

conditions. This is peculiarly true in the matter of varieties, especially of some fruits. Take the strawberry as an example. It is greatly affected by the kind of soil on which it is grown, and a variety which does well on one farm may be a complete failure on the very next farm. Under these circumstances each man must determine for himself whether a given variety will be a success with him or not. But on the other hand, in such matters as spraying, the materials to use and the best method of application, the work of the experimenter is conclusive for all growers. And it is in such fields that the station may be most useful to farmers, for such work requires much time, expensive apparatus, and careful observation, if the result is to be conclusive.

Let us suppose, for illustration, that it is desired to determine the distance at which corn should be planted in the row, to be most profitable. The investigator lays out a number of plots and plants the corn by hand at exact distances, and after a number of years he determines that one foot apart in the row, we will suppose, is most profitable. Now, the farmer, in taking advantage of this result, is not supposed to follow the methods of the investigator, which may have been costly, probably were, but with the tools at his command he secures, as nearly as possible, the distance advised by the investigator.

This is merely an illustration, yet the principle involved will hold good in all cases. The experimenter first determines, by the most careful and exact methods, what system is best, and the farmer must then attain as nearly as possible to this ideal.

#### EXPERIMENTS IN SHEEP FEEDING AT THE O.A.C., GUELPH.

By G. E. DAV, Agriculturist.

In a comparison of red clover hay with first crop alfalfa and third crop alfalfa, the third crop alfalfa gave better results than either of the other two kinds of hay, while the first crop alfalfa and red clover gave practically the same results.

In a comparison of corn with peas, the corn gave the most rapid and economical gains. The corn and peas were mixed with an equal weight of oats. The peas and oats gave an average weekly gain of 2.10 lbs., and required 5.14 lbs. meal for a pound of gain. The corn and oats gave an average weekly gain of 2.29 lbs., and required 4.72 lbs. of meal for a pound of gain.

This is only a single experiment, however, and requires further investigation.

#### ADVANTAGES OF EARLY SETTING-OUT.

##### THE CONDITION OF THE BROOD CHAMBER IN EARLY SPRING.

Those who are known as our most advanced and progressive beekeepers (and many of the more conservative) have advocated leaving the brood chamber of the hive undisturbed during the cold and changeable weather of spring, even to leaving untouched the sealed quilts sewn on the hives to prevent as far as possible the escape of the warm air.

With great reluctance we decided, during the past spring, to make a series of extensive experiments as to the effect certain conditions would have upon the amount of brood reared in the hive. The first bees were set out on the eleventh of March, and the remainder at varying intervals during the next three weeks. The results from the various settings out showed a very marked difference—so much of a difference, in fact, that in almost every case, after examining the brood chamber, we could tell the date of setting out. Upon examination of the colonies when first placed on their summer stands, brood was found in only one or two hives, and these showed indications of imperfect wintering. The inspection at that time went to show that in healthy cellar wintering there is no brood rearing. The day the bees were set out they had an exciting and cleansing fly, after which the queen began to deposit eggs, and kept this up for a day or two, unless followed by weather suitable for flying. During the past spring, owing either to continuous low temperature or wet weather, the bees were confined for as long as a week at a time. The different stages of brood in the hive, upon inspection, gave in-

dication just when the bees were ready to fly, the stimulus from flight, aided probably by the increased temperature, having a marked effect. Some colonies were fed diluted honey by means of a feeder above the brood chamber; the results were very beneficial, and the brood chamber under this condition was enlarged by the bees. Great care, however, should be taken not to overestimate the value of one season's work.

The spring of 1897 was exceptional; the weather was too wet and cold to allow the bees to fly, and yet not cold enough to make it likely that the brood would chill in the hive. Another season, with more frequent opportunities to fly and greater extremes of temperature, with feeding added, there might be the danger of enlarging the brood chamber to such an extent that, during cold days and nights, a portion of the brood might chill, to the great injury of the colony.—*Agricultural College Report, 1897.*

Of the different colored paints red-lead wears the best under the exposure of the weather, and will suit farm implements the best. Other colors can be used for other work.

#### REARING AND FEEDING YOUNG PIGS.

A large share of the success of rearing young pigs consists in giving attention to little matters that are too often neglected. In the first place it is a good plan to have some one attending every sow that farrows. There is considerable difference of opinion on this point, but there can be no doubt that many pigs can be saved by an attendant, especially in cold weather.

Then the number of pigs left on a sow, the season of the year at which she farrows, and her age are all factors in the success of the young litter that are too often not taken into consideration. Most sows will bring up a much larger litter in the summer than in winter with less strain on themselves. A sow that can raise eleven pigs successfully in the summer should have only about nine in the winter. Then in regard to the age of the sow, a young yearling sow should not be allowed to rear more than about eight in the summer, while an older sow could raise eleven or more if she had raised her last litter successfully. A young sow should not be allowed to raise as many as a matured one.

Something also depends on the ob-



Group of Prize Winning Ayrshire Cattle.

The property of A. Terrill, Wooler, Ont. The cow to the left is Wooler Lass, -838-, now fourteen years old, while the one to the right is her daughter Maggie, -1116-. Both are rich deep milkers and also have been very successful in the show rings. The bull is Dominion Lad, -1803-, sire, Dominion Chief, -1214-, dam Amy, -1861-, by Earl of Fife, -584-. He won first prize at Toronto in 1895, and second in 1896. At local shows he has been very successful in capturing red tickets. He has proved a good stock getter.