

* The Farm. *

The Economic Value of a Toad.

The Hatch Experiment Station of the State College at Amherst has just issued bulletin No. 46, which is on "The Habits, Food, and Economic Value of the American Toad." The bulletin is the work of A. H. Kirkland, assistant entomologist to the gypsy moth committee. Mr. Kirkland finds that insects constitute 77 per cent. of the food of a toad. To show the number of worms which a toad destroys he states that in the stomach of a single toad he found 35 army worms, in another 65 gypsy moth caterpillars, and in a third 37 tent caterpillars. He records an experiment where in three hours' time a toad had consumed between 30 and 35 full-grown celery worms. He found by examination of a large number of toads that 87 per cent. of the insects they destroy are injurious to cultivated crops, or in other ways obnoxious to man. A toad would devour, in the months of May, June and July, the following: 3,312 ants, 2,208 cut worms, 1,840 myriapods, 2,208 sour bugs, 368 carabids. Of these 9,936 are injurious insects, and 368 are beneficial insects. Mr. Kirkland then figures out the amount in dollars and cents which a toad may be worth. Confining his attention to but one element of the food, the cut worms, and assuming that ten per cent. of these insects would have been killed by the carabid beetles, it still leaves 1,988 cut worms to the toad's credit; and if the damage the cut worms would have caused be estimated at one cent per worm, a figure which gardeners and tobacco-growers will probably consider ridiculously low, it will be seen that a toad might destroy cut worms which would otherwise have destroyed crops to the extent of \$19.88.

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Corn vs. Wheat.

The interest recently manifested in the value of wheat for stock, and the scarcity of information upon that point, led the experiment stations to make various experiments to test its feeding value and to compare it with other grain foods commonly used for feeding. Recently the Pennsylvania station has reported experiments made to compare corn and wheat for steers, and the Maine station has given the results of a comparison of the same for cows.

In the experiments at the Pennsylvania station twenty high-grade Shorthorn steers were used. Chopped wheat was compared with corn-and-cob meal. In both cases corn stover and hay were fed in addition. The twenty steers were first fed a mixture of ground wheat and corn-and-cob meal. On this they required 8.41 pounds of digestible food per pound of gain. They were then divided into two lots, one lot getting corn-and-cob meal and the other lot ground wheat. It was found that the lot receiving corn-and-cob meal required 7.73 pounds of digestible food to make one pound of gain in weight, and the lot receiving the ground wheat at 8.67 pounds of digestible food per pound of gain. The conclusion is reached that "corn has a slightly higher value for feeding steers than wheat."

The Maine station compared wheat meal (ground meal) with corn meal for cows giving milk. In addition to this, eighteen pounds of Timothy hay and two pounds of cotton-seed meal were fed to each cow daily. The indications from this experiment were that the wheat-meal ration was more efficient than the corn meal ration, and maintained the cows in rather better order. As to which would prove the more economical feed will, of course, depend on the local prices.

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Harvesting Timothy for Hay and Seed.

When seed is wanted, timothy is cut at about the time the early maturing heads are beginning to be overripe. When the

seed in most of the heads is ripe enough to cut, the leaves are still quite green, and hence the straw makes fairly good feed after threshing. The cutting is usually done with a self-binder, and the bundles are made rather small and bound somewhat loosely. They are shocked two and two, and the timothy is usually threshed, without stacking, as soon as it is thoroughly dry. The hauling is done, if possible, in racks with tight bottoms, so that the shattered seed may be saved. In this way, though a small amount of seed is often lost because some of the heads are not well ripened, the loss is more than made good by the better quality of the straw, and the farmer gets a yield of from six to twelve bushels per acre of first-class seed, in addition to a large amount of forage of a fair quality, which can be used to good advantage as horse feed during the winter or as "roughness" for fattening cattle or other stock.

If the Timothy is allowed to stand too long, there is danger of as much loss from shattering as there is gain from the later ripening heads, and then the forage is rapidly deteriorating all the time. The shocking must be carefully done, and the bundles handled as little as possible in getting them to the threshing-machine. The timothy must not be allowed to stand too long in the shock, as again there may be considerable loss from shattering, and the quality of the seed may be injured by bleaching through exposure to sun and rain.—[The Orange Judd Farmer.]

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Agriculture the Mainstay of All.

It has been well and truthfully stated that agriculture may well be studied both as a science and an art. It is a science because it is based on nature's laws, and an art because it can be made productive of those articles that contribute so much to the welfare of mankind. Agriculture is a science which explains the mode of cultivating the ground so as to cause it to produce in plenty and perfection those grains, fruits and vegetable products which are useful to man, and to such animals as are reared by him for food and labor. For these reasons, if for no others, the principles of agricultural science should be taught in all schools and colleges, as well as any other of the sciences or arts. First see that a knowledge of the principles is acquired, and their application later will become not only pleasant but profitable. No occupation is better calculated to call forth the learning of the man of science than that of agriculture, and none in which a man can engage with more honor or to which more honor should be attached.

Good farming is the mainspring of national progress. The farmer who calls to his aid light the of modern science and doubles his crops per acre is justly entitled to more praise than he who builds cities. When the first general assembly of the agriculturists of France was held, its first president, M. Drouyn de L'Huys, in his opening address, said: "Agriculture is the noblest of professions; stable as the earth which is its base, pure as the sun which enlightens, free as the air which gives it life; it ripens reason, fortifies the character and elevates the soul toward the Creator by the continued spectacle of the miracles of creation. Agriculture is seated upon the granite upon which the State reposes." All honor, then, to agriculture as a science, as an art, and as the mainstay of the Nation.—(W. M. King in Washington Post.)

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ST. MARTIN, Que., May 16, 1895.
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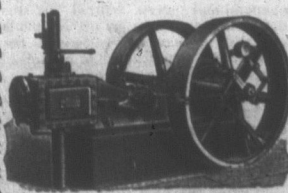
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