

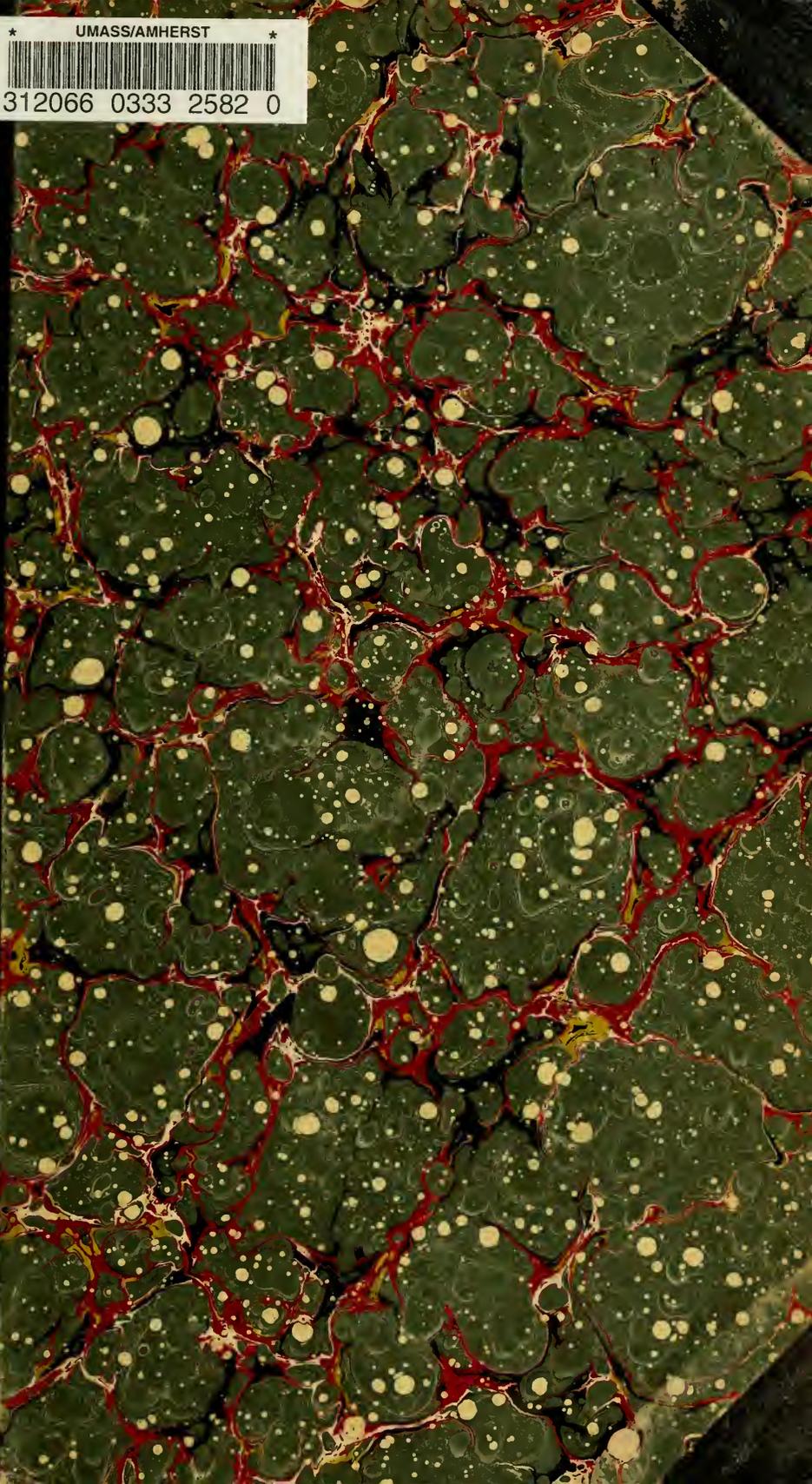
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BULLETIN No. 1.

MASSACHUSETTS
CROP REPORT

FOR THE

MONTH OF MAY, 1889,

SHOWING

THE ACREAGE AND CONDITION OF GROWING CROPS
THE FIRST OF JUNE, AND OTHER MATTERS
RELATING TO AGRICULTURE.

COMPILED BY
WM. R. SESSIONS,
SECRETARY BOARD OF AGRICULTURE.

BOSTON:
WRIGHT & POTTER PRINTING COMPANY, STATE PRINTERS,
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CROP REPORT FOR THE MONTH OF MAY, 1889.

RETURNED TO THE OFFICE OF THE STATE BOARD OF AGRICULTURE,
JUNE 1, 1889.

OFFICE STATE BOARD OF AGRICULTURE,
BOSTON, MASS , June 4, 1889.

GENERAL REMARKS.

In presenting our first crop report, we would say that about the 20th of May we sent circulars for information to one hundred and seventeen farmers scattered over the State, and that very satisfactory returns have been received from one hundred of them. In the "Notes of Correspondents" will be found some of these returns, which are samples of those received. In our circular the following questions were asked: 1. How much earlier is this season than the last? 2. What insects are doing the most damage in your vicinity? 3. Is good help plenty, and at what cost? 4. What is the outlook in your section? The season averages about two weeks earlier than last. The cold, wet weather of the past two weeks has tended to overcome the unusual earliness of the season. The tent-caterpillar (*Clisiocampa Americana*) is reported as being unusually prevalent in many sections, and we have thought it best to describe its work and suggest methods of extermination. Mrs. Mary Treat, in her little work on the "Injurious Insects of the Farm and Garden," speaking of this caterpillar, says:—

"The eggs from which these caterpillars hatch are deposited mostly during the month of June, in oval rings upon the smaller twigs; and this peculiar mode of deposition renders them conspicuous objects during the winter time, when by a little practice they can be easily distinguished from the buds, knots or swellings of the naked twigs. Each cluster consists of from two to three hundred eggs, and is covered

and protected from the weather by a coating of glutinous matter. The young caterpillars commence spinning the moment they are born; and, indeed, they never move without extending their thread wherever they go. All the individuals hatched from the same batch of eggs work together in harmony, and each performs its share of building the common tent, under which they shelter when not feeding and during inclement weather. The small, bright and glistening web, if unmolested, is soon enlarged until it spreads over whole branches, and the caterpillars, which were the architects, in time become moths, and they lay their eggs for an increased supply of nests another year. No insect is more readily kept in subjection than this. Cut off and burn the egg-clusters during winter, and examine the trees carefully in the spring for the nests from such clusters as may have eluded the winter search. The eggs are best seen in a dull day in winter, when they show distinctly against the sky. Though to kill the caterpillars numerous methods have been resorted to, such as burning, and swabbing with oil, soap suds, lye, etc., they are all unnecessary; for the nests should not be allowed to get large, and if taken when small, are most easily and effectually destroyed by going over the orchard with the fruit-ladder, and by the use of gloved hands. As the caterpillars feed twice a day, once in the forenoon and once in the afternoon, and as they are almost always in their nests till after 9 A.M., and late in the evening, the early and late hours of the day are the best in which to perform the operation."

Good farm help appears to be rather scarce in many localities, and commands on an average from twenty to twenty-two dollars per month, and board. The general outlook is good. There is promise of a large hay crop, although the dry weather the fore part of May checked the growth of grass in some places. This dry weather was very favorable for planting, and the seeds came up well. The wet, cold weather of the last of the month, while it has greatly helped grass, has had a bad effect on corn. In the table will be found figures showing the average acreage and condition of such crops as are most generally grown. On the last pages will be found an admirable paper by the chief of the Bureau

of Statistics of Labor, on "Agriculture in Massachusetts." We trust that this bulletin will prove to be of value, and we shall be pleased to mail copies of it, on application.

THE WEATHER.

Spring opened very favorably for the farmer, and the warm, dry weather of the first half of May enabled him to get his planting done in good shape. Rain set in the morning of the twentieth, and it has fallen more or less nearly every day since. Slight frosts occurred on the nights of the 26th, 27th, 28th and 29th, but scarcely any damage was done. Through the kindness of the director of the Hatch Experiment Station of the Massachusetts Agricultural College, we are enabled to print the summary of the Meteorological Observatory at Amherst for the month of May.

Latitude, 42° 23' 48.5" N. Longitude, 72° 31' 10" W. Height of instruments above ground, 51 feet. Above sea level, 260 feet.

Pressure.—In inches. Actual maximum reading, 30.110; Mean, reduced to 32° F., 29.626; Monthly Range, 0.836.

Air Temperature.—In Degrees F. Mean, 61.4°; Highest, 88°; Lowest, 40°; Monthly Range, 48°; Highest Mean Daily, 73°; Lowest Mean Daily, 46.9°; Mean Maximum, 71.4°; Mean Minimum, 51°; Mean Daily Range, 19.7°; Greatest Daily Range, 33°.

Humidity.—Mean Dew Point, 52.8°; Mean Relative Humidity, 73.8°; Mean Force Vapor, 0.5801 inch.

Wind.—Prevailing Directions, North and South; Total movement, 4,056 miles; Greatest Daily Movement, 405 miles—31st; Least Daily Movement, 55 miles—12th; Mean Daily Movement, 130.8 miles; Mean Hourly Velocity, 5.5 miles; Maximum pressure per Square Foot, 9 pounds.

Precipitation.—In inches. Total precipitation, 4.71.

Bright Sunshine.—Number of Hours Recorded, 270.

Weather.—Mean Cloudiness on a Scale of 10, 4.2; Number of Clear Days, 13; Number of Fair Days, 11; Number of Cloudy Days, 4; Total Cloudiness Recorded by Sun Thermometer, 168 hours or 38 per cent.

Frost, on the night of the 26th.

Thunder and Lightning, on the 10th, 14th and 24th.

NOTES OF CORRESPONDENTS.

BARNSTABLE COUNTY.

Dennis.—Season ten days early. The cranberry vine worm is doing the most damage. Good help is worth twenty-five dollars per month. Day laborers get fifteen cents per hour. The outlook is good.

JOSHUA CROWELL.

Eastham.—Season ten days early. Cut worms and potato bugs doing the most damage. Good help scarce at one dollar and fifty cents per day. Asparagus is a leading early crop, and the acreage is yearly increasing. Outlook good.

J. A. CLARK.

Sandwich.—Season nearly two weeks early. Fire worms are doing considerable damage on cranberry bogs, and caterpillars on fruit trees. Good help not plenty. Outlook very good. The hay crop bids fair to be the largest for many years.

J. R. HOLWAY.

BERKSHIRE COUNTY.

Cheshire.—Season at least two weeks early. Good help is not plenty, but the help we have costs from eighteen to twenty dollars per month. The weather for April and May rather dry, some days being very hot. Perhaps on the whole it was a little too dry. Condition of growing crops is favorable.

L. J. NORTHUP.

Egremont.—Season two weeks early. Good help not plenty, and costs from twenty to twenty-five dollars per month. The outlook is good.

W. H. DAY.

Monterey.—Season some two weeks early. Good help is scarce at sixteen dollars per month and board for twelve months. Outlook remarkably good. Grass very fine. Fruit fair. A great amount of rain has fallen lately.

W. S. BIDWELL.

Richmond.—Season two weeks early. Potato bugs doing the most damage. Good help not plenty at any price. Slight frost on the morning of May 29th. Outlook good.

M. W. COLEMAN.

Windsor.—Season fully three weeks early. Good help very scarce; costs from twelve to twenty dollars per month. The weather is very good for growing crops, especially for mowing land and pasture.

H. A. FORD.

BRISTOL COUNTY.

Dartmouth.—Season about two weeks early. Potato bugs, squash bugs, and tent-caterpillars are doing the most damage. Good help not plenty; costs eighteen to twenty-five dollars per month. The early part of the season was very fine growing weather, but the last two weeks have been very wet. Grass was extra good before the heavy rains, which badly injured it on low lands.

L. T. DAVIS.

Mansfield.—Season fully two weeks early. Potato bugs and small striped bugs are doing the most damage. Good help not plenty, and costs twenty-five dollars per month. Outlook very good and encouraging.

D. E. HARDING.

Raynham.—Season two weeks early. Tent-caterpillars doing the most damage. Good help is not plenty; poor help is. Most of the farmers are not up with their work, as the season is so much earlier than usual.

N. W. SHAW.

Somerset.—Season two weeks early. Potato beetle and strawberry flea are doing the most damage. Good help not plenty. Average wages twenty dollars per month. Outlook good. The weather was remarkably warm for May, with plenty of rain. Vegetation has made rapid progress, and things never looked more promising at this season of the year.

JOSEPH GIBBS.

DUKES COUNTY.

Chilmark.—Season about two weeks early. Potato bugs are doing the most damage. Good help is hard to obtain at any price. Outlook good.

B. T. HILLMAN.

ESSEX COUNTY.

Ipswich.—Season ten days early. The tent-caterpillar is unusually prevalent, but, as they are easily killed off, are not doing much damage. The Colorado beetle is on hand in large numbers. Good help not plenty. Wages vary from twenty to thirty-four dollars. The farmers have an unusual prospect of good crops at present. Fruit has set fairly well. The rain of the last fortnight has assured a good crop of hay and given all crops a good start. The nights have been too cool for corn.

O. C. SMITH.

Manchester.—Season two weeks early. Potato bugs, June bugs and caterpillars are doing the most damage. Good help fairly plenty at about twenty dollars per month and board. Outlook is good if produce sells well.

JOHN BAKER.

Marblehead.—Season twenty days early. Tent-caterpillars are numerous, and are damaging fruit trees. Good help scarce at twenty to twenty-two dollars per month. For some reason the hay crop, which promised so well early in the season, seems now to be very light in this section.

W. S. PHILLIPS, JR.

Newbury.—Season ten days early. Caterpillars and potato bugs are doing the most damage. Help is plenty at fifteen to twenty-five dollars. Good help is scarce. Although crops promise well, they cannot make good the loss of the past year.

G. W. ADAMS.

North Andover.—Season ten days early. Tent-caterpillars are the only injurious insects, and they have done but very slight damage. Good help is not plenty, and costs from eighteen to twenty-two dollars per month. All kinds of seeds have come up well. Land was in good condition for planting early in May. The past ten days have been cold and wet. Frosts have damaged beans and other crops in many places.

PETER HOLT, JR.

FRANKLIN COUNTY.

Ashfield. — Season two weeks early. Tent-caterpillars are doing the most damage. Good help not very plenty, and costs eighteen to twenty dollars per month. Outlook very favorable at the present time. The weather is somewhat cool, with frequent rains.

A. G. HOWES.

Charlemont. — Season more than two weeks early. Not as many apple-tree worms as usual. Good help not very plenty, and costs from sixteen to twenty dollars per month. The warm summer weather of the fore part of the month was very favorable for putting in all kinds of seeds, which came up quickly. We have had cool weather the past two weeks, with plenty of rain.

H. S. GILES.

Deerfield. — Season ten days early. The potato bug is doing the most damage. Good help not plenty; twenty dollars per month for the season. Grass is early, with prospect of a fair crop. Corn is ten days early and stands well. Oats are forward and looking well. Onions are looking well and are very well stocked. Tobacco is early and the plants are being set. The weather has been cold for the last two weeks, with slight frost one or two mornings, but not enough to damage crops.

CHARLES JONES.

Leverett. — Season ten days early. The cabbage flea, tomato flea and cabbage maggot are doing the most damage. Good help is plenty at one dollar and twenty-five cents per day and board, or one dollar and fifty cents without. General outlook good. The weather has been cold and wet, and bad for corn and other planted seeds; good for grass, oats and rye.

W. L. BOUTWELL.

Rowe. — Season two weeks early. No insects are doing much damage at present. Help is equal to the demand, at a dollar per day and board. Outlook good. The first half of May was very dry and warm; last half, cold and wet. There is nothing at this date to make the farmers discouraged in this section.

J. F. BROWN.

Sunderland. — Season two weeks early. The cabbage worm is doing the most damage. Good help is not plenty. Crops are looking well. The prospect bids fair for a great crop of apples. Pastures are uncommonly good.

W. L. WARNER.

HAMPDEN COUNTY.

Blanford. — Season three weeks early. Good help scarce at eighteen to twenty dollars per month, a dollar and a half per day. Crops, especially grass and pasture, are extra. This is encouraging, if stock would bring even fair prices. At the best, it is uphill work for our mountain farmers, as our business is grazing. At present time the prospect is good for all crops. Considerable corn yet to be planted. Slight frost the 28th. Slight damage.

E. W. BOISE.

Brimfield. — Season ten days early. Potato bugs are doing the most damage, other insects, save the corn wire worm, not showing yet. Good help not plenty. Spring opened up all right, but the cold, wet weather of late has put things back, except grass, which never looked better. All are not through planting yet, but two-thirds of the corn is up.

S. W. BROWN.

Chester. — Season two weeks early. Good help not plenty: for six to eight months commands from fifteen to thirty dollars per month. Outlook better than it has been for years. Plenty of rain. All crops are looking finely. If we have no drought, the hay crop will be heavy.

E. H. ALVORD.

Ludlow. — Season ten days early. Tent-caterpillars, potato bugs and currant worms are doing the most damage. Good help scarce at twenty dollars per month. The last ten days have changed the entire face of mowing and pasture. It has been very moist, and, should it continue, the hay crop must be good. Corn looks badly.

C. B. BENNETT.

Tolland. — Season fifteen days early. Not a potato bug has been seen this season, and there are very few apple-tree worms. Good help not plenty, and costs from eighteen to twenty dollars per month. Grass looks well. But very little help is hired, as produce does not bring enough to pay for help.

F. T. MOORE.

West Springfield. — Season two weeks early. Apple and currant worms and cut worms doing some damage. Good help scarce and high. By the day, poor help ask one dollar and a half, and twenty-five dollars and board per month. Fine planting weather up to May 20. Plentiful rains at intervals since. Most farmers have finished planting. Orchard grass and clover will be fit to cut before the middle of June. Some will cut the first week in June.

J. N. BAGG.

HAMPSHIRE COUNTY.

Belchertown. — Season two weeks early. Currant worms are doing the most damage. Good help is very scarce at any price. The outlook is favorable. The long dry spell has had a noticeable effect on our upland mowings, which the recent rains will hardly bring up to the average. Corn not all planted yet.

H. C. WEST.

Goshen. — Season two weeks early. Good help is not plenty, and some are entirely without it; costs from sixteen to twenty-four dollars per month. Recent rains have delayed late planting, and the present cool weather is retarding growth somewhat. No frosts yet.

ALVAN BARRUS.

Hadley. — Season earlier May 1, but no earlier June 1. Canker worms and caterpillars are doing the most damage. Good help not plenty; Poles at ten dollars per month. Outlook fair. Grass suffered from lack of rain early in the season, but frequent rains in the last two weeks have brought the crop forward. Onions not well stocked. Corn backward and yellow, owing to cold and cloudy weather.

H. C. RUSSELL.

Hatfield. — Season ten days early. The onion maggot is working some. The cold weather of the past few days has put crops back. Corn and grass are looking finely. Considerable tobacco has been set. Onions are looking well, where the maggot has not worked.

J. D. PORTER.

Southampton. — Season two weeks early. Good help not very plenty, at twenty to twenty-two dollars per month. Mowing and pasture never looked better at this time of the year than now. Tobacco is being set out. The largest grower commenced setting May 22. Full average acreage. Outlook very good.

C. B. LYMAN.

South Hadley.—Season two weeks early. Good help extra plenty, at whatever you will give. An extra good year, so far, for farmers. The earliness of the season accounts largely for the extra condition of crops June 1. The rains of the last two weeks have helped the crops, but hindered the work. Want to be ready for haying June 17.

H. W. GAYLORD.

MIDDLESEX COUNTY.

Ashland.—Season two weeks early. Potato bugs and cut worms are doing the most damage. Good help not plenty; costs as high as twenty-five dollars per month. The outlook is twenty to twenty-five per cent better than last year. We have had a great deal of rain within the past two weeks, and also some very cool weather, but at present everything seems to be doing well.

A. R. STEVENS.

Bedford.—Season from two to three weeks early. Good help is about the same as last year, at twenty dollars per month. The outlook is good for all crops. We have had an abundance of rain of late, and the hay crop bids fair to be extra.

HENRY WOOD.

Belmont.—Season three weeks early. Canker worms are doing the most damage. Good help not plenty. Outlook good.

W. L. CHENERY.

Chelmsford.—Season two weeks early. Tent-caterpillars are doing the most damage. Good help is not plenty, at twenty dollars per month. There has been an abundance of rain the last ten days, so that the outlook for good crops at the present time is better or quite as good as the average year.

P. P. PERHAM.

Framingham.—Season twelve days early. Asparagus beetle, cut worm and potato bug are doing the most damage. Good help not plenty, and costs from twenty to twenty-five dollars per month. Outlook generally good, and farmers anticipate a prosperous season. We have had a large amount of rain.

H. S. WHITTEMORE.

Groton.—Season two to three weeks early. Currant worms are doing the most damage. Good help plenty, at twenty dollars per month or one dollar and fifty cents per day. Outlook never better. Abundance of rain since May 15. No frosts since May 15.

DANIEL NEEDHAM.

North Reading.—Season two weeks early. Little damage by insects to date. Good help plenty, at twenty dollars per month and board. Outlook very favorable. We were favored with excellent weather for planting, but about the middle of May crops on high land began to suffer for rain. The rain of the 20th and 21st restored and improved all crops.

N. B. CASE.

NANTUCKET COUNTY.

Nantucket.—Season three weeks early. Very hard to get any help at any price. Outlook very fair. Potatoes are rotting very badly in the ground. Very dry throughout the month, so that seeds are very slow in starting. Rainfall for month of May, 3.07 inches; all since May 20.

C. W. GARDNER.

NORFOLK COUNTY.

Dedham.—Season two weeks early. Cut worms and caterpillars are doing the most damage. Help is plenty, but poor, at fifteen to twenty dollars per month. Outlook good. Strawberries did not run any last year, so that the crop will be small. Potatoes and peas are looking well.

S. C. FRENCH.

Dover.—Season twelve days early. Good help not plenty; costs from eighteen to twenty-three dollars per month and board. Outlook very good.

S. M. COLCORD.

Medway.—Season eighteen days early. Tent-caterpillars are doing the most damage. Good help rather more plenty than usual, at sixteen to twenty dollars per month, with board and washing. The canneries are doing only a small business, which gives rather a discouraging look for farmers. Apples are looking well, on such trees as bear this year; but it is the "off year" for apples in this vicinity.

MONROE MORSE.

Norfolk. — Season three weeks early. Tent-caterpillars are present in large numbers. Good help not plenty; costs fifteen to twenty dollars per month. Outlook good. Have had enough rain, and need sunny days for best results.

J. W. HINKLEY.

PLYMOUTH COUNTY.

Havifax. — Season two weeks early. Caterpillars are doing the most damage. Good help not plenty; costs one dollar and fifty cents per day. Outlook excellent. I have never seen a season when the outlook was better than the present for an excellent harvest. Grass is looking finely; and, with good weather to harvest it, the barns will be filled.

G. W. HAYWARD.

Hanson. — Season two weeks early. The tent-caterpillar (*Oligocampa Americana*) I never saw half as plenty in town before. We did not have more of this caterpillar than usual last year, but in riding through Duxbury I saw a most wonderful sight. The road was fringed with cherry, etc., and the trees were completely covered with nests, which often extended on the grass around the tree eight or nine feet. We have them this year. Good help is not plenty; costs one dollar and fifty cents per day. The outlook is good.

FLAVEL S. THOMAS, M. D.

Kingston. — Season two weeks early. Cut worms and caterpillars are our chief plagues at present. Good help is very scarce, and commands two dollars per day. The outlook is excellent. Plenty of rain. Light frost the 27th, doing but little damage.

J. H. CUSHMAN.

Marshfield. — Season ten days early. The common caterpillar, in the cherry and orchard, is doing the most damage. Good help not plenty; the best costs twenty-five dollars per month. The fore part of May was dry; the last, there have been heavy rains. Pastures in Plymouth County never looked better. The general prospect is good.

G. J. PETERSON.

Wareham.—Season two weeks early. Tent-caterpillars and cut worms are doing the most damage. Very hard to obtain good help at any price; commands one dollar and fifty cents per day. Outlook best for many years. The season is very forward. Rather too wet for low and heavy land. No frosts in May. Grass the best we have ever known.

A. SAVARY.

West Bridgewater.—Season two weeks early. Tent-caterpillars, cabbage maggot and currant worms are doing the most damage. Good help is not plenty, at one dollar and fifty cents per day. Outlook good. The abundant rain of the past two weeks, following the warm, dry weather of the early spring, gives everything a freshness, and insures a good hay crop, I think.

DAVIS COPELAND.

WORCESTER COUNTY.

Auburn.—Season ten days early. Good help is not plenty, at twenty to twenty-five dollars per month. Crops on the whole are looking good. Strawberry plants badly winter killed. Corn looks yellow.

W. F. STONE.

Barre.—Season two weeks early. Good help not very plenty; costs twenty to twenty-five dollars per month and board. Outlook good. The tendency here is to raise more corn, and especially fodder, to help out the pastures. Two weeks ago the season was very much more in advance of the time a year ago, but the last two weeks have been so cold and rainy that there is not as much difference now.

J. L. SMITH.

Blackstone.—Season two weeks early. Good help very scarce, and costs one dollar and one-quarter per day. The outlook is glutted markets and low prices. From the 21st of April to the 20th of May little or no rain fell, and farmers were able to get their planting done two weeks earlier than usual. Grass has been injured by too early ripening. Good farm hands are so scarce, and prices are so high, that farmers do their own work.

L. R. DANIELS.

Bolton.—Season ten days early. The asparagus beetle is the only insect troubling much yet, although potato bugs are plenty. There is no good help. Twenty dollars average wages per month. Outlook good. We have had an abundance of rain, but not enough to do any damage. Seeds have come up this season fully as well as usual, although corn has rotted some on low land. Potatoes never looked better.

H. F. HAYNES.

Dudley.—Season ten days early. The tent-caterpillar and “spit bug” are doing the most damage. Good help eighteen dollars per month with board, and one dollar and one-half per day without, for short jobs. We have a superabundance of tent-caterpillars. A wild cherry upon the roadside, which is not thus ornamented, is a rarity. The quality of not a few fields of grass will be affected by the attacks of the “spit bug”—a small yellow bug which conceals itself within a spittle-like froth. Its larvæ eat into the seed stalk, causing it to die prematurely, and making it no better than so much straw. Generally the outlook is encouraging.

J. J. GILLES.

Leominster.—Season two weeks early. The Colorado potato beetle, curculio and the tent-caterpillar have been numerous, but the rapid growth of leaves has saved from much injury. Good help plenty at one dollar and one-half per day and twenty dollars per month. Outlook favorable. The early part of May was remarkably warm. I think the hot sun had a bad effect on the pear blossoms, for, though the trees blossomed full, many varieties have but few pears on them. Our average precipitation for the past six years for May was 3.558 inches. This May we have had 4.31 inches.

W. B. HOSMER.

Mendon.—Season fully three weeks early. Tent-caterpillars are doing the most damage. Good help is in fair supply, at one dollar per day and board, or one dollar and one-half without. The season thus far has been very fine for the farmer, and some are ready for hoeing. Our farmers mowed and cured their rye and had a fair crop as early as the 15th.

H. C. ADAMS.

New Braintree. — Season ten days early. White grubs are working quite badly in some mowings. Help mostly foreign; costs about twenty dollars per month. Outlook fine for grass and grain. There will be quite a crop of apples on odd-year trees. There is every indication now of a prosperous year for farmers; most of them in this town send milk to Boston, and there is abundance of feed for their large herds of cows. More young stock is being raised than formerly.

C. D. SAGE.

Petersham. — Season two weeks early. Currant worms, potato bugs and tent-caterpillars are doing the most damage. Good help not plenty; costs one dollar and one-half to two dollars per day. Outlook very good. Moisture rather excessive; but, temperature being warm, no crop suffers in consequence.

S. B. COOK.

Spencer. — Season fifteen days early. Tent-caterpillars, currant worms and potato bugs are doing the most damage. Good help plenty, at one dollar and one-half per day. Outlook is good. High temperature during the first nineteen days of May, with light showers only on the 3d and 11th. The rest of the month mostly rainy, cloudy and cool.

H. H. KINGSBURY.

Templeton. — Season two weeks early. Potato bugs, tent-caterpillars, squash bugs and currant worms are doing the most damage. Good help plenty at one dollar and a half per day and twenty to twenty-five dollars per month. Outlook favorable for crops; low prices. Spring opened unusually early and warm. Dry up to May 18; since then, plenty of rain. The last two weeks cool. Planting nearly finished. Grass looks very well. Peaches winter killed.

LUCIEN GOVE.

Worcester. — Season two weeks early. Tent-caterpillars are doing the most damage. Good help scarce, and costs twenty to twenty-five dollars per month. The first half of May was very hot, advancing the season fully three weeks. The last two weeks have been cold and rainy; have set things backward, without particularly injuring any crop.

F. J. KINNEY.

CONSOLIDATED CROP REPORT FOR MAY, 1889. — BY COUNTIES.

COUNTIES.	Number of Returns.		CRANBERRIES.		EARLY CABBAGE.		EARLY PEAS.		STRAWBERRIES.		APPLES.	PEACHES.	PEARS.	GRAPES.
	Average Com- pared with Last Year.	Average Condi- tion June 1.	Average Com- pared with Last Year.	Average Condi- tion June 1.	Average Com- pared with Last Year.	Average Condi- tion June 1.	Average Com- pared with Last Year.	Average Condi- tion June 1.	Average Com- pared with Last Year.	Average Condi- tion June 1.				
Barnstable,	106	100	100	100	100	100	115	100	100	100	100	100	94	100
Berkshire,	100	100	102	100	100	100	100	100	100	100	93	95	100	95
Bristol,	108	100	100	100	100	100	100	100	103	100	100	100	82	100
Dukes,	100	100	—	—	—	—	—	—	100	100	100	—	—	—
Essex,	100	95	95	100	95	100	100	100	95	100	90	—	—	85
Franklin,	—	—	110	65	—	—	—	—	100	100	100	100	100	100
Hampden,	—	—	100	100	100	100	103	100	98	100	96	100	100	98
Hampshire,	100	100	100	100	100	100	102	100	100	100	100	100	98	100
Middlesex,	100	100	100	100	100	100	100	100	98	100	83	87	93	100
Nantucket,	—	—	—	—	—	—	95	100	—	—	—	—	—	—
Norfolk,	100	100	100	100	100	100	104	100	97	100	92	98	95	100
Plymouth,	110	100	—	—	—	—	100	100	105	100	89	—	100	100
Suffolk,	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worcester,	102	100	90	100	100	100	105	100	100	100	76	90	95	97

NOTE.—*Average.* Same as last year is noted by 100; 5 per cent more, by 105; 5 per cent less, by 95, etc. *Condition.* 100 is the standard of full vitality and normal growth; a decrease of 5 per cent is marked 95, etc.

Upton. — Potato beetles and squash bugs are doing the most damage. Haying commenced June 27. Hay crop up to last year's crop in quality and quantity. Outlook as favorable as it was June 1. Prospect for about half a crop of apples. Things are growing well.

G. A. ROGERS.

Worcester. — White grubs and curenlios are doing the most damage. The strawberry-flea is doing considerable damage to old beds. Haying commenced June 24. Hay crop in quantity about the same as last year, but the quality is not up yet. Outlook better than it was June 1. No good apples, and but few wormy ones. The prospect is poor for early potatoes, and the grass crop is not as heavy as people expected it was going to be. Corn is looking very nicely, and the pastures and stock are fine.

F. J. KINNEY.

CONSOLIDATED CROP REPORT FOR JUNE, 1889. — BY COUNTIES.

COUNTIES.	Number of Returns.		CORN.		EYE.	OATS.	BARLEY.		BUCKWHEAT.		HAY.				PASTURE.	ONIONS.	CRAN-BERRIES.
	Field.	Sweet.	Average Con- dition July 1.				Average Condi- tion July 1.	Percentage al- ready secured.	Average Quality, 100 Represent- ing High qual- ity.	Average Yield per Acre in Tons.							
			Average Con- dition July 1.	Average Con- dition July 1.	Average Condi- tion July 1.	Average Condi- tion July 1.											
Barnstable,	100	100	100	100	100	100	100	100	100	50	100	1 1/2	100	100	100	100	100
Berkshire,	94	87	100	100	100	100	100	100	100	5	98	1 1/2	100	105	100	100	100
Bristol,	98	98	100	98	100	98	92	100	100	30	98	1 1/2	105	100	97	100	100
Dukes,	-	-	100	100	100	100	100	100	100	1	1	1	1	1	1	1	1
Essex,	95	95	100	100	100	100	100	100	100	25	100	1 1/2	100	100	86	100	100
Franklin,	98	100	100	100	100	100	100	100	100	30	100	1 1/2	105	100	100	100	100
Hampden,	98	100	100	100	100	100	102	100	85	18	100	1 1/2	105	105	98	100	100
Hampshire,	100	100	100	100	100	100	100	100	100	20	100	1 1/2	100	105	98	100	100
Middlesex,	100	100	98	95	100	95	98	100	98	15	100	1 1/2	100	100	98	100	95
Nantucket,	100	100	100	95	100	100	100	100	100	50	100	2	100	95	90	100	100
Norfolk,	97	97	100	100	95	100	100	100	100	30	100	1	105	100	100	100	100
Plymouth,	100	100	100	100	100	100	105	100	100	50	97	1 3/8	105	105	95	100	100
Suffolk,	-	-	100	100	100	100	100	100	100	1	1	1	1	1	1	1	1
Worcester,	99	97	100	100	100	100	100	100	97	15	98	1 1/2	98	100	93	100	100

CONSOLIDATED CROP REPORT FOR JUNE, 1889. — BY COUNTIES.

COUNTIES.	Number of Returns.		POTATOES.		TOBACCO.		EARLY CABBAGE.		LATE CABBAGE.		STRAWBERRIES.				APPLES.	PEACHES.	PEARS.	GRAPES.
	Average Condi- tion July 1.	Late.	Average Condi- tion July 1.	Average Com- pared with Last Year.	Average Condi- tion July 1.	Average Com- pared with Last Year.	Average Condi- tion July 1.	Average Com- pared with Last Year.	Yield per acre in Bushels.	Average Quality, 100 represent- ing High Qual- ity.	Product Com- pared with a Full Yield.	Average Price per Bushel.	Average Condi- tion July 1.					
																		Yield per acre in Bushels.
Barnstable,	4	90	80	110	100	100	100	102	100	100	85	\$3 15	91	60	80	80	80	
Berkshire,	5	100	100	100	100	100	100	100	100	100	—	—	86	100	96	98	98	
Bristol,	6	90	83	100	100	100	90	100	96	100	80	3 20	73	—	80	85	85	
Dukes,	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Essex,	6	96	94	—	98	100	100	100	100	100	71	4 40	81	—	81	90	90	
Franklin,	11	100	100	110	100	100	—	100	100	100	80	3 60	92	100	100	100	100	
Hampden,	8	100	100	95	100	100	100	100	100	100	—	—	77	90	98	84	84	
Hampshire,	10	100	100	100	100	100	80	120	100	100	72	2 90	84	95	88	100	100	
Middlesex,	8	100	100	100	100	100	92	100	98	100	60	4 25	70	90	80	95	95	
Nantucket,	1	—	—	—	100	—	100	—	95	—	—	—	—	—	—	—	—	
Norfolk,	5	100	100	—	100	100	100	100	100	100	63	4 60	67	95	86	88	88	
Plymouth,	6	100	100	100	100	100	—	100	100	100	95	3 70	89	—	90	100	100	
Suffolk,	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worcester,	25	100	93	—	96	94	94	94	94	94	63	4 20	63	70	82	92	92	

NOTE. — *Average.* Same as last year is noted by 100; 5 per cent more, by 105; 5 per cent less, by 95, etc. *Condition.* 100 is the standard of full vitality and normal growth; a decrease of 5 per cent is marked 95, etc. *Product.* 100 is the standard of a full yield, or what a full stand, unimpaired by insects or injuries from any cause, would yield on the entire area.

A D D E N D A .

At the sixty-second Institute of the Essex Agricultural Society, held at Topsfield, Dec. 28, 1888, the afternoon subject considered was, "Whittier, the Poet of our New England Homes," and his influence upon the homes of our farmers.

President Ware, in introducing the essayist, spoke of agriculture furnishing special inspiration for poetic thoughts, and said that Whittier was to the farmers of New England what Burns was to Scotland.

It was unanimously voted that the Secretary send the following greeting from the Society to the poet, Whittier:—

DEAR FRIEND:—The farmers of Essex County send greeting, their most hearty congratulation upon the health of body and mental vigor with which you have reached and passed your eighty-first birthday.

We also congratulate you that, in the good providence of our Heavenly Father, you have been preserved to see the time when your poems are read and prized by every nation on the globe; and we, your neighbors and friends, rejoice with you, as we contemplate the marvellous power of your words upon all classes of our fellowmen, both in peace and war; and we beg to assure you that in no places are your poems read with more interest and pleasure, or your words of tenderest love cherished with a purer admiration, than in the homes of the farmers of your native county of Essex. They also express the hope that your life may long be preserved to shed its hallowed influence upon the world.

The receipt of the same was acknowledged by the poet by the following letter:—

OAK KNOLL, DANVERS, 12 MO., 30, 1888.

DAVID W. LOW, Esq., *Secretary Essex County Agricultural Society.*

DEAR FRIEND:—Thy letter conveying the congratulations and kind wishes of the Essex County Agricultural Society at its meeting on the 28th inst. I have received with no common satisfaction.

No birthday has ever given me more pleasure. My ancestors since 1640 have been farmers in Essex County. I was early initiated into the mysteries of farming as it was practised seventy years ago, and worked faithfully on the old Haverhill homestead, until, at the age of thirty years, I was impelled to leave it, greatly to my regret. Ever since, if I have envied anybody, it has been the hale, strong farmer, who could till his own acres, and, if he needed help, could afford to hire it, because he was able to lead the work himself. I have lived to see a great and favorable change in the farming population of Essex County. The curse of intemperance is almost unknown among them; the rum-seller has no mortgage on their lands. As a rule, they are intelligent, well informed, and healthily interested in public affairs; self-respectful and respected; independent land-holders, fully entitled, if any class is, to the name of gentlemen. It may be said they are not millionaires, and that their annual gains are small. But, on the other hand, the farmer rests secure, while other occupations and professions are in constant fear of disaster; his dealing directly and honestly with the Almighty is safer than speculation; his life is no game of chance, and his investments in the earth are better than in stock companies and syndicates. As to profits, if our farmers could care less for the comforts of themselves and their families, if they could consent to live as their ancestors once lived, and as the pioneers of new countries now live, they could, with their present facilities, no doubt double their incomes. But what a pitiful gain this would be, at the expense of the decencies and refinements which make life worth living. No better proof of real gains can be found than the creation of pleasant homes for the comfort of age and the happiness of youth. When the great English critic, Matthew Arnold, was in this country, on returning from a visit in Essex County, he remarked that, while the land looked to him rough and unproductive, the landlords' houses seemed neat and often elegant, with an air of prosperity about them. "But where," he asked, "do the tenants, the working people, live?" He seemed surprised when I told him that the tenants were the landlords, and the workers the owners.

Let me return my sincere thanks to the Essex Agricultural Society for the kind message conveyed in thy letter; and, with the best wishes for its continued prosperity and usefulness, I am truly thy friend,

JOHN G. WHITTIER.

BULLETIN No. 3.

MASSACHUSETTS
CROP REPORT

FOR THE

MONTH OF JULY, 1889,

SHOWING

THE CONDITION OF GROWING CROPS THE FIRST OF
AUGUST, AND OTHER MATTERS RELATING
TO AGRICULTURE.

COMPILED BY

WM. R. SESSIONS,
SECRETARY BOARD OF AGRICULTURE.

BOSTON:

WRIGHT & POTTER PRINTING COMPANY, STATE PRINTERS,
18 POST OFFICE SQUARE.

1889.

CROP REPORT FOR THE MONTH OF JULY, 1889.

RETURNED TO THE OFFICE OF THE STATE BOARD OF AGRICULTURE
AUG. 1, 1889.

OFFICE STATE BOARD OF AGRICULTURE,
BOSTON, MASS., Aug. 3, 1889.

GENERAL REMARKS.

In presenting our crop report for the month of July we would state that in the circular sent to our correspondents about the 20th of July the following questions were asked: 1. What is the outlook for a corn crop? 2. Have small fruits been satisfactory in yield and price? 3. Have you observed any rot or scab in potatoes? 4. Has the hay crop met your expectations in quantity and quality? 5. What is the prospect for a crop of early market apples? About 100 returns have been received, samples of which will be found printed in the "Notes of Correspondents." From these returns we learn that the outlook for a corn crop is generally good. Owing to so much rain it is late, but warm, pleasant weather will insure a good crop. Small fruits have been generally satisfactory in price but not in yield. The hay crop met expectations in quantity but not in quality. During the month past there were very few good hay days and much hay was damaged. Considerable grass yet remains to be cut. Where grass was cut early there promises to be a large crop of rowen. Continuous rains have caused streams to swell and low lands have become so flooded in many sections as to render the gathering of hay from them almost an impossibility. Potato vines have blasted badly in many sections; rot and scab have followed the blast, and in all probability the potato crop will be much below an average in quantity and quality. Many fields are already badly injured. The prospect for a crop of early market apples

is only fair at best and in many sections the yield will be slight. The excess of rain has caused weeds to make a heavy growth and has made the cultivation of crops difficult and costly. Oats have rusted badly. In the table will be found figures showing the averages of crops by counties. On the last pages will be found a very useful paper on "The Law of Trespass, and How it Affects the Farmer," by Burton W. Potter, Esq., of Worcester. Copies of this bulletin will be mailed on application.

THE WEATHER.

The month of July was marked by frequent rains and much cloudy weather. A severe thunder storm accompanied by hail passed over the eastern portion of the State on the afternoon of the 17th, doing much damage to crops, especially in the vicinity of Lynn, Newburyport and Wareham. The hail stones were very large and fell in showers. On the 23d another heavy thunder shower passed over Essex County, also doing much damage to crops. On the afternoon of the 29th the section in the vicinity of North Wilbraham was visited by a severe wind and rain storm which did considerable damage. The rainfall at Amherst for the month of July was 7.55 inches, at Monroe 8.25, at Leominster 8.03 and at Boston 5.80 inches. In Boston, with two exceptions, it was the wettest July for nineteen years, and, with three exceptions, the coolest July for the same length of time. The average rainfall at Amherst for the month of July for the past twenty years was 4.63 inches. Through the kindness of the director of the Hatch Experiment Station of the Massachusetts Agricultural College, we are enabled to print the summary of the Meteorological Observatory at Amherst for the month of July.

Latitude, 42° 23' 48.5" N. Longitude, 72° 31' 10" W. Height of instruments above ground, 51 feet; above sea level, 260 feet.

Pressure. — In inches. Actual Maximum Reading, 30.070; Mean, Reduced to 32° F., 29.619; Monthly Range, 0.690.

Air Temperature. — In Degrees F. Mean, 69.5°; Highest, 84°; Lowest, 54°; Monthly Range, 30°; Highest Mean Daily, 75.2°; Lowest Mean Daily, 60.3°; Mean Maximum,

77.1°; Mean Minimum, 62°; Mean Daily Range, 15.2°; Greatest Daily Range, 28°.

Humidity. — Mean Dew Point, 62.7°; Mean Relative Humidity, 78.2°; Mean Force Vapor, .5892.

Wind. — Prevailing Direction, Southwest; Total Movement, 4,032 miles; Greatest Daily Movement, 272 miles — 3d; Least Daily Movement, 45 miles — 7th; Mean Daily Movement, 130 miles; Mean Hourly Velocity, 5.4 miles; Maximum Pressure per Square Foot, 10 pounds = 45 miles per hour, on the 19th, at 11 P.M.

Precipitation. — In inches. Total, 7.55 inches.

Bright Sunshine. — Number of Hours Recorded, 182.

Weather. — Mean Cloudiness on a Scale of 10, 5.4; Number of Clear Days, 8; Number of Cloudy Days, 18; Number of Fair Days, 5; Total Cloudiness Recorded by Sun Thermometer, 265 hours, or 59.3 per cent.

Thunder and Lightning. — 7th, 8th, 23d, 29th and 30th.

Meteors. — 18th.

NOTES OF CORRESPONDENTS.

BARNSTABLE COUNTY.

Eastham. — Outlook good for a corn crop. Small fruits have been satisfactory in yield and price fair. Have observed no rot in potatoes and but little scab. The hay crop was never better. The weather still continues favorable for all crops, and we have had rain in abundance since the middle of June.

J. A. CLARK.

Falmouth. — Outlook good for a corn crop. Strawberries were fair and raspberries good. A very little scab has appeared in potatoes but no rot yet. The hay crop met expectations in quantity and quality. Poor prospect for a crop of early market apples.

D. R. WICKS.

BERKSHIRE COUNTY.

Cheshire. — Corn crop bids fair to be good. With the exception of blackberries small fruits were not plenty. Potatoes have blasted, and are beginning to scab and rot. The hay crop more than met expectations in quantity, but quality not as good on account of weeds. There are a few early market apples, but they are not quite ready for the market.

L. J. NORTHUP.

Great Barrington. — Outlook good for a corn crop. Small fruits yielded light and prices were fair. Unfavorable weather delayed haying so that not more than half the hay in this vicinity is secured, and the rains of the last few days have raised the streams, and along the Housatonic Valley hundreds of acres of uncut grass are to-day under water. The quantity of hay is large but the quality poor. The oat crop, which promised great things, is seriously damaged by the late rains. Light prospect for a crop of early market apples. Rot in potatoes is commencing to appear.

M. I. WHEELER.

Richmond. — Corn is late for this time of year. Potatoes are rotting badly. The hay crop met expectations in quantity and quality. It has rained the last few days and damaged quantities of hay and flooded low meadows. Oats are rusting badly. Poor prospect for a crop of early market apples.

M. W. COLEMAN.

Windsor. — Outlook good for a corn crop. Small fruits have been satisfactory in yield and price. Potatoes are rotting some and are blasting quite badly. The hay crop met expectations in quantity and quality. We have had very poor weather for haying on account of frequent rains. Prospect not very good for a crop of early market apples.

H. A. FORD.

BRISTOL COUNTY.

Dartmouth. — Outlook for corn not as good as it was a month ago. Small fruits have not been satisfactory in yield and price. Potatoes are rotting very badly. The hay crop met expectations in quantity but not in quality. Fair prospect for a crop of early market apples. Rowen has started well but it is too wet to make a good growth. Pastures have a good growth, but the feed is poor and makes but very little milk.

L. T. DAVIS.

New Bedford. — Not a very good outlook for corn. Small fruits have not been satisfactory in yield and price. Potatoes have blighted badly and the crop will be light. Both rot and scab have appeared. Hay crop met expectations in quantity but not in quality. Fair prospect for a crop of early market apples. July was very wet and cloudy and rowen is looking unusually well.

G. A. POTTER.

Somerset. — Outlook good for a corn crop. Small fruits have been satisfactory in price but not in yield. The hay crop met expectations in quantity and quality. Outlook poor for a crop of early market apples. The potato blast extends over the entire area of southern Massachusetts. Sprouted potatoes were the first to be affected, many fields not being worth digging. The later planted potatoes are not as badly affected. It is feared the recent heavy rains will cause them to rot badly, as rot is almost certain to follow blast.

JOSEPH GIBBS.

Swansey. — Outlook good for a corn crop. Small fruits have generally been satisfactory in yield and price. Considerable rot has appeared in potatoes, and the crop will not be much more than half of last year's crop. The hay crop met expectations in quantity and quality. Short crop of early market apples. The weather has been too wet and hot for the potato and onion crops.

J. E. ESTABROOKS.

DUKES COUNTY.

Chilmark. — Outlook good for a corn crop. The hay crop exceeded expectations in quantity and quality. There are no early market apples. Rot has struck some fields of potatoes, and there are fears of a loss of the crop.

B. T. HILLMAN.

ESSEX COUNTY.

Haverhill. — Outlook good for a corn crop. Small yield of small fruits, but prices were good. Have observed some rot in potatoes, but not much. The hay crop met expectations in quantity and quality. Most of the English hay has been secured, but not much meadow hay on account of the wet weather. There will be about half a crop of early market apples.

E. WEBSTER.

Ipswich. — Outlook good for a corn crop. Yield of small fruits small; prices good. No rot in potatoes in this vicinity yet, though all fear the wet weather will produce it. Quantity of hay above the average; quality below. July 17 a hail storm in the eastern part of the town riddled the corn leaves, broke off the bean pods, and knocked the cranberries from the vine to such an extent that one party who was calculating on a crop of two hundred barrels of cranberries will not get more than fifty. An extraordinary amount of rain fell the past month. Low grass lands are flooded, and a large amount of meadow hay damaged.

O. C. SMITH.

Marblehead. — The continued wet weather has greatly retarded haying, and nearly all that was housed the past month was discolored. The hay crop hardly met expectations in quantity and quality. A very little rot has appeared in potatoes, and scab is plenty. Fair prospect for a crop of early market apples.

W. S. PHILLIPS, Jr.

Newbury. — Outlook fair for a corn crop. Heavy showers and hail have broken it down some. Small fruits have not been satisfactory in yield and price. Within a few days have observed some rot and scab in potatoes. The hay crop met expectations in quantity but not in quality. Poor prospect for a crop of early market apples.

G. W. ADAMS.

North Andover. — Corn looks fairly well but is late. Prices of small fruits have been good but the yield small. Potatoes are rotting. The hay crop met expectations in quantity but not in quality. Much remains to be cut. Much of the land is too wet to plough or work with comfort.

PETER HOLT, JR.

FRANKLIN COUNTY.

Charlemont. — Outlook good for a corn crop. Small fruits not quite up to former years in yield and price. An excellent crop of early potatoes has been harvested, quite free from imperfections. Late potatoes are suffering from excessive moisture in the ground, and it is thought the tubers are rotting. The hay crop was extra, though the quality was injured by wet weather. Rowen is looking well. Not a very good prospect for a crop of early market apples.

H. S. GILES.

Deerfield. — Outlook good for a corn crop. Have not observed any rot or scab in potatoes. Hay has been more than an average in yield, and quality about up to the average. Rye is an average crop. Oats are good, but a poor time to harvest them. Rowen looks well, and bids fair for a good crop. Tobacco is looking well, and the harvest will begin next week. The weather is so wet that it is almost impossible to harvest grain or do any farm work.

CHARLES JONES.

Leverett. — Outlook good for a corn crop. Small fruits have been satisfactory in yield and price. We have noticed blight on some pieces of potatoes recently, and expect rot to appear later as a result. The hay crop has met expectations in quantity and quality. The average of pleasant weather has been about two working days per week, and seventy-five per cent of the hay crop has been more or less wet. Poor prospect for a crop of early market apples.

W. L. BOUTWELL.

Monroe. — Poor outlook for a corn crop, owing to wet weather and cool nights. Potatoes have a large growth of tops, and if blast does not come, bid fair for a large yield. No rot yet. Apples have fallen badly, and the crop will be only moderate in quantity. Rain on seventeen days during July, and 8.25 inches of water fell. Our mountain farmers have not secured one-half the hay crop, and much of that was injured by wet. The standing grass, over-ripe, will have to be supplemented next winter with increased rations of grain.

W. H. ALLEN.

Rowe. — Outlook good for a corn crop. Small fruits have been satisfactory in yield and price. Potatoes look well at date, but we expect they will soon show signs of rot unless it stops raining. I think about sixty per cent of the hay has been cut. It has met expectations in quantity and quality. Very small prospect for a crop of early market apples. Oats are blasting and rusting on account of wet weather.

J. F. BROWN.

HAMPDEN COUNTY.

Agawam. — The outlook for corn is a fair average. The hay crop met expectations in quantity but not in quality. It is generally expected that the quality will not be up to the average. No scab or rot in potatoes of any consequence. There is a chance for potatoes rotting, judging by the blight on the tops of both early and late varieties.

R. DEWITT.

Blandford. — Corn late, but stands well. Wild berries have been very plenty. Continued wet weather and but twelve haying days in July retarded haying, and but about half the crop is cut. One peculiar feature I note is the slowness of grass in ripening, and only June grass is suffering. Oats are rusting. It is the general opinion that the potato crop will be almost a complete failure. Not a field but what is badly struck with blight. Pasture feed, though plenty, lacks quality, and dairy cows are badly shrinking in the quantity of their milk.

E. W. BOISE.

Monson. — The hay crop met expectations in quantity and quality. Very poor prospect for a crop of early market apples. Corn seems to be late and oats are blasting. Early potatoes are very good and abundant. Have not observed any scab or rot yet.

A. H. WHITE.

Tolland. — Outlook for corn not good ; late planted looks badly. Some rot in potatoes. The hay crop not one-half secured ; and, though the crop is large, there has been no good weather in which to cut it. The outlook for all crops is bad, the whole country being flooded with water. Oats are rusting badly. There are very few apples of any kind, and they are dropping off badly.

F. T. MOORE.

Wilbraham. — Good outlook for corn. It has made rapid growth, but low lands especially want more sunshine and warm weather. Small fruits have been satisfactory in yield and price. Potato vines promise more than the tubers. No rot yet. Hay crop has met expectations in quantity and quality. About one-fourth of the crop is still standing. Oats show a heavy growth of straw, but have rusted badly. About half of the crop secured. Rye all secured, and more than an average crop. A full crop of early apples.

F. E. CLARK.

HAMPSHIRE COUNTY.

Belchertown. — Outlook good for a corn crop. Small fruits have been satisfactory in yield and price. Have not observed any rot or scab in potatoes yet. Fully a third of the hay is still standing ; but very little has been injured by wet weather. Fair prospect for a crop of early market apples. All crops are looking remarkably well.

H. C. WEST.

Hadley. — Outlook fair for a corn crop. Small fruits have been satisfactory in yield and price. Complaint of rot in potatoes is frequently heard. Haying is nearly finished, but farmers having many acres find themselves caught by the present rains with large quantities of hay out. The hay crop has met expectations in quantity but not in quality. Onions are blasting badly. Early apples are very plenty and cheap, but late apples promise poorly in quantity and quality. Six days of rainy weather make a gloomy outlook for crops.

H. C. RUSSELL.

Middlefield. — Corn is just tasselling, and is of good growth. Small fruits very scanty in yield ; prices satisfactory. Much scab in potatoes, and a little rot. They are blasting, and many fields are nearly black, with leaves all gone. Much of the hay crop is still uncut. Many farmers have just finished, and in

spite of rain have secured a large crop in very fair condition. All grain is uncut as yet. Wet weather continues almost unprecedented. Very poor prospect for a crop of apples.

M. J. SMITH.

South Hadley. — Outlook for corn fine on uplands ; on low lands doubtful. Small fruits have not met expectations in yield and price. Have observed some rot and scab in potatoes. Probably one-half the farmers in this vicinity have not finished haying. Two or three hay days in a week is about what we get. The last few days have been especially wet. Grass and oats remaining uncut are very badly damaged. Prospect fairly good for a crop of early market apples.

H. W. GAYLORD.

Ware. — Outlook good for a corn crop. Small fruits have been satisfactory in yield and price. Hay crop met expectations in quantity and quality. Prospect not good for a crop of early market apples. Oats are generally a failure on account of rust, and the rains have injured grass that has not yet been cut.

M. A. PERKINS.

MIDDLESEX COUNTY.

Ashby. — Good outlook for a corn crop. Small fruits have been fairly satisfactory in yield and price. Have not observed any rot or scab in potatoes. Hay crop large in quantity. We have had very heavy rains of late, and they have damaged the crop very much. Not a very good prospect for a crop of early market apples. A great many grapes, of which considerable are raised in this town, are turning red prematurely.

J. K. GATES.

Belmont. — Yield of small fruits fair and prices good. No rot in potatoes as yet, but there is some scab. Weather exceedingly unfavorable since haying began. Not one day in four of tolerably good hay weather. Much grass still uncut, and that is an unusual circumstance in this vicinity. Green crops, cabbage, etc., a large yield, but very low prices.

W. L. CHENERY.

Hudson. — Good prospect for a corn crop. Small fruits have been satisfactory in yield and price. Rot has within the last five days done considerable damage to potatoes. The tops of late potatoes continue green although the tubers show signs of

disease. Garden beans a few days ago began to be spotted and are becoming nearly worthless. Hay crop met expectations in quantity but not in quality. Early and late apples promise poorly for a crop this season.

G. A. COTTING.

North Reading.—The outlook is promising for a corn crop. Small fruits have been satisfactory in yield and price. Potatoes are growing finely and indicate a full crop. Rot has appeared. Poor prospect for a crop of early market apples. Most of the English hay has been secured in good order. The meadows are very wet and we shall have to wait a week or two before cutting them. The hay crop has met expectations in quantity and quality. Cultivated cranberries are as good as they were last year.

N. B. CASE.

Pepperell.—Outlook is good for a full crop of corn. Small fruits, except strawberries, have been satisfactory in yield and price. Have not observed any rot or scab in potatoes yet. Haying began about July 1 and the weather was very favorable until within the past ten days. The majority of the farmers are done haying. The hay crop met expectations in quantity but not in quality. The pear crop will be a large one, especially the Clapp variety. Not many early market apples in this section.

P. J. KEMP.

Wilmington.—The prospect for a good crop of corn is excellent. Small fruits have been satisfactory in yield and price. Potatoes are good in quality and are selling at \$2.25 per barrel. No complaint of rot yet. Yield of hay large, quality good. Very poor prospect for a crop of early market apples. Meadows very wet.

C. W. SWAIN.

NANTUCKET COUNTY.

Nantucket.—Splendid outlook for a corn crop. Potatoes are rotting badly. The barns are full of good hay. All of the oats were cut for fodder and the yield was extra. Worms are troubling early cabbages, but I have destroyed the green worm by putting one teaspoonful of fine salt into the middle of each head.

C. W. GARDNER.

NORFOLK COUNTY.

Dover. — Small fruits have been satisfactory in yield but not in price. Grapes promise a good full crop. The corn crop promises to be good and large. On low spongy land it looks badly; on high dry land it is above the average. Have not observed any rot or scab yet. The hay crop was above the average in quantity and quality and was harvested with very little injury from rain. Prospect for a crop of early market apples not very good in this section. Weeds are the great pest of the farmer this year. Beans are injured by rain, rust and weeds. The fate of the crops will depend upon the weather in August.

S. M. COLCORD.

Hyde Park. — Outlook very good for a corn crop. Price of small fruits good but crop small. Have observed little rot or scab in potatoes. The hay crop met expectations in quantity but not in quality. Very poor prospect for a crop of early market apples. Grapes and some other fruits have been considerably injured by hail, and there is danger that continued rainy weather may interfere with their quality when ripening.

R. M. JOHNSON.

Norfolk. — Very good prospect for a corn crop. Small fruits very satisfactory in yield and price. Potatoes are rotting some. Excessive wet weather has made the prospect for a crop of late potatoes very doubtful. Hay crop exceeded expectations in quantity and quality. Good prospect for a crop of early market apples. Wet weather has made it next to impossible to kill weeds.

J. W. HINKLEY.

Weymouth. — Outlook for a corn crop not very good. Small fruits early to come, quick to go; prices good. Have not observed any scab or rot in potatoes. The hay crop met expectations in quantity and quality. Crops would be in better condition if we had had less rain the past month, especially corn and late potatoes. A severe hail storm the middle of the month did considerable damage in this vicinity.

J. G. HUTCHINS.

PLYMOUTH COUNTY.

Halifax. — Except on high land the outlook for a corn crop is very poor. Small fruits have not been satisfactory in yield and

price. Potatoes promised a large crop until about two weeks ago, when rust struck them and they all died in a week. It has rained almost every day since and some say they are rotting. The farmers in this town have grown and housed the largest crop of hay ever grown in town before.

G. W. HAYWARD.

Marshfield. — Sunny days and warm nights through August will make certain a good corn crop in Plymouth County. The hay crop is below the average in quality. Have not observed any scab or rot in potatoes. Small fruits have been hardly an average in yield and price. Rather poor outlook for a crop of early market apples. They are selling for two dollars a bushel.

G. J. PETERSON.

Middleborough. — Outlook good for a corn crop. Small fruits have been satisfactory in yield and price. A little rot and scab in potatoes. The hay crop has not met expectations in quantity and quality. Good prospect for a crop of early market apples.

A. H. EATON.

West Bridgewater. — Outlook good for a corn crop. Prices of small fruits good, but yield only about three-fourths of a full crop. Potatoes are rotting badly. Hay crop has more than met expectations in quantity and quality. English hay is all cut and housed, in good condition generally. Vegetables are cheap and plenty. Not a very good prospect for a crop of early market apples.

DAVIS COPELAND.

WORCESTER COUNTY.

Barre. — Fair prospect for a corn crop. Potatoes are looking finely and will yield well if the rust does not damage them. Some rot and scab. Hay crop more than met expectations in quantity but not in quality. Oats are rusting badly. Apples not plenty and quite poor.

J. L. SMITH.

Berlin. — Outlook good for a corn crop. With the exception of strawberries, small fruits have been satisfactory in yield and price. Have not observed any rot or scab in potatoes, but blight has begun to appear. Corn and potatoes are looking finely, but we are having an abundance of wet weather and it is difficult to say what the results may be. Considerable grass is still standing,

and some of that cut was put into the barns in bad condition. Very poor prospect for a crop of early market apples.

P. B. SOUTHWICK.

Boylston.—Good outlook for a corn crop. Small fruits have been satisfactory in yield and price. Have not observed any scab or rot in potatoes. The hay crop has met expectations in quantity and quality. Prospect rather light for a crop of early market apples. Very wet in this vicinity, with frequent heavy showers.

I. A. DUNN.

Leominster.—Outlook good for a corn crop. Small fruits have been satisfactory in yield and price. There are indications of blight on the potato vines, and the wet muggy weather we are now having will probably bring on the rot. On old ground the scab is working. Mildew and rot are affecting some varieties of grapes. The season has been unfavorable for securing the hay crop and some fields yet remain to be cut. On fields cut early the quantity and quality were good, and from them a heavy crop of rowen will be secured. Our rainfall for the month of July was 8.03 inches. Average rainfall for month for six years 4.60 inches.

W. B. HOSMER.

Lunenburg.—Good prospect for a corn crop. Small fruits have been satisfactory in yield and prices fair. The month past has not been as favorable to crops as it usually is. Much hay is yet to be gathered on account of cloudy and rainy weather. Potatoes are looking well at present, and if the weather is favorable I think there will be a large crop. Small prospect for a crop of early market apples.

JAMES HILDRETH, 2d.

New Braintree.—Too cold and wet for corn. Outlook for a crop fair. Some fields of potatoes are blighting and rotting. Hay crop up to expectations in quantity but not in quality. Prospect fair for a crop of early market apples. The unusual amount of rainy weather has not only delayed haying and harvesting, but has injured the quality of the hay; about ruined the oat crop; is causing potatoes to blight and rot; and has made it almost impossible to keep the crops free of weeds. Feed is excellent in pastures, and on the whole the season will be quite a prosperous one for farmers.

C. D. SAGE.

Oakham. — Corn looks well. There is a large growth of fodder, and with good weather a large crop of grain will be harvested. The hay crop more than met expectations in quantity and quality. On account of wet weather a large quantity of grass remains to be cut. The prospect for a crop of rowen on fields that were mown was never better. Prospect not very good for a crop of early market apples. The prospect for potatoes is good unless the blast strikes them. It will be something wonderful if potatoes do not rot, for we have not had so much rain at this time of the year for years.

W. M. ROBINSON.

Petersham. — Poor outlook for a corn crop; too much wet; some rust. Small fruits have been satisfactory in yield and price. Have not observed any rot or scab in potatoes. Continuous wet weather has spoiled a good deal of hay and greatly delayed cutting. Some farmers are not half done and the crop is over-ripe. Where the first crop of hay was cut off early there promises to be a heavy crop of rowen. Poor prospect for a crop of early market apples. Oats and barley are rusting badly.

S. B. COOK.

Southborough. — Outlook good for a corn crop and it is earing well. Potatoes yield better than usual but are rotting a little in some fields. The hay crop was an average in quantity and that cut early was of good quality. The pastures are looking the best for years. Prospect for a rather light crop of early market apples.

E. F. COLLINS.

Worcester. — Outlook good for a corn crop. Small fruits have not been satisfactory in yield and price. Have observed rot and scab in potatoes. Hay crop has not met expectations in quantity and quality. The quality has been much injured by frequent and excessive rains. Prospect good for a crop of early market apples.

S. A. BURGESS.

CONSOLIDATED CROP REPORT FOR JULY, 1889. — BY COUNTIES.

COUNTIES.	CORN.		RVE.		OATS.		BARLEY.		BUCK-WHEAT.		HAY.		ROWEN.		PASTURE.		ONIONS.		CRAN-BERRIES.	
	Product (Com- pared with a Full Yield.	Average (Qual- ity, 100 represent- ing High Qual- ity.	Product (Com- pared with a Full Yield.	Average (Qual- ity, 100 represent- ing High Qual- ity.	Product (Com- pared with a Full Yield.	Average (Qual- ity, 100 represent- ing High Qual- ity.	Product (Com- pared with a Full Yield.	Average (Qual- ity, 100 represent- ing High Qual- ity.	Product (Com- pared with a Full Yield.	Average (Qual- ity, 100 represent- ing High Qual- ity.	Product (Com- pared with a Full Yield.	Average (Qual- ity, 100 represent- ing High Qual- ity.	Product (Com- pared with a Full Yield.	Average (Qual- ity, 100 represent- ing High Qual- ity.	Product (Com- pared with a Full Yield.	Average (Qual- ity, 100 represent- ing High Qual- ity.	Product (Com- pared with a Full Yield.	Average (Qual- ity, 100 represent- ing High Qual- ity.	Product (Com- pared with a Full Yield.	Average (Qual- ity, 100 represent- ing High Qual- ity.
Barnstable,	100	90	100	100	98	98	100	100	—	—	100	100	100	75	90	100	87	100	—	—
Berkshire,	100	96	96	98	90	90	100	100	100	100	100	100	98	100	100	100	—	—	—	—
Bristol,	91	87	88	88	90	84	84	84	—	—	105	105	100	100	100	80	100	—	—	—
Dukes,	100	75	100	95	100	100	100	100	—	—	125	95	100	100	100	100	100	—	—	—
Essex,	95	87	88	87	91	92	92	92	—	—	102	88	100	100	100	85	100	—	—	—
Franklin,	98	98	96	98	92	75	75	75	100	100	105	90	100	100	100	100	100	—	—	—
Hampden,	95	95	92	90	81	84	84	84	90	90	105	93	100	100	100	100	90	—	—	—
Hampshire,	98	100	98	100	92	100	100	100	100	100	100	90	100	100	100	100	85	—	—	—
Middlesex,	100	95	92	95	82	100	100	100	100	100	100	91	100	100	100	100	92	—	—	—
Nantucket,	100	—	—	—	—	—	—	—	—	—	—	100	—	—	—	—	100	—	—	—
Norfolk,	98	90	100	98	95	100	100	100	—	—	100	92	100	100	100	100	100	—	—	—
Plymouth,	98	100	100	98	98	100	100	100	85	85	100	90	100	100	100	100	100	—	—	—
Suffolk,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worcester,	98	97	82	96	80	96	96	96	100	100	100	90	100	100	100	100	95	—	—	—

CONSOLIDATED CROP REPORT FOR JULY, 1889. — BY COUNTIES.

COUNTIES.	EARLY POTATOES.				LATE POTATOES. Average Condition August 1.	TOBACCO.		EARLY CABBAGE.				CELERY.		GRAPES.
	Product compared with a Full Yield.	Average Yield per Acre stated in Bushels.	Average Quality, 100 representing High Quality.	Average Price per Bushel.		Average Condition August 1.	Havana.	Seed.	Product compared with a Full Yield.	Average Yield in Heads.	Average Quality, 100 representing High Quality.	Average Price received per Head.	Average compared with Last Year.	Average Condition August 1.
					Product compared with a Full Yield.									
Barnstable,	98	115	100	\$0.95	88	—	—	—	—	—	—	—	—	—
Berkshire,	90	120	98	75	93	—	—	—	—	—	—	—	—	—
Bristol,	65	95	84	85	60	—	—	—	—	—	—	—	—	—
Dukes,	100	200	100	1.00	100	—	—	—	85	7,000	98	100	100	80
Essex,	95	190	96	82	91	—	—	—	100	7,000	100	—	—	81
Franklin,	100	230	100	65	100	100	100	100	75	3,000	100	100	100	100
Hampton,	95	125	98	70	95	100	100	100	100	3,000	100	100	100	83
Hampshire,	90	125	95	75	91	90	80	100	95	4,000	100	100	100	93
Middlesex,	99	155	98	83	95	100	100	100	100	—	98	120	100	95
Nantucket,	—	75	95	1.00	90	—	—	—	—	—	—	—	—	—
Norfolk,	100	160	97	80	98	—	—	—	—	4,000	98	—	100	88
Plymouth,	95	95	92	90	95	—	—	—	98	—	100	125	100	100
Suffolk,	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worcester,	100	190	100	80	100	—	—	—	100	7,000	100	100	100	90

NOTE. — *Condition.* 100 is the standard of full vitality and normal growth; a decrease of 5 per cent is marked 95, etc. *Product.* 100 is the standard of a full yield, or what a full stand, unimpaired by insects or injuries from any cause, would yield on the entire area.

THE LAW OF TRESPASS, AND HOW IT AFFECTS THE FARMER.

EXTRACT FROM A PAPER BY BURTON W. POTTER, ATTORNEY-AT-LAW,
WORCESTER, READ THE PAST WINTER BEFORE THE CHAMBERLAIN DIS-
TRICT FARMERS' CLUB OF WORCESTER, TAKEN FROM THE "MASSACHU-
SETTS SPY."

According to the theory of the common law, the owner in fee of a piece of land has absolute dominion over it, not only on its surface, but from the highest heavens above it to the centre of the earth beneath it, but practically every owner of land soon finds out that he holds it as a trust for the society at large. He is not permitted to create or allow anything like a private or a public nuisance on his land, but he is liable to have it taken for quarantine grounds and the dwelling thereon for a pest house. He is liable to have it flowed against his consent for mill or factory purposes. It may be taken from him for a park or a cemetery, for a highway or a railroad, for a reservoir or a sewage farm, for a post-office or a school-house, or for some other public use. He is also liable to have his premises run over and damaged by hunters, fishermen, pedestrians and fruit and crop marauders.

As the law now stands every person who enters upon the land of another without his express or implied consent commits a civil trespass, whether the land be enclosed or not, and although no material injury be done, for which damages may be recovered in a civil action; and if a person, without a farmer's permission, wilfully cuts down, carries away, girdles or otherwise destroys any of his trees, timber, wood or underwood, the farmer can recover of him in a civil suit three times the amount of the damages he has done. But fortunately the farmer is not compelled to rely wholly upon the civil law for redress, for frequently the trespasser upon his land and crops is impecunious and wholly unable to pay his grocery bills, and would cut a sorry figure in trying to satisfy an execution for three times the amount of his depredations upon somebody's land. Although it cannot be said with truth,

that the farmer is a great favorite of the law, yet the law makes it a criminal offence for a person to commit certain kinds of trespasses upon his premises.

There is a belief or impression among many people in the community that, by reason of custom or otherwise, they have a right to hunt or fish over another's ground as they please, to pick berries in his pasture or fruit and flowers by his roadside ; but, as a matter of fact, they are very imperfectly informed as to the law. In all streams not navigable, and in all ponds of less than ten acres in area, the right to fish belongs exclusively to the person owning the adjoining land. And a person has no more right to hunt on a farmer's ground than he has to play base ball or cricket thereon. He has no more right to pick berries, fruit and flowers on the farmer's roadside than in the farmer's fields. The trespasser who picks berries in pasture land or fruit by the wayside is liable not only to the land-owner himself, but furthermore, those who buy and consume berries and fruit so picked are also liable to the land-owner for the fair value of the amount they thus purchase and consume. And it makes no difference that they buy the same in good faith, and pay the trespasser therefor, for by assuming ownership and dominion over the property they render themselves liable in trover to the true owner. Whoever wilfully and maliciously burns or otherwise destroys or injures a farmer's wood pile, or his fences, bars or gates, or his hay, grain or other vegetable products, whether severed from the soil or not, or his standing trees or his soil, is liable to imprisonment in the state prison for five years, or to a fine of five hundred dollars. Whoever wilfully and maliciously throws down or opens a farmer's gate, bars or fence, and leaves the same down or open ; or whoever wilfully and maliciously enters a farmer's orchard, garden or field, and steals and carries away without the owner's consent any fruit or flowers ; or whoever wilfully commits a trespass by entering upon the orchard, garden or other improved land of a farmer, without his permission, with the intention to cut, injure or carry away the trees, grain, grass, hay, fruit or vegetables there growing or being, is liable to be punished by imprisonment in the house of correction for six months, or by fine not exceeding five hundred dollars.

In these cases, in order to secure the conviction and punishment of the offender, it is necessary to prove that he committed the offence wilfully and maliciously and with malice aforethought, as it were ; but from the first day of April to the first day of December in each year the law assists the farmer in the protection of his orchard, garden, mowing land, or any of his other improved or enclosed land, by enabling him to prove the wilfulness of any

trespass thereon, by showing that he has forbidden the same, either directly or by a notice posted upon the premises. Any person who trespasses upon such improved or enclosed land between those dates, after he has been forbidden so to do, by notice given him directly or by posting, as aforesaid, is liable to be arrested on the spot by a sheriff, deputy sheriff, constable, watchman or any police officer, and kept in any convenient place for twenty-four hours, if necessary, until a complaint can be made against him for the offence, and then he is liable to be further punished by a fine of twenty dollars. In such case, if the owner or occupant of the land does not happen to be an officer or watchman, he may order the intruder to leave the premises, and if he refuses or neglects to go, he may then use so much force as is necessary to compel him to depart.

The law furnishes protection to the farmer against the disfigurement of his fences, buildings and trees by the poster advertisements of showmen, quacks and traders of all kinds of wares and merchandise, for it is a criminal offence for any one to paint, put upon, or in any manner affix to any fence, structure, rock or other natural object, the property of another, any words, device, trade-mark, advertisement or notice, without first obtaining the consent of the owner of such property.

In these times, when so many land-owners are removing their road fences, it is important for such owners and the drivers of domestic animals upon the highway to know their legal rights in the premises. It is well known that the law does not require any one to build a road fence, and if he does so he does it for his own protection and convenience alone. Yet the highways have been set apart, among other things, that cattle and other domestic animals may be driven thereon, and as, from the nature of such animals, it is impossible, even with care, to keep them always within the limits of the way unless the adjoining land is properly fenced, it follows that when they are driven along the road with care and diligence, and then escape upon adjoining land and do damage, their owner is not liable therefor, provided he makes reasonable efforts to remove them as speedily as possible. But this does not justify any one in trying to drive wild and unruly animals loose upon the road, or of attempting to drive any animals along the way without sufficient help to keep them within the limits of the highway on all ordinary occasions, whether it is fenced or not, consequently if a driver or other person allows his animals to escape from the limits of the road and trespass on the adjoining land of a farmer he must either pay the farmer's damages or be prepared to show that they resulted

through no fault of his. The farmer has a right to drive off his premises any animals which he finds trespassing thereon. He may drive them into the highway and so far along the highway as necessary to keep them off his land, unless they came upon his land through a defective fence which it was his duty to keep in repair, in which case he had better drive them back upon their owner's land and fix up the fence to meet the requirements of the law. Should he prefer, he may take such trespassing animals to the town pound or other suitable place, giving them sufficient food and water and notifying their owner of his doings, and why they have been impounded, and stating the amount of his damages, and of his charges for feeding them; and then, if the owner of the animals does not claim them and pay the damages and charges, they may be sold by public auction and the proceeds of the sale applied to the payment of the damages and charges. But the farmer has no right to kill or injure animals which he finds doing damage upon his land, unless they are in pursuit of his own animals, and there is a reasonable ground to apprehend that they will attack and injure them, in which case he has the right to kill the attacking animals, if necessary, to protect his own. It used to be supposed, and some people still labor under the impression, that a person has the right to kill fowls, cats, dogs, hogs and such animals, when found trespassing on his premises, provided he tosses the dead carcasses over the fence upon their owner's land; but the law does not justify any such proceeding, even if notice of an intention to kill is given to the owner of the animals prior to their trespasses. A person annoyed by trespassing animals may seek redress in damages of their owner or by a criminal complaint against him; but if he wilfully or maliciously kills, wounds, maims or poisons any domestic animal, or exposes any poisonous substances with intent that the life of any such animal shall be destroyed thereby, he is liable to imprisonment in the state prison for ten years or a fine of five thousand dollars.

When the owner or occupant of land finds himself annoyed beyond endurance by the trespass of his neighbors' animals, the proper and reasonable thing for him to do is to post up a notice on his land, or what is better, notify the owner of the animals in writing, that he forbids the further trespassing of his animals upon his land, and then such owner is liable to a fine of ten dollars for each subsequent trespass of his animals. A farmer has a right to guard and protect his premises against thieves and trespassers by the reasonable use of watch-dogs, especially in the night-time, but he has no right to keep a ferocious dog on his premises unless he is kept chained, and even then his owner would be held liable if he

should bite a person who should chance to go within his reach. A farmer has a right to protect his land against the trespass of growing trees on adjoining land by cutting off all protruding roots and overhanging branches, up to the line of his land, but he must not convert them to his own use unless he is willing to pay the owner of the trees the fair value of the roots and branches for firewood or other purposes. But if the owner of real estate allows the branches of his neighbor's trees to grow out over his premises he is not entitled to any of the fruit that may grow thereon, as the fruit upon the branches of every tree belongs to the owner of the trunk of the tree. A farmer has a right also to protect his land from all surface water if he can do so by raising the grade of his land or by the erection of embankments thereon. He may even stop up the mouth of a culvert built by a town across the road for the purpose of conducting surface water upon his land, but he must be careful in so doing not to exceed the limits of his own land.

It will thus be seen that while the farmer holds his land under certain restrictions and limitations, he yet has many rights as well as liabilities under our trespass laws.

BULLETIN No. 4.

MASSACHUSETTS
CROP REPORT

FOR THE

MONTH OF AUGUST, 1889,

SHOWING

THE CONDITION OF GROWING CROPS THE FIRST OF
SEPTEMBER, AND OTHER MATTERS RELATING
TO AGRICULTURE.

COMPILED BY

WM. R. SESSIONS,
SECRETARY BOARD OF AGRICULTURE.

BOSTON:

WRIGHT & POTTER PRINTING COMPANY, STATE PRINTERS,
18 POST OFFICE SQUARE.

1889.

CROP REPORT FOR THE MONTH OF AUGUST, 1889.

RETURNED TO THE OFFICE OF THE STATE BOARD OF AGRICULTURE
SEPT. 1, 1889.

OFFICE STATE BOARD OF AGRICULTURE,
BOSTON, MASS., Sept. 4, 1889.

GENERAL REMARKS.

We herewith present our crop report for the month of August. In the circular sent to our correspondents about the 20th of August, the following questions were asked: 1. What is the prospect for winter apples, in quantity and quality? 2. Is the acreage of meadow land reseeded in the fall increasing in your locality? 3. What is the prospect for late potatoes, and have you observed rot or scab? 4. Is the amount of corn grown for ensilage purposes increasing in your vicinity, and what varieties are preferred? About ninety returns have been received, samples of which will be found printed in the "Notes of Correspondents." From these returns we learn that there will be about half a crop of winter apples of rather poor quality. On the whole, the acreage of meadow land reseeded in the fall is increasing. The wet weather of July and the early part of August caused potato vines to blight badly. Rot quickly followed, and there will not be over half a crop of potatoes. Those that were nearly ripe before the blast struck them were good and rotted but little. Those planted late and only about half matured when the blast came are almost a total failure. Many fields will not be worth digging. The warm, dry weather of the past two weeks has had a tendency to keep the rot from spreading. Scab has also been prevalent this season. The amount of corn grown for ensilage

purposes appears to be increasing in most localities. The Southern white variety seems to be the one most generally preferred. Celery has rusted badly in some sections but is now fast recovering. The corn crop promises to be a good one. In some sections blight has struck the corn fields and some of them are reported as almost worthless. Corn cutting has commenced, although most of the crop needs fully a week of warm, dry weather. The tobacco crop was in general a very good one and was harvested in excellent condition. Some damage was done to the crop by rust and fleas. On land where the first crop of grass was taken off early the rowen crop is very large and much of it has been secured in excellent shape. Pastures are holding out well. Fruits of all kinds are inferior both in quantity and quality. In the table will be found figures showing the averages of crops by counties. On the last pages will be found an extract from an address delivered at the Forty-Seventh Annual Fair of the Housatonic Agricultural Society by Rev. F. H. Rowley of North Adams. Copies of this bulletin will be mailed on application.

THE WEATHER.

The first half of the month of August was marked by cloudy, muggy weather with occasional light rains. The last half was warm and dry. No rain has fallen for the past two weeks, and in some sections it is now very much needed. This warm, dry weather following so long a period of wet weather has caused vegetation of all kinds to mature rapidly and everything to put on a fall-like appearance. The rainfall for the month was rather below the average. At Amherst it was 2.35 inches; at Leominster, 3.68; at Boston, 3.95; and at Monroe, 4.18 inches. The average rainfall at Amherst for the month of August for the past twenty years was 3.92 inches. There was a slight frost at Chester on the 29th, and at Templeton, on low land not protected by fog, on the 28th and 29th. Through the kindness of the director of the Hatch Experiment Station of the Massachusetts Agricultural College, we are enabled to print the summary of the meteorological observatory at Amherst for the month of August.

Latitude, 42° 23' 48.5" N. Longitude, 72° 31' 10" W. Height of instruments above ground, 51 feet. Above sea level, 260 feet.

Pressure. — In inches. Actual Maximum Reading, 30.150; Mean, Reduced to 32° F., 29.718; Monthly Range, 0.540.

Air Temperature. — In Degrees F. Mean, 65.5°; Highest, 82°; Lowest, 45°; Monthly Range, 37°; Highest Mean Daily, 74 3°; Lowest Mean Daily, 59.5°; Mean Maximum, 75°; Mean Minimum, 56.9°; Mean Daily Range, 18.1°; Greatest Daily Range, 31°.

Humidity. — Mean Dew Point, 59.5; Mean Relative Humidity, 80.4°; Mean Force Vapor, .6591.

Wind. — Prevailing Directions, North, North-east, South-west; Total Movement, 2,811 miles; Greatest Daily Movement, 213 miles — 2d; Least Daily Movement, 16 miles — 30th; Mean Daily Movement, 91 miles; Mean Hourly Velocity, 3.8 miles; Maximum Pressure per Square Foot, 6.5 pounds = 36 miles per hour, on the 14th, at 3 P M.

Precipitation. — In inches. Total, 2.35 inches.

Bright Sunshine. — Number of Hours recorded, 194.

Weather. — Mean Cloudiness on a Scale of 10, 4.3; Number of Clear Days, 7; Number of Cloudy Days, 12; Number of Fair Days, 12; Total Cloudiness Recorded by Sun Thermometer, 221 hours, or 53.4 per cent.

Thunder and Lightning, 2d, 14th and 23d.

Halo, Lunar, 4th.

Wind followed by Rain, 9th.

NOTES OF CORRESPONDENTS.

BARNSTABLE COUNTY.

Dennis. — Very poor prospect for a crop of winter apples. The acreage of meadow land reseeded in the fall is not increasing in this locality, neither is the amount of corn grown for ensilage purposes. August was a very wet month in this vicinity. In some localities potatoes are quite badly rotted. Corn is looking well, but needs warm dry weather to mature. Cranberries are looking well, but are below the average in quantity.

J. CROWELL.

Eastham. — There will be a fair crop of winter apples. Acreage of meadow land reseeded in the fall not increasing in this locality. Late potatoes will be a partial failure, on account of rot. No silos in this vicinity, but ensilage corn is grown somewhat for feeding purposes. Varieties preferred are sweet and Southern.

J. A. CLARK.

Falmouth. — Winter apples twenty-five per cent in quantity; quality good. Acreage of meadow land reseeded in the fall is increasing in this locality. Poor prospect for a crop of late potatoes, as rot and scab are plenty. Amount of corn grown for ensilage purposes is increasing in this vicinity. I think the Southern varieties are preferred. This has been a very trying season for vegetation, with all manner of insects to eat and destroy, and with mildews and blights on almost all varieties of fruits and vegetables.

D. R. WICKS.

BERKSHIRE COUNTY.

Cheshire. — Winter apples off sixty per cent; quality not as good as last year. I think there is more land reseeded in the fall than formerly. The prospect for late potatoes is not very flattering, and there will probably be only half a crop. The amount of ensilage corn seems to be on the increase. No rain for the past two weeks and it is getting to be very dusty.

L. J. NORTHUP.

Sheffield. — Acreage of meadow land reseeded in the fall is not increasing in this locality. Potato fields have blasted, without an exception, and the potatoes are rotting. Amount of corn grown for ensilage purposes is increasing in this vicinity. Corn has come forward fast and bids fair to be a better crop than was anticipated. Buckwheat is looking finely. The apple crop is poor, both in quantity and quality.

H. T. CANDE.

Windsor. — The quality of winter apples is good, but the quantity is small. Do not think the acreage of meadow land reseeded in the fall is increasing in this vicinity. Very poor prospect for a crop of late potatoes, as they are rotting badly. We need rain very much, for the streams are very low, and the top of the ground is dry and dusty.

H. A. FORD.

BRISTOL COUNTY.

Mansfield. — About half a crop of winter apples of fair quality. Acreage of meadow land reseeded in the fall is increasing in this locality. The potato crop would have been large, but they have rotted very badly and there will not be over half a crop that can be used. No change for a year or two in amount of corn grown for ensilage purposes. Rowen is heavy, but weather unfavorable for securing the crop.

D. E. HARDING.

New Bedford. — Quantity of winter apples small and quality poor. Acreage of meadow land reseeded in the fall is increasing in this locality. Prospect for late potatoes very poor, owing to scab and rot. Five silos are being built near here. Southern white corn is used for ensilage. Millet and fodder corn are looking well, except on very wet land. Have had no heavy wind to damage them.

G. A. POTTER.

Raynham. — Not more than half a crop of winter apples and those of poor quality. Acreage of meadow land reseeded in the fall is increasing to some extent in this locality. Very poor prospect for a crop of late potatoes, as they are rotting badly. No corn is grown for ensilage purposes in this vicinity. The hay on the fresh meadows will not be secured this season, on account of the rain. Rowen is heavy, but no weather to cure it. The leaves of grape vines are turning and dropping off, and making it uncertain about the crop coming to maturity.

N. W. SHAW.

Somerset. — Poor prospect for a crop of winter apples. Acreage of meadow land reseeded in the fall is increasing in this locality. From one-third to one-half the potato crop has rotted in the ground. Amount of corn grown for ensilage purposes is increasing in this vicinity. Sweet corn is preferred. Corn looks very promising. This season will not be a profitable one for farmers.

JOSEPH GIBBS.

Swansey. — About half a crop of winter apples of good quality. Acreage of meadow land reseeded in the fall is increasing in this locality. About half a crop of potatoes and some rot. There is not as much corn grown for ensilage purposes as formerly. The first half of August was very wet. Celery rusted very badly, but is now recovering. The rowen crop is good.

J. E. ESTABROOKS.

DUKES COUNTY.

Chilmark. — Quantity of winter apples small; quality good. Acreage of meadow land reseeded in the fall is increasing in this locality. Some rot in potatoes. No corn grown for ensilage.

B. T. HILLMAN.

ESSEX COUNTY.

Haverhill. — Quantity of winter apples small; quality poor. Acreage of meadow land reseeded in the fall is increasing in this locality. Fair crop of late potatoes, but some rot. Early potatoes have been dug, and were rotted considerably on low ground. Amount of corn grown for ensilage purposes is increasing in this vicinity. Southern white variety preferred. Rowen is being cut and cured.

E. WEBSTER.

Ipswich. — Rye yielded about 28 bushels to the acre, a full yield being 42 bushels. Corn is earing out fast and well, and the indications are that the crop will be a full one. Farmers have cut their salt hay and cured it in good shape. Rowen was unusually good and was secured in the best of condition. The potato crop is damaged about one-half.

O. C. SMITH.

Manchester. — About half a crop of winter apples. Acreage of meadow land reseeded in the fall is not increasing in this locality. Poor prospect for a crop of late potatoes. Do not think the

amount of corn grown for ensilage purposes is increasing in this vicinity. We prefer the Southern white. I think on the whole it has been a poor year for the farmer.

JOHN BAKER.

Marblehead. — Poor prospect for a crop of winter apples. Acreage of meadow land reseeded in the fall is not increasing in this locality. Three-quarters of the potato crop have rotted. The amount of corn grown for ensilage purposes has more than doubled the past two years. Southern white is planted by many. Squashes have not set well and cabbage fields look ragged. The present prospect for the average farmer is very uninviting. It now looks as though many an account would balance on the wrong side.

W. S. PHILLIPS, JR.

Newbury. — Very small crop of winter apples of fair quality. Acreage of meadow land reseeded in the fall is increasing in this locality. Poor prospect for a crop of late potatoes, owing to rot and scab. Amount of corn grown for ensilage purposes is decreasing in this vicinity.

G. W. ADAMS.

North Andover. — Poor prospect for winter apples, both in quantity and quality. The acreage of meadow land reseeded in the fall is largely increasing every year. Late potatoes are a total failure. The amount of corn grown for ensilage increases some. The varieties most planted are Blount and Leaming. Many believe the white Southern as good as either. Owing to wet weather all ensilage corn is small, and in some places not more than half a crop will be obtained. Rowen is being secured in good order. There is still some meadow hay standing.

PETER HOLT, JR.

FRANKLIN COUNTY.

Ashfield. — Prospect not very good for winter apples. Think the acreage of meadow land reseeded in the fall is increasing in this locality. Prospect not good for late potatoes. Amount of corn grown for ensilage purposes increasing slowly, but only a few grow it. Hardly any corn has been cut and not much rowen.

A. G. HOWES.

Bernardston. — The crop of winter apples will fall a little short of an average, but the quality will be better than last year. Late potatoes will be a failure, owing to blight and rot. The amount of corn grown for ensilage purposes is increasing in this vicinity.

R. H. CUSHMAN.

Monroe. — About half a crop of winter apples; quality fair. Blast killed potatoes early in the month and late planted ones, in many fields, will not be worth digging. No ensilage put up in this section, though considerable corn is grown for fall feeding. But little rowen is cut on the mountain farms. Corn has gained some during the past ten days of warm, dry weather, and, if early frosts do not interfere, may be a fair crop. Mean temperature for the month, 61.29. Rainfall, 4.18 inches.

WM. H. ALLEN.

Montague. — Apple crop very light. Acreage of meadow land reseeded in the fall not increasing in this locality. About half a crop of late potatoes. Amount of corn grown for ensilage purposes is increasing every year. It is generally thought that our Northern corn makes the best ensilage. The dry weather of the past two weeks has caused onions to cure off quickly and prevented rot, which seemed the probable result two weeks ago. Corn is ripening rapidly and the prospect is good for an excellent crop.

C. S. RAYMOND.

Northfield. — Very few winter apples and they are defective. Acreage of meadow land reseeded in the fall is increasing in this locality. Potatoes are rotting badly, especially those planted late on moist land. The amount of corn grown for ensilage is about the same as for the past three years. Sweet corn is most used. Crop of rowen better than for several years, both in quantity and quality.

CHARLES POMEROY.

Sunderland. — Half a crop of apples and they are poor. Acreage of meadow land reseeded in the fall is increasing in this locality. There will be no good late potatoes. Amount of corn grown for ensilage purposes is increasing in this vicinity. Great crop of rowen and it is being put into the barns in good shape. Onions, half a crop and a little under size.

W. L. WARNER.

HAMPDEN COUNTY.

Brimfield. — Few winter apples and they are poor. Acreage of meadow land reseeded in the fall is increasing in this locality. Potatoes are rotting badly. Amount of ensilage corn remains about the same. Southern or Western white is preferred. Corn is now being cut. Owing to the warm, dry weather of the past two weeks all crops are maturing fast.

S. W. BROWN.

Chester. — Small crop of winter apples and they are generally poor. Acreage of meadow land reseeded in the fall not increasing in this locality. There will be a small crop of potatoes. The amount of corn grown for ensilage purposes increases every year. Have had warm days and cold nights for the past two weeks and not a drop of rain. Quite a frost here on the 29th.

E. H. ALVORD.

Monson. — Very few winter apples and they are of poor quality. Acreage of meadow land reseeded in the fall is increasing in this locality. Late potatoes are a failure. The amount of corn grown for ensilage purposes is increasing in this vicinity. The great amount of wet, the potato rot and lack of fruit make it a hard year for farmers in this locality.

A. H. WHITE.

Tolland. — Winter apples few in quantity and poor in quality. Early potatoes mostly rotted; late ones few and very small. No ensilage to speak of is grown in this section. The prospect for all fall crops is very poor. The wet weather held on too long and weeds have taken the place of crops. The weather has been very fine for the last two weeks and it may help out corn.

F. T. MOORE.

West Springfield. — Winter apples are few in quantity. Think the acreage of meadow land reseeded in the fall is increasing in this locality. Light crop of potatoes, on account of rot and scab. Probably the amount of corn grown for ensilage purposes is not increasing in this vicinity. Common field corn is preferred. Heavy dews the last week in August. Corn is ripening rapidly, and potatoes do not appear to be rotting now.

J. N. BAGG.

Wilbraham. — Fair prospect for a crop of winter apples. Acreage of meadow land reseeded in the fall is not increasing in this locality. Not over half a crop of late potatoes on account of rot. About the usual amount of corn is grown for ensilage purposes. The warm weather is ripening corn fast and many fields are ready to be cut.

H. M. BLISS.

HAMPSHIRE COUNTY.

Belchertown. — Fair prospect for winter apples. Acreage of meadow land reseeded in the fall is increasing in this locality. The potato as a crop comes nearest to being a failure. Other crops are a full average. The amount of corn grown for ensilage purposes is increasing in this vicinity. Southern white is the variety preferred.

H. C. WEST.

Chesterfield. — Quantity of winter apples small; quality good. Acreage of meadow land reseeded in the fall is increasing in this locality. Potatoes will be almost a failure. The crop is small and they are rotting badly. No ensilage corn raised. Corn has made a good growth.

HORATIO BISBEE.

Goshen. — Winter apples few in number, and they are small, gnarled and wormy. Acreage of meadow land reseeded in the fall is increasing in this locality. Potatoes small and rotting badly. Many fields will not be dug. Amount of corn grown for ensilage purposes is increasing in this vicinity. Sweet varieties are preferred. The Black Mexican variety seems to be growing in favor. There is a tendency for all crops to ripen prematurely when not affected by actual blast. There is a blight on some fields of corn. There has been no rain for two weeks.

ALVAN BARRUS.

Hatfield. — About half a crop of winter apples, and they are poor. Acreage of meadow land reseeded in the fall is increasing in this locality. Potatoes are turning out poorly and are rotting considerably. Very little corn grown for ensilage purposes. The crop of rowen is heavy. Corn is ripening fast and some have commenced cutting it. Blast has decreased the onion crop one-half. Tobacco is curing fast, and the crop promises to be a nice one.

J. D. PORTER.

Southampton. — Small crop of winter apples and quality not first class. About the usual amount of meadow land is reseeded in the fall. Blast struck the potato crop when about half grown and there is a good deal of rot, so that the crop will be but half a one. Amount of corn grown for ensilage purposes is increasing in this vicinity. Large Southern corn preferred. Three silos in town. Tobacco is all hung in good condition with some damaged by flea and rust. Corn is doing well and is nearly ready to be cut.

C. B. LYMAN.

Ware. — Prospect not good for a crop of winter apples. Acreage of meadow land reseeded in the fall is increasing in this locality. Owing to the wet weather of July and August potatoes are rotting badly, and some fields are not worth digging. The amount of corn grown for ensilage purposes is increasing in this vicinity. Corn is looking well.

M. A. PERKINS.

MIDDLESEX COUNTY.

Bedford. — Poor prospect for a crop of winter apples. Has been too wet to reseed this year. The amount of corn grown for ensilage purposes varies little from year to year. Our cranberry crop is a total failure on the Concord and Sudbury rivers, owing to the large amount of water standing on the meadows. The excessive rains have killed most crops on low land, particularly cabbage, spinach and potatoes. Late potatoes are mostly rotten.

HENRY WOOD.

Belmont. — Small quantity of winter apples of poor quality. Crops, especially potatoes and celery, have not yet recovered from the effects of so much drenching. Much rot and scab in potatoes. No corn raised in this vicinity for ensilage purposes. Plums and grapes have rotted and dropped off.

W. L. CHENERY.

Chelmsford. — Quantity of winter apples small; quality fair. Acreage of meadow land reseeded in the fall is not increasing in this locality. Potatoes are rotting on low lands. The weather has been exceedingly favorable for rowen and a large quantity is being secured in good condition. Rather cool nights for corn during the past week.

P. P. PERHAM.

Framingham. — Winter apples promise a small crop and very poor in quality. Acreage of meadow land reseeded in the fall increasing in this locality. Late potatoes are not over one-half grown and the tops are dead and dried up. They are rotting badly on moist land, but not so much on dry soil. Amount of ensilage corn increasing in this vicinity. Plums are not ripening, but are rotting and drying up on the trees. Melons are very poor. Poor outlook for farmers.

H. S. WHITTEMORE.

Hopkinton. — Poor prospect for winter apples. Acreage of meadow land reseeded in the fall not increasing in this locality. Poor prospect for a crop of late potatoes, as they are rotting badly. Amount of corn grown for ensilage purposes is increasing in this vicinity. The Leaming variety is preferred.

W. V. THOMPSON.

North Reading. — Very few good winter apples. Acreage of meadow land reseeded in the fall not increasing in this locality. Potatoes are rotting badly. Amount of corn grown for ensilage purposes is increasing in this vicinity. The Early Canada is preferred. The fire blight is doing much damage to pear and apple trees. Cranberries are being gathered and the crop is ten days earlier than last year.

N. B. CASE.

NANTUCKET COUNTY.

Nantucket. — No winter apples of any amount grown here. The potato crop is almost a total failure, on account of so much rain. There is but one silo here and it is being filled to-day (31st). If we have a week of hot weather the corn crop will be large.

C. W. GARDNER.

NORFOLK COUNTY.

Dover. — Less than half a crop of winter apples of fair quality. About the same acreage of meadow land reseeded in the fall. Potato vines are dead. Dry weather may prevent the rot from spreading. Most of the crop is still in the ground. Amount of corn grown for ensilage purposes is greatly increasing. The large varieties and Stowell's Evergreen are preferred. Crops generally are failures owing to the unfavorable weather. Cranberries are an entire failure as the meadows are on the river with high water and no chance to drain.

S. M. COLCORD.

Franklin. — Small crop of winter apples and they are wormy. Acreage of meadow land reseeded in the fall is increasing in this locality. Potatoes are badly rotten. Amount of corn grown for ensilage purposes is increasing in this vicinity. The sweet varieties are preferred.

C. M. ALLEN.

Medway. — Very poor prospect for a crop of winter apples. Potatoes nearly all rotten. Most of the ensilage is made from sweet corn after the ears are harvested for canning. The use of ensilage is increasing. Wet weather has injured all crops except grass for feed. Corn has fallen back. Grapes mildewed badly. Blackberries and raspberries ripened so late that it was difficult to handle them. The asparagus beetle has been exceedingly troublesome and has done much damage.

MONROE MORSE.

PLYMOUTH COUNTY.

Hanson. — Poor prospect for a crop of winter apples. Acreage of meadow land reseeded in the fall is not increasing in this locality. Potatoes are plenty, but they are rotten. No ensilage is grown.

F. S. THOMAS, M. D.

Kingston. — Winter apples are scarce, small and rather poor. The Baldwin apples will be the best this year, but they are small. Potatoes are hardly worth digging. Amount of corn grown for ensilage purposes is not increasing in this vicinity. The Southern white flat corn is preferred.

J. H. CUSHMAN.

Marshfield. — Winter apples are not an average crop and the quality is not as good as usual. The acreage of meadow land in our locality is increasing. The prospect for late potatoes is poor. With few exceptions, those planted very early, rot and scab have reduced the crop very much. Corn is grown mainly for feeding dry.

G. J. PETERSON.

Wareham. — No winter apples. Acreage of meadow land reseeded in the fall is increasing in this locality. Very small crop of late potatoes, with some rot and scab. No ensilage corn grown.

There is a large crop of rowen and pastures are good. The cranberry crop was injured by hail, and in some localities by insects, but the berries are generally of good quality.

A. SAVARY.

West Bridgewater. — Not more than half a crop of winter apples. Acreage of meadow land reseeded in the fall is not increasing in this locality. Very poor prospect for a crop of late potatoes as there is plenty of rot. Amount of corn grown for ensilage purposes is increasing in this vicinity. Farmers are taking advantage of the good hay weather of the present time and are securing their fresh hay and rowen.

DAVIS COPELAND.

WORCESTER COUNTY.

Auburn. — The stover of the corn crop is very large this year, and while some are complaining that it does not ear up, others will have a splendid crop. Fall feed is good, but, owing to the delay in getting the first crop of hay, rowen will not be very heavy. Scarcely any early apples and very few winter ones. Late cabbages are looking well but do not seem to head.

W. F. STONE.

Barre. — There will be half a crop of rather poor winter apples. Perhaps a little increase in acreage of meadow land reseeded in the fall. Potatoes poor, small and half rotten. Amount of corn grown for ensilage purposes is increasing in this vicinity. Red-cob ensilage I think is grown as much as any. I think the tendency is to raise a small kind that will ear out. Fodder corn, rowen, turnips and fall feed are good. Some pieces of field corn very good.

J. L. SMITH.

Blackstone. — In fields under high cultivation there will be half a full crop of winter apples, but in old grass lands a very small crop of poor quality. Acreage of meadow land reseeded in the fall is increasing, for the reason that it is no longer profitable to grow oats, rye, etc., and also that the new growth may not be dried up by hot weather. About three-fourths of the late potatoes have rotted and the disease still continues. There is only one small silo in this vicinity.

L. R. DANIELS.

Bolton. — Very few winter apples, and they are of poor quality. Acreage of meadow land reseeded in the fall is increasing in this locality. About one-third of the late potatoes are rotten. Amount of corn grown for ensilage purposes is increasing in this vicinity. The large Southern white variety is mostly grown. Those that have silos usually break the ears from their field corn and put the fodder into the silos. Corn is nearly ready to be cut.

H. F. HAYNES.

Douglas. — Very poor prospect for a crop of winter apples. Acreage of meadow land reseeded in the fall is not increasing in this vicinity. Potatoes are rotten and scabby and some fields will not be dug. The corn crop is fully up to the average.

G. M. WALLIS.

Grafton. — Very poor crop of winter apples, both in quality and quantity. Acreage of meadow land reseeded in the fall is not increasing in this locality. Poor prospect for a crop of late potatoes, as they are much rotten. The amount of corn grown for ensilage purposes is increasing in this vicinity. Blount and Stowell's Evergreen are the varieties preferred.

H. L. BANISTER.

Holden. — Quantity of winter apples fair for the odd year; quality, poor. Acreage of meadow land reseeded in the fall remains about the same. Very poor prospect for a crop of late potatoes, as there is much rot and blight. Amount of corn grown for ensilage purposes is increasing in this vicinity. The Southern white is most generally grown, though many prefer an earlier maturing kind. The last ten days of warm, dry weather have put a different look on things, and, with a favorable fall, we may hope to come out with average prosperity after all.

G. S. GRAHAM.

Hubbardston. — Not over one-fifth of a full crop of winter apples, and those of poor quality. Acreage of meadow land reseeded in the fall not increasing in this locality. Potatoes most all rotten. Amount of corn grown for ensilage purposes is increasing in this vicinity. The weather has been very favorable the past two weeks for all crops. Rowen has been secured in prime condition.

H. B. JENKS.

Leominster. — Very unfavorable prospect for winter apples, as the crop is inferior in quantity and quality. Acreage of meadow land reseeded in the fall is increasing in this locality. Not any silos in town now. Potato vines were struck with blast early in the month and the tubers are rotting badly. Very early ones, that had ripened before the blast came, are almost free from rot. Pears are lacking in flavor, and in many places the leaves are dropping from the trees, leaving the fruit immature. Corn looks well; some fields have been cut. Rowen is good; one field of eighteen acres cut over one ton to the acre by actual weight.

Rainfall for August, 3.68 inches. Average for month for six years, 4.68 inches.

W. B. HOSMER.

Oakham. — There is a short crop of poor apples. There is scarcely any ensilage corn grown in this town. The prospects for the farmer are not as bright as they were the first part of the season. Potatoes are rotten, oats rusted badly, and now comes a blight on the corn and many pieces are nearly worthless. The only things we have to console us are a barn full of hay and good feed in the pastures. We have had no frosts up to date.

W. M. ROBINSON.

Petersham. — Crop of winter apples light; quality, fair. Acreage of meadow land reseeded in the fall not increasing in this locality. The crop of late potatoes promises to be nearly a failure, on account of rot. The late fine weather is favorable for securing the splendid crop of rowen, which will compensate in a measure for the damaged condition of the first crop. There are no silos in this town.

S. B. COOK.

Spencer. — Poor prospect for a crop of winter apples. Acreage of meadow land reseeded in the fall is not increasing in this locality. Amount of corn grown for ensilage purposes is not increasing in this vicinity. The bulk of the potatoes, both early and late planted, were lost by rot, and the crop is a failure. The weather has been detrimental to corn, fruits and foliage, but rowen and weeds have flourished.

H. H. KINGSBURY.

Sutton. — Winter apples are very few and poor. Acreage of meadow land reseeded in the fall is increasing in this locality. Very little corn is grown in this town for ensilage purposes.

The rowen crop is quite large, and quite a large portion of it has been secured. The potato crop is light, and there is much complaint of rot. The weather now is very favorable for corn.

A. W. PUTNAM.

Templeton.—Crop of winter apples very light; quality, inferior. Acreage of meadow land reseeded in the fall is not increasing in this locality. Blight and rot struck potatoes the very first of the month, and there will not be more than half a crop. Little ensilage corn is grown here and that is mostly Southern sweet. Cloudy, wet and cool up to the 18th. Since then, fair, with hot days and cool nights. Light frosts on low grounds not protected by fog, the 28th and 29th. Rowen is good. Vegetables about the average in quantity. Pastures good; stock low, and no call for native beef.

LUCIEN GOVE.

Upton.—About half a crop of winter apples of average quality. Acreage of meadow land reseeded in the fall not increasing in this locality. Unfavorable prospect for potatoes; the Dakota Red is the only kind not rotting. Amount of ensilage corn increasing in this vicinity; Leaming and Breck's Ensilage are the varieties preferred. The sunshine of the past two weeks has pushed things forward. Tomatoes are rotting instead of ripening. Cranberry picking commenced about September 1.

G. A. ROGERS.

West Brookfield.—Winter apples small and very wormy. Acreage of meadow land reseeded in the fall is increasing in this locality. Potatoes are nearly a failure, owing to blight, scab and rot. No ensilage in town. Oats rusted badly and there was only half a crop. Rye was badly hurt by too much rain. Full crops of hay and rowen.

L. H. CHAMBERLAIN.

Worcester.—A small crop of winter apples. Acreage of meadow land reseeded in the fall is increasing to some extent. On peat meadows, well drained, potatoes are good. In our immediate district the use of ensilage is decreasing. The last nineteen days of dry, hot weather has greatly improved all crops, especially corn.

S. A. BURGESS.

CONSOLIDATED CROP REPORT FOR AUGUST, 1889.—BY COUNTIES.

COUNTIES.	CORN.		ROWEN.				PASTURE.	ONIONS.	CRAN-BERRIES.	LATE POTATOES.	TOBACCO.			LATE CABBAGE.	CELERY.
	Average Condition Sept. 1.		Percentage already Secured.	Average Quality, 100 representing High Quality.	Product compared with a Full Yield.	Average Yield in Tons, per Acre in	Average Condition Sept. 1.	Percentage already Secured.	Average Quality, 100 representing High Quality.	Product compared with a Full Yield.	Average Condition Sept. 1.	Average Condition Sept. 1.			
Barnstable,	98		50	92	100	100	—	67	57	—	—	—	60	—	
Berkshire,	100		50	100	100	100	—	83	60	50	100	100	96	87	
Bristol,	92		50	95	100	100	75	—	50	—	—	—	—	—	
Dukes,	100		50	100	100	100	—	100	90	—	—	—	—	—	
Essex,	92		35	100	100	100	70	—	35	—	—	—	90	80	
Franklin,	98		43	100	100	100	80	—	56	94	98	98	90	—	
Hampden,	88		40	100	100	100	65	100	54	70	100	100	90	—	
Hampshire,	95		30	100	100	100	80	—	46	95	98	95	95	98	
Middlesex,	100		54	100	100	100	93	98	68	—	—	—	95	94	
Nantucket,	100		—	100	—	100	—	100	—	—	—	—	95	—	
Norfolk,	88		25	100	100	100	70	—	35	—	—	—	83	—	
Plymouth,	91		53	96	100	100	90	90	47	—	—	—	97	92	
Suffolk,	—		—	—	—	—	—	—	—	—	—	—	—	—	
Worcester,	93		42	100	100	100	90	92	50	—	—	—	88	—	

CONSOLIDATED CROP REPORT FOR AUGUST, 1889. — BY COUNTIES.

COUNTIES.	WHEAT.		BEETS.		TURNIPS.		CARROTS.		SQUASHES.		EARLY APPLES.		WINTER APPLES.	GRAPES.	PEACHES.
	Average Condition Sept. 1.	Compared with Last Year.	Average Condition Sept. 1.	Compared with Last Year.	Average Condition Sept. 1.	Compared with Last Year.	Average Condition Sept. 1.	Compared with Last Year.	Average Condition Sept. 1.	Compared with Last Year.	Product compared with Full Yield.	Average Quality, 100 representing High Quality.	Average Condition Sept. 1.	Average Condition Sept. 1.	Average Condition Sept. 1.
Barnstable,	100	100	93	100	100	100	98	100	100	100	25	75	60	—	—
Berkshire,	100	100	100	100	—	—	100	—	—	—	65	90	60	—	—
Bristol,	100	100	100	100	100	87	100	87	100	90	60	80	55	78	75
Dukes,	100	100	100	100	100	100	100	100	100	100	25	93	40	100	—
Essex,	100	98	100	98	100	98	100	98	95	74	38	78	46	90	—
Franklin,	100	100	98	95	98	95	95	95	98	95	50	66	65	—	70
Hampden,	90	80	100	95	90	95	90	95	80	75	54	73	55	70	90
Hampshire,	100	100	100	100	98	95	95	95	100	90	60	78	77	90	85
Middlesex,	100	100	92	100	100	100	100	100	95	95	56	60	62	88	80
Nantucket,	100	100	95	100	100	100	100	100	—	—	—	—	—	—	—
Norfolk,	100	80	100	80	100	100	80	100	75	60	32	62	57	74	60
Plymouth,	80	100	100	100	100	100	100	100	100	100	50	78	61	84	—
Suffolk,	100	100	100	100	100	100	100	100	100	100	—	—	—	—	—
Worcester,	98	100	100	97	100	98	98	98	100	90	38	64	47	85	70

NOTE. — *Condition.* 100 is the standard of full vitality and normal growth; a decrease of 5 per cent is marked 95, etc. *Product.* 100 is the standard of a full yield, or what a full stand, unimpaired by insects or injuries from any cause, would yield on the entire area.

ADDENDA.

EXTRACT FROM AN ADDRESS DELIVERED AT THE FORTY-SEVENTH ANNUAL FAIR OF THE HOUSATONIC AGRICULTURAL SOCIETY, AT GREAT BARRINGTON, ON FRIDAY, SEPT. 28, 1888, BY REV. F. H. ROWLEY OF NORTH ADAMS.

I ask you to consider with me a matter or two that the farmer has too often forgotten or ignored.

And the first is this: *His duty to the State, growing out of his relation to it as a citizen.* He who taught man's sacred obligation to "render unto God the things that are God's," taught also the sacred obligation to "render unto Cæsar the things that are Cæsar's." In matters of larger interest to the nation's life, in the questions that especially in years of a presidential election are presented for decision, I do not know that the farmer is at all liable to neglect the exercise of his rights of citizenship. But I do know that very often in the questions that arise in State and county politics he fails to come up to the full discharge of his duty. Living at some distance from the polling places, he is prone to excuse himself on the ground of other duties or on the plea that it will make no difference whether he fulfills his trust or not. But it does make a difference. This right of citizenship carries with it, my friends, like every other right, its corresponding duty. In return for what the State promises to do for me, must ever hold herself ready to do. I am bound by every law of citizenship, by every principle of manhood and of honor to render unto her a service as faithful, as intelligent as is in my power. In times of war the loyal citizen listens only to this voice of duty. If able-bodied, he lays his loyalty on the shoulders of no hired substitute, but takes his own true place right manfully beneath the flag. In times of peace he holds as a sacred trust his right to a voice in her government, and is faithful to his duty to utter that voice in the clearest, wisest manner possible to him. Who has any sympathy with that mere apology for a man, who stays away from the ballot box, who is too indolent or indifferent or utterly misguided to understand his duty to cast an intelligent vote, and then prates and complains of abuses of political power and of corruption in public affairs? He

has no more right to open his mouth than a traitor to the Union had right to glory in the triumphant issue of our civil war. This is the thing I want to say : Are you a citizen? Are you under the State's protection and care? Then it is your duty, sacred, holy, to discharge your obligations as a citizen with the utmost intelligence and good judgment at your command. Chief among these obligations is your solemn duty at the ballot box. To fail there, upon every and all occasions ; to act otherwise than in accordance with the highest and best you know ; to allow yourself to approach that ballot box without having given the matter before you the result of your most conscientious consideration, or, in shiftless indifference, to stay away from it altogether, is to prove false to your country and unworthy the name of a citizen.

The second thing that it seems to me the farmer is too often inclined to forget is this, *that the end of his existence is something higher than the mere accumulation of money.*

I know that it is very natural for the man who has earned his money by toil that has driven him from his couch often before the gray dawn of day and wrung the sweat from his brow beneath the furnace heat of a July sun, — it is very natural, I say, for that man to know well the value of a dollar. Farmers, as a class, I grant, do not get rich in a year ; they work hard for what they have, and, if successful, know what habits of thrift and economy mean. But even this furnishes no ground for that spirit of excessive prudence, to use the mildest phrase, which has so often characterized them. Farmers, take them altogether, have impressed their fellows, too often, as in no small degree prone to cling to the fruits of their industry with a hand that is slow to open to the great calls of God and humanity. As a result of this, you often find the farmer's home bare of everything save the absolute necessities of life, himself and his family denying themselves of advantages that they ought to enjoy, and scrimping at every turn, so that a few more acres may be added to the farm or a few more hundreds go into the bank. In this lies one reason why so many boys leave the farm and seek the city. What boy of spirit, who knows his father is well-to-do, enjoys the contrast between his own cheap suit and the neat, stylish dress of the young man of the village or city? It is all very well to talk of a foolish pride on the part of young people, but, my friends, you can't make over human nature at your will, and the farmer's son ought to know that, so far as his father is able, he does all in his power to make life upon the farm pleasant and attractive. And what is true for the sons is true for the daughters. For the saving of a few dollars many a father and mother see their children growing up hating the privations of the

farm life, dissatisfied with the unattractiveness of the home, forsaking it at the first opportunity. O believe me, life is infinitely more than the hoarding of money or the adding of acre to acre. It is worth more, a thousandfold more, to your sons and daughters to become men and women with cultivated intellects, gentle manners, with minds trained to love good books, to enjoy refined society; worth infinitely more to them is this than the inheritance of the best farm in Christendom. To help them toward this is an aim transcendently higher than to accumulate a fortune to leave them. The day seems to have come, especially with us in the East, when farming, like everything else, is to be broken up into its several branches, and the farmer himself is to become a specialist in some distinct department of agriculture. Send the boys, then, if you can, to college; the better a young man's education, other things being equal, the larger his success wherever you put him. At least send him to one of our agricultural colleges and help him determine that department of farming for which he is best suited. It may be that he is naturally a horseman; cultivate his taste. Let him learn all about the care and breeding of the best horses that the markets demand, and then give him a start. Perhaps it is cattle toward which his inclinations run, or poultry, or fruit, or flowers. In each one of these departments there is abundant opportunity for the largest success right here in New England, and the specialist is the one who reaps the largest financial advantage.

And now, to gather up in a word what has been said. The farmer of the New World has started with the tremendous advantage of a system of land tenure that subjects him to none of the grievous burdens that they know who dwell in a country that must support the oppressive evil of a landed gentry. He has displayed in the brief history of his country a spirit of progress, a quickness of apprehension, a keenness of insight, a grasp of thought, a tenacity of purpose, that places him in the foremost rank of the world's agriculturists. He is moving now, we may safely hope, toward a still larger and nobler conception of his calling; realizing more vividly the vital needs of the State and of his own inherent manhood, the deep necessities of his home and family as above the mere possession of hoarded gold. The broader the plain on which he lives, the higher the ambitions that stir his soul, the wider the culture he gives his sons and daughters, the deeper the principles of character and life that underlie his whole activity, the grander the power he will exert in State and Nation, the sooner will triumph those laws of eternal right and truth, only in obedience to which can we cry with holy enthusiasm, "God save the Commonwealth."

BULLETIN No. 5.

MASSACHUSETTS
CROP REPORT

FOR THE

MONTH OF SEPTEMBER, 1889,

SHOWING

THE CONDITION, YIELD, PRICE AND QUALITY OF
CROPS THE FIRST OF OCTOBER, AND OTHER
MATTERS RELATING TO AGRICULTURE.

COMPILED BY

WM. R. SESSIONS,
SECRETARY BOARD OF AGRICULTURE.

BOSTON:

WRIGHT & POTTER PRINTING COMPANY, STATE PRINTERS,
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1889.

CROP REPORT FOR THE MONTH OF SEPTEMBER, 1889.

RETURNED TO THE OFFICE OF THE STATE BOARD OF AGRICULTURE
OCT. 1, 1889.

OFFICE STATE BOARD OF AGRICULTURE,
BOSTON, MASS., OCT. 3, 1889.

GENERAL REMARKS.

In presenting our crop report for the month of September, we would take occasion to state that, in the circular sent to our correspondents the 20th of the month, the following questions were asked: 1. Estimated number of baskets of peaches grown in your vicinity this season; average price per basket? 2. What is the outlook for success in the future cultivation of the peach in your locality? 3. How have the peculiarities of the season affected dairy products in quantity and price? 4. Are farmers in your vicinity generally interested in agricultural fairs? About eighty-five returns have been received, samples of which will be found printed in the "Notes of Correspondents." From these returns we learn that, while many towns produce a few peaches, very few farmers give much attention to the growing of this fruit. Most of our correspondents report that the outlook for success, in the future cultivation of the peach, is not very encouraging. They also report an estimate of twenty-five hundred baskets as the peach crop this season, and \$1.85 as the average price per basket. It is evident that the total yield must be considerably larger. The peculiarities of the season have caused, in most localities, an increase in the quantity of dairy products, while prices have remained about an average. The excess of moisture and

cloudy weather produced an inferior quality of feed, and this has been followed by loss of quality in dairy products. The farmers of the State, as a whole, are undoubtedly interested in agricultural fairs and receive direct benefit from them. The rowen crop was unusually large, but, owing to unfavorable weather, much of it was spoiled in trying to secure it. The average yield was about one ton per acre. The onion crop was below the average, both in quantity and quality. The cranberry crop was about three-fourths of an average. Late potatoes were about half a crop, with quality about three-fourths of an average. All fruits are inferior in quality and below the average in quantity. The crop of winter apples is somewhat less than half a crop, of about three-fourths of an average in quality. Corn has been cut, and husking has commenced in some sections. In the table will be found figures showing the averages of crops by counties. On the last pages will be found an extract from an address delivered at the Annual Fair of the Essex County Agricultural Society, last year, by Hon. H. G. Herrick of Lawrence. Copies of this bulletin will be mailed on application.

THE WEATHER.

The weather, during the month of September, was quite generally damp and cloudy, with frequent light rains. At Amherst the number of days on which .01 inch or more of rain fell was eleven. The rainfall for the month was slightly below the average. At Amherst it was 2.36 inches; at Boston, 3.19; at Monroe, 3.13; and at Leominster, 3.05 inches. The average rainfall at Amherst for the month of September for the past twenty years was 3.72 inches and at Boston for the past nineteen years was 2.89 inches. The first week was unusually warm, while the temperature for the remainder of the month was about normal. Slight frosts occurred during the last ten days of the month, in various parts of the State, but scarcely any damage was done to crops. In some sections high winds, the 10th and 11th, blew off considerable fruit. Through the kindness of the director of the Hatch Experiment Station, of the Massachusetts Agricultural College, we are enabled to print the summary of the Meteorological Observatory at Amherst for the month of September.

Latitude, 42° 23' 48.5" N. Longitude, 72° 31' 10" W. Height of instruments above ground, 51 feet. Above sea level, 260 feet.

Pressure. — In inches. Actual Maximum Reading, 30.100; Mean, Reduced to 32° F., 29.709; Monthly Range, 0.980.

Air Temperature. — In Degrees, F. Mean, 61.9°; Highest, 79°; Lowest, 40°; Monthly Range, 39°; Highest Mean Daily, 72.2°; Lowest Mean Daily, 50.7°; Mean Maximum, 68.9°; Mean Minimum, 55.4°; Mean Daily Range, 13.4°; Greatest Daily Range, 28°.

Humidity. — Mean Dew Point, 56.9°; Mean Relative Humidity, 83.3; Mean Force Vapor, .5824.

Wind. — Prevailing Direction, South-west; Total Movement, 4,310 miles; Greatest Daily Movement, 328 miles — 11th; Least Daily Movement, 34 miles — 2d; Mean Daily Movement, 143.6 miles; Mean Hourly Velocity, 6.0 miles; Maximum Pressure per Square Foot, $9\frac{3}{4}$ pounds = 44 miles per hour, on the 10th, at 9 A.M.

Precipitation. — In inches. Total, 2.36 inches; at Base of Tower, 3.17 inches.

Bright Sunshine. — Number of Hours recorded, 120.

Weather. — Mean Cloudiness on a Scale of 10, 6.5; Number of Clear Days, 8; Number of Cloudy Days, 19; Number of Fair Days, 3; Total Cloudiness Recorded by Sun Thermometer, 239 hours, or 66.6 per cent.

Thunder and Lightning, 17th.

Frosts, 21st and 23d.

Winds followed by Rain, 11th, 17th, 20th and 30th.

Number of Days on which .01 inch or more rain fell, 11.

NOTES OF CORRESPONDENTS.

BARNSTABLE COUNTY.

Dennis. — No peaches grown in this vicinity this season. The peculiarities of the season have affected dairy products very little. Farmers in this immediate vicinity are not generally interested in agricultural fairs.

JOSHUA CROWELL.

Eastham. — Very few peaches grown in this vicinity, and the crop is so uncertain few care to grow them. The peculiarities of the season affected dairy products favorably in quantity. Farmers in this vicinity not so much interested in agricultural fairs as they should be. Season very dry from the middle of August to the 18th of September. Since then plenty of rain, which is favorable for the turnip crop, — an important crop in this section.

J. A. CLARK.

BERKSHIRE COUNTY.

Cheshire. — There are no peaches in this vicinity. The outlook for success in the future cultivation of this fruit is not very flattering. The peculiarities of the season have tended to increase the quantity of dairy products, but prices are much less than usual. Agricultural fairs interest the farmers quite considerably, although our fairs seem to be horse fairs rather than agricultural.

L. J. NORTHUP.

Great Barrington. — But few peaches are grown here, and the outlook for success in the future cultivation of this fruit is not good. The quality of the grass has been against first-class dairy products. Farmers are decidedly interested in agricultural fairs. The result of the season for this locality may be summarized thus: A large crop of hay, badly damaged by rains at harvest; rye medium, oats very light, — both damaged by rains; corn a full average; potatoes less than half a crop from blight and rot, the very earlier ones suffering the least; buckwheat a full crop, but liable to injury from rain before it can be harvested.

M. I. WHEELER.

BRISTOL COUNTY.

Dartmouth. — We have very few peaches here. The peculiarities of the season have affected dairy products in both quantity and price. Farmers here are generally interested in agricultural fairs. Continued wet weather has very much retarded the gathering of rowen, and has made the quality in many instances very poor. Corn is drying slowly. Pastures are very good so far as quantity of feed; but it, being poor in quality, makes but little milk.

L. T. DAVIS.

Raynham. — Outlook not good for success in the future cultivation of the peach in this locality. The quantity of milk has been larger this season, with not much of any increase in quality. Most of the farmers in this vicinity are interested in agricultural fairs. Rowen that has been cut is nearly worthless on account of the very stormy time to cure it. But very little opportunity to make hay or to make progress in destroying weeds.

N. W. SHAW.

Somerset. — Peaches are not grown to any extent in this locality, and the outlook for success in the future cultivation of this fruit is not promising. Lack of sunshine has very materially affected the quality of milk and butter, while the flow of milk has been increased by the abundance of feed. The quality of feed is so poor it cannot produce good milk or butter. Prices very low for butter; milk brings usual prices. Weather has been unfavorable for ripening of corn.

JOSEPH GIBBS.

Swansey. — No peaches grown in this vicinity. In our section all make milk, which has been plenty and price steady. Farmers in this vicinity are not generally interested in agricultural fairs.

F. G. ARNOLD.

DUKES COUNTY.

Chilmark. — Poor outlook for success in the future cultivation of the peach in this locality. The peculiarities of the season have not materially affected dairy products. Farmers in this vicinity are generally interested in agricultural fairs.

B. T. HILLMAN.

ESSEX COUNTY.

Haverhill. — Few peaches grown here, and outlook is poor for success in the future cultivation of this fruit. The peculiarities of the season have not materially affected dairy products. Farmers in this vicinity are generally interested in agricultural fairs when they are near by. Much cloudy weather and rain. No frost yet.

EBEN WEBSTER.

Ipswich. — About twelve baskets of peaches in this vicinity that sold for \$1.25 per basket. As a money crop, the outlook for success in the future cultivation of the fruit in this vicinity is very poor. Cream and milk have both been increased by the peculiarities of the season. The amount of cream has not been enough, at the price obtained, to pay quite two cents per quart for the milk, where the cows have been fed no grain. Farmers in this vicinity are generally interested in agricultural fairs. The past month has been unusually wet and has made it difficult to get rowen cured in the best shape, and a considerable amount has been spoiled. Corn has ripened well and is a fair yield.

O. C. SMITH.

Marblehead. — No peaches grown here for market. The supply of milk has been very regular, — no flooding the market or drawing supply from a distance. The majority of the farmers are not interested in agricultural fairs. The complaint is still “too little sun.” Much rowen has laid out cut so long that now it is fit only for bedding. Another season like the present will increase the number of silos.

W. S. PHILLIPS, JR.

Newbury. — Perhaps fifty baskets of peaches grown in this vicinity this season, and mostly retailed by basket or less. The peculiarities of the season have made more milk; price about the same as usual. Farmers in this vicinity are generally interested in agricultural fairs. This will not be a profitable year for our farmers.

G. W. ADAMS.

North Andover. — Very few peaches are grown in this vicinity, but what there are have done better this season than for years. Outlook not favorable for success in the future cultivation of this fruit. Feed has been good, and dairy products have been plenty

and cheap. Farmers are not as interested as they should be in agricultural fairs. There were very few exhibits from this town at the county fair last week. A large quantity of rowen has been damaged by bad weather. Apples are being gathered, and there is a very light crop of inferior fruit.

PETER HOLT, Jr.

FRANKLIN COUNTY.

Charlemont.—The cultivation of peaches is very much neglected in this vicinity. More interest in growing them might make them a success. The quantity of dairy products has been increased and the price reduced by the peculiarities of the season. Farmers in this vicinity are generally interested in agricultural fairs. Some pieces of late potatoes have recently been harvested in fine condition, quite free from rot and scab, and producing a good crop. Quinces are rotting badly on the bushes. Pasture feed is excellent. Frost on one or two mornings, with some cool weather.

H. S. GILES.

Deerfield.—There are not enough peaches grown in this vicinity to establish a price, and the outlook is not good for success in the future cultivation of this fruit. Quantity of dairy products about the same; quality and price lower than usual. Farmers in this vicinity are generally interested in agricultural fairs. Corn is good and early. Rowen is a fair growth, and the early has been secured in good shape. Late potatoes, not a full crop and but very little rot. Onions, small crop and not keeping very well. Apples, a very small crop and quality not first rate. Tobacco has cured well and appears to be of good quality.

CHARLES JONES.

Leverett.—Peaches will not grow here, and there is no prospect of success in the future cultivation of this fruit. Dairy products quite uniform in quantity and price. Most of us send cream to the Amherst creamery. Farmers in this vicinity are not generally interested in agricultural fairs. No onions raised here. One natural cranberry bog will yield about forty barrels. No apples to sell.

W. L. BOUTWELL.

Northfield.—Poor outlook for success in the future cultivation of the peach in this vicinity. Dairy products, full average in quality and quantity; but the price for butter not equal to some

years. We have a co-operative creamery in this town, making twenty-five hundred pounds weekly, and which sells readily at twenty-seven cents per pound. Farmers in this vicinity are not as much interested in agricultural fairs as they should be.

CHARLES POMEROY.

Orange. — Very poor prospect for success in the future cultivation of the peach in this vicinity. The peculiarities of the season have caused an increase in quantity of dairy products and a decrease in price. Some farmers are very much interested in agricultural fairs and others not at all. There has been much cloudy weather, which has been unfavorable for the ripening of late crops. Some pieces of rowen and corn have damaged in the field after being cut; apples and potatoes are light crops, and rather inferior in quality.

ANSEL HARRINGTON.

Rowe. — Peaches do not grow in north-western Franklin County. The peculiarities of the season have affected dairy products favorably; prices are as high, and quality and quantity as good or better. Farmers in this vicinity are generally interested in agricultural fairs. September was noted for damp, cloudy weather, but no heavy rains. We have had no hurtful frosts; fall feed has not been injured, and pastures are very green for this date. It is a general time of health, and I think the farmer has every reason to be thankful.

J. F. BROWN.

Sunderland. — I think peaches can be grown in this vicinity at a profit. Butter has not been much affected by wet weather, and the price is advancing. About one-fourth of the people in this locality are interested in agricultural fairs, and few want them abandoned.

W. L. WARNER.

HAMPDEN COUNTY.

Agawam. — Peaches, \$1.75 per basket; first-rate outlook now for success in the future cultivation of this fruit. The peculiarities of the season have made more milk at the usual price. Farmers in this vicinity are not generally interested in agricultural fairs. No smut of any consequence on corn.

R. DEWITT.

Blandford. — Peaches not grown to any extent, although many are setting out a few trees. Cows have dried off, on account of poor quality of feed. Farmers in this vicinity are generally interested in agricultural fairs. A hard season for farmers. All report hardly enough potatoes for home use. Poor quality of flush feed in pastures has prevented stock taking on fat. No sales of stock, and prices are low. Cannot readily dispose of our beef. Offering to sell, one is met with the answer: "Can purchase the refrigerator beef better." What shall we do? But one way seems clear to me, and that is to drop party (politically), form a farmers' league, stand by each other, and put down trusts and monopolies.

E. W. BOISE.

Monson. — Milk very poor and price low. Farmers in this vicinity are not very much interested in agricultural fairs. The season has been noted for excessive moisture, which has been far better for rye and new-seeded grass lands than for harvesting crops.

A. H. WHITE.

Tolland. — Peaches are not grown to any extent in this vicinity; too cold. Too wet for a full flow of milk, and the price has been very low. We are too far from show grounds for our farmers to be generally interested in agricultural fairs. It has been a very hard season. Grass suffered largely for want of cutting and no weather to dry it. It still holds wet and stormy, and no chance to gather late crops. Farmers in this section feel pretty blue.

F. T. MOORE.

West Springfield. — Few peaches grown, except for home use; but the outlook is fair for success in the future cultivation of this fruit. Butter is abundant and cheap. I think farmers in this vicinity are not generally interested in agricultural fairs. They have forgotten the principles, and go for the premiums or the amusements. Cutting off all the State bounty would show who were philanthropists. No frosts here yet, but plenty of rain. Every storm clears off warm.

J. N. BAGG.

HAMPSHIRE COUNTY.

Amherst. — About forty baskets of peaches grown in this vicinity this season; price, \$2 per basket. Outlook for success in the

future cultivation of the peach not good. Dairy products large in quantity and low in price. Farmers in this vicinity are not generally interested in agricultural fairs. They are more interested in agricultural horse trots.

C. E. WILSON.

Chesterfield. — The peculiarities of the season caused increased quantity of dairy products in early season, but greatly diminished in late season. Farmers in this vicinity are much interested in agricultural fairs. Our soil and climate are so unfavorable for peaches that no one makes an attempt to grow them.

HORATIO BISBEE.

Middlefield. — Outlook very unfavorable for success in the future cultivation of the peach, and none grown here this season. The peculiarities of the season have made dairy products much less in quantity, with no compensation in increased price. Farmers in this vicinity are generally interested in agricultural fairs. A hard year for farmers. Except hay, crops have been poor, and there is nothing to turn but the natural increase of stock. The low price of stock causes farmers to feel poor, and makes it difficult to make the two ends meet.

M. J. SMITH.

Southampton. — One party here had about a hundred and fifty baskets of peaches for market, at \$2.25 per basket. Outlook for success in the future cultivation of this fruit better than for some years. Farmers are generally interested enough in agricultural fairs to attend, and a number make exhibits. The weather has been so wet that there is much rowen to be cut. Apples have been picked; quantity small, quality poor. Corn all cut, and some have commenced husking.

C. B. LYMAN.

South Hadley. — About a hundred and fifty baskets of peaches grown in this vicinity. Outlook for success in the future cultivation of this fruit not encouraging. Have had so much rain we have had to feed more meal than usual to keep up the per cent of solids in milk. Farmers in this vicinity are generally interested in agricultural fairs.

H. W. GAYLORD.

Ware. — There are no peach orchards in this vicinity. Dairy products have been about the same as last year. Farmers in this

vicinity are not generally interested in agricultural fairs. There is a good demand for potatoes, but the supply is short. The apple crop is very light. Cranberries, grapes, pears and quinces are not cultivated for market in this vicinity.

M. A. PERKINS.

MIDDLESEX COUNTY.

Ashland. — No peaches are grown in this locality, and the outlook is very poor indeed for success in the future cultivation of this fruit. Pastures have been good all summer, but butter brings a good price. Farmers in this vicinity are generally interested in agricultural fairs. The potato crop is far from being a failure, although many have rotted. Much rowen has been spoiled in curing. Very few onions are raised in this vicinity.

A. R. STEVENS.

Belmont. — About one hundred baskets of peaches grown in this vicinity this season, and the outlook for success in the future cultivation of this fruit is doubtful. Quality of pasture poor, which has caused a shrinking in milk. Farmers in this vicinity are generally interested in agricultural fairs. Wet weather in September caused a loss in rowen; most of it damaged in curing, and a good deal of it spoiled. Fruit ripened two or three weeks earlier than usual. No frost yet.

W. L. CHENERY.

Chelmsford. — Perhaps one or two hundred baskets of peaches grown in this vicinity this season. Rather poor outlook for success in the future cultivation of the fruit. Average quantity of dairy products; price, above the average. Farmers are more generally interested in agricultural fairs than they were five years ago. The wet weather of the past month has had a tendency to keep back the ripening of corn and some other crops, but winter apples need to be picked quite as early as usual.

P. P. PERHAM.

Framingham. — About seventy-five baskets of peaches grown here this season, and the outlook for success in the future cultivation of this fruit is poor. Increased quantity of dairy products, but quality not up to the standard; price, an average. Farmers in this vicinity are generally interested in agricultural fairs. Too much rain for farmers to gather their crops in good condition.

Corn has ripened very rapidly during the last four or five days, and the crop is the best for several years. Potatoes are not rotting badly now, and are mostly harvested.

H. S. WHITTEMORE.

Hudson. — But few peaches grown here, and the outlook for success in the future cultivation of this fruit in this locality is poor. The peculiarities of the season have greatly increased the quantity of milk; more sour milk than in dryer seasons. Farmers in this vicinity are generally interested in agricultural fairs. Potatoes are badly decayed. Apples are very wormy and poor in the orchards that had a good crop last year.

G. A. COTTING.

Pepperell. — Think there were no peaches grown in town this season, and that the outlook for success in the future cultivation of this fruit is discouraging. The peculiarities of the season caused a large flow of milk. Farmers in this vicinity are very much interested in agricultural fairs. The weather has been very cloudy, but no frosts as yet. Corn has ripened in fine shape, and there will be a good crop of good corn. I think potatoes are done rotting, and what are left are of fine quality. Large crop of grapes; price, two cents per pound.

P. J. KEMP.

Wilmington. — No peaches grown in this vicinity this season, and outlook poor for success in the future cultivation of this fruit. The peculiarities of the season have affected dairy products favorably. The live farmers are interested in agricultural fairs. The season has, on the whole, been favorable for the farmer. The corn and hay crops are large, and of good quality. Potato crop about one-half the usual yield. The cranberry crop is estimated to be about twenty-five hundred bushels.

C. W. SWAIN.

NANTUCKET COUNTY.

Nantucket. — The peculiarities of the season have had a good effect on dairy products. Farmers in this vicinity are generally interested in agricultural fairs. The potato crop is a failure here in quantity and quality. Cranberries are an average crop in quality and quantity. It has been hard to make rowen, on account of so much rain.

C. W. GARDNER.

NORFOLK COUNTY.

Dover. — About five baskets of peaches grown in this vicinity this season. The peculiarities of the season have affected dairy products in quantity, favorably; in price, poorly. Farmers in this vicinity are generally interested in agricultural fairs. The hay and corn crops have been above an average. Apples, a very light crop. Potatoes, which a month ago were considered a failure, owing to dry cold weather, have turned out better than was expected. Root crops have done fairly well. Rye and other grain has suffered much from rain. In this section, farming will average about three-quarter crops.

S. M. COLCORD.

Medway. — About two hundred baskets of peaches grown this season in this vicinity. The outlook for success in the future cultivation of this fruit depends on the winter temperature. The peculiarities of the season have caused increased quantities of dairy products and lessened price. Farmers in this vicinity are not very much interested in agricultural fairs. The rowen crop was much damaged in harvesting. Potatoes are reduced by rot about one-half. Grapes are generally damaged by mildew, and many do not mature at all. My Moore's Early was the only variety to ripen perfectly.

MONROE MORSE.

Norfolk. — Very few peaches grown in this vicinity, and no prospect for success in the future cultivation of this fruit in this locality. Larger quantities of butter and milk produced than for some years; no change in price. Farmers in this vicinity are interested in agricultural fairs. Apples have generally dropped from the trees. Rowen has not all been secured, on account of continued cloudy weather, but other harvesting is very generally done.

J. W. HINKLEY.

Weymouth. — Farmers in this vicinity are generally interested in agricultural fairs. There are very few peaches grown in this vicinity. The rowen crop was extra good, but few succeeded in securing it in good condition. Potatoes are rotting badly.

J. G. HUTCHINS.

PLYMOUTH COUNTY.

Halifax. — Outlook not good for success in the future cultivation of the peach in this vicinity. Very little dairying is carried on here. Farmers in this vicinity are generally interested in agricultural fairs.

G. W. HAYWARD.

Hanson. — Very few peaches in this vicinity, and poor outlook for success in the future cultivation of this fruit. Farmers in this vicinity are generally interested in agricultural fairs. We have had a fine crop of rowen, but it has rained so much we have been able to make but little of it, and that which has been made is very light, like feathers. Few apples, but some very good ones.

F. S. THOMAS, M. D.

Kingston. — There are no peaches grown here, and no prospect for success in the future cultivation of this fruit. The peculiarities of the season have made more milk of a poorer quality. Farmers in this vicinity take but very little interest in agricultural fairs, otherwise than to attend them. All dairy products are about the same price as usual. Light frost September 22 and 29.

J. H. CUSHMAN.

Marshfield. — Milk more than an average. The farmers are much interested in our annual fairs. The quality of the hay crop is estimated to be about one-third less than an average. Cattle are looking very well in pasture. The grain ration is increasing, with corresponding profit to the dairy and milk trade.

G. J. PETERSON.

Wareham. — No peaches grown here. Farmers in this vicinity are not generally interested in agricultural fairs. Interest in farming is declining; the principal attention is given to grass and hay, for the production of milk, which is in great demand here during the summer. Some small fruits are raised, but the birds get the most of them; robins destroy about all of our grapes, and in some vineyards not a bunch escapes their ravages.

A. SAVARY.

WORCESTER COUNTY.

Berlin. — About fifty baskets of peaches in this vicinity, and poor outlook for success in the future cultivation of this fruit. The peculiarities of the season have affected dairy products unfav-

orably in quantity and price. Farmers in this vicinity are generally interested in agricultural fairs. Such continued damp weather has affected crops unfavorably, and caused them to mould. Some of the beans have sprouted in the pods and the corn in the husk. Many fields of potatoes are not worth digging.

P. B. SOUTHWICK.

Douglas. — No peaches grown for market, and hardly enough for home use. The prospect is fair for success in the future cultivation of this fruit. Quantity and price of dairy products about the same as last year. Most of our farmers are interested in agricultural fairs. The corn crop is up to the standard. Onions and cranberries have not been all gathered, and no definite price has been established. The season has been too wet for celery, and the trenches have been full of water part of the time.

G. M. WALLIS.

Dudley. — Peach trees prove short lived in this town, and no orchards are started, though nearly every farmer has a few trees. Frosts have held off remarkably well. The first one occurred on the 22d, followed by two more, but were so light that tomatoes were but little affected. The market for dairy products is good. The flush of feed seems to have had but little effect on the price. Since the organization of an agricultural society in the adjoining town of Oxford our farmers have taken a more direct interest in agricultural fairs, by no longer simply lending their presence, but by making good entries of stock and farm produce. The grange can also be credited for much of this, for in it they meet and talk over their successes and failures.

J. J. GILLES.

Harvard. — I think the outlook for success in this vicinity in the future cultivation of the peach is very good. The peculiarities of the season have increased the quantity of dairy products, and have lowered the price. I think farmers are generally interested in agricultural fairs if connected with a horse trot; doubtful otherwise. Cranberries are very green, and not more than half picked; the meadows are too wet, and so much so as to spoil part of the crop. Had light frosts last week. Apples nearly all picked, and are about a fifth of a full crop.

PRESTON KNIGHT.

Leominster. — But few peaches grown here this year. Outlook for success in the future cultivation of this fruit very uncertain, but the trees appear healthier this fall than usual. The peculiarities of the season have had a tendency to overstock the market with dairy products, hence lower prices. Farmers in this vicinity are generally interested in agricultural fairs. Frosts have held off so as to save the late planted corn, and a good crop will be secured. The grape is the only fruit that contains sugar enough to make it good; all other fruit being very deficient in quality. Fruit trees have made a good growth, and this is favorable for a crop of fruit next season. Our rainfall for the month was 3.05 inches; average for the month for six years, 4.58 inches.

W. B. HOSMER.

Lunenburg. — Very few peaches grown here. The peculiarities of the season have increased dairy products in quantity and lowered the price. Farmers in this vicinity are generally interested in agricultural fairs, but think county fairs are run too much in the interest of those not engaged in agriculture. Cloudy and rainy weather has interfered much with farm operations, in making improvements and in harvesting the crops.

JAMES HILDRETH, 2d.

New Braintree. — Very few peaches grown here this season, and outlook for success in the future cultivation of this fruit not very encouraging. Feed excellent, and a large amount of milk produced, which would have sold as low as it did in New York (1.5 cents) if it had not been for the Union. Farmers in this vicinity are generally interested in agricultural fairs. Notwithstanding the unfavorable weather, crops have generally been secured in fair condition. Corn all shocked before frost. Some orchards in town will produce two hundred or more barrels of apples of fair quality. Very little other fruit is grown. This is a dairy town, and one of the best in the State.

C. D. SAGE.

Oakham. — Some parties report a large flow of milk, while others say their cows have not done as well as usual. I do not think the price of dairy products has been much affected by the season. To a considerable extent farmers in this vicinity are interested in agricultural fairs. The first frost of the season occurred the 23d of September. Corn is as good as was expected the first of the month. We have had an average rainfall. Fall work is backward.

W. M. ROBINSON.

Southborough. — About 260 baskets of peaches grown in this locality this season, and good outlook for success in the future cultivation of this fruit. A much larger amount of milk has been produced, and sold at the car for thirty-four cents, the same price as last summer. I do not think farmers take as much interest in agricultural fairs as they ought. There has been so much rain that most crops have been injured. Rowen and pastures are very good. Corn is good. Apples are the poorest and scarcest for many years.

E. F. COLLINS.

Sterling. — Not a very favorable outlook for success in the future cultivation of the peach in this locality. Quantity of dairy products large; price, in local markets, unaffected. Farmers in this vicinity are generally interested in agricultural fairs. The rainy, cloudy weather continued through the past month. Rowen never was better, some farmers cutting their entire fields the second time, although the weather has been very unfavorable for proper curing. Meadows, pastures, and fall and winter grain are looking very green and fresh. Frosts have done no damage.

J. S. BURPEE.

Templeton. — No peaches grown in this vicinity, and prospect very doubtful for success in the future cultivation of this fruit. A large flow of milk of rather poor quality; the price of butter low. The majority of farmers in this section are interested in agricultural fairs. A good deal of rowen has been injured by wet weather. Corn ripened well. Apples small in size, and quality poor. A light crop of potatoes. Several light frosts, but none severe. Pastures good for the season.

LUCIEN GOVE.

Worcester. — About two hundred baskets of peaches grown in this vicinity this season; price per basket, \$2.25. Poor outlook for success in the future cultivation of the fruit. Dairy products have been a high standard. Only a few farmers in this vicinity are interested in agricultural fairs. There has been a blight on many vegetables, which has done much damage, on account, mainly, of so little sunshine.

F. J. KINNEY.

CONSOLIDATED CROP REPORT FOR SEPTEMBER, 1889. — BY COUNTIES.

COUNTIES.	PASTURE.		ROWEN.				ONIONS.				CRANBERRIES.				CELERY.	
	Average Condi- tion Oct. 1.		Average Quality, 100 represent- ing High Qual- ity.	Product Com- pared with a Full Yield.	Average Yield per Acre in Tons.	Average Quality, 100 represent- ing High Qual- ity.	Product Com- pared with a Full Yield.	Average Yield per Acre in Bushels.	Average Price per Bushel.	Average Quality, 100 represent- ing High Qual- ity.	Product Com- pared with a Full Yield.	Average Yield per Acre in Barrels.	Average Price per Barrel.	Average Condi- tion Oct. 1.	Estimated Yield, 100 being a Full Crop.	
Barnstable,	100	.	98	95	1	100	1	1	1	100	78	40	\$6.75	100	1	
Berkshire,	100	.	98	100	1	95	72	\$0.75	1	100	50	1	1	85	90	
Bristol,	100	.	90	100	1	100	100	1	1	100	100	1	1	100	100	
Dukes,	100	.	100	100	1	100	68	.80	1	85	90	1	1	100	100	
Essex,	100	.	90	100	1	70	400	.80	1	70	85	1	1	100	100	
Franklin,	98	.	94	100	1	78	60	.70	1	78	20	5.00	100	98	100	
Hampden,	100	.	98	100	1	75	70	.75	1	98	30	7.50	100	98	100	
Hampshire,	100	.	98	100	1	90	90	.75	1	100	100	1	100	100	100	
Middlesex,	100	.	100	100	1	95	90	.95	1	95	86	1	6.00	95	92	
Nantucket,	—	.	95	50	1	100	1	1	1	100	95	30	6.00	100	1	
Norfolk,	100	.	90	100	1	100	1	1.00	1	60	10	1	100	100	1	
Plymouth,	100	.	90	100	1	100	95	1.00	1	100	70	55	6.50	100	1	
Suffolk,	—	.	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worcester,	100	.	95	100	7	94	75	.95	1	90	80	32	6.20	95	95	

CONSOLIDATED CROP REPORT FOR SEPTEMBER, 1889. — BY COUNTIES.

COUNTIES.	TOBACCO.		LATE POTATOES.					GRAPES.		PEARS.		QUINCES.		APPLES.		
	Average Condi- tion Oct. 1.		Average Yield per Acre in Bushels.	Average Yield per Bushel.	Average Qual- ity, 100 repre- senting High Quality.	Product Com- pared with a Full Yield.	Average Qual- ity, 100 repre- senting High Quality.	Product Com- pared with a Full Yield.	Average Qual- ity, 100 repre- senting High Quality.	Product Com- pared with a Full Yield.	Average Qual- ity, 100 repre- senting High Quality.	Product Com- pared with a Full Yield.	Average Qual- ity, 100 repre- senting High Quality.	Product Com- pared with a Full Yield.	Average Price per Barrel.	
Barnstable,	.	.	80	\$0.75	—	—	—	90	75	—	—	—	60	—		
Berkshire,	.	.	75	.75	—	—	—	75	90	—	—	—	60	1.75		
Bristol,	.	.	90	.84	88	90	82	90	85	—	—	—	47	2.00		
Dukes,	.	.	80	.65	80	—	—	—	—	—	—	—	40	—		
Essex,	.	.	110	.70	90	90	85	85	74	—	—	—	30	1.75		
Franklin,	.	.	110	.65	83	75	97	—	—	—	—	—	40	1.70		
Hampden,	100	.	70	.80	70	65	90	80	65	—	—	—	46	1.75		
Hampshire,	98	.	40	.74	80	76	82	95	82	—	—	—	45	1.45		
Hampshire,	90	.	56	.74	75	77	85	85	85	—	—	—	45	1.90		
Middlesex,	.	.	100	.77	67	77	78	—	—	—	—	—	—	—		
Nantucket,	.	.	—	—	—	—	—	—	—	—	—	—	—	—		
Norfolk,	.	.	—	.75	64	75	70	88	82	—	—	—	44	—		
Plymouth,	.	.	40	.90	70	90	92	90	75	—	—	—	40	2.75		
Suffolk,	.	.	—	—	—	—	—	—	—	—	—	—	—	—		
Worcester,	.	.	60	.80	66	80	78	80	75	—	—	—	35	2.00		

NOTE. — *Product.* 100 is the standard of a full yield on the entire area. *Price:* Is a fair average for the whole crop.

THE BEST FARMER.

EXTRACT FROM AN ADDRESS DELIVERED AT THE ANNUAL FAIR OF THE ESSEX COUNTY AGRICULTURAL SOCIETY, AT PEABODY, ON WEDNESDAY, SEPT. 26, 1888, BY HON. H. G. HERRICK OF LAWRENCE.

The best farmer, in the largest and best sense of the word, is the best citizen ; that is to say, the better the farmer the better the citizen.

He is honest — honest with himself, honest with his ground. He is not always taking from it and never returning ; he gives back a fair share of what he takes from it ; he does not expect “to eat his cake and have it too.” If he takes away potash, or nitrogen, or phosphoric acid, he will put some back in one way or another — either returning it in kind or growing a crop that does not call for it, and allowing the forces of nature and her resources, in earth or air, time and opportunity to make restoration. He does not believe that plants of any kind will grow with nothing to feed on. Why will a man waste his time, labor and money scratching over ten acres when he hasn't manure enough for but five? and when the five will give him a better immediate return, and in each successive year also, than the ten, with half the labor? Any man, you will say, is a fool to buy ten shares of stock that will pay only three per cent, when he can buy five that will pay six for half the money.

He is honest with his soil, and will not expect a “good stand of grass” from a peck where he ought to have sowed a bushel, nor will he cheat himself by mixing a little old onion seed, left over from last year, with his new, rather than waste it by throwing it away, as he ought to.

He is honest with his stock, and will not think he can cheat his cattle and horses out of good feed and full rations and yet get good work out of them every day in the year, and twenty quarts of milk from his cows. In fine, he will not expect to get something from nothing.

He is honest with his neighbors. He will be more than what hard-faced men call honest. He will be accommodating and neighborly ; he will not persist in keeping a breachy cow or ox to the great damage and constant annoyance of his neighbor ; he will wring the neck of every fowl he has, rather than that they should scratch up his neighbor's garden, and eat his tomatoes and corn ; will be the Good Samaritan always, rather than Priest or Levite. Finally, he will be “honest in the sight of all men.”

He seeks to have the best home, and when I say home, I mean

a home; not one of the highest style in furniture, in ornaments, and decorations and table appointments, not the foolish aping of fashion and wealth — but a home of comfort, of peace, of good breeding, good manners, of love and hospitality.

He is intelligent; he reads; he thinks; and if sometimes he reads less he thinks and observes the more. He is intelligent enough to investigate — if not with the accuracy and thoroughness of the scientific man, yet with the sound common-sense of the practical man — new theories and new suggestions connected with farm and garden, and to accept and use every new discovery of science, so far as applicable or useful in his calling. He does not trouble himself much, perhaps, with philosophical speculations; he may not give much attention to the various theories of evolution, but he does believe in heredity, that “blood will tell,” and in “the survival of the fittest;” and if the fittest will not survive without help he will make it survive. He believes in making the fittest calf and colt, the fittest plant and vegetable and fruit survive, and with almost Spartan indifference and coolness he will get rid of all inferior and defective animals and plants and fruits.

He believes in agriculture as a science and as an art. With the science he does not claim to be familiar, but he will not presume to rail against scientific deductions and teachings — against the facts of science — but will test them by his own good sense, by careful observation and experience, and by a practical, actual application. He believes in availing himself, as far as possible, of every aid within his reach. He sees with his own eyes what great advancement has been made in farming, and recognizes the important part science has had in effecting it.

* * * * *

To the Agricultural College is the agriculture of the Commonwealth greatly indebted. By it a great stimulus has been given to agricultural pursuits and agriculture and its related studies, among our young men particularly; nor is the number limited, by any means, to its students and graduates. It has largely tended to place, indeed it has placed, the farmer and the business of farming abreast with what have been called the learned professions, with every occupation that calls for intelligent and educated men. It has showed to the people that good farming makes a draft on brains, as well as on muscle, and that the draft is quite as likely to be honored as in mercantile, professional, mechanical, or scientific life. It has showed to young men, or has greatly helped to show them, that the field for gratifying a high and honorable ambition is as promising here in agriculture as elsewhere, and that the way is as open and inviting to him as elsewhere, to

an honorable position in society and to the honors that come in civil life, to a place among the educated and influential men of his town or his State. And to this, the farmer — the young farmer — has a right, and it is his duty to expect to be called.

I think it will be agreed that there has been, in the last fifteen years, a large increase in the number of intelligent, well-educated young farmers in our county and in the Commonwealth, and as they grow older, and as the number increases, as I doubt not it will, they will surely come to be recognized, as they ought to be, as important forces and factors in all that goes to make the best society, the noblest state, in education, in legislation, in morals.

* * * * *

The best farmer does not cling to, nor discard, old ways and appliances because they are old; nor sneer at a thing because it is new, nor lose his head and run wild over every new invention, or new seed, or new fertilizer. He carries on his farm, not for the poetry or romance of the thing — as a mere sentiment — but as a profession, a business, from which to get a living and something more; but he is not therefore insensible to the charms of nature — neither his ears or his eyes are closed to her beauties or to her voices.

The best farmer will recognize, always, the wisdom and goodness of an All-wise Providence, and will see in the returning seasons, in the heavens above him and in the earth beneath his feet, in the gently falling dew, in the snow and the rain, in the heat of summer and the cold of winter, in the fiercest rays of a summer sun and in the drizzly, foggy dog-days, in the quiet beauty of the Indian summer and the harvest moon, and no less in the melancholy days of chill November, —

“The saddest of the year, —
Of wailing winds, and naked woods
And meadows brown and sere,”

the same Divine Father, who, it is said, “left not himself without witness, in that He did good, and gave us rain from heaven and fruitful seasons, filling our hearts with food and gladness;” and “without whose notice not even a sparrow falleth to the ground.”

With more trials, vexations and annoyances, and more frequent temptations to complain of his lot, and more unexpected losses — here and there — than a man in almost any other calling, he will still, remembering the great compensations of his life, possess his soul in patience, and learn from daily experience and observation how best to provide against avoidable accidents; at least, will make it sure they do not come from his own carelessness and neglect.

BULLETIN NO. 6.

MASSACHUSETTS
CROP REPORT

FOR THE

MONTH OF OCTOBER, 1889,

SHOWING

THE YIELD, PRICE AND QUALITY OF CROPS THE
FIRST OF NOVEMBER, AND OTHER MATTERS
RELATING TO AGRICULTURE.

COMPILED BY

WM. R. SESSIONS,
SECRETARY BOARD OF AGRICULTURE.

BOSTON:

WRIGHT & POTTER PRINTING COMPANY, STATE PRINTERS,
18 POST OFFICE SQUARE.

1889.

CROP REPORT FOR THE MONTH OF OCTOBER, 1889.

RETURNED TO THE OFFICE OF THE STATE BOARD OF AGRICULTURE,
NOV. 1, 1889.

OFFICE STATE BOARD OF AGRICULTURE,
BOSTON, MASS., NOV. 5, 1889.

GENERAL REMARKS.

In presenting our last crop report of the season of 1889, we would take occasion to thank our correspondents for the interest they have taken in this line of work and for the manner in which they have made their returns to us from time to time. It is hoped that this work may be taken up next season in a way that will produce even better results than have been secured this season. In the circular sent to our correspondents about the 20th of the month, the following questions were asked: 1. Is this year's crop of Indian corn an average one? 2. Are root crops up to the average in quantity and quality? 3. On the whole, has this season been a profitable one for your farmers? 4. In your opinion, what per cent of farms in your town are mortgaged? 5. In your opinion, is the number of deserted farms in your vicinity greater than it was ten years ago? About 80 returns have been received, samples of which will be found printed in the "Notes of Correspondents." From these returns we learn that the crop of Indian corn is fully an average one. Root crops are just about an average in quantity and quality. As to whether the season has been a profitable one or not, 77 replies have been received, of which 44 say it has, and 33 say it has not. The answers to the fourth question were to be considered confidential. The following table will give a partial idea of the extent to which farms are mortgaged.

COUNTIES.	No. of Replies.	Less than 5 per cent.	5 per cent.	8 per cent.	10 per cent.	15 per cent.	20 per cent.	25 per cent.	30 per cent.	40 per cent.	50 per cent.	More than 50 per cent.
Barnstable,	2	2	-	-	-	-	-	-	-	-	-	-
Berkshire,	4	-	-	-	1	-	-	2	-	-	-	1
Bristol,	2	2	-	-	-	-	-	-	-	-	-	-
Dukes,	1	-	-	1	-	-	-	-	-	-	-	-
Essex,	4	2	-	-	1	-	-	-	-	-	-	1
Franklin,	8	-	1	-	-	-	1	3	1	-	1	1
Hampden,	5	1	1	-	-	-	1	2	-	-	-	-
Hampshire,	8	-	-	-	1	-	-	1	2	-	2	2
Middlesex,	8	-	-	-	2	1	1	1	-	1	2	-
Nantucket,	1	1	-	-	-	-	-	-	-	-	-	-
Norfolk,	2	-	-	-	-	-	-	-	-	-	2	-
Plymouth,	7	-	3	-	1	1	-	-	1	-	-	1
Worcester,	19	1	1	-	1	2	-	1	2	3	3	5

The percentage of mortgaged farms, though in many cases high, does not necessarily indicate that farming in this State is not a paying business. Some of these mortgages were no doubt placed by parties desirous of becoming farmers, but not having sufficient capital to buy the property outright. Other farms were undoubtedly mortgaged in order to raise money with which to make desirable improvements and to carry on farming operations with greater profit. The fifth question, In your opinion, is the number of deserted farms in your vicinity greater than it was ten years ago? was prepared with the view of ascertaining whether deserted or abandoned farms are increasing in number. Our replies would indicate that they are not. The following table will give an idea of the number, as compared with ten years ago.

COUNTIES.	Number of Replies.	Yes.	No.	About the same.	Less.
Barnstable,	1	1	-	-	-
Berkshire,	4	2	1	-	1
Bristol,	2	-	2	-	-
Dukes,	1	1	-	-	-
Essex,	5	1	2	1	1
Franklin,	9	3	5	1	-
Hampden,	5	3	2	-	-
Hampshire,	8	3	5	-	-
Middlesex,	7	2	5	-	-
Nantucket,	1	-	1	-	-
Norfolk,	5	1	4	-	-
Plymouth,	6	1	4	-	1
Worcester,	23	7	12	2	2

It may be justly said that the number of deserted farms is no criterion of the prosperity of the farming community. To a certain extent the presence of deserted farms indicates an advance in agriculture. No doubt some abandoned farms in the State ought never to have been cultivated. Some farms are deserted because the land does not pay for the labor of cultivation, or because they are so isolated as to make them undesirable as homes. Improvements in farm methods and farm machinery have had their influence, and no doubt have added to the number in localities where the soil is naturally poor or so rough as to preclude the use of farm machinery. In some cases a portion of the land belonging to a deserted farm is absorbed into the farm of a more successful neighbor, while the house, being of little value as a rent, is left unoccupied. The tendency is towards an increase in the size of farms rather than in the number, especially in districts remote from the centres of population.

In the table will be found figures showing the averages of crops by counties. On the last pages will be found an extract from a lecture delivered before the Massachusetts Horticultural Society, last winter, by Prof. W. O. Atwater of Middletown, Conn. Copies of this bulletin will be mailed on application.

THE WEATHER.

The weather during the month of October was very much like that of the preceding months. There was less bright sunshine than usual, owing to the many cloudy and rainy days. The rainfall was above the average. At Amherst, foot of observatory tower, it was 4.58 inches; at Monroe, 4.13; and at Leominster, 5.39 inches. The average rainfall at Amherst for the month of October for the past twenty years was 3.92 inches. At Milton the mean temperature was nearly two degrees below the forty years' average. Snow fell in Monroe on the 8th, 11th and 13th. There were no severe gales.

Through the kindness of the director of the Hatch Experiment Station of the Massachusetts Agricultural College, we are enabled to print the summary of the Meteorological Observatory at Amherst for the month of October.

Latitude, $42^{\circ} 23' 48.5''$ N. *Longitude*, $72^{\circ} 31' 10''$ W. *Height of instruments above ground*, 51 feet. *Above sea level*, 260 feet.

Pressure.—In inches. Actual Maximum Reading, 30.208 ; Mean, Reduced to 32° F., 29.750 ; Monthly Range, 0.938.

Air Temperature.—In Degrees, F. Mean, 46.5° ; Highest, 69° ; Lowest, 26° ; Monthly Range, 43° ; Highest Mean Daily, 61.3° ; Lowest Mean Daily, 35.2° ; Mean Maximum, 53.9° ; Mean Minimum, 38.9° ; Mean Daily Range, 15.4° ; Greatest Daily Range, 29° .

Humidity.—Mean Dew Point, 39.4° ; Mean Relative Humidity, 75.7 ; Mean Force Vapor, .3349.

Wind.—Prevailing Direction, North North-east ; Total Movement, 4,762 miles ; Greatest Daily Movement, 367 miles—15th ; Least Daily Movement, 20 miles—31st ; Mean Daily Movement, 153.6 miles ; Mean Hourly Velocity, 6.4 miles ; Maximum Pressure per Square Foot, $12\frac{1}{4}$ pounds = 49 miles per hour on the 14th at 12 M., and 15th at 4 A.M.

Precipitation.—In inches. Total, 3.59 inches ; at Base of Tower, 4.58 inches.

Bright Sunshine.—Number of Hours Recorded, 129.

Weather.—Mean Cloudiness on a Scale of 10, 6 ; Number of Clear Days, 9 ; Number of Cloudy Days, 16 ; Number of Fair Days, 6 ; Total Cloudiness Recorded by Sun Thermometer, 193 hours, or 59.9 per cent.

Thunder and Lightning, 1st.

Frosts, 3d, 5th, 8th, 9th, 11th, 12th, 16th, 17th, 19th, 22d, 23d, 24th.

Winds followed by Rain, 1st.

Number of Days on which .01 inch or more rain fell, 14.

Auroras, 21st.

Meteors, 21st.

Snow, on northern hills, 13th.

NOTES OF CORRESPONDENTS.

BARNSTABLE COUNTY.

Eastham. — Crop of Indian corn an average one. Turnip crop one-fourth short. Season fully an average one for our farmers. There are quite a number of deserted farms in this town which are for sale very cheap.

J. A. CLARK.

Falmouth. — Crop of Indian corn as a whole is an average one. Root crops as a rule are not up to an average in quantity and quality. I think, on the whole, the season has not been a profitable one for our farmers. The number of deserted farms in this vicinity is greater than it was ten years ago.

D. R. WICKS.

BERKSHIRE COUNTY.

Cheshire. — The crop of Indian corn is more than an average one. Root crops are up to an average in quantity and quality. I think, on the whole, this has been a profitable season for our farmers. In my opinion, there are more deserted farms in this vicinity than there were ten years ago.

L. J. NORTHUP.

Great Barrington. — Crop of Indian corn an average one. Less root crops planted than formerly; quality an average. There are no deserted farms in this town. There are some very poorly cultivated, and some that ought never to have been cultivated at all. The same labor that has been spent on some of the rough and unproductive acres, applied to other localities, would have produced far better results in furnishing the comforts of life; while these same unproductive acres, left to the undisturbed course of nature, would have been worth vastly more to-day than they are with all their so-called improvements. Crops fairly good, but prices low and weather decidedly against us.

M. I. WHEELER.

Richmond. — Crop of Indian corn an average one. Root crops up to an average in quantity but not in quality. On the whole, the season has not been a profitable one for our farmers. Number of deserted farms in this vicinity greater than it was ten years ago.

M. W. COLEMAN.

Windsor. — Crop of Indian corn the best for four or five years. Root crops up to an average in quantity and quality. This season not a very profitable one for our farmers. Not so many deserted farms in this vicinity as there were ten years ago.

H. A. FORD.

BRISTOL COUNTY.

Dartmouth. — Crop of Indian corn not quite up to the average. Root crops not up to an average in quantity and quality. It has been a very bad season. The application of manures of any kind has seemed to have but little effect. It has not been a profitable season for farmers in this vicinity. I do not think the number of deserted farms in this vicinity greater than it was ten years ago. The weather continues wet, making it difficult to do work that many farmers desire to do at this season of the year. Apples are keeping very poorly.

L. T. DAVIS.

Somerset. — Crop of Indian corn an average one. Root crops up to an average in quantity and quality. The three principal money crops of this town are hay, potatoes and strawberries. The hay crop was above the average, while the potato and strawberry crops were fifty per cent below the average. The cost of tillage of all hoed crops has been at least forty per cent above the average, caused by the excessive rains; making the season, on the whole, not a profitable one for our farmers. Number of deserted farms in this vicinity not greater than it was ten years ago.

JOSEPH GIBBS.

DUKES COUNTY.

Chilmark. — Crop of Indian corn not an average one. Root crops not up to an average in quantity and quality. The profits this year have been small. There are more deserted farms in this vicinity than there were ten years ago.

B. T. HILLMAN.

ESSEX COUNTY.

Haverhill. — Crop of Indian corn an average one. Root crops about an average in quantity and quality. A fair average season for our farmers. About the same number of deserted farms in this vicinity as there were ten years ago. I know of but two or three in Haverhill.

EBEN WEBSTER.

Ipswich. — The corn crop is good, but not as large as the average. Root crops are not up to an average in quantity and quality, for where the quality is good they are generally smaller than usual. There has not been much profit in general farming this season. There are no deserted farms in Ipswich; farms sell for from \$50 to \$180 per acre, according to locality and buildings. Farmers have generally had good success in harvesting the late crops, and are very busy in fall work, ploughing and seeding.

O. C. SMITH.

Marblehead. — No Indian corn raised here to estimate upon. Root crops hardly up to an average in quantity and quality. This season has not been a profitable one for our farmers. We have no actually deserted farms in this vicinity.

W. S. PHILLIPS, JR.

Newbury. — Crop of Indian corn an average one. Root crops are an average in quantity and quality. The season has not been a profitable one for our farmers. Onions have been of little value, and English hay was damaged badly. Number of deserted farms in this vicinity is greater than it was ten years ago. There is more than usual complaint among our farmers; nearly all consider this season worse than last. The low price of stock and beef is going to hurt us all during the next three months.

G. W. ADAMS.

North Andover. — Crop of Indian corn fully up to the average. All root crops yielded a fair average. Farmers generally complain that this has been an unprofitable season. All farm products have been low in price, while expenses have been the same. There are no deserted farms in this vicinity. It is evident that the farms in this town are not carried on at a profit. Unless a farmer has a saw-mill, cider-mill, or is engaged in cutting and marketing wood,

or has some other business than that of farming, he is hardly making a living, to say nothing of getting ahead. The farms in this town are mostly owned by manufacturers and lawyers, and those who have inherited their farms (on which are large wood lots) and money besides. Of course there are some few exceptions.

PETER HOLT, Jr.

FRANKLIN COUNTY.

Ashfield. — Corn crop an average one. Root crops not up to an average in quantity and quality, but a very profitable season for our farmers. Number of deserted farms in this vicinity not greater than it was ten years ago. The potato crop is an entire failure.

A. G. HOWES.

Deerfield. — Crop of Indian corn ten per cent more than an average. Root crops up to an average in quantity and quality. As it looks now, the season has been a profitable one for our farmers. Number of deserted farms in this vicinity not greater than it was ten years ago. Tobacco is cured well, and is being taken from the poles and put into bundles, and is a fine crop. The weather is good, and farm work is more forward than usual. Land seeded to grass looks extra well.

CHARLES JONES.

Monroe. — Crop of Indian corn not an average one. Root crops not up to an average in quantity and quality. This season has not been a profitable one for our farmers. Eleven full cloudy days and thirteen part cloudy, making a total of seventeen without sunshine, — with only seven full sunny days, — fairly entitle us to the name of “cloudland.” Mean temperature, 40.73. Rainfall, 4.13 inches. Snow the 8th, 11th, and 13th, about two inches, but soon melted. Mud! — well, driving or teaming is not pleasant for man or beast this season.

WM. H. ALLEN.

Northfield. — Crop of Indian corn better than for many years. Root crops usually very good. Our crops as a whole were a full average. There are few deserted farms in this town. Perhaps a few more than ten years ago. Can think of only four. Many more new houses have been built, though not farm houses. The tendency is to get into or near the village.

CHARLES POMEROY.

Orange. — Crop of Indian corn not quite up to the average. Root crops not quite up to an average in quantity and quality. Do not think the season has been an average one for our farmers. Number of deserted farms in this vicinity not as great as it was ten years ago. The dry spell the fore part of the month gave farmers a good chance to finish their harvesting, but the wet weather since has delayed farm work. Fall feed holds out well and farmers are feeding less hay than usual at this time of year.

ANSEL HARRINGTON.

Rowe. — Corn very fine and more than an average crop. Root crops up to an average in quantity and quality. I think this season has been an average one for profit. Number of deserted farms greater than it was ten years ago. In summing up the results of the closing season, I think the farmers have every reason to be satisfied and thankful. Our sugar crop was more than an average in quantity and extra in quality; hay heavy, and fair in quality; apples not heavy, but worth more than a large crop; rowen very fine; feed excellent; dairying good, and the soil in fine condition for the coming season.

J. F. BROWN.

HAMPDEN COUNTY.

Blandford. — Crop of Indian corn not an average one, as the ears are short and not well filled out. Root crops good. Season not a profitable one for our farmers. Failure of potato crop and poor year for dairying, with low prices, cause all to complain. Perhaps more deserted farms than ten years ago; but they have been purchased by neighbors, and, under the stimulus given from the Union Agricultural Society, all are better cultivated and generally better crops raised. Nearly all our farmers feel that grass is the main crop, and are increasing the quantity of hay, though now it is not as much as it was forty years ago.

E. W. BOISE.

Brimfield. — Crop of Indian corn more than an average one. Root crops are not up to an average in quantity and quality. Season has not been a profitable one for our farmers, for the reason that though we had large crops their value is so small. The number of deserted farms in this vicinity is greater than it was ten years ago. Corn mostly husked; yield No. 1, quality never better. All kinds of root crops poor; not more than one-half crops.

S. W. BROWN.

Tolland. — Crop of Indian corn not an average one. Root crops not up to an average in quantity and quality. Potatoes and apples were almost a failure. This part of the State is fast growing up to bushes (running wild), in spite of the inhabitants now here. A few thousand foreign population to help clear up the land and pay taxes is the only salvation I can see for this country.

F. T. MOORE.

West Springfield. — Corn crop about an average one. Root crops not up to an average in quantity and quality. The season has hardly been a profitable one for our farmers. The markets are overcrowded so that prices are low, and farm help and taxes are high. Number of deserted farms in this vicinity is not greater than it was ten years ago.

J. N. BAGG.

Wilbraham. — Corn crop not an average one. Root crops up to an average in quantity and quality. Number of deserted farms in this vicinity not greater than it was ten years ago. Hay, apples and potatoes are in good demand.

H. M. BLISS.

HAMPSHIRE COUNTY.

Amherst. — Corn crop more than an average one. Root crops not up to an average in quantity and quality. This season has been as profitable as the seasons average. Number of deserted farms in this vicinity not greater than ten years ago.

C. E. WILSON.

Belchertown. — Crop of Indian corn an average one. Root crops up to an average in quantity and quality. This season has not been a profitable one for our farmers. Reason, fair crops but extremely low prices and hard sales at any price. Number of deserted farms in this vicinity not greater than it was ten years ago. On the whole, the farmer has little reason to complain. An encouraging sign is fewer farms for sale than five years ago, showing more content although few buyers.

H. C. WEST.

Goshen. — Crop of Indian corn just about an average. Root crops not up to an average in quantity and quality. On the whole,

the season has not been a profitable one for our farmers. Stock and beef very low; not worth as much as last spring. Potatoes a failure. The number of deserted farms in this vicinity is greater than it was ten years ago.

ALVAN BARRUS.

Hadley. — Crop of Indian corn an average one. Root crops up to an average in quantity and quality. On the whole, the season has been a profitable one for our farmers. There are no deserted farms in town.

H. C. RUSSELL.

Southampton. — Corn crop a full average. Root crops up to an average in quantity and quality. I think, on the whole, the season has been a profitable one for our farmers. No great failure, except potatoes. Number of deserted farms in this vicinity not greater than it was ten years ago. Feed has been abundant all through the season and stock has done fairly well.

C. B. LYMAN.

South Hadley. — Crop of Indian corn an average one. Our best lands are kept in grass and our corn is partly raised on light lands with fertilizers, which reduces the average. Root crops not an average in quantity and quality. Season has hardly been a profitable one for our farmers, our best crop, hay, being injured in harvesting and our potatoes blasted. There are no deserted farms here. A blight seemed to strike the sugar-beet crop the last of August, which reduced the quantity and quality.

H. W. GAYLORD.

Ware. — Crop of Indian corn an average one. Root crops are not up to an average in quantity and quality. On the whole, the season has been a profitable one for our farmers. Number of deserted farms in this vicinity is greater than it was ten years ago.

M. A. PERKINS.

MIDDLESEX COUNTY.

Bedford. — Crop of Indian corn an average one. Root crops not up to an average in quantity and quality. I do not think the season has been a profitable one for our farmers. Potatoes blasted; squashes and cabbages were drowned; and the small apple crop,

with the loss of all our fresh meadows, are my reasons. Also, the excessive rains have required a great deal more work to keep the weeds down. I do not think the number of deserted farms in this vicinity is greater than it was ten years ago.

HENRY WOOD.

Belmont. — Root crops not up to an average in quantity or quality. Wet weather has damaged our farmers in many ways. Cloudy and rainy weather has continued with few interruptions to the present time, interfering with work as well as damaging crops both in quantity and quality.

W. L. CHENERY.

Chelmsford. — Crop of Indian corn an average one. Root crops average in quantity; quality poor. On the whole, this season has been an average one for our farmers. The number of deserted farms in this vicinity is not greater than it was ten years ago. The early cold weather tends to hurry farmers about their harvesting, so has had the effect to nearly complete the same in this vicinity.

P. P. PERHAM.

Groton. — Crop of Indian corn an average one. Root crops up to an average in quantity and quality. On the whole, this season has been a profitable one for our farmers. The number of deserted farms in this vicinity is greater than it was ten years ago, and yet we have but very few. Our apple crop has been so large and general that the farmers in this town have been greatly helped.

DANIEL NEEDHAM.

North Reading. — Corn crop an average one. Root crops up to an average in quantity and quality. On the whole, this season has been a profitable one for our farmers. Number of deserted farms in this vicinity is not greater than it was ten years ago. There has been a good deal of land seeded down to grass, and most people have their manure spread. Harvesting is nearly finished. We are busy finishing our marketing and getting ready for winter.

N. B. CASE.

Pepperell. — The corn crop is no more than half harvested about here, but is sound and good and more than an average crop. Root crops are up to an average in quantity and quality. Wet weather has interfered so much with work that I don't think this season has been a profitable one for our farmers. The number of deserted farms in this vicinity is not greater than it was

ten years ago. With the exception of one week this month has been very cloudy, with a great deal of rain. The apple crop is short; prices \$1.50 to \$2 per barrel. Potatoes that were dug late do not rot in the cellar; early dug ones do. Heavy crop of fall feed.

P. J. KEMP.

NANTUCKET COUNTY.

Nantucket. — On the whole, I think this season has been a profitable one for our farmers. Crop of Indian corn an average one. It is about all cribbed and is in splendid condition. The mangold beets as a general thing are above an average. Turnips are looking splendidly; but we do not harvest them here till we have a good freeze, for then they are sweeter and keep better, and cannot be beat in quality by any State in New England. There is but one mortgaged farm that I can find. The number of deserted farms in this vicinity is not greater than it was ten years ago.

C. W. GARDNER.

NORFOLK COUNTY.

Franklin. — Crop of Indian corn not an average one. Root crops up to an average in quantity and quality. The season has been an average one for our farmers. Number of deserted farms in this vicinity greater than it was ten years ago. If the whole tax is levied upon the land, the farmers are driven to the wall.

C. M. ALLEN.

Medway. — Crop of Indian corn not an average one. Root crops not up to an average in quantity and quality. Season not a very profitable one. Rot and blight have been much more prevalent than usual. Number of deserted farms in this vicinity is not greater than it was ten years ago. The number of deserted farms is no criterion of the prosperity of the farming interest. Some farms are deserted and allowed to grow to wood because the land would not pay for cultivating, — either because of natural poverty of soil or roughness, making cultivation expensive; or isolation, making home there undesirable. It is wise to abandon such places. The farming interest has greatly improved hereabouts. The tendency is to higher farming, better crops, more stock and better kept. The farmer now must use agricultural machinery to be successful, and a farm which is so rough as to preclude its use had better be abandoned.

MONROE MORSE.

Norfolk. — Corn crop an average one. Root crops not up to an average in quantity and quality. The season in general has not been profitable for our farmers, except that dairying has paid well. Number of deserted farms in this vicinity not greater than it was ten years ago. Remarkably good month as regards frosts and fall feed, but too wet for fall roots.

J. W. HINKLEY.

PLYMOUTH COUNTY.

Halifax. — Corn is a very fair crop. Turnips and other root crops not up to the average. I think this season in our town has been the most unprofitable one for five years. Less deserted farms in this vicinity than there were ten years ago. We have had the best hay crop ever harvested in town. But very little of the fresh hay has been cut. Potatoes were a failure so far as profit is concerned. Apples are a failure.

G. W. HAYWARD.

Hanson. — Crop of Indian corn not an average one. Not all of the root crops are up to an average in quantity and quality. On the whole, the season has been a profitable one for our farmers. The number of deserted farms in this vicinity is not greater than it was ten years ago. Our farms are small, and fully owned by the farmers. We have little extensive farming.

F. S. THOMAS, M.D.

Kingston. — Crop of Indian corn not up to an average. Considerable corn has moulded in the husk. Root crops up to an average in quantity and quality. Everything considered, the season has not been a profitable one for our farmers. Haying and harvesting are about completed, and farmers are now busy ploughing and seeding down their grass land. The number of deserted farms in this vicinity is not greater than it was ten years ago.

J. H. CUSHMAN.

Marshfield. — Corn crop not up to the average. Root crops up to the average in quantity and quality. The season has been a profitable one for our farmers. On the South Shore there is increasing inquiry for, and occupancy of, farms. This season has been remarkable in the amount of second and third crops of grass. The remark of our oldest farmer, "There may have been something like it, but I don't remember it," is the universal expression.

G. J. PETERSON.

West Bridgewater. — Crop of Indian corn an average one. Root crops not up to an average in quantity and quality. Number of deserted farms in this vicinity not greater than it was ten years ago. On the whole, the season has been a profitable one for our farmers, although they have met quite a loss, in consequence of the wet season, by being unable to get their fresh meadow hay. The season still continues wet.

DAVIS COPELAND.

WORCESTER COUNTY.

Blackstone. — Crop of Indian corn an average one. Root crops up to the average in quantity and quality. On the whole, this season has been a profitable one for our farmers. Corn, pasture and hay especially heavy. Fewer deserted farms in this vicinity than ten years ago.

J. C. PECK.

Bolton. — The corn crop is mostly secured, with very satisfactory results as to quality and quantity. Root crops not up to an average in quantity and quality. The season has been fully an average one. The hay and corn crops were never better, and the corn fodder has been secured in fine order. Number of deserted farms in this vicinity not greater than it was ten years ago. We have had dull, cloudy weather for several days past, and, while the temperature has been mild, it has been impossible to make much progress in harvesting.

H. F. HAYNES.

Douglas. — Corn crop fully up to the average. Root crops not up to an average in quantity and quality. I think, on the whole, it has been a fair season for us. About the same number of deserted farms as there were ten years ago. Harvesting is all through with. September and October were too wet for some kinds of vegetables. Celery not more than three-fourths of a crop. Apples scarce; worth \$2.20 to \$3 per barrel, and of poor quality. Potatoes worth 90 cents per bushel, and are not very plenty.

G. M. WALLIS.

Hardwick. — Corn crop an average one. Root crops up to an average in quantity and quality. Being a dairy district, the season has been very profitable. I think there has been no marked change in the number of deserted farms during the past ten years. On the whole, farmers living in this part of the Commonwealth, as

they look at the well-filled barns and count the cans of milk sold, have occasion to consider the year of 1889 as one exceptionally prosperous. We can say, with the exception of potatoes, that all farm products have been up to the average.

W. A. WARNER.

Holden.—Corn excellent in quality; yield fair. Root crops good. Not much money to go into the bank, and very hard season to get work done. Number of deserted farms in this vicinity not greater than it was ten years ago. Large number of Swedes have settled in town, and our nearness to Worcester gives a tenant to nearly every place.

G. S. GRAHAM.

Hubbardston.—Crop of Indian corn perhaps better than an average. As our main dependence is on the dairy, I think I may say that the season has been a profitable one for our farmers. The profits in this vicinity on the farms are rather doubtful quantities. Number of deserted farms in this vicinity not greater than it was ten years ago. There are many deserted farms, but none that I know of that have been left during the last ten years, but several within twenty years.

H. B. JENCKS.

Lancaster.—Crop of Indian corn the best for several years. Root crops are not up to an average in quantity and quality. The season has been less profitable for our farmers than usual. The number of deserted farms in this vicinity is a little greater than it was ten years ago.

W. A. KILBOURN.

Leominster.—Crop of Indian corn an average one. Root crops up to an average in quantity and quality. In general, we think the season has been a profitable one for our farmers. Number of deserted farms in this vicinity not greater than it was ten years ago. The season has been peculiar, our hottest day being on May 9; then followed muggy, wet weather, producing rot and scab in the potato, and nearly a failure of the apple crop; and it looked rather discouraging for the farmer. But when he sees his barns so unusually full with his most important crop, and still plenty of feed out of doors, he begins to think the season will average with any. Our rainfall for the month was 5.39 inches. Average for six years, 3.79 inches.

W. B. HOSMER.

New Braintree.—There were some very good fields of Indian corn, but so many fields were blighted that the average yield was reduced nearly one-half. Our farmers have made a large amount of milk this season, and received a good price for it. Number of deserted farms in this vicinity not greater than it was ten years ago, only that the buildings destroyed by fire have not been rebuilt. Much more stock than usual will be wintered.

C. D. SAGE.

Spencer.—Crop of Indian corn an average one in quality. Corn fodder secured before the 26th was in fine condition. The last five days of the month were cloudy, with considerable rain. Quantity of root crops an average; but not quality. This season has not been a profitable one for our farmers, because of rot in potatoes. short crop of apples, and loss of profitable labor by reason of stormy weather. Number of deserted farms in this vicinity greater than it was ten years ago. The ground froze and ice formed on the 11th, 22d and 23d.

H. H. KINGSBURY.

Sutton.—Corn crop not quite an average one. Root crops not up to an average in quantity or quality. Season perhaps fairly profitable for our farmers. I think one great reason for the small profits this year was the great amount of wet we have had, and which caused most of the products to be very watery, hence reducing their value very much. The number of deserted farms in this vicinity is greater than it was ten years ago.

A. W. PUTNAM.

Worcester.—Crop of Indian corn an average one. Root crops up to an average in quantity and quality. I think the season has been rather better than an average. Number of deserted farms in this vicinity not greater than it was ten years ago. Farmers, as a rule, do their work and business in a hap-hazard kind of way; hence the reason there are so many who are constantly complaining of their hard lot, and that many of them have cause for complaint.

F. J. KINNEY.

CONSOLIDATED CROP REPORT FOR OCTOBER, 1889. — BY COUNTIES.

COUNTIES.	INDIAN CORN.			BEETS.		TURNIPS.		SQUASHES.		PUMPKINS.		LATE CABBAGE.			
	Average Quality.	Product Com- pared with a Full Yield.	Average Yield of Shelled Corn per Acre, in Bushels.	Average Quality.	Product Com- pared with a Full Yield.	Average Quality.	Product Com- pared with a Full Yield.	Average Quality.	Product Com- pared with a Full Yield.	Average Quality.	Product Com- pared with a Full Yield.	Average Quality.	Product Com- pared with a Full Yield.	Average Yield per Acre, in Heads.	Average Price Per Head.
Barnstable,	100	90	33	—	—	80	75	—	—	100	—	—	—	—	—
Berkshire,	100	92	40	—	—	92	90	—	—	100	100	—	—	—	30.05
Bristol,	95	93	42	—	—	93	85	—	—	—	—	—	—	—	—
Dukes,	90	95	40	—	—	100	87	—	—	—	—	—	—	—	—
Essex,	97	90	42	100	100	—	—	90	80	92	95	—	—	—	—
Franklin,	97	97	48	98	98	98	93	100	100	100	95	85	—	—	—
Hampden,	90	86	40	—	—	100	87	—	60	100	80	100	83	—	—
Hampshire,	97	90	46	92	85	90	90	90	86	90	84	90	86	4,500	.04
Middlesex,	100	100	50	92	97	96	95	100	100	100	100	98	93	—	—
Nantucket,	100	100	40	100	100	100	—	100	100	90	—	100	100	3,000	.12
Norfolk,	95	85	40	—	—	—	—	85	75	—	—	—	—	—	—
Plymouth,	82	87	44	92	88	90	86	94	80	100	88	90	90	3,200	.07
Suffolk,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worcester,	95	90	45	98	95	94	95	94	90	95	92	90	90	4,500	.06

Note. — Quality: 100 is high quality. Price: Is a fair average for the whole crop.

LATE PROGRESS IN THE APPLICATION OF SCIENCE TO PLANT CULTURE.

EXTRACT FROM A LECTURE DELIVERED BEFORE THE MASSACHUSETTS HORTICULTURAL SOCIETY, FEBRUARY 11, 1888, BY
PROF. W. O. ATWATER OF MIDDLETOWN, CONN.

Permit me to recapitulate at the outset some of the fundamental principles of plant nutrition as applied to the ingredients of the food of plants, their sources, and their artificial supply.

1. Plants, like animals, require food for life and growth. A part of the food of plants comes from the atmosphere; the rest is furnished by the soil. No ordinary cultivated plant can thrive without a sufficient supply of each of a number of substances needed for its food. With an abundance of all these, in forms in which the plant can use them, and with other circumstances favorable, the crop will flourish and the yield be large. But if the available supply of any one of them be too small, a light yield is inevitable. If all the other conditions for a profitable crop of corn, potatoes or other plants are fulfilled in the soil, except that potash is deficient, the crop will surely fail; but if the potash be supplied, the yield will be abundant.

2. The most important soil ingredients of plant food—the ones that the atmosphere cannot supply at all, or not in sufficient quantity, and which the soil or fertilizers must supply, so that the plant can absorb them through its roots—are potash, lime, magnesia, iron, phosphoric acid, sulphuric acid, chlorine, and some compound of nitrogen. Plants also take silica, soda, and some other materials from the soil, but these are needed only in minute quantities, or not at all.

3. In removing crops from the soil; we take away plant food. This is the chief cause of soil exhaustion. Lack of fertility is commonly due, in large part or entirely, to lack of plant food.

4. Soils vary greatly in their capabilities of supplying food to crops. Different ingredients are deficient in different soils. The chief lack of one may be potash, of another phosphoric acid, of another several ingredients, and so on.

5. Soils fail to furnish enough food for crops not so much because they have not abundant stores, as because the materials are not in available forms. A soil may have thousands of pounds of phosphoric acid within reach of the plants, but locked up in fragments of rock so that the roots cannot absorb it, and then the crop will fail for lack of phosphoric acid.

6. The infertility of many soils is due more to their mechanical condition, their texture, and relations to heat and moisture, than to lack of plant food. Such soils want amendment first and manures afterwards. Some soils will give good returns for manuring; others, without irrigation, or amendment by draining, tillage, use of lime, marl, or muck, or otherwise, will not.

7. The chief use of fertilizers is to supply plant food which crops need and soils fail to furnish.

8. But the indirect action of fertilizers in improving the mechanical condition of the soil and rendering its stores of plant food available is often very important. Hence, cheap materials, like bone and plaster, are frequently more profitable than manure or artificial fertilizers.

9. Plants vary greatly with respect to their demands for food, their capabilities of gathering the ingredients from soil and air, and the effects of different fertilizers upon their growth. Hence, the proper fertilizer in a given case depends upon the crop as well as upon the soil.

10. The only ingredients of plant food which we need to consider in commercial fertilizers are potash, lime, magnesia, phosphoric acid, sulphuric acid, and nitrogen. Of this list, magnesia is generally abundant even in "worn-out" soils. Sulphuric acid and lime are more often deficient, and hence one reason of the good effect so often observed from the application of lime and plaster. The remaining substances — the phosphoric acid, nitrogen, and potash — are the most important ingredients of our commercial fertilizers, because of both their scarcity in the soil and their high cost.

11. The chief use of commercial fertilizers, such as guano, phosphates, bone, potash, salts, and special fertilizers prepared by formulæ for different crops, is to supply nitrogen, phosphoric acid, and potash.

12. These materials are expensive, but the right ones in the right places are nevertheless very profitable. But the same fertilizers in other cases may bring little or no return.

13. It is not good economy to pay high prices for materials which our soils themselves may furnish, but it is good economy to supply the lacking ones in the cheapest way. Farmers cannot

afford to use commercial fertilizers at random. No more can they afford to have their crops fail when a small outlay for the proper fertilizer would bring a bountiful harvest. And it is time that they understood these facts, the reasons, and how to make use of them.

14. The only way to find out what our soils want is to study them by careful observation and experiments. Success in farming, as in other business, requires the use of brains.

Soils vary greatly in regard to their needs. Hundreds of experiments show that the ingredients most often lacking in soils east of the Mississippi are first phosphate, next nitrogen, and then potash. In many cases it is not the lack of any particular article which makes soils infertile, but other circumstances.

The feeding capacities of plants are most important, but we are deplorably in the dark as to why they differ. Leguminous crops gather nitrogen; why is it? Clover takes away much more nitrogen from the soil than wheat; yet it is much less dependent upon nitrogen in fertilizers, though this is contrary to what theory would lead us to expect.

The question whether corn can gather its own nitrogen has been much discussed. Experiments bear emphatic testimony on this point. It has failed to respond to nitrogen, — it may respond, but not in proportion to the amount applied, — when it would respond to phosphate and potash.

The corn plant has shown itself capable of getting on and bringing fair yields with small amounts of the less costly mineral fertilizers, even in the worn-out soils of the Eastern States. With this help it has gathered its nitrogen from natural sources, and holds it readily to be fed out on the farm and returned in the form of manure for other crops. In other words, the experiments thus far imply that corn has, somehow or other, the power to gather a great deal of nitrogen from soil or air, or both; that in this respect it comes nearer to the legumes than the cereals; that, in short, corn may be classed with the “renovating” crops. If this is really so, — and this can be settled only by continued experimenting, — then our great cereal, instead of simply being a consumer of the fertility of our soils, may be used as an agent for their restoration.

Four-fifths of the weight of the air around us is nitrogen; and the question comes up, Can plants — can *any* plants — avail themselves of it? Boussingault and Lawes concluded that they could not, and that we are drawing for our nitrogen on the stores accumulated in the ground in past ages. But there are facts which are hard to explain on this hypothesis, and there is a feel-

ing that, after all, perhaps they do get it somehow. Microbes seem to be working over the stores of inert nitrogen, and clover may favor the action of microbes.

There is at present a decided tendency to accept the doctrine that some plants do gather nitrogen from the air. If this doctrine is true, we may, when guano and nitrate of soda are gone, use clover to obtain a supply of nitrogen.

I was much struck the other day by a forcible remark of a friend, who, in speaking of farmers' clubs and the men who support them, said, "Where there is one man talking in the meeting, there are a hundred busily thinking at home." The fact is, that we are in the midst of an awakening of agricultural thought that is really phenomenal. With the thinking come improvement, better tillage, better crops, better stock and better profits, and, what is best of all, a higher intellectual, and, I trust, moral life. The agencies that speed this movement, the forms of nutriment on which it thrives, are manifold. The future welfare of our race, material, intellectual and moral, depends upon the food supply, or, in other words, upon the products of the soil. This in turn reduces itself to a question of the supply of phosphoric acid, potash and nitrogen. Enough of the first two for indefinite time to come is assured in the deposits of phosphates and potash salts already discovered. But the supply of the nitrogen is still in question. This costliest of the fertilizing elements escapes from our soils into the air and into the sea, and is taken away by crops, and not completely returned. The artificial supplies in commercial fertilizers promise to meet but a small fraction of the coming demand. If, as some are inclined to believe, the exhaustless stores of the atmosphere are not available to plants, the outlook is dark enough. But if the farmer may use his plants to gather it without money and without price, we may dismiss our solicitude. With the assurance that plants obtain nitrogen from the air, the dismal doctrine of Malthus, which prophesies starvation for the over-populated earth of the future, may, with other kindred forms of pessimism, be happily ignored. That the research of the future will bring the brighter answer to this problem, there seems to me to be most excellent ground to hope.



