

Mixed vs. Special Husbandry.

As our prize essayist has pointed out, the tendency of our system of farming must be more towards specialties. The days of growing a little of everything and a great deal of nothing are, or should be, numbered. It is not extremely difficult to hire a man who is tolerably expert at a number of farm jobs, and many farmers may be equally successful, but these are the days of machinery—the future will be more so—and it comes very expensive to keep a machine or an implement which is not used more than a week or two in the year. Besides, there is now a great deal to be learnt in every department of husbandry, more, in fact, than any ordinary farmer can make a special study of, and there are few soils or localities which are equally well adapted to a great variety of productions.

The only significant objection which we have heard against specialties is that a systematic rotation of crops cannot be efficiently carried out. This is a weighty consideration for the farmer who is a mere laborer, but it has little weight for the one who is a diligent student of the principles of his profession. There are two main systems of rotation, the one rotating the crops and the other rotating the manure, and it makes little difference which system is made the chief object. When the same manure with the same constituents leached out is put on the same land year after year, an extensive system of crop rotation becomes an absolute necessity for profit, otherwise the soil would soon become exhausted of one or two of its essential constituents, although it may remain fertile in other respects. When the lacking constituents are once found, a rotation of manures will prove much more effectual and economical than a rotation of crops. Special manures are now abundant and cheap in our leading markets, and all that is required to inaugurate a system of special husbandry is a knowledge of how to use them to the best advantage—not neglecting the proper use of stable manures. Stockmen urge the necessity of keeping more stock to produce more manure. The farmer who understands the first principles of agriculture will at once see the fallacy of this cry, for stock cannot return as much to the soil as it abstracts, and in our present system of husbandry the manure, stock is a great source of soil exhaustion instead of recuperation, unless large quantities of bran, oilcake, etc., are bought and fed on the farm, which is certainly a ridiculous system of husbandry. It would be more sensible to plow the grass under, instead of feeding it, for then there would be no waste, and fertility would be much more rapidly restored. The best practice has been to hurdle sheep on poor land, feeding them with rich foods, but this practice is giving way to the use of special manures. A combination of these various methods often proves advantageous.

In selecting special lines of husbandry, the locality and the character of the soil are of primary consideration, and the natural productions should harmonize with the personal inclinations of the farmer. If he is inclined to dairying, he should have good grass land, and if he prefers fruit growing as a special study, he should have a suitable soil and location. There are some branches which fit well together, there being a more equal distribution of labor throughout the different seasons. We know of no better fitting and profitable branches at the present time than fruit-growing and winter dairying.

Poultry.**Gapes in Fowls.**

The fact that the disease known as gapes in poultry is produced by a parasitic worm (*Syngamus trachealis*), which infests the trachea of the birds, was settled long ago, and for most of our recent knowledge of the worm and the disease we are indebted to the prize essay of Pierre Megnin. According to this author, the mature worms and their eggs are coughed out of the throat of the infested fowl, and the disease is spread by its associates picking them up along with their food or by drinking water in which the eggs may have hatched into larvæ. No suggestion is allowed of any intermediate host. Mr. H. D. Walker, in an apparently carefully prepared paper on this subject (Bulletin Buffalo Society Natural Sciences, v., pp. 49-71, 1886) details many experiments which he has tried, and several of them point very strongly to the conclusion that the earth worm may, in many cases, play a part in the distribution of the pests. The embryos have been found living in the earth worm at all seasons of the year, and earth worms from infested localities, when fed to chickens, almost invariably produce the disease. Dr. Walker has also produced the disease in robins, and claims to have found the embryo of the lung worm of calves (*Strongylus micrurus*) in the earth worm.—[American Naturalist.]

Poultry and Fruit Trees.

I have many times in my writings on poultry called attention to the excellent results that followed from having poultry stock run among the fruit trees, says G. O. Brown, in American Farmer. No doubt many have been deferred from following this course, on account of the destruction by picking the fruit that has fallen, by the hens. The stock, when the fruit in the fall commences to ripen, need not be confined there any longer, as the good they are kept there for has been already accomplished—the destruction of the larvæ of insects, etc., that are so injurious to the trees and fruit, as an incentive to farmers to try the method I cited. The well known incident of a Frenchman, who was a very enthusiastic horticulturist, devoting his time to improving many varieties of fruits, whose success was marked, with the exception of plums—and the trees of this fruit were easily brought to bearing, but none of the fruit would properly mature. In his disgust and disappointment he had decided to cut all the plum trees down, when a friend suggested the propriety of turning the plum orchard into a large chicken-yard, leaving the trees for shade. The idea was adopted, and the first season thereafter the owner was greatly surprised to find a fair crop of plums had matured and ripened, and the second season the limbs of the trees actually broke down with the yield of fine fruit. The hens and chickens kept down the destructive curculio, and it is said this is the secret of the great quantity of French and German prunes that are imported into this country. There is no excuse or reason why this country should not have plums to send abroad as well as apples. Some doubting Thomases may think the evidence of these results is a good way from home; to such I most respect-

fully call their earnest attention to the following I recently clipped from the Maine Farmer:

"J. B. Walker, Esq., Turner, set out plum trees eight and ten years ago, which have borne but little fruit. A year ago he enclosed them in his hen yard, and a few days ago from a single tree of the Smith's Orleans he picked four and a half bushels of fruit, and from a Bradshaw three bushels."

This is a branch of fruit culture that will pay better than oranges—as you get a crop of chickens and eggs additional to the fruit.

Hens in Snow Time.

When the snow is knee-deep and everything sealed with ice, hens will require the best of care. A hen is as helpless in the snow as though she had no legs at all. She must have some place, however, where food, water and the dust-bath are accessible, for she will not lay if compelled to crouch on the floor beneath the roosts. With snow on the ground the world is a wilderness to hens; they have no inducement to lay, and will quickly defer egg-production until spring invites them to begin. The food at such times should be given warm, and on boards. A clean place should be made for them, and the house rendered as comfortable as possible. The main factor in egg-production in winter is warmth and dryness. It may involve labor to remove enough snow to afford them room, but it must be done, or there will be no eggs. The value of a good, warm shed will be more appreciated by the hens when snow is on the ground, for they prefer to be in the open air during the daytime, and their health is greatly improved thereby.—[Am. Agriculturist.]

As the result of the experiments with ensilage at Rothamstead, Sir J. B. Lawes arrives at the following conclusions: "(1) That the crops which had been cut green and placed at once in the silo could be preserved for several months in a state suitable for food for stock. (2) That during fermentation in the silo, some of the nitrogen of the fresh food was destroyed, while another portion was changed from the albuminoid form to compounds of a lower food value. (3) That there was a considerable loss of other food compounds, amounting probably to about one-tenth of that contained in the crops when placed in the silo, while on the other hand there was no clear evidence that during fermentation any food was produced from substances which were not foods when placed in the silo. (4) That with very few exceptions, cows took readily to the silage, and when used with appropriate food—although slightly inferior to mangels—it proved to be well adapted for dairy purposes. (5) That when used with cakes and corn for fattening oxen, it proved to be quite equal to swedes and clover hay, used with like quantities of cake and corn."

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