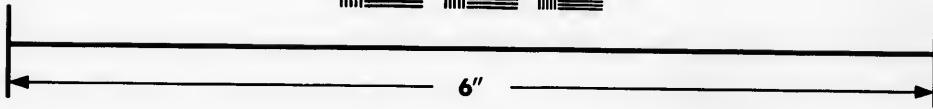
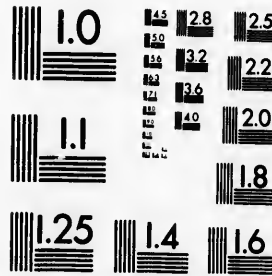


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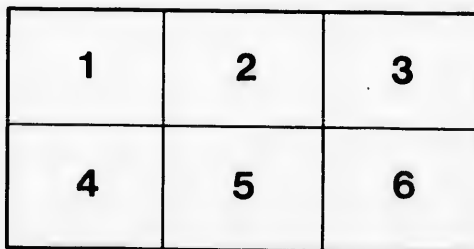
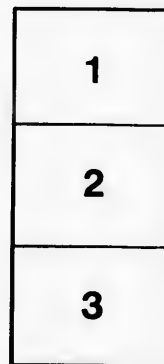
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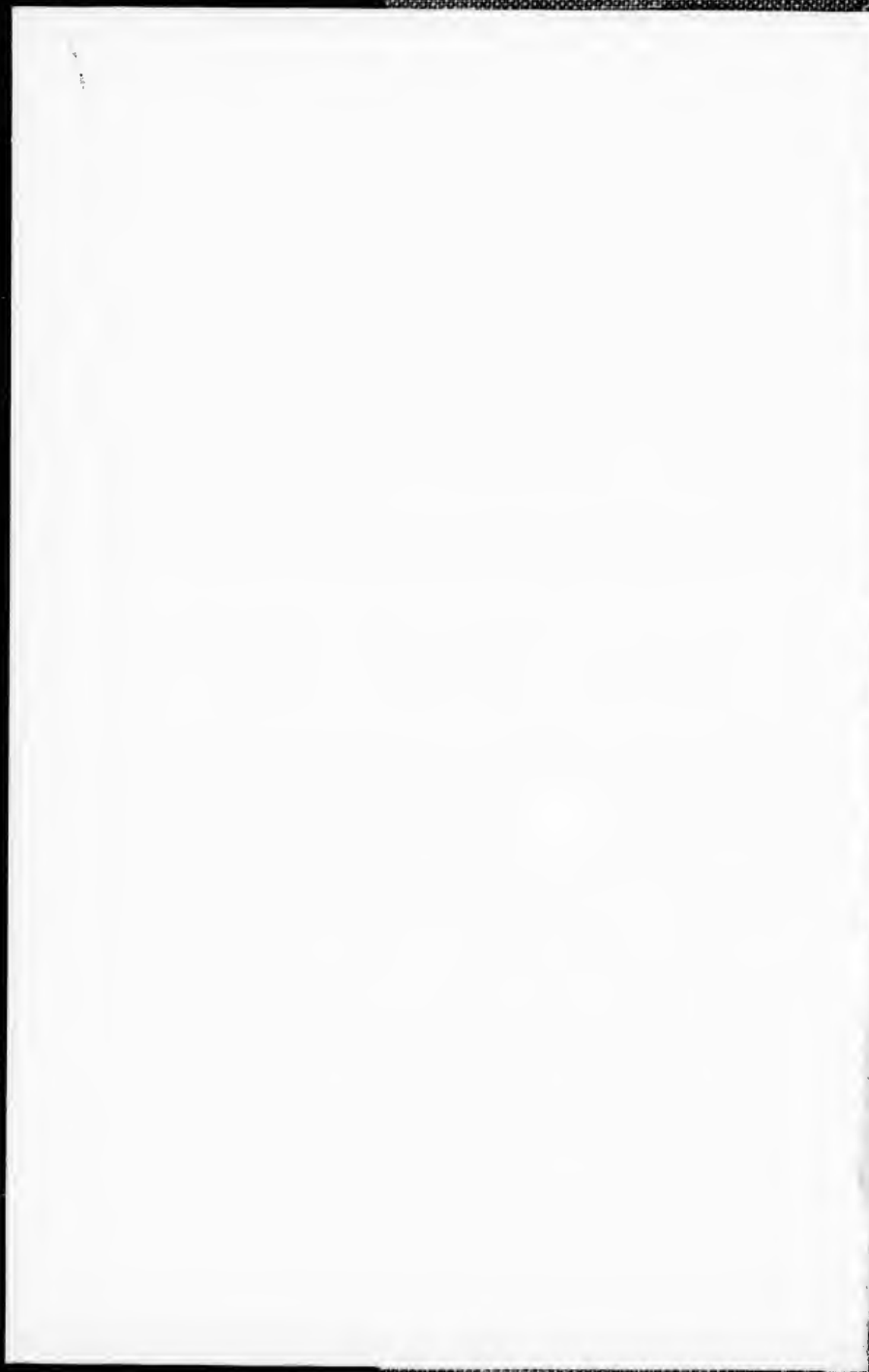
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CENTRAL EXPERIMENTAL FARM

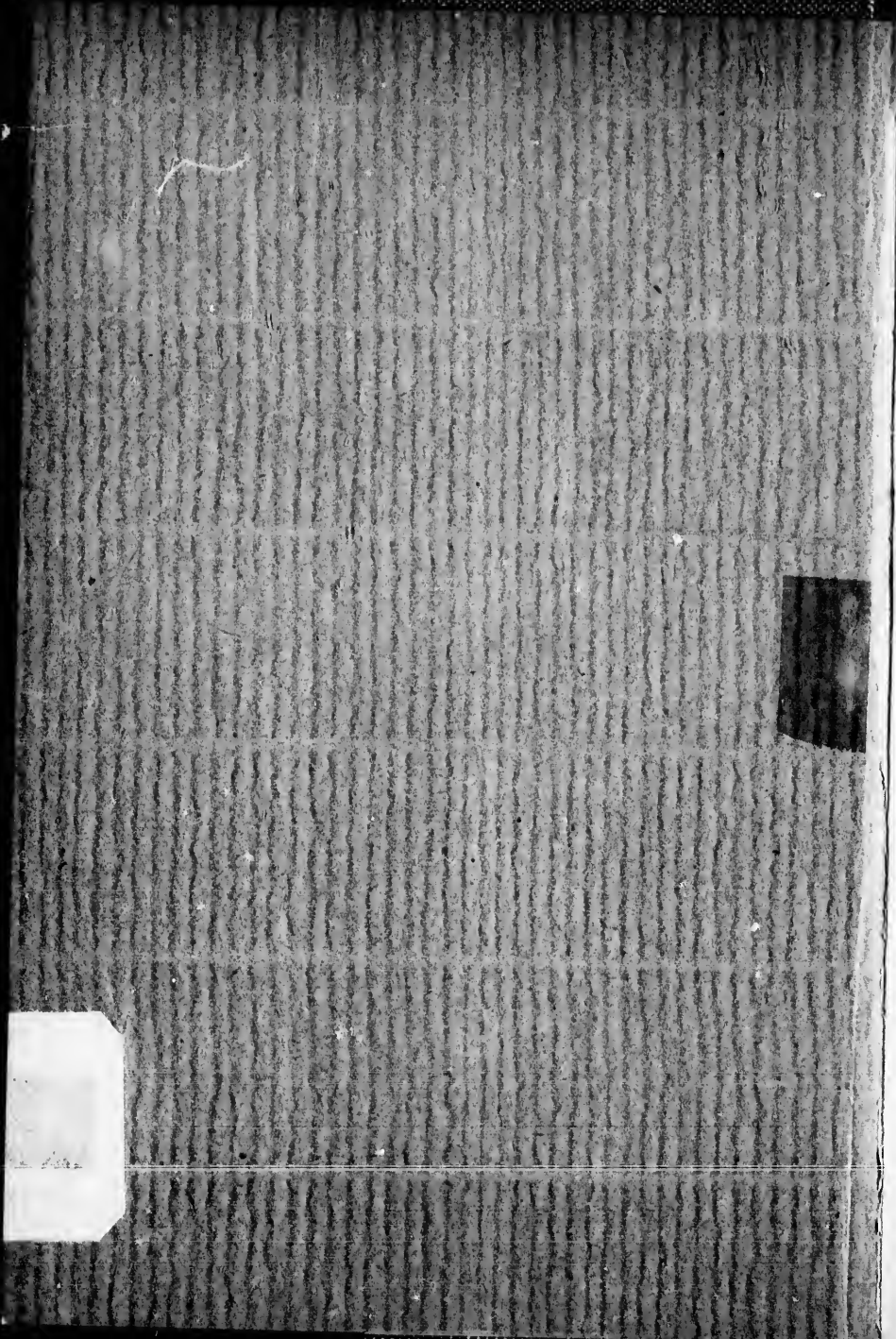
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PREPARED FOR THE YEAR 1897  
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## EXPERIMENTAL FARMS.

(Prepared by Wm. Saunders, LL.D., Director Experimental Farms.)

The Experimental Farms of the Dominion of Canada are five in number, a central farm and four branch farms, and contain in all about 3,200 acres of land. The Central Experimental Farm has been established at the capital, Ottawa, near the boundary line between Ontario and Quebec, and serves the purposes of both these important provinces. One of the branch farms has been located at Nappan, N.S., near the dividing line between Nova Scotia and New Brunswick, and serves for the three Maritime Provinces; another has been established at Brandon, Manitoba, for the province of Manitoba; a third at Indian Head, in Assiniboia, as an aid to agriculture in the Northwest Territories; and a fourth has been located at Agassiz, British Columbia, where it serves a like purpose for that province. At all these farms many experiments are in progress in all branches of agriculture, horticulture and arboriculture, and some problems of great importance to farmers have already been solved.

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## EXPERIMENTAL FARMS.

### DEPARTMENT OF AGRICULTURE.

Minister of Agriculture—Hon. Sydney Fisher.

Deputy Minister of Agriculture—W. B. Scarth.

### STAFF OF EXPERIMENTAL FARMS.

Director—Wm. Saunders, LL.D., F.R.S.C., F.L.S.

Director's Assistant and Foreman of Forestry—W. T. Macoun.

Horticulturist to the Central Experimental Farm—John Craig.

Entomologist and Botanist to the Dominion Experimental Farms—James Fletcher, LL.D., F.R.S.C., F.L.S.

Assistant Entomologist and Botanist—J. A. Guignard.

Chemist to the Dominion Experimental Farms—F. T. Shutt, M.A., F.I.C.

Assistant Chemist—Henry S. Marsh.

Poultry Manager—A. G. Gilbert.

Farm Foreman—John Fixter.

Accountant—W. H. Hay.

Assistant Accountant—L. S. Macoun.

French Correspondent—Eug. Pelletier.

French Correspondent—J. A. McMurray.

Director's Secretary and Stenographer—M. O'Hanly.

Stenographer—J. F. Watson.

Superintendent Experimental Farm, Nappan, N.S.—Geo. W. Forrest.

Horticulturist Experimental Farm, Nappan, N.S.—W. S. Blair.

Superintendent Experimental Farm, Brandon, Man.—S. A. Bedford.

Superintendent Experimental Farm, Indian Head, N.W.T.—Angus Mackay.

Superintendent Experimental Farm, Agassiz, B.C.—Thos. A. Sharpe.

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GUIDE TO THE CENTRAL EXPERIMENTAL FARM  
FOR 1897, WITH PLAN SHOWING THE LOCATIONS  
OF THE BUILDINGS WITH PARTICULARS OF THE  
ARRANGEMENT OF THE DIFFERENT CROPS AND  
GROUPS OF EXPERIMENTAL PLOTS FOR THE SEA-  
SON OF 1897.

Work on the Central Experimental Farm at Ottawa was begun in the spring in 1887. The buildings at this farm are shown on the plan in black and are lettered as follows :—

(A.) Office Building, Chemical Laboratory and Museum.— In this building are the offices of the several members of the staff. The second storey is occupied by the Museum, in which samples of grain, fruits and other products raised on the central and branch farms are shown. In the eastern half of this building, on the ground floor, is the chemical laboratory, where analyses are made of soils, fodder plants, cereals, roots, fertilizers and other substances of interest and value to the farming community.

(B.) Conservatory and Houses for Seed Testing and Seed Distribution.—This is quite near the office building. The front portion is used for the distribution of samples of seed grain, where large quantities of choice varieties are distributed free by mail each year. Samples were distributed during the past season in 3-lb. bags for test by farmers in all parts of the Dominion. The aim of this distribution is to place the best and most productive varieties within reach of all, and thus to prepare the way for general improvement of the grain crops of the Dominion. One of the two glass structures attached is used to determine the vitality and germinating power of doubtful samples of grain held for seed, these being tested during the winter months and reports sent to the farmers who have forwarded them. There were 2174 samples tested in 1897. In the second glass structure there is a general collection of green-

house plants, with a number of different species which are of economic value, such as camphor, cinnamon, cinchona, black pepper, arrowroot, tea, coffee, orange, lemon, cocoa, sarsaparilla, matico and guaicum. There are also about 100 species and varieties of orchids, a large number of cacti, together with many choice sorts of flowering plants.

(C.) Barn.—The central part of this building is occupied above with farm crops, and at the northern end there are three silos, with a total capacity of about 350 tons. The lower storey, which is on a level with the barn-yard, affords accommodation for the cattle. There are a few pure-bred animals, but the larger number are grades. One section contains grade cows fairly representing the stock kept by farmers in Ontario, while most of the next section is occupied with representative grade cattle from Quebec. A third section is occupied partly by young cattle, but during the winter months chiefly by steers under experimental feeding. The stalls along the side and end are used for the accommodation of young stock. One wing of this building is occupied by the bulls, where specimens will be found of Ayrshire, Jersey, Holstein, Devon and Canadian; the other wing by the working teams of horses.

(D.) Implement Shed and Tool House, with a carpenter shop in one corner and a granary overhead.

(E.) Piggery.—In this building experiments are carried on in the raising of the most popular breeds of pure-bred swine; also in fattening both pure and cross bred pigs, to ascertain which of the crosses mature most rapidly, and what kinds of food give the best returns. The breeds at present under test are Berkshire, Improved Large Yorkshire, Chester White, Tamworth and Poland-China.

(F.) Dairy Building.—Here experiments are carried on in butter-making, to determine the most economical methods of producing this useful food product of the very best quality.

(G.) Root House, where large quantities of field roots and potatoes are stored during the winter months.

(H.) Sheep House.—A building which is in process of construction, designed to carry on experimental work with sheep.

(I.) Poultry Buildings and Yards, where experiments are conducted to determine the most serviceable breeds of fowls as egg-layers and flesh-formers, and experience gained as to the best methods for the housing and feeding and care and management of poultry. The varieties of poultry under test in this branch are: Barred and White Plymouth Rocks, Silver Laced and White Wyandottes, Black and White Minorcas, White Leghorns, Andalusians, Langshans, Light Brahas, Javas, Coloured Dorkins, Golden Polands, Houdan fowls and Aylesbury ducks.

(J), (K), (L), (M), (N) and (O). Residences of the Officers in charge of the several branches of the work.

#### DIVISIONS OF LAND AND HOW OCCUPIED IN 1897.

By reference to the accompanying plan, it will be seen that the land, which consists of 465 acres in all, is divided into twenty-four sections, and the following will explain how each of these is occupied at the present time :—

Section No. 1.—On this section is located (B) the conservatory and house for seed-testing; also (C) the barn, (D) implement shed, and (E) the piggery. Part of the land between the conservatory and the barn lies high and commands a fine view of other parts of the farm, the city and surrounding country. This part is in lawn and is partly planted with ornamental trees and shrubs. In the southern portion of this section are the experimental plots of potatoes, where 121 varieties are being tested side by side, and at the western part of this, experimental plots of corn may be seen, where thirty varieties are under test. The portion east of the conservatory is used for the growing of shrubbery and young seedling fruit and ornamental trees, and on this part will be found the residence of the Horticulturist.

Section No. 2.—The south-east corner of this section is occupied with millets, of which eight varieties are being tried. Next west of this are the experimental plots of wheat, where tests are in progress with 164 varieties, a large number of which are cross-



bred sorts which have been produced on the farms. Next in order follow the test-plots of barley, including fifty-five varieties and west of these there are seventy-nine varieties of pease. In the collections both of barley and pease there are many cross-bred sorts which have been originated on the experimental farms. The north side of the west portion of this section is occupied by experimental plots of oats. These consist of seventy-four varieties, a part of which are on the opposite side of the road on the south side of section 3. The western end of section 2 is planted with oats of the variety known as Golden Giant Side.

Section 3. In addition to the oat plots already referred to, this section is occupied at the east end, first with inclosed yards for the exercise of bulls and pigs; next with two-rowed barley (Canadian Thorpe) and at the south-west corner with pease. On the north-half of this section, fronting on Elm Avenue, are placed the dairy building and root house; west of this, the vineyard, in which 194 varieties of hardy grape vines are under test. Next there is a small piece of pasture land, followed by horse beans and soja beans.

Section 4.—The east portion of this section is in meadow, and the western part in oats, first Banner, next Rosedale.

Section 5.—On the east part of this section there are three one-acre plots. The southerly one has been sown with a mixture of grasses, to test their value for permanent pasture; the next is occupied by Awnless Brome grass, which was sown with barley in the spring of 1896; and the third plot with oats seeded with Alfalfa. The north part of this strip, facing on Elm Avenue, is occupied by Abundance oats; and the remainder of this frontage is used for testing the action of different sorts of fertilizers on Indian corn. The latter plots are twenty-one in number, and measure one-tenth of an acre each. These experiments with fertilizers on corn have now been continued for nine years. The remaining part of this section, extending to Maple Avenue, is occupied by meadow.

Section 6.—This is occupied by meadow.

Section 7.—Extends to the forest plantation, and is also occupied by meadow.

Section 8.—This is a long, irregular strip of ground, extending from the north side of Elm Avenue along the west and north boundaries of the farm. It is bounded by the forest belt on one side and the winding road on the other, and extends eastward to the north entrance gate to the farm. The south-west corner is occupied by Rosedale oats; next meadow, followed along the north boundary by small fields of grain in the following order:—OATS.—Improved Ligowo, Siberian, American Beauty, Mortgage Lifter, Joannette, Holstein Prolific and Wallis. WHEAT.—Advance, Herisson Bearded and Preston. East of these, the remainder of this section is occupied by pasture, excepting the south-east corner, where there is a plot of buckwheat.

Section 9.—About one-half of the frontage of this section, on Maple Avenue, is devoted to test plots to try the effect of fertilizers on crops of wheat and oats, twenty-one plots of one tenth of an acre each being given to each of these cereals. The wheat occupies the front tier of plots, the oats the second. Some of these experiments have been carried on for nine years, others for eight years. West of these are narrow fields of grain, running from east to west in the following order:—OATS.—Early Gothland and Prize Cluster. BARLEY.—Odessa. PEASE.—Creeper, Agnes and Arthur. North of these are larger fields, extending to Maple Avenue, of Bavarian and Banner oats, the northerly part of the section being occupied by meadow.

Section 10.—On this section there are narrow fields of grain extending across the entire width. Beginning with the frontage on Maple Avenue, these are arranged as follows:—OATS.—Early Gothland, Golden Beauty, Columbus, Flying Scotchman, White Schonen, Early Golden Prolific, Early Archangel, Hazlett's Seizure, Mennonite and Wallis. In the space occupied by the Wallis oats will be found a small grove of trees of white pine. On the easterly end of this section is an orchard of apple trees, chiefly of Russian varieties, and containing 219 different sorts.

Section 11.—On the westerly part of this section there are two additional series of plots of one-tenth of an acre each and twenty-one in each series, which are used to test the effects of fertilizers on crops of barley and field roots. These experiments have been

carried on for the past eight years. East of these plots are small fields of sunflowers and the following varieties of barley:—Royal, Trooper, Mensury, Champion and Odessa; then experimental plots of clover and flax, and a set of plots, forty-eight in all of one-twentieth of an acre each, which are used to gain information as to the best time for sowing the more important cereals. Eight of these plots—two each of wheat, barley, oats and pease—are sown as soon as the ground is ready in the spring, and eight more on the same day on each succeeding week for five weeks, thus making six successive sowings. Each of these plots is harvested and threshed separately, and the results published in the annual reports. These experiments have been carried on for seven years, and the results show the great importance of early seeding.

Sections 12 and 13.—The larger part of both these sections is occupied by orchards of apple, pear, plum, cherry and other fruit trees, and by small fruits and vegetables. The number of varieties of fruits at present under test is as follows:—Apples, 245; crab apples, 16; pears, 75; plums, 124; cherries, 49; currants (black, red and white), 64 named varieties and 22 seedlings; gooseberries, 123 named varieties and 38 seedlings; raspberries, 144 named varieties and 27 seedlings; strawberries, 276 named varieties and 23 seedlings; junoberries, 5 varieties; and 8 varieties of nut-bearing trees. The vegetables under test this year include 122 varieties of tomatoes and 64 varieties of cauliflower, and smaller numbers of other useful sorts. This portion of the grounds is devoted entirely to experimental work with fruits and vegetables, and as the usefulness of the results depends chiefly on the accuracy with which the yields of the many varieties under test are ascertained, it has been found necessary to fence this inclosure and keep it closed to the public during the fruiting season. The easterly part of section 12 is occupied by the poultry yards and buildings, and north of the poultry yards is the apiary, near which is the residence of the farm foreman.

Section 14.—Is occupied with experimental fields of corn; with test-plots of clover and grasses on the south-west corner.

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Section 15.—This section has several rows of plots along the north side which are devoted to the testing of a large number of grasses, to ascertain their relative value and usefulness for hay and pasture, and also for lawn purposes. Next, south of the grasses, are the sample hedges, where different sorts of shrubs and trees have been planted to test their usefulness for hedge purposes. Each hedge is about fifty feet in length, and there are 76 different sorts under test. On another part of this section will be found the residence of the Director, about which are planted many varieties of ornamental trees, shrubs and plants. There is also in this section a small inclosure devoted to special experiments in connection with the cross-fertilizing of cereals, etc., and the raising of young seedlings of trees, shrubs and plants for test on the several experimental farms. This small test-garden is not open to the public.

Section 16.—Is partly in lawn and flower beds, and partly devoted to clumps of ornamental trees and shrubs. Near the south-east corner is the residence of the Chemist.

Section 17.—Part of this section has been planted with potatoes and the other part with corn. Near the south-west corner is the residence of the Entomologist and Botanist, with lawn and shrubbery. The remainder of this section is occupied by field roots of which 67 varieties are under trial. In the north-east corner is the residence of the Poultry Manager.

Sections 18, 19, 20, 21, 22, 23 and 24 form the Arboretum and Botanic garden, consisting in all of sixty-five acres of land. With the exception of section 23 (which is used for pasture), this area is devoted to the testing of useful and ornamental trees and shrubs from many parts of the world. About 2,500 different species and varieties are now under test. This land has been planted with a cedar hedge outside the fence. Along the road, and south of this hedge, is a border twelve feet wide and nearly a mile in length, which is devoted to the cultivation of hardy perennial plants. There are now about 1,100 species and varieties of these under test, forming a most interesting and valuable collection.

The forest belts extend along the whole of the north and west boundaries of the farm and are designed to test the growth of timber trees under different conditions as to soil, distance apart, etc. About 20,000 trees in all have been planted. The belt along the northern margin of the farm is 65 feet in width, and that on the west boundary 165 feet.

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