange to take the matter up, talk to your neighbors about it and see if a rousing good meeting cannot be carried out. Practically all the expense will be met by state funds, and we promise you the best of speakers and an attractive program.

ACT AT ONCE! It is desired that all applications for institutes be sent in before December 15th. Write to the Secretary for full information and secure a date for an institute.

You cannot help yourself or your town in any better way than by encouraging the institute. Hoping to hear from you,

Very truly yours,

THE CONNECTICUT POMOLOGICAL SOCIETY.

## Orchard Demonstration Institutes.

In connection with this report of institute work for 1910, it should be added that the demonstration orchard work established by the Pomological Society in coöperation with the Connecticut Agricultural College, led to holding several "demonstration institutes" at the orchards of S. A. Smith & Sons in Cheshire and Jos. Stoddard in Pomfret. These meetings occurred March 29 and April 7 at Cheshire and April 1 and April 12 at Pomfret. A full report of this work was given by Prof. C. D. Jarvis, who was in charge of it, at the recent annual meeting, and suffice it to say that this form of outdoor institute is a most valuable one and is likely to be employed to a greater extent in the future. Their educational value cannot be over estimated. While the actual work of pruning and spraying is being done right before the eyes of the audience, the professor

lectures and explains the methods of orchard renovation and answers questions connected with the work.

So successful were these orchard institutes last year that arrangements were made by Prof. Jarvis to continue the work on a larger scale in the spring of 1911. In co-operation with our Society some nine or ten demonstration meetings are being carried out, covering every county in the state, and as this report is being prepared the work is in successful operation.

While the meetings held in 1910 were in orchards where the college will conduct experiments and demonstrations covering a period of years, those held in 1911 were located where only a single demonstration was given, for the benefit of the owner and those who gathered there to learn the best methods of orchard treatment.

Already the good effects of this work are being seen all over the state. Old apple orchards are being pruned, cleaned up and sprayed and fertilized and put in condition to produce profitable crops of fruit, all of which means much to the future of fruit growing in Connecticut. Undoubtedly it has proved one of the best lines of work the Society ever inaugurated.

In the accompanying plate are shown some interesting pictures taken at these orchard institutes.

# The Thirteenth Annual Exhibition of Fruits, Held at Berlin, Sept. 27-30; 1910.

## SCHEDULE OF PREMIUMS OFFERED.

### First Division—Collections.

| | | | | | |
|---|---|---|---|---|---|
| Class | 1. | Best general collection of fruits by grower, of which not more than two-thirds to be of apples. See Rule 7.. | $10.00 | $5.00 | $3.00 |
| Class | 2. | Best collection, 15 varieties of apples.. | 5.00 | 2.50 | 1.00 |
| Class | 3. | Best collection, 10 varieties of apples.. | 3.00 | 1.50 | .75 |
| Class | 4. | Best collection, 8 varieties of apples, for general purposes ..... | 2.00 | 1.00 | .50 |
| Class | 5. | Best collection 5 varieties of apples for market use. Special prize, Spraying Outfit, offered by W. & B. Douglas... | | 2.00 | 1.00 |
| Class | 6. | Best collection, 12 varieties of pears .. | 5.00 | 2.50 | 1.00 |
| Class | 7. | Best collection, 6 varieties of pears ... | 2.00 | 1.00 | .50 |
| Class | 8. | Best collection, 12 varieties of grapes.. | 5.00 | 2.50 | 1.00 |
| Class | 9. | Best collection, 6 varieties of grapes.. | 2.00 | 1.00 | .50 |
| Class | 10. | Best collection, 10 varieties of peaches | 5.00 | 2.50 | 1.00 |
| Class | 11. | Best collection, 6 varieties of peaches. | 3.00 | 1.00 | .50 |

### Second Division—Single Plates.

| | | | | | |
|---|---|---|---|---|---|
| Class | 1. | Best single plates of following varieties of apples, each ..... | $1.00 | $ .50 | $ .25 |
| | | Red Astrachan, Sweet Bough, Golden Sweet, Yellow Transparent, Williams' Favorite, Oldenburg, Porter, Gravenstein, Red Bietigheimer, Fameuse, Fall Pippin, Maiden Blush, Twenty Ounce, Hurlburt, Wealthy, Rome Beauty, R. I. Greening, Baldwin, Talman Sweet, Cogswell, Hubbardston, Jonathan, Gilliflower, King, Northern Spy, Belleflower, Pewaukee, McIntosh Red, Red Canada, Sutton, Wagener, Westfield, Jacob's Sweet, Fallawater, Golden Russet, Roxbury Russet, Newtown Pippin, Peck's Pleasant, Ben Davis, Hyslop Crab, *and for other worthy varieties not to exceed ten.* | | | |
| Class | 2. | Best single plate of following varieties of pears, each ..... | 1.00 | $ .50 | $ .25 |
| | | Clapp's, Bartlett, Bosc, Angouleme, Louise Bonne, Diel, Onondaga, Anjou, Lucrative, Boussock, Buffum, Howell, Flemish Beauty, Mt. Vernon, Seckel, Clairgeau, Lawrence, Sheldon, Easter Beurre, Keiffer, LeConte, Nelis. *Of other worthy varieties not to exceed ten.* | | | |

* This class is intended to draw out the growers' ideas of value of varieties. In making the award this will be considered as well as the condition of the specimens shown.

| | | | | | |
|---|---|---|---|---|---|
| Class | 3. | Best single plate of following varieties of grapes, each ..... Moore's Early, Brighton, Concord, Eaton, Hartford, Wilder, Worden, Isabella, Agawam, Delaware, Diana, Diamond, Jefferson, Campbell's Early, Clinton, Green Mountain, Catawba, Lindley, Salem, Empire State, Martha, Niagara, Pockington. *Of other worthy varieties not to exceed ten.* | $1.00 | $ .50 | $ .25 |
| Class | 4. | Peaches and Plums, each valuable variety ..... | $1.00 | $ .50 | $ .25 |
| Class | 5. | Quince, each valuable variety ..... | 1.00 | .50 | .25 |
| Class | 6. | Grapes grown under glass, one bunch each variety ..... | 1.00 | .75 | .50 |
| Class | 7. | Cranberries, best exhibit, any variety.. | 2.00 | 1.00 | |

THIRD DIVISION—CANNED FRUITS, JELLIES, ETC.

*For Table Use.*

(Wives and daughters of members may compete in this division without payment of any membership fee).

| | | | | | |
|---|---|---|---|---|---|
| Class | 1. | Best collection canned fruit, 15 varieties ..... | $8.00 | $4.00 | $2.00 |
| Class | 2. | Best collection canned fruit, 8 varieties | 4.00 | 2.00 | 1.00 |
| Class | 3. | Best collection canned berries, 6 varieties. See Rule 8 ..... | 3.00 | 2.00 | 1.00 |
| Class | 4. | Best collection pickles, 6 kinds, one quart each ..... | 3.00 | 2.00 | 1.00 |
| Class | 5. | Best collection jellies, 6 kinds ..... | 3.00 | 2.00 | 1.00 |
| Class | 6. | Best single can of the following fruits Strawberries, Blackberries, Black and Red Raspberries, Currants, Gooseberries, Huckleberries, Cranberries, Grapes, Pears, Yellow and White Peaches, Apples, Quinces, Crab Apples, Cherries, Pineapples, European Plums, and Japan Plums. (See Rule 8). | .75 | .50 | .25 |
| Class | 7. | Best single jar jelly made from above named fruits ..... | .75 | .50 | .25 |
| Class | 8. | Best sample unfermented fruit juice, each kind, not to exceed six ..... | .75 | .50 | .25 |

FOURTH DIVISION—PACKED FRUITS.

| | | | | | |
|---|---|---|---|---|---|
| Class | 1. | Best packed barrel choice market apples. Special prize, Arlington Spray Pump Outfit, offered by W. & B. Douglas. | | | |
| Class | 2. | Best box choice apples ..... | $2.00 | $1.00 | $ .50 |
| Class | 3. | Best 3 boxes choice apples of any 3 varieties. Special prize, Silver Cup, offered by B. G. Pratt Co. (See folder for requirements). | | | |
| Class | 4. | Best standard basket choice peaches.. | 2.00 | 1.00 | .50 |
| Class | 5. | Best peck basket choice peaches ..... | 1.00 | .50 | .25 |
| Class | 6. | Best package choice grapes ..... | 1.00 | .50 | .25 |


POMOLOGICAL SOCIETY'S THIRTEENTH ANNUAL EXHIBITION, STATE FAIR, BERLIN, 1911.

Looking Down the Long Tables Filled with Exhibits of Fine Fruits.

| | | | | | |
|---|---|---|---|---|---|
| Class | 7. | Best package of apples, pears, peaches or plums, of not over one peck, and of convenient size for buyer to carry* | 2.00 | 1.00 | .50 |

FIFTH DIVISION—NUTS, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Class | 1. | Best specimen any variety of cultivated nuts | $1.00 | $ .50 | $ .25 |
| Class | 2. | Best sample of native nuts, any kind | 1.00 | .50 | .25 |
| Class | 3. | Best collection native nuts, made by boy or girl and correctly named (exhibitors in this class not required to be members of the Society) | 2.00 | 1.00 | .50 |
| Class | 4. | Best arranged table piece of home-grown fruits | 2.00 | 1.00 | .50 |
| Class | 5. | Articles not classified, for which discretionary premiums may be awarded. | | | |

## RULES OF THE EXHIBITION.

RULE 1. All exhibits must be received for entry not later than 2 p. m. Tuesday, September 27, and must be in place by 6 p. m., as judging will begin promptly on opening of second day—Wednesday. (This rule will be strictly enforced).

2. Entries of collections in First and Third Divisions should be made with the Secretary on or before Saturday, September 24, using enclosed entry blank for the purpose, that proper table room may be provided.

3. All articles entered, except in Fifth Division, must be grown or prepared by the exhibitor.

4. All fruits shall be correctly labeled (if possible) and except grapes and crab apples, five specimens, neither more or less, shall make a plate, either single or in collection.

Of crab apples ten specimens, and of grapes three bunches, shall make a plate, except where noted. The collections also shall embrace just the required number of plates.

5. No exhibitor shall make more than one entry for the same premium, nor enter the same plate for more than one premium.

6. In the various collections, the value of the varieties shown, as well as the conditions of the specimens, will be considered in making the award.

7. Entries in Division 1, Class 1, must not contain over two-thirds apples, or over one-fourth of any other single class of fruit.

8. Entries of different kinds of Canned Fruit must be self-evident; that is, separate varieties of "red raspberries" or "yellow peaches" will not be considered as distinct kinds. Cans to be opened for sampling at the discretion of the judges.

9. Lists of varieties in all collections must be made and placed with entry card on collection.

10. As the object of the Society is to encourage the growth of fruits of fine quality, wormy or diseased specimens or those infested with San Jose Scale will not be allowed to compete.

---

* This is intended to draw out the growers' ideas of an ideal package in size and shape to be easily carried by the consumer.

11. Premiums will be awarded to members of the Society only, except as noted in Third Division.

12. No exhibit shall be removed without the consent of the committee, until the close of the meeting. Exhibitors are requested to state whether the fruit is to be returned to them, or donated to the Society.

The above constituted the list of prizes as revised for the Society's Thirteenth Annual Exhibition, held in connection with the State Fair at Berlin, Sept. 27, 28, 29 and 30. The exhibition was a great success in every way, the fruit displayed by the members of the Society was large in amount and very fine in quality; the educational features were well carried out, and the splendid show attracted the interest and called forth the praises of every visitor at the big fair.

The show was held in a large tent near the main entrance, the long tables being well filled with the choicest specimens of Connecticut grown apples, pears, peaches, grapes, plums and quinces to the number of about 1200 plates. Canned fruits, jellies, pickles, etc., were shown by the lady members in good variety, the competition for prizes in these classes being especially keen. It should be added that many of the ladies display much skill in putting up canned fruits, that not only delight the eye, but are also most excellent to eat. This department was the center of much interest. Of the exhibit of apples it may be said that some of the finest fruit ever seen at a Pomological show was displayed. It was the general opinion of those competent to judge that the collections of apples contained fruit that reached perfection in color, size, quality and general appearance; nothing finer has ever been seen at a Connecticut fair. This is especially remarkable this season, when apples are both scarce and poor. The progress made in apple growing in our state is evidenced by this magnificent exhibit.

Grapes were shown in large variety and excellence. Pears were not so plenty, but some fine fruit was shown. A small display of splendid peaches was made and those growers who took the pains to save exhibits of peaches even after the season was over deserve special credit. Perhaps no feature of the show attracted more attention than the display of fruits packed

THE SCALECIDE PRIZE CUP AND SOME OF THE EXHIBITS COMPETING, THIRTEENTH ANNUAL EXHIBITION, BERLIN, 1910.

VIEW OF THE PEACH SHOW, MADE BY THE SOCIETY AT THE CONNECTICUT FAIR, HARTFORD, SEPTEMBER 5-9, 1910.

for market. This occupied the center of the tent, and some wonderfully fine and well grown apples, peaches, pears and grapes were staged. There were well packed apples in boxes and barrels, rivaling the best fruit from the West, and the interest in the best methods of packing apples for market was plainly to be seen. The offer of a silver cup by The B. G. Pratt Co. of New York, the well-known manufacturers of "Scalecide," brought out some splendid exhibits, which must result in stimulating more growers to pack their best apples in boxes and thus secure the best returns. Perhaps the weakest point in Connecticut fruit growing in the past has been the lack of knowing how to properly pack for the high-class markets.

A feature of the exhibit worthy of note was the especially large display made by the Horticultural Department of the Connecticut Agricultural College. Professor Gulley surely got together a splendid collection of fruits and because of the large number of varieties shown, many of them new and rare, it was of great educational value. Nearly 100 varieties of apples were in the display, besides pears, grapes, plums and quinces. Never have the college orchards produced finer fruit than this year.

Representing the trade exhibits were the following firms: The Frank S. Platt Co., New Haven; The B. G. Pratt Co., New York; Bowker Insecticide Co., by Lightbourn & Pond of New Haven; Harrison's Nurseries, Berlin, Md.; Coles & Co., New York, fruit packages; W. & B. Douglas, Middletown; Harvey Jewell, Cromwell. Demonstrations were given each day by those in charge of these displays, and on one of the days of the fair a very interesting demonstration of the best methods of packing apples for market was shown.

The special prizes which excited very keen competition were won as follows: Douglass Spray Pump outfit, offered for best packed barrel of apples, to T. K. Winsor, Greenville, R. I., for barrel of superb R. I. Greenings. Spraying outfit, offered for best collection 5 varieties market apples, to E. E. Brown, Westland Farm, Pomfret Center. The Scalecide Sil-

ver cup, for 3 best boxes apples, was awarded to G. A. Drew, manager Conyers Farm, Greenwich, for 1 box each King, McIntosh and Greening apples, all remarkably fine fruit.

A very large proportion of the membership of the Society attended the fair and exhibition, attesting to their interest in the exhibits as well as their appreciation of the liberal treatment accorded by the state fair officials. Much credit for the success of the show is due the officers and exhibition committee of the Society and others who worked with them, and to those members who contributed the exhibits of splendid fruit.

The exhibits were judged by the following well-known experts: Professor F. C. Sears of the Massachusetts Agricultural College; Professor E. F. Hitchings, state entomologist of Maine; N. S. Platt of New Haven; A. B. Cook, Farmington, and the canned fruits by Mr. W. P. Robertson of Hartford and Mrs. H. L. Crandall of Farmington.

## NECROLOGY.

The foregoing pages of this Report have to do very largely with the activities of this life. But, now, in these closing pages, we would, as is most fitting, remember those of our associates whom Death hath called to the Eternal Life. But recently co-laborers with us, the Great Master has called them to lay down their implements on earth, to labor in the Heavenly Vineyard above, and to receive that welcome plaudit, "Well done, good and faithful servants."

We desire to express to their sorrowing relatives our heartfelt sympathy and our appreciation of their worth.

Since our last Report was issued the following deaths in the membership have been reported to the Secretary's office:

C. B. JOHNSON, *of Southbury,* died in May, 1909. He became a member of the Society in 1908. Mr. Johnson was a substantial farmer and fruit grower of Oxford, and at the time of his death was a representative in the General Assembly.

JOHN B. HUBBARD, *of Guilford,* died during the year 1910. Mr. Hubbard was one of the best known farmers in his section. He was intensely interested in fruit growing, and as a member of the Society for many years kept in close touch with its work. He was possessed of a vigorous character and was ever fearless for the right, both in private and public affairs. His death was a real loss to the community in which he lived.

LESTER L. LOWRY, *of Bristol,* died in February, 1911. He had been a member of the Society since 1900, and was

a well-known and successful fruit grower in the Whigville section of Bristol. With his wife, Mr. Lowry had been actively interested in the work of the Society, contributing especially to its exhibitions for many years. Passing away in the prime of life, Mr. Lowry will be sadly missed in his home, in the community in which he lived and in our organization, which he loved and for which he labored.

---

Andrew Kingsbury, *of Coventry*, died March 25, 1911. His sudden passing was under the most distressing circumstances, Mr. Kingsbury having been fatally injured by an infuriated bull on his farm, Saturday morning, March 25, and dying at the Hartford hospital a few hours later.

Andrew Kingsbury filled a large place in his home, in the church, in the life of the town and stateandin this Society, and his place cannot easily be filled. A member of the Pomological Society for many years, he was always active for its welfare. He occupied the position of County Vice-President for a long term of years, served with ability on many committees, and at the time of his death was one of the Society's auditors. A successful farmer, he made fruit growing one of his specialties, and was active in promoting the work of this Society and all other organizations that would benefit his fellow farmers.

He was possessed of much business and executive ability and had been called to occupy many positions of trust and honor, all of which he discharged with honesty and integrity and ability. Although cut off in the midst of an active and useful life, the memory of his work will live long and will be cherished by those who were associated with him.

The following editorial from the *Hartford Courant* expresses well the esteem in which he was held by all who knew him:

> The town of Coventry, to say nothing of the state, lost one of its best men when Andrew Kingsbury died in the Hartford Hospital Sat-

urday afternoon. Any one who saw him that morning would have said that he could have added another decade of usefulness to his 62 years; certainly no one would have dreamed that death was to come to him that day after a few hours of suffering. He was a man who had been tried in many ways and who had always made good. His town had loaded him with one duty after another; his church added its share to his labor; the grange burdened him further, and town, church and grange were never disappointed in their man. He was a member of the General Assembly in 1905 and 1907, and the trust his town reposed in him was never misplaced then. When Andrew Kingsbury spoke his colleagues listened and, whether the report of his committee was sustained or overturned, his standing among his colleagues remained unchanged. His honesty and integrity were patent to every one; they were plain and obvious and yet, above these was his kindness and charity. The whole state is poorer for his death.

Mr. Kingsbury was a native of Rockville, born April 8, 1849, the son of Erastus and Hannah Kingsbury. He was educated in the common and private schools of Coventry and, after completing his education, taught school for a time, though most of his life was spent on a farm. On May 26, 1880, he married Mary Laura Hughes, who survives him with two children, John E. and Hannah E., both of them residing at home.

Mr. Kingsbury was a republican in politics and had held nearly every town office in the gift of his party. He served in the General Assembly in 1905 and 1907 and was House chairman of the committee on agriculture during the last session. He was an able debater and possessed the confidence of his associates to a marked degree. He was a deacon of the Congregational church in Coventry and had been a member of it from his fifteenth year. He was prominent in the Farmers' Association during his legislative career, was a charter member and past master of Coventry grange and had been for many years a director and president of the Rockville Fair Association. He was also president of the Coventry Cemetery Association and a director of the Patrons' Mutual Fire Insurance Company.

---

ELBERT MANCHESTER, *of Bristol*, died April 17, 1911. In recording the death of Mr. Manchester we do so with a feeling of real personal loss for an old friend. None among our older members was better known or held in higher esteem, his kindly face, his helpfulness and wise counsel will be sadly missed from our meetings, and especially our

exhibitions, of which he had charge for many years among our older members. He had been a member from the earliest years of the organization, and up to the time when illness prevented, was active in all its work. He had been a County Vice-President and many times chairman of the Exhibitions Committee. Mr. Manchester loved fruits and their culture, and was very successful with them, particularly apples. As a grower of fancy apples he had no superior in the state, and was justly proud of the many prizes he won. Mr. Manchester was a kindly man, loving and beloved by all who knew him. It was indeed a privilege to have known him and worked with him. He was a splendid character and will be greatly missed not only by his immediate family, but by all who enjoyed his acquaintance.

The following account of his life is clipped from the *Hartford Times* of Tuesday, April 18th:

Elbert Manchester, one of the best-known farmers in this section, died at his home on Chippen hill on Monday. He had been suffering with a complication of diseases for several months. Mr. Manchester was born in Tolland, Mass., on December 25, 1835. He lived in Winsted and Plainville previous to coming to Bristol thirty-five years ago. He took up scientific farming and made a decided success of it. He was a Civil War veteran, having served in Company F, Twenty-eighth Connecticut Volunteers. He was a member of Gilbert W. Thompson post, G. A. R., St. Andrew's lodge, F. & A. M., of Winsted, the Connecticut Pomological Society and the Bristol grange, being the first master of that organization. Besides his wife, who survives him, there is a daughter, Miss Ruth Manchester, and five sons, George C., Robert C., Allan, Harold and Edward F., all of whom reside here.

---

Nathan S. Bronson, *of New Haven*, died suddenly Monday, May 1, 1911, of heart disease. With Mr. Bronson's death occurs the first break in our list of life members. He became connected with the Society in 1904, and in 1909 showed his interest in the work by taking out a life membership. Of a quiet, retiring disposition, Mr. Bronson

was never active in the affairs of the Society. Nevertheless, he was a keenly interested member, always attending the meetings, and he was enthusiastic in his love for fruits, possessing a knowledge of their successful culture.

Mr. Bronson was a farmer for a portion of his life, having a large farm in New Britain, where he lived for a number of years. He was a brother of ex-Judge Samuel L. Bronson. Mr. Bronson was seventy-four years of age and is survived by a widow and four children.

# LIST OF MEMBERS
## OF THE
# CONNECTICUT POMOLOGICAL SOCIETY
## 1911

This List Corrected to May, 1911.

### *LIFE MEMBERS.*

Ashton, Frank B., Middletown.
Talcott, Phineas, Rockville.
The Conn. Agricultural College, Storrs.
Brown, J. Stanford, Yonkers, N. Y.
Shepperd, Walter S., Shaker Station.
Brown, Everett E., Pomfret Center.
Geer, Everett S., Hartford.
Lucchini, Victor E., Meriden.
Gulley, Prof. Alfred G., Storrs.
Miles, Henry C. C., Milford.
Gold, Charles L., West Cornwall.
Gilbert, Orrin, Middletown.
Clark, Arthur J., Durham.
Curtis, Ellicott D., Bantam.
*Bronson, Nathan S., New Haven.
Jarvis, Chas. M., Berlin.
Repp, Albert T., Glassboro, N. J.
Brown, F. Howard, Marlboro, Mass.
Rogers, Elijah, Southington.
Savage, Theo. M., Berlin.
Yale, Arthur C., Meriden.
Clark, Chester H., Durham Center.
Cook, Allen B., Farmington.
Beaupain, W. F., So. Norwalk, 192 West street.
Deming, Nelson L., Litchfield.
Clark, H. E., Middlebury.
Healey, L. H., North Woodstock.
Frost, H. L., Arlington, Mass.
Ripley, Louis A., Litchfield.

### *ANNUAL MEMBERS.*

Abbe, Earl C., Windsor.
Abbe, Linden S., Hazardville.
Abell, Myron R., Colchester.
Adams, Joseph, Westport.
Albiston, Joseph, So. Manchester.
Allen, A. R., Winsted.
Allen, Chas. I., Pequabuck.
Alsop, J. W., Avon.
Alvord, S. M., Hartford, 254 Ashley st.
Allyn, W. L., Mystic.
Andrews, Cornelius, New Britain.
Andrews, E. C., Cheshire, R. F. D.

* Deceased.

Andrews, J. E., New Britain.
Andrew, Irving A., Orange.
Angell, M., Putnam, Box 308.
Anthony, Henry F., Wallingford.
Apothecaries Hall Co., Waterbury.
Armstrong, Lee F., Oxford.
Ashley, Dr. Dexter D., New York City, 346 Lexington avenue.
Atkins, F. C., Hartford, 12 South Highland street.
Atkins, Mrs. F. C., Hartford, 12 South Highland street.
Atkins, T. J., Middletown.
Atwater, Edwin B., New Haven, Box 207.
Atwood, C. B., Watertown.
Atwood, Oscar F., Brooklyn.
Atwater, Geo., West Cheshire.
Atwood, Chas. W., Watertown.
Atwood, E. H., New Hartford, R. F. D.
Atwood, E. R., New Hartford, R. F. D.
Avery, S. F., New Britain. 215 South Stanley st.
Bacon, Eben W., Middletown. R. F. D., No. 1.
Bailey, F. B., Durham.
Baker, Edward W., Middletown.
Baker, C. H., Andover.
Baker, Mrs. C. H., Andover.
Barker, C. A., Westville, R. F. D.
Barker, J. Harry, Branford.
Barrows, William, New Haven, Admiral street.
Bartlett, F. A., Stamford.
Baldwin, Walter H., Cheshire.
Barber, Henry A., Danbury.
Barber, Joseph, Rockville, R. D.
Barber, Mrs. Joseph, Rockville.
Bard, J. Sprague, Brooklyn.
Barnes, J. Norris, Yalesville.
Barnes, John R., Yalesville.
Barton, Richard, Thompson.
Baskerville, Granville R., Stepney Depot.
Bass, Mrs. M. R., Willimantic, R. D. No. 2.
Bartlett, G. M., Andover.
Bassett, George E., Clintonville.
Baumgardt, H. F., Highwood.
Beach, A. S., Bridgeport, R. F. D.
Beach, Chas. L., Storrs.
Beach, J. H., Branford.
Beach, Z. P., Wallingford.
Beardsley, Mrs. A. M., Roxbury.
Beckwith, G. C., New Hartford, R. F. D.
Beckwith, W. M., New Hartford, R. F. D.
Beebe, C. C., Wilbraham, Mass.
Beers, F. H., Brookfield Centre.
Beisiegel, Jacob, Woodbridge.
Benham, Leonard M., Highwood.
Benham, Wilbur H., Highwood.
Bernhard, Albert, Meriden.
Bigelow, E. W., Litchfield.
Bilton, L. W., East Longmeadow, Mass.
Birdsey, E. T., Rockfall, R. F. D.
Bishop, Mark, Cheshire.
Blakeman, J. H. Oronoque.
Blakeman, Frank E., Oronoque.
Bliss, Ethelbert, Ludlow, Mass., R. F. D.
Boardman, F. E., Middletown, R. F. D.
Bolles, C. P., Wilbraham, Mass.
Bonner, Chas. W., Rockville.

Boschen, C. A., Brooklyn, N. Y., 527 3rd st.
Bowdish, Rev. W. W., New Haven, 504 Whitney ave.
Bowker Insecticide Co., 43 Chatham st., Boston, Mass.
Boynton, C. C., Cheshire.
Bradley, Dr. W. M., New Haven, 520 Whitney ave.
Bradley, G. T., New Haven, 520 Whitney ave.
Bradshaw, E. I., Bristol, 169 Prospect st.
Brainard, M. N., Southington.
Bray, S. W., Milford.
Brown, L. H., Hartford, 67 Buckingham st.
Brewer, C. S., Hartford.
Bridge, Ephriam, Hazardville.
Bridge, H. J., Hazardville.
Brinsmade, W. H., Bridgeport, R. F. D., No. 4.
Briscoe, O. H., Thompsonville.
Britton, Dr. W. E., Experiment Station, New Haven.
Britton, Prof. W. E., Experiment Station, New Haven.
Brockett, Ernest R., North Haven.
Brockett, M. R., North Haven.
Bronson, Geo. H., Northford, R. D.
Bronson, Lewis H., New Haven.
Brooks, E. D., Glastonbury.
Brooks, H. R., Glastonbury.
Brooks, John N., Torrington.
Brooks, R. W., Cheshire.
Brown, A. E., Columbia.
Brown, G. F., Cannon Station.
Brown, H. H., Monsey, N. Y.
Brown, Jas. F., Jr., North Stonington.
Brown, Lewis, Sandy Hook.
Brown, Stanton F., Poquonock.
Brown, T. L., Black Hall.
Browning, F. W., Norwich.
Brownson, S. B., Shelton.
Bruner, Myron L., Wilbraham, Mass.
Buck, Chas. H., Wethersfield.
Buckingham, C. A., Cheshire.
Buell, H. B., Eastford.
Burnham, C. N., Middlefield.
Burr, C. R., Manchester.
Burr, W. H., Westport.
Burr, Eugene O., Higganum.
Burt, E. M., East Long Meadow, Mass.
Burr, O. P., New Canaan.
Bushnell, Mrs. Huber, Berlin.
Bushnell, J. C., Manchester.
Butler, George E., Meriden.
Callahan, Thos., New Britain, R. F. D.
Camp, A. A., Bridgeport, 261 Clinton ave.
Camp, David, N., New Britain.
Camp, W. H., Waterbury.
Campbell, L. H., Providence, R. I., 54 Locust st.
Candee, Z. H., Sheffield, Mass.
Canfield, Wilhelm, Bethany, R. D. No. 3.
Canning, William A., Milford.
Cannon, C. J., Burnside.
Carini, Bartholomew, South Glastonbury.
Carpenter, C. W., Munson, Mass.
Cassady, M. J., Seymour, R. D.
Cass, Chas. F., Waterbury, R. F. D., No. 1.
Chalmers, John F., Cromwell.
Chamberlain, F. A., Terryville.
Chandler, Dr. W. M., Philadelphia, Pa., 1939 Federal st.

Cheney, Seth Leslie, So. Manchester.
Child, C. H., Woodstock.
Child, Wm. C., Woodstock.
Church, H. E., Hartford, 34 Asylum street.
Clark, A. L., New Britain.
Clark, Arthur F., Higganum.
Clark, Geo. T., Beacon Falls.
Clark, Merritt M., Brookfield Center.
Clark, O. R., Higganum.
Clarke, Clifford L., Durham.
Clarke, David A., Milford.
Clarke, Denison W., Middletown, 491 Main st.
Clinton, E. B., Clintonville.
Clinton, Dr. George P., Experiment Station, New Haven.
Clinton, Prof. L. A., Storrs.
Clift, Frederick E., Brooklyn, N. Y., 619 E. 4th st.
Clough, F. P., Waterbury, R. F. D. No. 4.
Coe, Elmer W., Waterbury, R. D. No. 1.
Coe, W. T., Northford.
Coleman, M. L., Seymour.
Coleman, M. P., South Coventry.
Coleman, Miss Vernette E., New York City, 420 West 119th st.
Coleman, R. L., Seymour.
Coles, John E., 109 Warren street, New York City.
Collins, M. J., Hazardville.
Colton, F. B., Hartford.
Conant, O. L., Hartford, 33 Oakland Terrace.
Conn. Fruit and Orchard Co., Hartford, 29 Hartford Trust Building.
Comstock, G. C., Norwalk.
Cook, Geo. A., Willimantic, R. D. No. 2.
Cook, H. B., Georgetown.
Cook, S. G., Branford.
Cooke, H. G., Branford.
Cooke, Marcus E., Wallingford.
Cooke, L. Morelle, Wallingford.
Cooke, Rowland R., Meriden, Spruce st.
Cooley, Ernest, South Manchester, R. D. No. 1.
Cooper, J. M. Wallingford.
Cornell, Joseph, Norwalk.
Cosgrove, Geo. A., Willington.
Cowles, P. A., Farmington.
Craft, Edward E., Glen Cove, L. I., N. Y.
Crandall, Mrs. H. L., Farmington.
Crosby, George W., New Britain, care Stanley Works.
Crowell, David A., Middletown.
Crowell, J. W., Hartford, 479 Garden st.
Curtis, H. B., Cheshire.
Curtis, Newton M., Sandy Hook.
Curtis, Robert W., Stratford.
Darling, Robert, Simsbury.
Dart, C. O., Rockville.
Davis, C. T., Middletown.
Davis, Chas. A., Southbury, R. D.
Davis, E., Branford.
Davis, Edson G., Torrington.
Davis, G. Warren, Norwich, R. D.
Davis, Henry B., Southbury.
Davis, Myron F., Somers, R. D.
Dearden, Greenwood, West Willington.
Deming, H. P., Robertsville.
Dent, Rev. Elmer A., New Haven, 105 College st.

Derudder, Peter, Meriden, Eaton avenue.
Doehr, Fred, Wallingford.
Dooley, W. L., Kensington.
Doolittle, Arthur H., Bethany.
Douglas, Edward C., Middletown.
Douglass, G. F., Collinsville.
Drew, G. A., Greenwich.
Drew, J. E., Hotel Vendome, Hartford.
Driggs, Oliver K., Vernon.
Dryhurst, Henry, Meriden.
Duerr, Fred, Seymour, R. F. D. No. 2.
Duffy, F. E., West Hartford.
Duncan, R. R., Wethersfield.
Dunham, H. C., Middletown.
Dunham, Wm. N., New Britain.
Dunn, R. S., Middletown.
Dunn, Mrs. R. S., Middletown, Box 911.
Dyer, E. W., Berlin
Eddy, A. H., ———
Eddy, Frank C., Unionville.
Eddy, J. C., Simsbury.
Eddy, John S., Unionville.
Eddy, S. W., Avon.
Ellis, S. K., Rockville.
Ellison, E. W., Willimantic.
Ellsworth, David J., Windsor.
Ellsworth, E. J., Ellington, R. F. D.
Ellsworth, F. H., Hartford, 133 Huntington st.
Elwood, C. F., Greens Farms.
Elwood, J. F., Bridgeport, Center street.
Emerson, J. B., New York City, 20 E. 30th street.
Enders, J. O., West Hartford, Box 546.
Ennis, Bertrand O., Highwood.
Eno, Frank H., Simsbury.
Eppes, H. M., New Rochelle, N. Y.
Evans, Archie J., Hockanum.
Fagan, Joseph A., Forestville.
Fairchild, H. L., Bridgeport, R. F. D., No. 4.
Falk, M. N., Bantam.
Fall, E. B., Middletown.
Fanning, W. N., Kensington.
Farnham, A. N., Westville.
Fawthrop, Walter, Cromwell.
Felber, John J., Rockville.
Fenn, Benj., Milford.
Fenn, Dennis, Milford.
Fenn, Robert M., Middlebury.
Fenn, Linus T., Hartford.
Fletcher, A. J., Meriden.
Fletcher, Mrs. A. J., Meriden.
Florian, G. W., Thomaston.
Fonda, Arthur I., Kensington.
Forbes, John P., West Haven, R. D.
Forbes, J. S., Burnside.
Ford, Geo. H., Waterbury, R. F. D. No. 3.
Foster, Sylvester M., Westport.
Francis, A. P., New Britain, R. F. D.
Francis, Judson E., Durham Center.
Francis, Mrs. G. J., Middlefield.
Francis, John H., Wallingford.
French, W. H., Wolcott.
Frost, E. H., Bethlehem.
Frost, Frank M., Yalesville.
Frost, Fremont, Hartford.
Frost, Willis E., Bridgewater.
Fuller, H. C., New London.
Fuller, L. T., Meriden, Box 356.
Fuller, Wm. H., West Hartford.
Gager, John M., Willimantic.
Gardner, A. H., Meriden.

Gaylord, E. W., Bristol.
Geer, W. H., Yantic, R. F. D. No. 1.
Gehring, Fred, Rockville.
Gelston, J. B., East Haddam.
Gilbert, Henry, Middletown.
Gilbert, Myron R., Gilead.
Gilbert, Thomas, Middletown.
Gotta, John, Portland.
Goulds Mfg. Co., The. Seneca Falls, N. Y.
Gowdy, R. W., Thompsonville.
Graves, Chas. B., M.D., New London, 66 Franklin st.
Gray, Chas. A., Norwich, R. F. D. 1
Gray, F. W., Waterbury.
Greene, A. F., Woodbury, R. F. D.
Gridley, E. D., Southington, R. D.
Griffith, Geo. H., Bristol.
Griswold, Chauncey, Farmington.
Griswold, H. O., West Hartford.
Griswold, J. B., Newington.
Griswold, R. S., Wethersfield.
Griswold, S. P., West Hartford.
Griswold, Thomas & Co., South Wethersfield.
Griswold, W. F., Rocky Hill.
Hale, George, Westport.
Hale, G. H., South Glastonbury.
Hale, J. H., South Glastonbury.
Hale, Stancliff, South Glastonbury
Hale, Mrs. Stancliff, South Glastonbury.
Haley, E., Mystic, R. F. D.
Hall, Chas. C., Cheshire, R. D.
Hall, Geo. B., Moodus.
Hall, G. D., Wallingford.
Hall, G. H., Manchester.
Hall, Wilbur H., Wallingford.
Hammer, V. T., Branford.
Hammond, Joseph, Jr., Rockville.
Hanford, Mrs. C. O., West Springfield, Mass.
Harrison, H. L., Waterbury, R. D. No. 3.
Harrison, Orlando, Berlin, Md.
Hart, E. S., New Britain.
Hart, E. W., Forestville.
Hart, S. A., Kensington.
Hart, Mrs. S. A., Kensington.
Hawley, E. J., Bridgeport, 27 Hough avenue.
Hayes, S. W., Hartford, Box 335.
Hemingway's London Purple Co., New York, 133 Front street.
Henry, A. T., Wallingford.
Hilliard, H. J., Sound View.
Hillyer, Appleton R., 91 Elm street, Hartford.
Hillyer, Prof. H. W., Farmington.
Hines, John T., Farmington.
Hitchcock, Lewis W., Wallingford.
Hitchcock, A. L., Plainville.
Hixon, Adin A., Worcester, Mass.
Hoffmeister, August F., Highwood.
Hotaling, Chas. T., Greenwich.
Hollister, August H., Hartford, 331 Garden st.
Hollister, Geo. H., Keeny Park, Hartford.
Hollister, W. O., Storrs.
Holman, F. W., New York, 24 Stone St.
Hopkins, J. E., Thomaston, R. D. No. 2.

Hopson, G. A., Wallingford.
Hotchkiss, Chas. M., Cheshire.
Hotchkiss, William, Bristol.
Hough, E. J., Wallingford, R. F. D.
Hough, George E., Wallingford, R. F. D.
Hough, Joel R., Wallingford.
Houston, J. R., Mansfield Depot.
Howard, A. B. & Son, Belchertown, Mass.
Howe, Geo. A., Winsted.
Hoyt, Stephen, New Canaan.
Hubbard, Clement S., Higganum.
Hubbard, Elmer S., Middletown.
Hubbard, Paul M., Bristol.
Hubbard, Robert, Middletown.
Hubbard, W. B., West Cornwall.
Hull, James, Durham.
Hull, G. W., Bristol.
Hulme, Chas. S., Thomaston.
Hungerford,, Newman, Hartford, 45 Prospect st.
Hungerford. Newman, Torrington, R. D. 2.
Huss, J. F., Hartford, 1103 Asylum ave.
Hunt, W. W., Hartford.
Huntington, Chas., Windsor.
Hurlburt, H. A., Norwalk, R. F. D. 42.
Hutchinson, M. F., South Manchester.
Innis, A. C., Ridgefield.
Isham, A. O., Vernon.
Ives, E. M., Meriden.
Ives, Mrs. E. M., Meriden.
Ives, Miss Florence C., Meriden.
Ives, Julius I., South Meriden.
Jackson, Edward O., Middletown.
Jackson, Elmer, Wilton.
Jackson, Fred O., Middletown.
Jackson, J. C., Norwalk, R. F. D., No. 42.
Jacobs, Arthur C., Mansfield Center.
Jarvis, C. D., Storrs.
Jenkins, Dr. E. H., Experiment Station, New Haven.
Jennison, E. F., Hartford, Box 425.
Jerome, F. M., New Britain.
Jewell, Harvey, Cromwell.
Jewell, Mrs. Harvey, Cromwell.
Jillson, L. W., Greenwich.
John, H. P., New York City, 60 Wall st.
Johnson, Dr. F. E., Mansfield Depot.
Jones, A. M., Ludlow, Mass.
Jones, James, Middletown, Home ave.
Jones, E. A., New Canaan.
Kelley, Edward, New Canaan.
Kelley, W. J., New Canaan.
Kellogg, Geo. A,, West Hartford.
Kelsey, Davis S., West Hartford.
Kelsey, Frederick, Higganum.
Kendall, James H., Auburndale, Mass.
Kilduff, Mrs. P. J., Bristol.
Kilduff, P. J., Bristol, R. F. D.
Kimberly, E. M., Canton.
Kingsbury, Addison, South Coventry.
Kingsbury, John E., Rockville.
King, Horace, Thompsonville.
Kirk, Fred A., Hamden.
Kirkham, John S., Newington.
Knapp, Geo. S., Groton, Mass.
Knapp, M. C., Danbury.
Knowles, Wm. A., Middletown.
Knoxhall, J., Hockanum.

LaField, J. Howard, Plainville.
Lane, Willis A., Hazardville.
Lapsley, Arthur B., Pomfret Center.
Lay, Chas. H., E. Longmeadow, Mass.
Lee, Wilson H., Orange.
Lewis, Francis O., Bristol.
Lewis, Fred J., Highwood.
Lewis, L. C., New Haven, Highwood Station.
Lindabery, H. R. & Son, Frenchtown, N. J.
Lindsley, H. G., Branford.
Linsley, I. T., Branford.
Loomis, Chas. N., Bolton.
Loomis, John, South Manchester.
Loverin, D. P Huntington.
Lowry, H. P., Bristol, R. F. D.
Ludlum, H. A., Wolcott.
Lupton, S. L., Winchester, Virginia.
Lyman, C. E., Middlefield.
Lyman, Henry H., Middlefield.
Lynch, Thos. F., Meriden, 36 Lewis avenue.
Lynch, Wallace, Milford.
Mack, H. H., East Haddam.
Mallon, James, Rockville, 8 Spruce street.
Manchester, George C., Bristol.
Mansfield, David B., Campville.
Manchester, E. F., Bristol,
Manchester, Rob't. C., Bristol.
Marshall, Jos., Seymour. R. D.
Mansfield, K. W. Norwalk.
Mansfield, Peter, West Hartford.
Marsh, Wm. T., Litchfield.
Martin, J. A., Wallingford.
Martin, W. B., Rockville.
Maxwell, W., Rockville.
McCormack, Samuel, Waterbury, 1063 N. Main street.
McCormick, W. L., Thomaston, R. D.
McCollam, P. G., Bridgeport, R. F. D. No. 1.
McKay, W. L., Geneva, N. Y.
McKnight, J. T., Ellington.
McLean, John B., Simsbury.
McLean, S. G., South Glastonbury.
Mead, L. H., Hartford.
Mead, Seaman, Greenwich.
Merrow, Geo. N., Hartford, 34 Forest st.
Merriman, J. H., Southington.
Miller, C. H., Berlin.
Miller, E. Cyrus, Haydenville, Mass.
Miller, F. B., Bloomfield.
Mills, D. E. Bristol.
Minor, Geo. N., Bristol.
Mitchell, W. L., New Haven, 1505 Chapel street.
Molumphy, J. T., Berlin.
Morton, T. H., Forestville.
Morse, John W., New Haven, Box 748.
Montague, H. E., 109 Warren street, New York City.
Moore, E. A., New Britain.
Mortimer, Edmund, Grafton, Mass.
Morton, E. G., Broad Brook, R. D.
Morris, Chas. G., New Haven, Box 1352.
Morris, F. S., Wethersfield.
Morse, C. Z., Shelton.
Moses, A. A., Unionville.

Mosley, A. W., Glastonbury.
Mowry, Albert J., Centerdale, R. I.
Moss, J. W., West Cheshire.
Moxon, J. R., New York City, 60 Wall street.
Mueller, C. J., Berlin.
Munson, Rev. Myron A., 150 Jefferson street, Hartford.
Munson, W. M., Huntington, Mass.
Munson, R. A., Highwood, Station 4.
Nettleton, H. I., Durham.
Nettleton, J. N., Meriden.
Newhauser, R. F., Farmington.
Newton, Clarence R., Westville, R. F. D. No. 2.
Newton, Robertson & Co., Hartford.
Newton, W. P., South Kent.
Noble, H. C., New Britain.
Northrop, Arthur W., Ridgefield.
O'Brien, Richard P., New York, 441 W. 48 St.
Olcott, W. H., South Manchester.
Osborn, Chas., Newington.
Ott, Fred, Cheshire, R. F. D.
Paddock, J. H., Wallingford, East Main street.
Page, B. F., Northford, R. F. D.
Paine, John M., Putnam, R. D. No. 2.
Pardee, G. F., Cheshire.
Parker, G. A., Hartford.
Parker, John B., Jr., Poquonock.
Parks, S. J., Trumbull.
Patch, A. Warren, Boston, Mass.
Patten, D. W., Clintonville.
Patterson, B. C., Torrington.
Pauley, Geo. A., New Canaan.
Payne, Frank C., Portland.
Payne, Lyman, Portland.
Pease, C. T., Ellington.
Peasley, Fredk. M., Waterbury.
Peck, Henry B., Northfield.
Penny, James K., Danbury.
Perley, G. P., Woodstock.
Pero, Louis, South Glastonbury.
Perry Chas. M., Southbury.
Peters, Henry D., Highwood.
Peters, Wm. T., Cheshire.
Phelan, Franklin V., Vernon.
Phelps, A. H., Clinton.
Phelps, Chas. S., Canaan.
Phelps, E. J., Enfield.
Phelps, Mrs. E. J. Enfield.
Phelps, G N., East Haddam.
Philips, Alan, Farmington.
Pierce, Mrs. I. E., Bristol.
Pierpont, A. B., Waterbury.
Pierpont, W. L., Waterbury.
Pitkin, A. L., Talcottville.
Plant, A. B., Branford.
Plant, Albert E., Branford.
Plant, Alfred, West Hartford, Box 447.
Platt, O. M., Plymouth.
Platt, Frank N., Milford.
Platt, Frank S., The, Co., New Haven.
Platt, G. F., Milford.
Platt, N .S., 395 Whalley avenue, New Haven.
Platt, William F., Milford.
Plump, Chas. H., West Redding.
Pomeroy, E., Windsor.
Porter, Marshall, Hebron.
Potter, H. F., North Haven.

Powell, E. C., Springfield, Mass.
Potts, J. H., Dr., New Britain.
Pratt, B. G., 50 Church street, New York.
Price, Walter E., Warehouse Point.
Pring, Geo. H., Wallingford.
Pring, Thos. J., Wallingford.
Putnam, J. H., Litchfield.
Quinlivan, J. W., Wallingford, North Orchard st.
Race, R. H., North Egremont, Mass.
Read, G. P., New York City, 199 Duane st.
Reed, Horace B., Greenwich.
Rengerman, Wm., East Granby.
Reynolds, C. C., Slocum, R. I.
Rhodes, J. I., Tolland.
Rice, J. L., Ludlow, Mass., R. F. D.
Rice, J. W., Wilbraham, Mass.
Rice, L. W., Wilbraham, Mass.
Rich, A. E., Rockville, R. F. D.
Richardson, J. H., Thornton, R. I., R. F. D.
Richardson, W. H., Northfield.
Riddick, M., Woodstock.
Risley, Chas. R., Silver Lane.
Roberts, Earl C., Middletown, R. F. D. No. 2.
Roberts, E. J., Middletown.
Roberts, Silas W., Middletown, R. F. D. No. 2.
Robertson, L. J., Manchester Green.
Robertson, Ole W., Forestville.
Rockwell, F. P., East Windsor Hill.
Rogers, F. D., Monson, Mass.
Rogers, James Simsbury.
Rooke, J. R., Bloomfield.
Rose, J. G., Litchfield.
Root, L. C., Farmington.
Root, T. H., Farmington.
Rowe, J. G., Wethersfield.
Rowe, J. Scofield, Hartford, 211 Fern st.
Rowland, John O., Wallingford.
Russell, B. I., West Cheshire, R. D. No. 2.
Russell, S., Jr., Middletown.
Sanderson, Lucien, New Haven.
Sargent, F. D., West Cheshire.
Savage Clarence H., Storrs.
Savage, Willis I., Berlin.
Schlosser, Dr. R. O., Collinsville, R. F. D. No. 45.
Schmidt, E., New Canaan.
Schreiber, Thomas, Southbury.
Schultz., C. H., Hartford.
Schultz, W. F. & Co., Hartford.
Schwink, J. G., Jr., Meriden.
Scoville, S. R., West Cornwall.
Scott, Walter, Cheshire.
Seibert, Phillip, New Britain,
Seward, Arthur I., Durham Center.
Sexton, P. G., Darien.
Seymour, Fred R., West Hartford.
Shedd, G. V., Preston.
Shepard, S. A., Hartford.
Shepardson, W. M., Middlebury.
Sherwood, J. Arthur, Long Hill, R. D.
Sherwood, N. H., Southport.
Silliman, J. F., New Canaan.
Simpson, W. A., Wallingford.
Sinclair, Alex., Stepney Depot.
Sisson Drug Co., Hartford.
Skilton, Earl W., Terryville.
Skinner, M. G., Higganum.

Slady, F. W., Fairfield, R. D. D. No. 10.
Slater, Geo. B., Manchester.
Slater, Geo. H., Glastonbury, R. F. D.
Smart, Geo. W., Silver Lane.
Smith, Edward A., Hebron.
Smith, Grover A., Cheshire.
Smith, Fred A., Ipswich, Mass.
Smith, E. W., Cheshire.
Smith, Geo. V., Willington.
Smith, G. W., Hartford, Box 38.
Smith, James A., Hartford, Box 38.
Smith, J. Eliot, Wolfville, Nova Scotia.
Smith, J. H., Hartford, 249 Fairfield avenue.
Smith, Dr. L. A., Higganum.
Smith, M. B., Hartford, 288 Asylum street.
Smith, R. M., New Britain, 50 Garden st.
Soby, Charles, Hartford, 855 Main street.
Spaulding, Geo. R., Phoenixville.
Spencer, Henry, Haddam.
Spicer, G. W., Deep River.
Stack, G. M., New Milford.
Staples, G. W., Hartford.
Steere, Enoch M., Chepachet, R. I.
Steere, Sayles B., Chepachet, R. I.
Sterling, S. P., Lyme, R. F. D.
Stevens, A. T., Storrs.
Stevens, C. T., North Haven, R. D.
Stevens, H. C., East Canaan.
Stirling, J. C., Rockville.
St. John, D. A., New Canaan.
Stanley, Theodore A., New Britain.
Stevens, F. V., Jr., Stamford.
Stocking, W. A. & Son, Weatogue.
Stocking, Wilbur F., Stratford.
Stockwell, S. T., West Simsbury.
Stoddard, E. M., New Haven, Experiment Station.
Stoddard, Jos. E., Abington.
Storrs, Benj. P., Cheshire.
Stoughton, Lemuel, Warehouse Point.
Street, S. H., New Haven, 33 Crown st.
Strumpf, George, Burnside.
Taber, F. J., South Windham.
Tanner, Walter C., Voluntown.
Taylor, Edward J., Southport.
Taylor, J. M., Kensington.
Terrell, C. L., Cheshire.
Terry, F. E., Forestville.
Terry, James, Hartford, 78 Wethersfield avenue.
The Vreeland Chemical Co., Little Falls, N. J.
Thompson, Chas. A., Melrose.
Thompson, Chas. B., Moodus.
Thompson, Chas. J., Berlin.
Thomson, Jared B., Monterey, Mass.
Thompson, M. E., Ellington.
Thompson, Wm. H., East Haddam.
Tillinghast, G. G., Vernon.
Tillinghast, W. E., Vernon.
The J. T. Robertson Co., Manchester.
The Winant Cooperage Co., New York City, 90 West street.

The Sherwin-Williams Co., Newark, N. J., Brown st. and Lister ave.
The Sterling Chemical Co., Cambridge, Mass.
Titus, Ellwood V., Glen Cove, L. I., N. Y.
Todd, E. A., Waterbury, R. F. D.
Todd, Mrs. E. W., New Canaan, R. F. D. No. 31.
Toth, A. M., Wallingford, R. D. 2.
Tracy, John C., Jr., Yantic, R. F. D. 2.
Tracy, M. E., Orange.
Trask, Abner, Silver Lane.
Treadwell, J. H., Danbury, R. F. D.
Trischman, G. W., Middlefield.
Tucker, F. E., Vernon.
Turney, Oliver, Fairfield.
Turner, G. H., ———
Tuttle, A. N., Warren, Mass.
Tuttle, S. L., Wallingford.
Underwood, R. F., Mount Tom, Mass.
Usher, R. C., Plainville.
Viets, R. B., New Britain.
Vine Hill Farm, Elmwood.
Wakeman, H. S., Saugatuck.
Wakeman, J. S., Saugatuck.
Wakeman, S. B., Saugatuck.
Walden, B. H., Experiment Station, New Haven.
Waldo, Gerald, Willimantic.
Waldo, Harold B., Naubuc.
Walker, Chas. P., New Haven, Box 613.
Walker, C. T., 90 Commercial Wharf, Boston.
Walker, Geo. C., Waterbury.
Walker, Howard A., West Hartford.
Wallace, E. J., Wallingford, West Quinnipiac street.
Waller, W. E., R. D., Chestnut Hill, Bridgeport.
Warner, J. R., Hartford.
Wiard, F. S., Yalesville.
Warncke, Louis H., Cannon Station.
Warner, E. C., Clintonville.
Warner, W. V., Waterbury, R. F. D. No. 4.
Watrous, J. L., Meriden.
Webster, A. E., Berlin.
Weed, T. L., New Britain.
Welch, G. H., Torrington.
Wells, Dudley, 2d, Wethersfield.
Welton, Ard, Terryville.
Wheeler, Chas. A., Storrs.
Wheeler, Wilfrid, Concord, Mass.
White, Rev. H. J., Hartford, 145 Vine st.
Whittaker, E. J., Springfield, Mass, care H. J. Perkins Co.
Whitten, Geo. T., Hartford, 1100 Albany avenue.
Whittlesey, J. M., Morris.
Wiggin, Mrs. C. D., Providence, R. I., 40 Princeton avenue.
Wilcox, R. C. & Sons, Guilford.
Wilcox, Paul P., New Britain, 185 Lincoln st.
Wiley, Clarence H., Hartford, 122 Collins street.
Wiley, C. W., Manchester Green.
Willard, S. F., Wethersfield.
Williams, A. W., New Britain.
Williams, F. B., Naugatuck.
Williams, J. C., New Haven, 1456 Boulevard.

Williams, Miss L. S., Hartford, 1492 Broad street.
Winsor, Thos. K., Greenville, R. I.
Wolcott, R. R., Wethersfield.
Wood, G. P., Ellington.
Wood, O. S., Ellington.
Wooding, D. C., Waterbury, R. D.
Woodruff, C. V., Orange.
Woodruff, R. H., Guilford.
Wooster, W. A., New Britain, 118 Camp street.
Young, C. O., Yalesville.
Zala, B., Glastonbury.