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THE FARM.

Cleaning up the Wood-lot.

EDITOR "THE FARMER'S ADVOCATE":

The fuel question has become about as persistent as the weather, which John M. Gunn, in his own admirable way, lifted out of the common place in the Christmas Farmer's Advocate. When everything else fails the town falls back on the farmer, either as a scape-goat or a deliverer. In the daily newspaper which I picked up the other morning to wrap about a couple of hot bricks, I noticed a clarion call to the farmer to relieve the situation by chopping more wood and hustling it to town, just as though John had worked himself out of a job with three or four home stoves to keep agoing, sixty hungry animals to look after, and milk to haul to the factory! But in all seriousness, as one looks over large areas of old Ontario with its well-wooded lots, these would provide timber enough and more, rightly husbanded, to make impossible a fuel famine for all time to come. Even without going to New Ontario, there are great stretches of bush in districts like Parry Sound and Muskoka that would seem sufficient to keep the home fires of the Province perpetually burning. Illimitable fuel to spare, and yet with a week of zero weather thousands are on the verge of perishing because the output or distribution of coal from American mines has failed! Why? Not altogether the war, for the conditions were drawing us towards this predicament long before 1914. We are brought back face to face with the old trouble of securing man power to reduce trees to fuel, and its economical distribution by the railways. Too many living in cities and towns, too few on the land. The towns have absorbed an excessive proportion of the rural population, and many of those left are indisposed or unequal to the physical tasks our forefathers so cheerfully surmounted. There is opportunity for statesmanship of a high and practical order in the solution of this very problem of fuel for the people. In a land of five months winter, fuel supplies are just as essential as the public mail service. Suggestions through "The Farmer's Advocate" might give a start toward its solution. It is a bigger and more far-reaching issue than the price of wood because \$15 or \$16 per cord now is not as much of an incentive as \$3 or \$4 was when I whistled my way by wagon or sleigh to the nearest market town. If the price were \$25 per cord it probably would not greatly reduce the difficulties of securing wood fuel, which, by the way, are not confined to cities and towns. Villages next door to large wood lots have been almost frozen out by spells already this season. In some cases natural gas alone saved the situation. Farmers themselves have felt the pinch, especially some who, tempted by the offers of mill and timber men, allowed their farms to be completely denuded of trees in recent years, a process which is still going on. Had the oft-repeated counsels of "The Farmer's Advocate" been taken and these wood lots or a portion of them been preserved and fenced in from live stock, the owners would not to-day be at the mercy of a hole in the ground hundreds of miles away. I have had it figured out to me that the interest on what was obtained for the timber and the profit on the crops that could be grown on the land would more than buy the coal for farm household use, but contingencies unforeseen have arisen and the figuring proved faulty. In addition to the financial stress involved, the home-stead has been swept by increasingly severer blasts as the winters go by and the summer storms are more devastating and the rainfall, essential to good crops, less equitable.

Though the towns afforded some help last season towards farming operations I would not like to suggest that much assistance could be expected at this season for a man's job like wood cutting, nor would I think it wise to inaugurate, as undertaken last autumn in New England, a general cord-wood cutting campaign, although something of this sort might be done under the Foresters' Service on the Provincial Crown lands. Since the public owns the timber and has largely built the railways, owning some of them out and out, it does not seem unreasonable to ask the Government to pull itself together and get some of this fuel to the people at a reasonable cost. So far as the farm wood lots in the older portions of the Province are concerned, many of them might be cleaned up to advantage. Some of the old, half dead apple trees, thirty-five feet high and of useless varieties, may well go into the wood pile. And there are swamp areas that might, under judicious culling, yield up considerable quantities of serviceable fuel. Dead and fallen trees and broken-down limbs can be collected at times when there is not an excess of snowfall, greatly to the improvement of the bush as a whole. In some localities the old-fashioned wood bee could be revived. A few men and boys of the neighborhood with saws and axes will accomplish in a few hours what would be impossible for one or two working alone. Limbs and small trees can be cut into rail lengths and heaped up at some convenient point and, at another time by the use of the gasoline engine and buzz-saw with a minimum of physical labor and at no great outlay, be speedily converted into stove wood or furnace fuel. If not in sufficient quantities for disposal to the towns, it would keep the farms supplied with heating material and thus save the drain caused by the teaming of coal in such large quantities to the farms. Wood furnaces or box stoves that will take in large chunks of rough wood will maintain heat fairly well through the long nights, and though they may have some disadvantages I have found wood fires more wholesome than those of coal; and in the unparalleled experience through

16. It is well not to "rush" the hog when he is eating; the self-feeder allows him plenty of time to eat without creating that impulse to hurry for fear that the other hogs get all of the feed (as in the hand-feeding scheme).

17. Do not neglect those fall pigs; give them a few self-feeders in which are corn, meat meal, tankage product, middlings and salt. Try the scheme; enjoy the results, and tell your neighbors.

18. There are scarcely any runts to cause down-heartedness in the Free-Choice System fed bunches, because they get all they want to eat and of whatever feed; and it is the lack of suitable feed (and shelter) mostly that produces the "winter runts."

19. Lest we forget: The suckling pig that follows his "mammy" is self-fed all of the time; why not continue the practice after he is weaned.

20. Do not mix slop if you can do better. Save the time and the labor; use the self-feeder when full feeding.

21. Self-feeding according to the Free-Choice Scheme or System is the natural way of full feeding.

22. The self-feeder is not a panacea for all feeding troubles.

A New Explanation Re Cotted Wool.

Opinions regarding the cause of "cotted" or "matted" wool have varied somewhat and no authority has been too sure of his ground. W. T. Ritch, an Australian wool expert and Technical Instructor to the American Wool Improvement Association, has recently advanced an idea which he claims answers the question adequately. He has determined, to his own satisfaction, that the fibres of wool which cot easily have abnormally-shaped cells and on account of this peculiarity the wool fuses together in a mat. It is well known that the wool-fibre is made up of many cells and in the structure of these Mr. Ritch has discovered the cause of the undesirable condition known as cotted or matting. The preventive measures he recommends are to have the wool of breeding stock examined under the microscope and to breed only from those sheep that have wool-fibre of the proper type. He recommends this method particularly when selecting a stud ram for use on the flock.

This wool expert states that cotted fleeces are practically unknown in the Inter-Mountain States. In the North Island of New Zealand, parts of Patagonia, Tasmania, and Falkland Islands the loss from cotted fleeces is very serious and an occasional loss of this nature is experienced in some parts of England. Cotted is the technical term for wool which felts on the backs of sheep, in certain climates where the atmosphere is frequently humid and the winters somewhat changeable. With a continuance of damp, changeable weather the pasture sometimes causes a slight heating of the blood which results in an irritation of the cuticle or skin and sheep are then inclined to rub against any object or roll on their backs to ally the irritation. This intensifies the tendency of the fleece to become matted or cotted. Ticks are also a cause of irritation which induces rubbing. Sheep carrying cotted or felted fleeces generally get run-down in health shortly before the shearing season, and their wool when shorn is worth no more than inferior qualities of shoddy.

Low-Grade Flour or "Red Dog" as Feed

Is low-grade flour satisfactory feed for fattening cattle, if it is used in conjunction with turnips, oil cake, chopped oats, silage and straw? What proportion should be used? Which would be preferable, oil cake at \$62 per ton, or low-grade flour at \$58 per ton? R. J. R.

Ans.—Low-grade flour is that by-product which contains the wheat germs and is therefore quite rich in protein. It is not considered to be in the same class with corn as a fattening feed and is more frequently fed to hogs than to cattle. It has had a more extensive use in the Maritime Provinces than in Ontario where corn, as a general thing, is more easily obtainable. The writer has seen it used for fattening hogs with quite satisfactory results. The following table which reveals the constituents of corn, low-grade flour, oil-cake meal and oats, will help to answer this question.

Feeding Stuff	Digestible Nutrients in 100 lbs.			
	Crude Protein	Carbohy-drates	Fat	Total
Corn.....	Lbs. 7.5	Lbs. 67.8	Lbs. 4.6	Lbs. 85.7
Low-grade flour.....	14.8	56.5	3.5	79.2
Oil-cake meal.....	30.2	32.6	6.7	77.9
Oats.....	9.7	52.1	3.8	70.4

It will be seen by the table that corn, which is acknowledged to be the best feed grown for fattening stock, is high in carbohydrates; low-grade flour comes next; oats next, and oil cake last in that respect. Oil cake meal, however, is rich in protein; it has a laxative effect on the digestive system, and acts somewhat as a tonic or conditioner besides. Good oats are quoted at around \$45 per ton in Western Ontario at time of writing. Low-grade flour fed alone is very unsatisfactory, on account of its sticky and doughy nature, but when mixed with chopped oats or fed on roots or silage it should give little trouble. We believe the low-grade flour at \$58 per ton would be a cheaper feed for fattening

cattle than oil-cake meal at \$62. However, the roughage mentioned contains very little protein and it might be well to use a small quantity of oil cake to bolster up the ration in that regard. A corn ration supplemented with 10 per cent. of oil meal has been found superior to corn alone and while low-grade flour is richer in protein than corn, we believe a small quantity of oil-cake meal added to the ration would be beneficial. We would suggest a mixture of low-grade flour, 5 lbs.; chopped oats, 4 lbs.; oil-cake meal, 2 lbs. This is the proportion only; the feeder must decide for himself how much he can feed per day with profit. If this grain mixture, fed with roots and silage, proves too laxative, reduce the oil cake, especially when the succulent roughage is plentiful, and grown on the farm where fed. A mixture of feeds is usually better than one kind alone. Consequently we would advise that both roots and silage, as well as straw be fed in conjunction with the grain mixture. Quantities and proportions must be regulated more or less by the quality of the different feeds and by the condition of the cattle. Prices, too, are an important factor and for this reason it seems advisable to feed more heavily on oats and low-grade flour than on oil cake, especially when the latter is not considered economical where fed in large quantities under Canadian conditions.

Feeding Pigweed Seed.

On account of the fact that the seed of pigweed is being purchased at many country points at a price of \$10.00 to \$13.00 per ton and shipped out of the country, and that there has been considerable inquiry as to the possibility of using it for feed, an experiment was undertaken at Brandon Experimental Farm to determine the feeding value of the seeds as compared with other grains. The pigweed seed was boiled to kill the germs in the seed and also to make it more palatable. There was a small quantity of small and cracked grains of wheat in the pigweed seed and also the seeds of other weeds as well. The weights of grain fed were in every case dry weight.

The pigs used in this experiment were Berkshires, Yorkshires and Berkshire-Yorkshire cross-breeds, and were divided as nearly equally as possible into three lots.

Summary of Experiment.

	LOT 1 Barley and Feed Flour	LOT 2 Barley and Pigweed	LOT 3 Barley, Feed Flour and Pigweed
Number of pigs in experiment.....	10	10	10
Total weight at beginning of experiment, Nov. 15.....	1565 lbs.	1523 lbs.	1726 lbs.
Average weight per pig.....	156½ "	152½ "	172½ "
Total weight at end of experiment, Dec. 6.....	1859 "	1702 "	1894 "
Total gain in 21 days.....	294 "	179 "	168 "
Average gain per pig in 21 days.....	29.4 "	17.9 "	16.8 "
Average daily gain per pig.....	1.4 "	.85 "	.8 "
Amounts of Feed used— Barley Chop, per bus. \$1.20.....	920 lbs.	920 lbs.	492 lbs.
Feed Flour, per ton, \$50.....	306 "		250 "
Pigweed Seed, per ton, \$10.....		306 "	492 "
Total cost of Feed.....	\$30.65	\$24.53	\$21.01
Average cost per gain of 100 lbs.....	\$10.40	\$14.02	\$12.50

From the above figures it will be seen that while the cost of feed is much greater for the pigs fed on barley and feed flour than where pigweed seed forms part of the ration, yet when the gains are taken into consideration, the pigs on the straight grain ration made much the cheapest gains. No charge was made for the pigweed except the actual cost of time and fuel required in boiling it. Another lot of five much younger pigs was fed on straight pigweed but did not do well at all; barely keeping up their original weight, and were going back very rapidly toward the end of the experiment.

The results of this experiment would indicate that pigweed seed alone has practically no feeding value, and if there is any market for it at all, it would be much more profitable to sell the pigweed and purchase other feeds than to feed it to pigs.

Everyone hopes that a cold December and early January will mean an early spring.

Cattle may be commandeered in Britain. Keep up the supply in Canada.