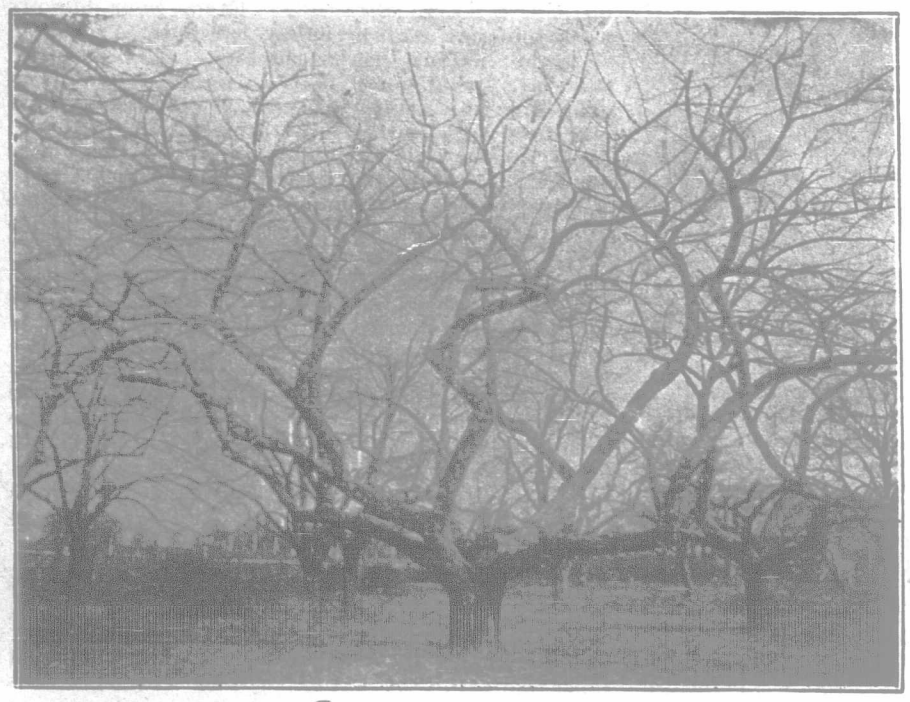
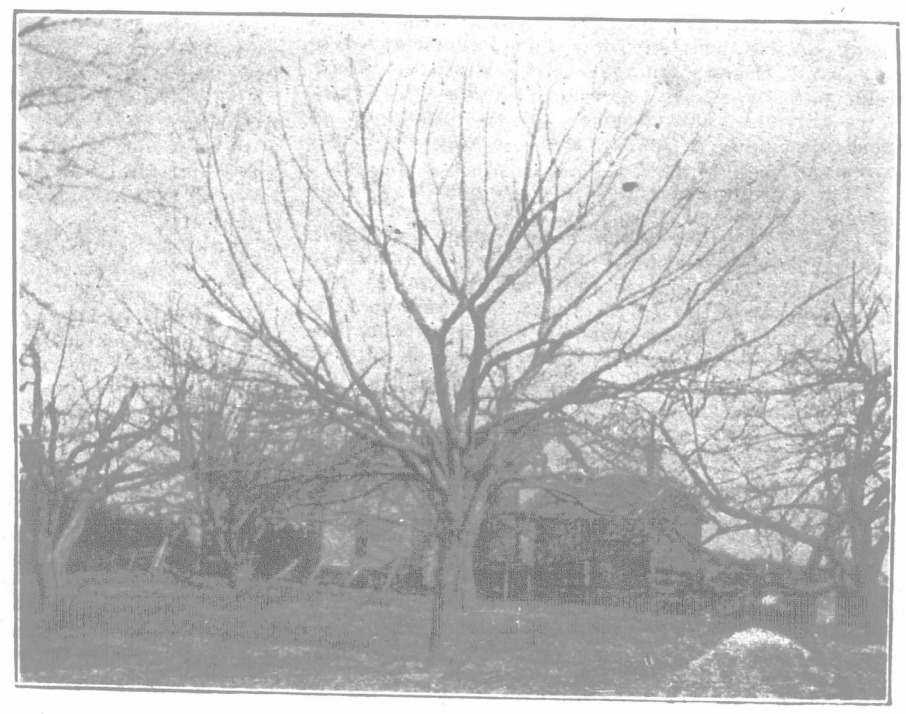
An Unpruned, Monster Greening Tree Before Being Pruned.

A Spy Tree Before Pruning.



What a Difference, the Same Greening Tree After Pruning.



The Same Spy Tree After Pruning.

is of higher value agriculturally than is peat, provided it is not too greatly reduced by soil admixture, and peat, which is low in ash, is of higher value as a fuel than is muck.

How Long Will Seeds Live?

Old stories of seeds from which plants have been grown after hundreds of years in storage have been discredited by investigation. Reports of wheat having been raised from seeds found in the hands of Egyptian mummies may have had their origin in some form of trickery. Tests by the Royal Agricultural Society of Great Britain, with samples of forty-three kinds of farm weeds procured in 1895, and since stored in paper bags kept in close dry cabinet drawers, indicated that barley and wheat were not greatly affected during the first five years, but decreased rapidly until the tenth year when no live seeds remained. Five years later white oats showed no life, but black oats germinated for fifteen years, owing, it was suggested, to the adherence of the glumes. The various grass seeds died between the eighth and thirteenth years, timothy proving the strongest of the whole, but among various samples of the same kinds of grass seed great individuality was shown. The clovers showed a slight loss of vitality during the first three or four years, a rapid loss for about four years, while the last ten per cent. expired during the next three or four years. The hardiest seeds of alfalfa lasted nearly fourteen years. Most of the vegetable seeds lost vitality rapidly.

Of all the seeds the mustards are reputed to be capable of retaining their vitality for the longest period of time, owing to the oleaginous coating in which they are enclosed. It is a common sight, in mustard-infested districts, to find an old meadow where no blossoms had been apparent since it was seeded down, plowed up after fifteen or twenty years, and at once produce a prolific crop of the yellow weed. The assumption is that the mustard seed must have lain buried in the ground all the while the field was in sod.

On this point, let us refer back to a statement by G. H. Clark, Dominion Seed Commissioner, made at the Ontario Experimental Union last January. Walking over a creek flat on his old home farm he found a number of small mustard plants, some of them with but a single leaf, growing hidden among the grass and producing each a few seeds. Yet this piece had been thirty or forty years in grass, during which time no mustard plant was conspicuously evident. The small plants, however, kept raising enough seed year by year to start a thick mat of mustard when the field should be plowed. Furthermore, as a result of tests made, Mr. Clark said he would challenge anyone to produce a mustard seed that had been kept over fifteen years, under any kind of storage, that would produce a crop.

Referring back to the English experiments, one curious fact was incidentally learned through them. A living embryo, transferred to the food store of dead seeds, utilized it freely, and the store of food retained its properties for years after the seed was dead.

HORTICULTURE.

Making the Old Orchard Over.

The Fruit Branch of the Ontario Department of Agriculture, is again managing several demonstration orchards this season, distributing the work over a number of counties. The accompanying illustrations show two trees in the Middlesex County Demonstration orchard before and after being pruned. These trees as shown in the illustrations depicting them in their unpruned state, were very badly in need of some thinning out. While the trees represented are not ideal in shape, they show what is possible with old, very large and neglected trees, and also with trees of fair size which have not been subjected to regular pruning. The larger tree, all will agree, is not a good one, but the illustration showing it in its pruned form, is a revelation after looking at it before the shears and saw were applied. The smaller tree was very thick with small limbs before pruning. It is now thinned out and is a very desirable tree. The larger tree is a Rhode Island Greening, showing the spreading habit of growth of this variety, while the smaller one is a Northern Spy, and is quite typical. Some of the largest apple trees ever seen anywhere are in this orchard, the Greening tree being forty-three years old and the Northern Spy a little over twenty years of age. The orchard had not been pruned for eight or ten years previous to this spring, and we believe the owner never received more than $100 for his fruit any one year. The trees were carefully pruned early in April, and have been sprayed twice—once before the buds opened, and again before the blossoms opened. It will be given the third spraying as soon as the blossoms fall. A few trees are left uncared for that the difference may be clearly seen.

This short outline is given to indicate what the Department is doing to demonstrate the possibilities of fruit growing properly carried on. The field work is in charge of W. F. Kydd, who is well known as a competent fruit grower, and he is being assisted in the various counties by the local representatives of the Department of Agriculture, who look after the spraying, and being on the spot have charge of other work in connection with the orchard under the direction of Mr. Kydd. This orchard gives an excellent opportunity to demonstrate how an old orchard should be cared for in order to yield highest returns. The difference in the appearance of the roughest of the trees can hardly be imagined. Many of the trees looked to be at least forty feet high, and of course, several feet was taken off the top in the pruning operations, to lower them and make spraying and fruit picking more easily accomplished. The rough bark was scraped off all of them, and where large limbs were removed, the injuries have been painted over to prevent decay. I. B. Whale, B. S. A., the Middlesex representative, is having a large sign placed in a prominent position in the orchard, inviting all visitors to keep