

Before we can have a Champlain Canal we must have the St. Lawrence development. That will take years to complete. But in the meantime we can keep the Champlain plan in the foreground. The towns bordering Champlain should organize for an aggressive campaign. Constant agitation is necessary to put over even a meritorious scheme of development. That fact is demonstrated by the unfolding drama here in the Capitol. Westerners come full of faith in their proposals, and back them year after year until they become an accomplishment. Just now they are putting all their energy into backing the Boulder Dam project that calls for the expenditure

Apple Culture in Vermont

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Vermont is rapidly becoming a state in which apple growing is developing on a commercial scale. The industry did not begin to grow rapidly on a commercial basis until about fifteen years ago. At that time and since people have begun to realize the natural advantages and opportunities, as well as the possibilities, of producing fruit of very fine quality and of realizing a handsome price for it.

Vermont's natural advantages as an apple growing state are numerous, and include the following: superior flavor, excellent keeping qualities, favorable climate, good reputation, proximity to markets, good apple soil, and comparative cheapness of orchard land. There is also relative freedom from serious insect pests and fungus diseases.

The first orchard of any size, as far as is known, was set out in 1819 by Mr. Phelps of South Hero. This first orchard embraced about 20 acres and was of unimproved varieties, mostly of ungrafted trees. Some of these original trees were present until 1892, when the area was reset to trees of standard variety and good quality. Commercial apple growing then seems to have begun in Grand Isle County and spread southward through the Champlain Valley, passing through Rutland and later to Bennington County, across eastward to Windham; and nearly made a complete circuit by passing up through sections of Orange and Lamoille Counties and on the Franklin.

In 1880, the celebrated Fameuse orchard at East Highgate was set. There were about 70 acres originally planted, but the orchard was reduced in 15 years to approximately a 50 acre area. This was put upon the slopes of a small mountain, the trees being placed 25 x 25 feet each way in

of \$125,000,000. For years they have pushed reclamation projects with success, until Congress has authorized the appropriation of over two hundred million dollars of the peoples' money to develop limited areas, of uncertain productivity even after development, and far from markets. They have made us ignore a far better reclamation policy, that of restoring to fertility the worn out soil of New England—near to the markets of the great population centers of the East.

I refer to these things to emphasize the fact that if we are to preserve the agriculture and industry of New England we must wake up, present a united front, and stay with our proposals to the end.

rows nearly round the hill. As the trees came into bearing, they were found to be bogus varieties, which in 1885 were cut down and reset or grafted. It is stated that Mr. Rixford recovered a paltry damage of \$1,500 for the fraudulent substitution. In 1906 this orchard came to public attention, for in that year it produced 10,000 bushels of Fameuse, or Snow apples. Mr. Rixford sold 9,000 bushels, and let 1,000 bushels go to waste, probably because he had no facilities for disposing of the rest of the crop. The fruit was imperfect, not having been sprayed—it netted him only \$1,500. It is a singular thing that as early as 1885 one man should have exercised the foresight and good judgment to have planted the delicious Fameuse apple when there were hundreds of other sorts of less merit. It was a wise choice. It is doubtful if any other variety would succeed as well as this one; and exceptionally fine fruit has been grown there for a series of years. Since 1915, this orchard—now owned by Edward Seymour of New York City—has been given a good deal of attention. It has been regularly and thoroughly sprayed, and most of it has been rather regularly pruned. Some years the crops there have been valued at \$6,000 on the trees. The annual cost of maintenance probably varies between \$1,000 and \$2,000, depending somewhat upon the cost of packages, and the cost of picking and marketing. Better Fameuse were never seen, than grew in that orchard in 1919, and other years as well.

The orchards of Luther Putnam, of Cambridge, are astride the border line of Chittenden and Lamoille Counties. The plantings in this orchard began in 1870, and continued until 1900.

There are about 40 acres in this orchard, which contains Wealthy, Fameuse, McIntosh, Tolman, Wolf River, and many more. Mr. Putnam was a pioneer in testing many varieties, and has done much to advance apple culture in this state.

One of the early hill town orchards is that now owned by Julian Dimock, of East Corinth. The plantings of this rather extensive orchard were begun in 1870. The setting of new trees and the grafting over of old ones continued at rather irregular intervals until 1899. The orchard now embraces 35 acres, and has 1,600 trees. The varieties, in the order of importance, are McIntosh, 800; Fameuse, 250; Bethel, 150; Northern Spy, 100; and in smaller numbers, Lincoln, Tracey, Alexander, Yellow Transparent, St. Lawrence, Winter Banana, and Delicious. The Dimock orchard is one of the best known orchards outside of the state, probably on account of the rather unique and high grade advertising employed by the owner. Here are some of his expressions: "Dimock Apples"; "You can eat them in the dark"; "We think that the apples grown in this orchard have a little of the best flavor of any on earth"; "Fancy Vermont Apples."

The town of Dorset has some large orchards. Although all under one management, they are owned by E. H. West, J. B. Milliken, and F. C. Overton—all supervised by E. H. West. These include about 170 acres, which were mostly set out between 1911 and 1916, although more planting was done in 1918 and 1919. These orchards comprised 8,540 McIntosh, 1,868 Wealthy, 1,310 Spy, 2,467 Northwestern Greenings, 415 Delicious, 200 Wolf River, 210 Fameuse, 350 Rhode Island Greenings, 160 Ben Davis, 150 Red Astrachans, 68 Baldwins, 36 Yellow Transparent, 50 Wageners, and some other varieties in small quantities—a total of 15,908 trees. Some car consignments of McIntosh of the 1920 crop sold for \$11.00 per barrel.

The Belmont Orchards, owned by C. L. Withereil, of Cornwall, near Middlebury, were begun in 1910 and were continued in 1912, 1914, 1915, 1916, and 1917. The varieties are: McIntosh, Delicious, Winter Banana, Wealthy, Northern Spy. These orchards are mostly on gravel or clay loam, with slightly rolling surface areas. A lot of blue ribbon fruit has been grown here.

The Grand Isle Orchard Company at Grand Isle, has a setting of 10,000 trees. The first plantings were made in 1912. The varieties are chiefly McIntosh, although there are some Delicious, Wealthy, Winter Bananas, with a few Ben Davis. The orchard extends to the shore, is

near a wharf, and less than a mile to a Rutland Railroad Depot.

The Edward Loomis orchard in West Addison comprises about 100 acres of trees which were set in 1910. There are about 7,500 trees composed of King, Hubbardton, McIntosh, Alexander, Wealthy, Northern Spy, Tolman Sweet, Spitzenberg, and Winter Banana. The soil is a clay loam, and the exposure is to the south. This plantation is developing into a model orchard of the Champlain Valley type.

The Connecticut Valley Orchard at Westminster, owned by Mr. J. W. Dascomb, and managed by Mr. J. W. Collins is one of the interesting hill town orchards in southeastern Vermont. This orchard is on high ground, embraces 75 acres, and comprises 8,000 or more trees. The setting was begun in 1912, and completed in 1919. The varieties are Wealthy, Winter Banana, Northern Spy, Rhode Island Greening; but there are more McIntosh than of any other variety.

The Justamere Farm, once just a mere farm, but now "Just Apples," owned by B. C. Buxton, of Middletown; Springs, embraces about 14,000 trees. The varieties are Northern Spy, Rhode Island Greening, Wealthy, and McIntosh. The orchards lie on inclined areas, some on steep hill-sides, and are doing well.

The MacRae Orchard at Castleton, owned and managed by R. R. MacRae, embraces 200 acres, and has approximately 13,000 trees. The varieties are McIntosh, Northwestern Greening, Wealthy, and Fameuse, and a few others. This is a well managed orchard, and an inspiring sight to anyone who likes to see things done well, and on an extensive scale.

Largest, and last of all considered in this somewhat extensivelist are "The Orchards", owned by Edward H. Everett, of Bennington, Vermont. This orchard is located on the eastern slope of Mount Anthony, on the place once known as the John Griswold Farm, and on Carpenter Hill in Pownal. The plantings in this orchard were begun in 1911, and are still in progress. This orchard now embraces approximately 65,000 trees. The varieties are McIntosh, Wagener, Grimes, Stark, Northwestern Greening, etc. This is, in all respects, not only the largest orchard plantation in Vermont, but the largest in New England.

The raising of apples in Vermont has passed through three rather distinct phases, these might be called the cider apple period—which embraced the period from the time of the Civil War until about 1875; the second period—from 1875 until about 1910; and the commercial stage,

which has been developing ever since. Today there are orchards, ranging from 50 to 200 or more acres in extent, in most every section of the state, except the northeast.

Even a brief survey of apple culture in the state would be incomplete without some reference to the agencies that have been active in the developing of fruit growing. The Vermont Horticultural Society was organized at the University's Agricultural building in 1896. The headquarters for the society have always been at the University. This society has grown, slowly but gradually, until it now has a membership of approximately 500. The association has published 20 annual reports, setting forth the proceedings, including exhibitions, addresses and activities at the summer meetings. These have been very valuable, and constitute a text book on Vermont Apple Growing. Nearly every important fruit grower in the state is a member of the society; and there are a great many amateurs also enrolled in its membership list.

The University of Vermont has always been helpful in furthering the apple industry, and has helped the society to serve many of its purposes. The Vermont Experiment Station has published several articles on different phases of fruit growing, and has an orchard for experimental purposes from which data is compiled and published—data dealing with the growth of trees and the yields there from. The Vermont Agricultural Extension Service through its extension workers, chiefly the County Agents, spreads a great deal of information to stimulate interest in various problems such as demonstrations in spraying, pruning, orchard management, etc. Perhaps one of the most important and yet practical phases of helpfulness has been the preparation and publication, and revision from year to year, of the standard spray program for fruit growers, which is being used quite extensively throughout the state. A big problem in fruit growing anywhere, is the control of insect pests and fungus diseases; and nothing contains so much information regarding these points, as the spray program.

A recent survey of orchards shows that during the last 15 years, there has been probably many more than 285,000 trees set out, embracing an area of nearly 4,000 acres. These plantings have been largely on the western border of the state, extending almost from the Canadian line to New York and Massachusetts; but they have not been restricted to the Western border, for there are many good sized orchards in Washington, La-

moille, Orange, Windsor and Windham Counties, as the accompanying table will show.

A great many of these orchards are on slightly elevated land, as they should be for ideal orchard purposes. Some are on fairly steep hillsides, but with adjustments and improvements of culture, this does not prove to be a barrier rather, in some cases, it is an advantage. Slightly elevated or rolling land is much better for orchard purposes as it gives better drainage of the soil, and greater circulation of air, thus giving freedom from forests.

It is a most interesting study to observe orchard work in commercial areas. Much of it is done with modern machinery, utilizing motor trucks and tractors. The land is often plowed with tractors and the spraying and dusting machines are propelled by tractor power, while the apples are graded by a sizing machine. Some of these have a capacity of 600 barrels per day. Nearly all of the commercial fruit goes out of the state, to boat or to train, in motor trucks.

Vermonters are getting good prices for their fruit. To be sure prices vary in different seasons in accordance with the quality and general supply, and market demands. In recent years McIntosh of first quality brought prices ranging from eight to thirteen dollars per barrel; Delicious from eight to twelve dollars; and Greenings and Spitzenburgs ranged from five to ten dollars. A serious and sustained effort is now being made to eliminate cull apples and to do away with second grades, through refined methods of culture; more exact practices in spraying; and precise, conscientious methods of grading—this is the secret of good prices and satisfactory returns.

LARGE ORCHARDS IN VERMONT 1926
All But a Few Set Within 15 Years

Town	Name	No. of trees	Acres
Addison	Wm. Noonan	1,500	60
Bridport	Leo Heminway	3,000	120
Bristol	A. C. Dyke	1,000	5
Castleton	Hoyt Orchards	1,500	60
Cornwall	J. E. Sperry	1,000	40
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Ferrisburg	Bertha Oppenheim	1,200	60
Middlebury	Paul Dow	1,000	40
Middlebury	Paul Dow	2,000	10
Middlebury	C. L. Witherell	4,500	45
Middlebury	G. E. Badlam	1,000	25
N. Ferrisburg	C. C. Allen	500	5
Orwell	W. Gianini	1,000	10
Orwell	L. B. Hall	1,000	10
Orwell	R. S. Hall	500	5
Orwell	W. A. Jennings	1,000	5
Orwell	J. M. Stevens	2,000	80
Orwell	E. W. Wilcox	400	4
Orwell	J. C. Thomas	500	5
Shoreham	W. J. Anderson	2,000	10

Town	Name	No. of trees	Acres	Town	Name	No. of Trees	Acres
Shoreham	W. J. Anderson	1,860	24	Topsham	C. D. McDonald	1,000	10
Shoreham	G. A. Stalker	4,000	100	Tunbridge	Ordway and Beede	1,000	5
Vergennes	H. C. House	1,000	10				
Vergennes	E. N. Loomis	8,000	100				
Weybridge	Elmer Wright	1,000	40	Orleans	H. C. Bartlett	1,000	5
BENNINGTON				RUTLAND			
Bennington	S. E. Harwood	2,000	10	Brandon	A. M. Goodwin	300	9
Bennington	The Orchards	65,000	650	Brandon	C. A. Paine	2,000	10
Dorset	Dorset Orchards	15,000	170	Brandon	State School	260	7
Dorset	E. H. West	11,000	40	Castleton	E. J. Armstrong	500	5
S. Shaftsbury	E. B. Barraus	500	5	Castleton	J. R. Churchill	1,000	5
				Castleton	E. A. Ellis	1,000	10
				Castleton	J. R. Hoyt	1,000	5
CHITTENDEN				Castleton	MacRae Orchards	13,000	200
Burlington	E. F. Boyce	1,200	20	Fair Haven	C. E. Griffin	500	5
Burlington	C. W. Hurlbut	2,000	10	Fair Haven	H. Hamilton	1,000	5
Burlington	Vt. Fruit Co.	4,000	20	Fair Haven	H. R. Hamilton	500	5
Charlotte	M. C. Hill	500	15	Middletown Springs	Buxton Orchards	18,000	180
Charlotte	C. T. Holmes	2,000	20	N. Clarendon	George Stewart	2,000	10
Essex Center	R. Mayo	500	5	Rutland	C. C. Rice	2,000	80
Shelburne	Ordway and Winters	1,000	25	S. Shaftsbury	Carrol Frost	500	5
Shelburne	Shelburne Farms	1,000	55	S. Wallingford	George Stafford	2,500	60
South Burlington	Charles Merrill	1,000	10				
FRANKLIN				WASHINGTON			
East Highgate	Edmund Seymour	6,000	50	Barre	J. E. Mitchell	400	4
Enosburg Falls	L. L. Marsh	1,000	10	Plainfield	W. H. Martin	1,000	10
GRAND ISLE				WINDHAM			
Grand Isle	Grand Isle Orchard Co.	10,000	215	Brattleboro	C. B. Barrous	2,000	20
Isle La Motte	Allen Hall	450	4½	Bellows Falls	A. W. Coolidge	500	10
Isle La Motte	A. H. Hill	3,500	40	Bellows Falls	A. A. Halladay	1,000	10
South Hero	R. R. Allen	1,000	5	Brattleboro	E. L. Hildreth	1,250	25
South Hero	Elmer Hill	4,000	40	Brattleboro	Scott Farm	3,500	35
South Hero	T. L. Kinney	1,000	5	Brattleboro	Dana Stafford	1,200	44
South Hero	T. B. Landon	1,000	10	Cambridge Port	F. L. Smith	1,000	10
				Halifax	O. M. Amidon	1,000	24
LAMOILLE				Putney	Wm. Darrow	3,000	32
Cambridge	L. Putnam	4,000	40	Putney	W. F. Ranney	1,000	40
Morrisville	F. M. Small	500	5	Putney	H. P. Stafford	1,000	25
Morrisville	C. F. Smith	500	5	Westminster	Conn. Valley Orch. Co.	10,000	75
Waterville	F. H. McFarland	11,600	20	Westminster	S. L. Davenport	2,000	20
ORANGE				WINDSOR			
Chelsea	John Davis	1,000	10	Ludlow	E. C. Ford	400	5
East Corinth	Julian Dimock	1,600	35	Quechee	Quechee Fels Farm	250	10
Newbury	I. M. Brock	1,000	5	Saxtons River	F. L. Osgood	2,000	80
N. Thetford	H. Colton	1,000	5	S. Royalton	A. J. Eaton	3,000	25
Randolph	E. H. Mason	640	16	Springfield	A. W. Aldrich	500	5
Randolph Ctr.	C. I. Boyden	500	5	Springfield	G. A. Wellwood	1,000	10

Vermont's Maple Sugar Industry

By JOHN P. DAVIS

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I. NO ONE knows just when it was discovered that sap from the rock maple could be made into delicious syrup and sugar by evaporation. There are several legends concerning this discovery and a pleasing one is related by Mr. Rowland C. Robinson who writes very entertainingly of early life in the Green Mountain state. This legend relates that one day while the mighty hunter, Woksis, was out in search of game, his squaw, Moqua, became deeply interested in embroidering some moccasins and forgot that she was boiling moose meat in the sweet water of a maple tree. So the water boiled away until it made a thick, brown syrup. When Woksis tasted his supper, he decided that he had never eaten anything so good and he devoured every scrap of it greedily and then must go about tell-