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Agriculture.

WHEAT PRIZES.

Last week, the proprietors of the Maine Farmer, in appreciation of the efforts which the farmers of Maine have made in their calls, and as a still further inducement towards the raising of larger yields, the better preparation of the land, and the most intensive culture for the wheat crop offered a prize of \$100 in cash, in three premiums—\$50 to the farmer who shall grow the largest amount of wheat from an acre of land (4840 square yards, surveyor's sworn measurement), \$30 to the second largest, and \$20 to the third largest. Farmers who intend to compete must signify their intention before the 1st of June and then their names will be published in the Farmer. The proprietors will lodge the money with the Treasurer of the State Agricultural Society, and the Trustees of which will name a committee, who will award the prizes on the second day of the meeting of the State Fair, in the Fall of 1879. The yield of the acre shall be given in bushels and quarts, and a statement sworn to before a Justice of the Peace shall be presented to the Committee after the same is ascertained containing the yield of the acre, the method of preparing the ground, and mode of culture, &c.

The effect of the Maine Farmer's offer, will, no doubt, be to stimulate a number of farmers in the State, to bestow extraordinary care on the culture of their acre wheat plants, and the success they attain will further stimulate them in future to cultivate the whole extent of their wheat fields, with as much intensiveness as if they were to receive a hand-ome prize for so doing.

The soil of New Brunswick is as well (and probably provisionally) adapted for the cultivation of wheat as the soil of Maine. The farmers of New Brunswick equally require (to say the very least), with the farmers of Maine, to bestow greater care on the culture of that important cereal. The spirit of competition is as strong in them as in the Maine brethren. They would, perhaps, appreciate as strongly as the Maine man, such an offer as has been made by the Farmer.

It is all very well for an old established agricultural journal like the Maine Farmer (which is almost an institution of the State), to take the lead in inciting the farmers to more "intensive" wheat culture, but with us, that must be the affair of our local government, which has the agricultural interests of the Province at heart. We would like to see the proper authorities taking some such step, at latest, before the holding of the next Provincial Exhibition.

BET SUGAR.

A new enterprise has been started in Maine which might be profitably followed by men with a little capital and farmers in New Brunswick, the making of sugar from beets. The Maine Beet Sugar Company of Portland, has so far been successful and promises to attain good results. Beets enough have been received by the company this season to occupy the factory ten or fifteen days, working from seventy to one hundred tons a day. Had, the Maine factory, sufficient been grown to occupy the factory at work one hundred days instead of fifteen, it would have been a positive success.

It is a success even now up to this point; the machinery necessary for making beet sugar has been fitted up by the Company at the cost of \$15,000; they have demonstrated that sugar can be made from beets grown in Maine. Will the farmers of the State now aid the enterprise by growing beets enough another season to keep the factory in operation one hundred days? If so, the success of enterprise is not problematical or doubtful but is assured.

The enterprise started last spring under many disadvantages. Late planting of the beets was one of the chief of these, and late planting, too, on land prepared in the spring, perfectly prepared the fall previous. The soil on which sugar beets are to be planted should be thoroughly prepared in the fall, so that the only thing to be done to it in the spring is a light surface cultivation. Then plant the seed very early—it may be planted indeed before thorough culture of the soil could be possible on account of frost. When the seed is put in early the crop gets ahead of the weeds, and the leaves so shade the ground that weeds do not grow as they do on late planted fields. Early planting also allows the vacant places in the drills to be replanted, so that every foot of ground may be occupied thereby securing a maximum yield—while if late planted, it would hardly pay to replace the vacant ground by a second planting, as they would not reach a profitable size. In the early stages of beet sugar industry in Germany, the beet sugar making season commenced about the first of October;

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ANDREW LIPSETT, Publisher.

"AGRICULTURE THE TRUE BASIS OF A NATION'S WEALTH.

ANDREW ARCHER, Editor

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now, through early planting it begins by the middle of August. Surely we ought to learn much from the practices of a country so similar to our own in soil and climate as that of the north German empire.

After giving some statistics regarding the Beet sugar industry in Europe, the Farmer continues:—

So far as the beet sugar industry is concerned in this State, its success, as we have before said depends only upon the growing of the beets. This is all. The results of the present year, under the most unfavorable circumstances, show that farmers can realize from \$80 to \$120 per acre, cash, for the crop, or more than the average obtained from corn grown for canning purposes. One matter that has not yet come into our discussion of this subject is that of the disposition of the pulp. Now, the Beet Sugar Company agree to deliver it at any point on the Maine Central for the merely nominal price of \$1.80 per ton—just enough to cover the cost of handling. This is a most valuable feeding stuff for cows, horses, hogs or sheep—more valuable in fact than the beets themselves, because it is cut ready to be fed with hay or straw in the form of chopped feed, it has parted with most of its water, and the same weight is four times richer in nitrogenous material than the beets themselves. What our farmers need is the way for feeding to their farm animals. Should farmers in our State be willing to grow beets another season sufficient to warrant the expenditure, the Company will at once proceed to make the eight sugar houses for producing raw sugar from the beets, in various parts of Maine, so that farmers can be within easy reach of transportation to a factory, and can also haul back to their farms the pulp made from the extraction of the beets into crude sugar. This raw sugar can then be transported to the refinery of the Company in Portland to be manufactured into the standard article.

With regard to refining, the Portland Press says:—

Wednesday October 30th, 1878 will be a memorable day in the annals of the State, for on that day, and in the presence of Gen. Conner, the Maine Beet Sugar Company of Portland turned out 12,000 pounds of granulated sugar, the first ever made in the United States from beets grown in America. Several experiments have, it is true, made small quantities of raw sugar of excellent quality, but a regular boiling of refined sugar made from raw beet sugar purchased in the United States has never before been attempted in the Atlantic States.

In reference to the beet sugar industry in Germany, the Maine Farmer says: "surely we ought to learn much from the practices of a country so similar to our own in soil and climate as that of the North German Empire. With more force we might say, that surely we ought to follow the example of a country so similar to our own in soil and climate as the State of Maine."

POLLED CATTLE.

We have had occasion several times to quote the opinions of Mr. J. H. Wallace, the great horse authority in America. He is also held to be a first rate judge of cattle. Last summer he crossed the Atlantic, and in the steamship of which he was a passenger, there were a number of American cattle, destined for the English market. The horns of these animals he found were a cause of great trouble and irritation to them, and he was convinced that the pain they suffered had the effect of deteriorating their condition and lowering their value. Mr. Wallace pondered over these facts, and the result of his meditation was that he came to the conclusion that it would be exceedingly desirable that American breeders, and those carrying on the cattle exportation trade should have a hornless breed. He at once thought of the Angus breed made famous by McCombre of Tillyour, who at the Paris Exhibition this year, carried off the prize for the best breed of cattle bred outside of France; also for the prize for the best beef producing group, embracing animals from all countries, and of which the Angus folks were the winners. Mr. Wallace says:—

Like all Scotch cattle, this breed have hardly vigorous constitutions and are very prolific. They are gentle in disposition, and mature very early. As milkers, they are not distinguished, for they have not been bred for that purpose. They are generally jet black, with fine glossy coats and plenty of hair. They grow to a large size, and are easily fattened at almost a year's age. It is claimed for them also that they weigh heavier than any other breed to their measurement, which makes them attractive to buyers for the fat market. It is an established fact that polled cattle sell better in the English market than any others. This fact became so well known to Irish breeders and dealers that they did not hesitate to "horn" their cattle, as they called the cruel operation. That is, they cut the hide loose from the horn and removed it when the animal was young. They claimed that this was no more painful than the emasculation of the male, and not so much so as the same operation on the female. The government, however, seemed to think differently, and made the operation a penal offence, and there is now more of it. Barbarous and cruel though this operation of "horing" may be, I do not doubt that it would

pleasure, few desires for improvement. The coming of winter is an incentive to activity and effort, its demands must be met, its inclemencies provided for, and its compensations for man's benefit made the most of. Thinking of himself, the prudent farmer will also think of others, and so have his selfishness softened. His God-given friends the domestic animals, need his care; some of his goods must also be clothed by the poor, and the abundance of his garner be given to him that hath not. The intellectual needs are active and are constantly reminding him of their real supremacy, so that with the on-coming period of winter evening opportunities, the mind may be enlarged and the heart cultivated. How significant are the late autumn days of quiet evenings by the fireside, of the enjoyment that comes from books and reading, of the pleasures of social intercourse and rational conversation. But there comes also the feeling of sympathy for those who have not the means of these enjoyments or advantages, and a desire to contribute to their pleasure and comfort. The poor we have always with us—let us make our hearts bright and happy by bestowing a portion of our own goods to relieve the necessities and make sunny the homes of those of this class within our reach. Then shall these November days be radiant with pleasure, and our own souls comforted by the thought of having done something for the common good of humanity—the sublimest end of existence.—Maine Farmer.

PROTECTION AS WELL AS FOOD.

At the present price of farm crops, there is so small a margin of profit that it becomes necessary to practice the strictest economy in their production. But there is a wide difference of opinion among farmers as to what may be considered economical measures, and especially in regard to the feeding and care of stock. Some appear to think that if they provide plenty of food it is all that is required of them, and that the building of warm sheds and stables would be an extravagance rather than economy; and we have frequently heard farmers excuse themselves for not providing shelter for their animals in winter by asserting that it made them tough and hardy to compel them to "rough it" during the severest weather. In fact, it is a common saying among a certain class of farmers that young colts and calves are benefited by exposure, as it is a necessary toughening process. But there was never a greater fallacy for anything which brings discomfort to an animal renders it just so much more susceptible to disease and premature decline.

Young animals, to be kept healthy and in a condition to grow, must not be subjected to any physical discomfort, whether it be in the form of poor, in nutritious food, or in the extremes of heat or cold, as these are more or less enervating, in proportion to severity. It is not enough that animals have plenty of food; they require shelter in addition. At the South, or in what is usually termed a mild climate, cold rains affect them almost as much as severe snow storms do in the North consequently a shelter of some kind is needed almost as much in one case as in the other. A large proportion of the diseases of live stock are due to exposure, which, with insufficient or poor food, constitutes the principle cause of the diseases of all domesticated animals.

First of all, the farmer should see that his stock are in good condition at the commencement of winter; if animals are then thin and poor, the struggle for life is far greater than when they are fat. The system not being in a condition to resist the cold and ordinary changes of temperature it is better to give extra feed before cold weather sets in than to be obliged to do it after stock has run down in flesh. Every farmer has probably observed how indifferent fat animals were to cold, and how quickly the thin were shivering and the very pictures of discomfort. It is economy to keep the animals in good condition, for it costs less then to bring them up after they have once run down in flesh. Mr. Flint the author of "Milk Cows and Dairy Farming," says:—"Keep the cows constantly in good condition" ought to be the motto of every dairy farmer, posted up over the stalls and over the milk room, and repeated to the boys whenever there is danger of forgetting it."

It is the great secret of success, and the difference between success and failure turns upon it. Food will do much towards bringing about the favorable conditions so much desired in the stock yard, but it requires a much larger amount when the animals are exposed to cold than when they are properly housed in warm sheds or stalls. The testimony of all breeders of choice stock favors warm winter quarters, and it has always been shown that animals will thrive on far less food when protected than when exposed to cold winds and rains; therefore it is economy to furnish shelter, even if the comfort is not taken into account. In regions where there are no heavy snows in winter, cheap sheds and windbreaks will answer. If nothing better can be afforded, throw up a bank of sod on the side from which the prevailing winds come in winter, and then set up stakes, put on poles, and cover with brush. Good permanent sheds, or what is better, barns, are best; but there are many places, especially on the prairies and plains, where such buildings, owing to the scarcity of timber, would be far too expensive for the new settler, and some cheaper structure must answer; but in no case can the owners of stock afford to leave them wholly exposed during the winter months. All talk of the climate of some of our Western States and Territories being so mild that stock do not need shelter is sheer folly, and only an excuse for neglect to provide it; and although there may be an occasional winter so mild that stock will pass through with few losses, still there never was one during which there were not cold storms that brought discomfort to animals exposed to them, if nothing more serious. But frequently we hear of the death of hundreds and thousands of heads during the prevalence of a snow storm, all in consequence of a lack of shelter and necessary food. While losses can be so easily prevented, it is not only cruel, but the reverse of wisdom on the part of stock owners, to neglect so important a matter. The cold weather will soon be upon us, and every farmer should begin in time to put his barns, sheds, and other outbuildings in perfect order.—N. Y. Sun.

THE INTERIOR OF NEWFOUNDLAND.

The interior of the island is at present almost wholly uninhabited. Traces of a few tribes, thirty and forty miles long, only remain to tell of the sports and labors of the Beothics, the aboriginal Red Indian tribe, long exterminated or driven away. The shortsighted policy of the whites in killing the goose that lays the golden egg, led to the destruction of the unfortunate Beothics, for the sake of the valuable furs of fox, otter, etc., which they alone could procure. With them, of course, died the fur trade. After they had been wantonly persecuted for over two hundred years, the local government in the beginning of the present century, woke up to the idea of protecting a tribe that no longer existed! As a step towards showing a good will to an Indian woman was forcibly taken from her home, brought to St. John's, kindly treated, presented with presents, and returned to her tribe. The incidents attending the abduction of this woman and the death of her only child, so suddenly deprived of its mother's care, roused the ire of the Beothics, who at once resolved to kill any of their number who should afterwards be captured and returned. The result of this was that three more women, who were similarly treated, refused to return to their homes. Two soon died, the third, a fine handsome woman, named Shanandithit, lived for two years with her captors and became quite civilized. After learning to speak English, she explained her reason for her refusal to return to her companions, saying she would surely have been killed. Since her death in 1825, not an Indian has been seen. The skeleton of "Mary March," who at the end of her tribe in 1816, has been found dressed in white muslin adorned with trinkets known to have been hers. But though the Indian has been exterminated, the white man has not taken his place; the country lying desolate. Over regions that should yield rich harvests to the farmers hand, now flaunt the golden lily and the purple iris; tangled vines of cranberry, partridge-berry, and delicate capillaire carpet the ground darkest green flashing with fruit of scarlet and white; and thickets of blueberry, raspberry, and baked apple in their season clothe in blue and crimson and amber the wasting plains. Great forests declare that beneath them lies a rich sub-soil that should furnish food for thousands; and no man is found to till this great lone land, which is the secure homes of wolves, deer, black bears, hares, foxes, and all manner of vermine, Osprey and owl, raven, crow, and blue jay, woodpecker and robin, marten, wren, thrush, titmouse, black cap, flycatcher, grosbeak, snowbird, and sparrow, all abound in the woods; plover, bittern, snipe, wimbrel and sandpiper haunt the wilds and marsh-

es. Partridge abound everywhere. Water-fowl of many species are found in the lakes and ponds, while gulls, cormorants, eiders, ducks, geese, loons, and puffins abound on the sea coast are to be had for the shooting. Penguins were once plentiful, but have almost been exterminated, and almost within the memory of man, that now extinct bird, the great auk, found a breeding place on adjacent islands. Trout and salmon abound in the rivers and streams, but, though well protected by law, are wantonly destroyed in districts where law is practically without effect, from the want of an efficient staff of water bailiffs.—Chambers Journal.

HOME-MADE SUPERPHOSPHATE.

In the November number of the Journal of Chemistry, Dr. Nichols gives the following short notice of his field meeting and lecture on manufacturing chemical fertilizers, at his farm at Haverhill.

We have long held the view that some method should be devised to afford practical instruction to the men who have in charge the farms and gardens of the country—men who, although they may have reached middle life, are desirous of availing themselves of the facts and principles of modern husbandry. Our schools and agricultural colleges are designed to instruct only those who have not entered upon the actual labors of the farm, or only the young men who are seeking an education. Periodicals and journals devoted to agricultural matters for the most part do a good work, but they fail to bring the result of modern research and improvements home to the farmer; and the same may be said of the ordinary lectures delivered at farmers' meetings. As far as words go they accomplish all that can be accomplished, but something more is needed. Instruction is better conveyed by seeing than by hearing, and when both are combined the highest and most satisfactory results are attained.

With the view of testing the practicality of this kind of instruction, we called together about a hundred working farmers in September, and held the meeting on the floor of the farm barn at Lakeside. The first half hour was devoted to an examination of the farm buildings, the barn, tool room, repair shop, the room for manufacturing fertilizers, and the analytical laboratory, where analysis is made of soils, fertilizers, etc. The topic designed to be presented was chemical or artificial fertilizers; their nature, history, uses, methods of manufacturing and compounding. In order to make all plain, the use of a black-board was called into requisition, and on the table were placed vessels holding different salts and combinations used as plant food. Still further to elucidate and enforce the facts of the topic, a series of illustrative experiments was devised, in which the principles of combination and chemical reaction were seen. As a final experiment, the gentlemen were invited to the barnyard, to witness the manufacture of superphosphate, and to see the application of it to the soil. That this method might be shown to be quite simple, and one to be undertaken by an ordinarily intelligent person, the whole process was carried through under the direction of Mr. Davis, our farm superintendent. He placed on a platform a lead-lined tank made of pine plank, four feet square and one foot deep. Into this he poured ten gallons of water, and then the contents of one carboy of sulphuric acid (165 lbs.) into the beehive gradually 380 pounds of fine bone charcoal, such as the sugar refiners use, and after the violent reaction was over, in about an hour, he had about a quarter of a ton of green superphosphate, analyzing 16.50 per cent. soluble phosphoric acid, ready for the field. It was perfectly dry in two hours, and could be taken in the hand, and it needs no grinding. In this simple way, Mr. Davis made twelve tons during leisure days last winter; more than enough to meet our wants in the summer. The apparatus is the result of much experience, and is exactly adapted to the wants of farmers. Our method is perfectly practicable when the South Carolina phosphatic rocks are used, pulverized, instead of the bone char. In order to show that it is practicable for the inexperienced, we will state that Hon. E. H. Rollins, United States Senator from New Hampshire, spent a day with us at the farm, and from the brief instructions given he has been able to make a tank, and manufacture several tons of superphosphate at his farm at Rollinsford, N. H., the past month.

The barn lecture occupied one hour, and it was indeed a novel sight—one perhaps never before witnessed in this country. Seats were placed in spaces

between cow stalls, and on the floor, and everything wore an aspect of comfort and facility of observation. The methods of combining the salts of ammonia and the nitrates and potash salts to obtain perfect manure were explained, and also their nature and chemical relationships. The language employed was plain and simple, without technicalities or confusing formulas. At the close, it was gratifying to listen to the expressions of approval of the plan, and the statements of how many new and useful facts were obtained, from the farmers present. The experiment conclusively proved that our farmers are not only eager for practical instruction, but capable of comprehending the important principles upon which modern scientific husbandry rests.

APPLES FOR MILK COWS.

A correspondent of the New England Farmer thinks that apples may be fed to milk cows with profit, with a certain caution he says:—

Yes, you need never fear to feed any apples to milk cows, when you have a surplus which you wish to dispose of. There is an abundance of apples, this season, and many of the earlier ones, especially, will be allowed to waste. Now, if, instead of letting the windfalls and unripe apples rot as they fall, you would pick them up and feed to cows giving milk, the increase in quantity would well repay you for all the trouble, provided discretion and good judgment are used; nor will the cows be injured thereby, at least, such was the fact in the case which came to my knowledge a few years since, when there was a great abundance of apples. I elsewhere mention the same thing at the time, and here give the substance of the experiment being personally acquainted with the experimenter. The farmer was raising four-score cows, and had a great quantity of apples, same as most others in the same locality. He revolved the question in his mind what to do with the apples. To make them into cider was out of the question, as he was out of casks to put it in. Several other plans were equally impracticable, and finally he hit on the idea of feeding them to his cows. He had one which gave only a small quantity of milk, and with her he began his experiment, thinking, perhaps, there could be but a small loss should the experiment prove a failure. He commenced by giving two quarts at a feed, and gradually increased it up to half a bushel. The cow began to increase the quantity of her milk till she nearly, or quite, doubled in quantity. The milk and cream was tasted at every stage, and found to be equally as good as when grass and corn constituted the feed. To make assurance doubly sure, he stopped feeding the apples, and immediately the cow fell off in her milk to her former yield. After a few days, he began feeding again, and former results were attained. It must be understood that the apples were a mixture of varieties, the majority being sour, and windfalls at that. Being pleased with the result, he gave only a small quantity of milk, and with her he began his experiment, thinking, perhaps, there could be but a small loss should the experiment prove a failure. He commenced by giving two quarts at a feed, and gradually increased it up to half a bushel. The cow began to increase the quantity of her milk till she nearly, or quite, doubled in quantity. The milk and cream was tasted at every stage, and found to be equally as good as when grass and corn constituted the feed. To make assurance doubly sure, he stopped feeding the apples, and immediately the cow fell off in her milk to her former yield. After a few days, he began feeding again, and former results were attained. It must be understood that the apples were a mixture of varieties, the majority being sour, and windfalls at that. 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