

giving a reservoir area of 170 acres. A concrete penstock 44 inches in diameter and 670 feet long carries the water from the lower dam under a 19-foot head to a power-house, where it dashes against the blades of two powerful reaction turbine water-wheels.

On each water-wheel shaft is fastened the revolving armature of an electric dynamo, one of 40 horse-power and one of 17 horse-power, generating direct current at a pressure of 220 volts. This electrical energy is transmitted over a pole line of one and a quarter miles to a small distributing station located in the main group of farm buildings. After that plant was put in, they decided to extend the electrification to every portion of the farm work, and the larger creek, Chazy Brook, was dammed. From that an alternating current, of 200 electric horse-power, at a pressure of 2,300 volts, was developed. All the wiring from building to building is carried underground in conduits.

Besides supplying current to light the houses and farm buildings with hundreds of incandescent lamps, the plant lights the yards and roadways with flaming arc lamps. There are many motors on the place, ranging all the way from the small motor that grinds the food for the growing trout to the 25 horse-power motor which prepares feed for the horses and cattle.

In the main dairy barn a 10 horse-power motor unloads and handles the hay. With that apparatus a ton of hay may be unloaded and stored in either end of the barn loft by two men in less than five minutes. On the main floor of this barn is a feed-cutting machine used for preparing fodder for the cattle, which is run by a small motor, and in the dairy section a 1½ horse-power motor operates the vacuum pump for the milking machines. There are five machines in use, milking ten cows at the same time.

The milk is separated and churned by electric power. An ice-making machine is operated by a motor, and a motor used to run a grist mill in an adjoining building is so arranged that it can be taken to the fields and used to run the threshing machines.

There are motor-driven washing machines, wringers, centrifugal dryers and mangles, and electric flat irons in the laundry, and in the cottage is an electric piano, complete heating and cooking devices, meat choppers, buffer and grinders, and motor-driven ice-cream freezers. Electric fans and lights are in every room. Electric pumps force water into 60,000-gallon tanks for fire protection purposes, and on top of one of the fire-tank towers is an electrical instrument which automatically records on a chart in the house the speed and direction of the wind, the amount of moisture in the air, and the rainfall.

The plant has been in successful operation five years. By night the buildings are ablaze with electric lights, and by day they hum with many busy motors doing the work of scores of hired men. The plant cost thousands of dollars, but is a very profitable investment for its owners.

Manufacturers of electrical machinery now offer to fit out farmers with up-to-date plants at a cost ranging from a few hundred dollars up to as high as one cares to go.

T. A. TEEFT.

Sow Thistle Easier than Canadian.

"Our hired man plowed a field of sod last fall, and this spring on coming to work the land I found to my surprise, a couple of patches of perennial sow thistle," said A. W. De Long, of Oxford Co., Ont., to the Farmers' Advocate last week. "We cultivated the two patches eight times this summer, the last cultivation having been given about the first of August. We meant to get over it again but could not do so. The other day I went out to examine and found only two or three very weak-looking sow thistles but several good strong Canadians. It would seem from this that

the perennial is not so desperately hard to kill after all.

"I thought I would have to give up sowing mangels this last spring," added Mr. De Long, but I had plowed and manured the ground last August and manured it again during the winter, and I hated to lose that crop, so we put them in when the chance came in June and I am glad now we did for we have a very fine piece of roots.

Nuts and Their Production.

Editor "The Farmer's Advocate":

This is the age of specialization and the utilization of by-products. The packers made a poor living until they began making by-products from the material they were throwing away, and extensive users of wood now utilize every last atom. There is no place where specialization and utilization of by-products can better be adopted than on the average farm. A unique illustration of this can be found in the humble nut.

Fall is here now, and nuts are once more to rain down from the trees and be picked in the frosty morn by bright-eyed boys and girls and saucy chipmunks and squirrels. This is practically the only crop which the farmer tills not, nor does he save. Surely a crop which requires no cultivation and which will thrive on the poorest land, must be a paying investment, especially at prevailing prices.

Before going into the question of raising nuts it would be a good idea to examine the prices and their chance for an advancement or decline.

A few years ago it was the custom of well-to-do people to place a plate of chocolates, sugar wafers, or other sweets, upon the table after the meal proper. What do we find now? At one end a heaping dish of pears, oranges or other fruit, and at the other a tempting saucer of some kind of nuts or nut meats. What is the outcome of this change in living? There is only one rational possibility, a decided rise in price. A few years ago hickory nuts sold for two or three cents per quart, chestnuts were hard to get rid of at from four to ten. Walnuts and butternuts hung around a dollar, while hazelnuts and beechnuts brought a whole quarter of a dollar per bushel. Things are changed to-day. A nickel's worth of chestnuts from a street vendor would hardly fill a pocket. Last year hickory nuts sold at the farm for from a dollar and a quarter to a dollar and a half. Chestnuts opened up at twenty cents a quart, dropped jerkily down to twelve cents for a week, and then scrambled up again when it became known that the production was far below the demand.

Nuts will grow in practically every section of Eastern Canada, but are decidedly the best near the lakes or ocean. Southern Ontario and New Brunswick have hundreds of thousands of wild trees, but only a few of that vast number bearing. Many excellent trees are hidden away in a deep pine forest or an oak grove, but trees cannot bear unless the sun can get at them from all directions, neither will they do well if planted in low, wet and marshy land.

To those who have a few trees, I would suggest that they cut the trees which surround them and give them a fair chance. Hickory trees especially should have no other trees within thirty feet at least; beech and hazelnuts, however, do well in the shade. Chestnuts like to be out in the open, or in a grove of chestnuts, while walnuts and butternuts do fine on the edge of a wood. Any trouble which may be taken will be well repaid.

Down near Lake Erie a man had a big ten-acre field filled with wild chestnut trees of all sizes and ages. Half the field he cleared and put to crop, the other half was left as it was. He spent four days in trimming the trees and cutting out all dead stuff, and where they were too thick he tapped a few for an experiment. Last year he kept his cattle in the little five-acre lot and took off over three hundred dollars worth of nuts.

Another man saved his hickory trees and manages to average fifty cents a tree, with no cultivation; no bother. His neighbors cut theirs down years ago. Down in California, where they have regular chestnut orchards, they expect and get anywhere from three to four hundred dollars per acre. Who would not be satisfied with a quarter of that amount?

Some people seem to think nuts require special ground. A dry, sandy soil is the best. Chestnuts are the most profitable now, and should be planted quite early in the spring, about thirty feet apart in rows, like an apple orchard. The nuts themselves can be planted or young trees can be obtained from any up-to-date nursery. This is by far the best and surest method, as the years it takes for them to grow might better be used in bearing. An excellent way to get started is to plant a few in out-of-the-way places, in fence corners, and open spaces in the woods.

J. C. I.

THE FARM BULLETIN.

U. S. Crops Good.

The month of August, like July, was decidedly favorable for crop development in the United States, the composite condition of all crops, September 1st, being about 16.5% better than on September 1st last year, and 4.1% better than the average on September 1st of recent years.

The average of farm prices of important crops (corn, wheat, oats, barley, rye, flaxseed, potatoes, tobacco, cotton, hay, which represent about three-fourths of the value of all crops) declined 7.0% from August 1st to September 1st, which compares with a decline of 4.4 in same period last year, and an average decline of 3.8% during August of the past four years. On September 1st the average of farm prices was 2.8% lower than on like date of 1911; 0.4% higher than in 1910; 3.5% higher than in 1909, and 5.2% higher than in 1908.

The indications are for a total production of all cereals (133,016,000 tons) of about 20.3% more than last year, 6.1% more than in 1910, and 16.2% more than in 1909. Potato prospects are for about 36% more than last year, 14% more than in 1910, and 2% more than in 1909. Hay estimated yield is about 31% more than last year, and 4% more than in 1910 and 1909.

Prices paid to producers of the United States on September 1st of 1912 and 1911, respectively, averaged as follows: Corn, 77.6 cts., 65.9 cts. per bushel; wheat, 85.8 cts., 84.8 cts.; oats, 35.0 cts., 40.4 cts.; barley, 53.5 cts., 77.0 cts.; rye, 70.8 cts., 76.9 cts.; buckwheat, 76.6 cts., 74.0 cts.; flaxseed, 162.6 cts., 203.6 cts.; potatoes, 65.0 cts., 113.7 cts.; hay, \$12.14, \$14.61 per ton; butter, 24.2 cts., 23.1 cts.; chickens, 11.3 cts., 11.1 cts.; eggs, 19.1 cts., 17.4 cts., per dozen.

Prices on August 15th of 1912 and 1911, respectively, averaged: Hogs, \$7.11, \$6.54 per 100 lbs.; beef cattle, \$5.38, \$4.39; veal calves, \$6.62, \$5.93; sheep, \$4.26, \$3.98; lambs, \$5.60, \$5.25; milch cows, \$46.08, \$42.26 each; horses, \$142, \$141; milk, 22.4 cts., 21.2 cts. per gallon; apples, 67.4 cts., 73.0 cts.; peaches, \$1.08, \$1.38; beans, \$2.39, \$2.20; onions, \$1.00, \$1.16; clover seed, \$9.80, \$9.65; timothy seed, \$3.25, \$6.52; wool unwashed, 18.8 cts., 16.0 cts. per lb.; cabbage, \$1.88, \$2.47 per 100 lbs.; bran, \$27.43, \$25.92.

VICTOR H. OLMSTED,
Chief, Bureau of Statistics.

The effects of the summer deluge do not by any means end with the harvest nor yet the threshing. Much care is necessary to prevent the winnowed grain from spoiling. Accounts are heard of oats moulding together in the bins till they can be picked up in armfuls; mows of sheaves green with sprouting oats at threshing time; straw stacks rotting, and heavy loss everywhere. The damage has been almost incalculable, and may not end till next winter's veterinary bills are settled; nor even then.

THE WESTERN FAIR ALIVE AND GROWING.

An official flavor was imparted to the inauguration of the Western Fair at London by the presence of the Ontario Minister of Agriculture, Hon. Jas. S. Duff, who "turned" the golden key that opened to the public the creditable new art building of cement for the housing of loan and competitive pictures. President W. J. Reid, in his address of welcome, on behalf of the Fair Association and citizens, felicitated the Minister on his presence at the banner exhibition of the banner agriculture district of the banner Province of Canada. The new edifice was an evidence of constructive imagination on the part of the directorate who felt that something should be done for the cultivation of artistic ideals as well as education in promoting material interests. The assistance from the government in helping to accomplish the object was appreciated. The Minister congratulated the association and people of West-

ern Ontario upon the continued success of their exhibition, alluded to the outstanding agricultural progress and future of the province, and concluded with the hope that the new building would be the means of fostering art and everything beautiful and true. That this department of the exhibition was so speedily and continuously crowded with visitors, is incidentally gratifying to "The Farmer's Advocate" in which have urged the provision of such accommodation. That the space allotted was overtaxed by the initial display in the new hall, justifies everything that was ever said in reference to the inadequacy of former quarters.

From art to live stock may be rather a sharp turn, but it might as well be taken at this juncture. The quality of the exhibits was in keeping with the high order of merit which the Western

Fair has long sustained, and to the breeders of the country is the credit due. In many respects in most of the classes no finer examples of consummate skill in breeding and fitting, would anyone desire to see, but in horses the display was lighter numerically than what has on former occasions been witnessed, and the sheep were also slack in numbers though not in quality. Cattle and swine were strong. The powerful inducements in respect to trophies and transport held out by the contemporary Dominion Show at Ottawa, where special attention is always paid to encouraging the live-stock department, make it incumbent upon the London show directorate to considerably augment their appropriations in this direction. Incidentally the farm help shortage and late harvest season may have deterred some exhibitors from being present, as also at the Toronto Exhibition. But the fact is beginning to dawn upon