WHY THERE IS NO REMEDY FOR THE POTATO DISEASE.

In reply to an assertion in the *London Magazine*, that our ignorance of a satisfactory remedy for the potato disease is rather a stigma upon modern science, an eminent naturalist retorts that the investigations necessary to determine the desired remedy require large expenditures of time and money, and that, if those who are practically interested in the subject—our Governments, or the farmers—do not think it sufficiently worth their attention to induce them to employ scientific men for the special object of working out this problem, the omission to do so cannot be imputed to the latter. Very little, indeed, so far as we know, can be done to arrest the disease, from the fact that the infection spreads so rapidly that the first intimation of its presence may be the destruction of the crop in an entire field.

It is said that potatoes escape with little or no disease in the neighborhood of chemical works, which is due possibly to the effect of the sulphurous acid or other gases that are noxious to the fungus growth, without injuring the more highly organized potato plant. The application of finely divided sulphur is beneficial here as in other plant diseases. It is stated that, if as soon as the disease has attacked the fields, the stems be all cut down close to the ground, the infection will not extend to the tubers; and when the crop is nearly ripe this may be a judicious application, but it necessarily has the effect to stop any further growth. Even in this case, however, the potatoes may be serviceable for seed for the coming year.

After reviewing all that has been said on the subject, Mr. Thistleton Dyer comes to the conclusion that the only way in which there is any reasonable hope of relief from the scourge is in obtaining early maturing kinds.

August, in England at least, is the month when the disease is worst, especially if the weather be both wet and warm. If the crop can be secured before this period, the evil will be avoided. The production of early kinds, so as to cause a systematic improvement, is possible only with time united to skill and patience.

CORN IN HILLS AND DRILLS.

At the Michigan agricultural college in 1868 two plots of land were set apart, substantially equal in character of soil, each measuring forty-eight rods in width. The ground was ploughed May 5th, and manure was spread evenly and worked in by cultivator and harrow.

Yellow Dent corn was planted May 21st in rows four feet apart; one of the plots being planted in hills, the other in drills.—The plots were cultivated and hoed June 15th, and again July 7th; the plants being thinned so as to leave the same number of stalks on each plot, including an equal distribution of plants throughout the subdivision of the plots. As nearly as possible each of the two plots received the same amount of labor in cultivation. The stalks were cut at the bottom September 17th, and stooked in good order; three weeks afterwards the corn was husked and weighed.—The stalks then again carefully stooked, and were hauled and weighed, in good condition, October 12th.

The corn on the portion planted in hills was better in quality than on that planted in drills. But the drilled portion produced 74 1-6 bushels of shelled corn and three tons of stalks to the acre, against 65½ bushels of shelled corn and 2⅝ tons of stalks per acre produced by the portion in hills.—*Rural World.*

OBSERVE! OBSERVE!!

It is related of an English farmer that he condensed his practical experience into this rule:—

"Feed your land before it is hungry, rest it before it is weary, and weed it before it is foul."

Those words should be written in the heart of every man who desires to farm, and may go far to answer, in his mind, the question so frequently and so anxiously asked, "Does farming pay?" The rule demands the exercise of the qualities needful for success in every occupation—untiring watchfulness and prudent care, knowledge, forethought, energy and economy, regularity, attention to little things, personal supervision and observation—this latter a power requiring education and constant exercise. It may not be altogether amiss to say that this power of observation, although named last, is perhaps the most important to a farmer. In this wondrous world, this panorama, as it has been called, of thought and action, of forces, currents, growth, decay, special beauties are presented to the agriculturist, but, alas!—while many see, few observe.

Millions see only and never acquire the habit of detecting good in what they see, so as to use it, or of evil so as to shun it.

It is this power of observation, trained, exercised, which in agriculture has done so much; it has reclaimed exhausted lands and fertilized barren soil, improved tools and machinery, and raised the value of stock.

To this may be traced the development of agricultural chemistry. The phenomena of vegetation and the chemical constitution of substances had previously been observed.

To young men about to enter on the noble profession of agriculture, the foregoing is of value. Too many enter on its pursuit with the idea that it is easily attained, that success is an affair very much of chance, of weather, of cheap or dear land, or of market value of products. While, doubtless, there is an element of truth in such thoughts, it ought to be ever borne in mind that no occupation requires more constant exercise of mind and body; that the better educated the farmer is, the more he maintains and increases his knowledge, the more he becomes acquainted with natural and physical science, the more his reasoning faculties will be aroused, and his ability to observe increase.

His observations should be recorded and studied. There is great practical utility in the well known saying of Captain Cuttle, "When found, make a note of."

With this enhanced power to observe, and to reason of the matters observed, the farmers will be in a better position not only to follow the simple rule already given, but by taking avail of any of the adventitious circumstances named, he will elevate his noble profession and himself.—*Scottish Farmer.*

CROP AND MARKET REPORTS—WHEAT.

The New York Produce Exchange *Reporter* says "advices from the winter wheat growing States are encouraging for their crop; in most sections the plant is looking healthy, though very backward. It is generally well set, and the season on the whole has not been unfavorable for its growth. From the North West the crop is represented as very backward, and the plant looks far from healthy; but everything now depends upon the weather, and it would be useless to express any opinion of the future."

Reports from California, it is said, fully confirm those previously received; "it is very evident that, with the same acreage, the yield will be less than fifty per cent. of last year's crop; but if we add the increase in area under cultivation, it will be safe to assume that their surplus will be about half the quantity they had last season, provided there is no increase in the domestic consumption." Other reports are not generally so favorable for winter wheat in the Atlantic States. The crop as a whole is spotted, and not making a good growth, and the prospect not so good as it was early in the spring.

BEST TIME TO CUT GRASS.

To the stock farmer this is a question of great importance, unless he lives in that fertile belt where grass is green the year through, and his stock forage for themselves instead of requiring warm shelter and the best of prepared food. Such of our readers as live in this belt of perennial green can read this article and sympathize with their less favored brethren.

The first point to determine is when grass contains the greatest amount of nutriment in a soluble and digestible condition. There is no doubt that grass and all forage plants contain the most absolute nutriment at the time of the perfection of the seed, but in perfecting the seed the stalk yields up its soluble matter and becomes tough and woody, so as to be nearly indigestible to the animal. It has also been determined by chemical analysis that at the time of blossoming the grasses contain all the nutriment required to perfect the seed without receiving anything more from the soil, and that by keeping the roots moist, and without any earth, the seed will perfect itself. Wolff, the German chemist, by careful analysis, found clover just in blossom to contain only twenty-five per cent. of crude fiber, but when seed was fully formed, forty-eight per cent., showing the great rapidity of change in the stalk, from soluble to insoluble matter. From these solid facts it appears that grass at the first blossoming contains all the nutriment that the stalks and seed both contain after ripening. And it follows, that if the farmer will cut his grass when its nutritive matter is most digestible, his animals will thrive as well upon it as upon ripe hay with a liberal allowance of grain. From a number of experiments upon Indian corn, we found that if it were cut when the kernal had first taken form, and set with the butts in damp earth, the ear would ripen from the nutriment contained in the stalk, the kernels being plump. It is thus certain that those stalks contained all the nutriment afterwards forming the grain. And corn sown for fodder, if cut at the time of full tasseling, will contain all the nutriment of ripened corn, and in a soluble and digestible condition. If stock farmers in the grass districts, where grain is not so easily raised, would always cut grass in blossom, their animals might be kept in fine condition upon it alone. We have known liberal quantities of milk to be given upon clover and timothy hay alone, but in all cases early cut.

June grass, which is considered almost worthless for hay, is excellent for pasture, and would be for hay if cut when in blossom. If farmers would study all the different grasses, sow only those that ripen at the same time in the same field, and cut them at the proper stage of maturity, they would be able to give their stock a greater variety of food, and all of the best quality. It must be remembered that after blossoming, every day decreases the amount of digestible nutriment and increases the indigestible woody fiber. Prompt attention to this matter means stock in good condition next spring, but delay means poor cows, poor colts, poor calves and poor profits.—*Live Stock Journal.*

FROM CONTINENTAL CORRESPONDENCE OF "IOWA HOMESTEAD."

The annual Horse Show has just taken place, and as usual in the Palace of Industry, Paris, France, marks progress, although not so great as was to be expected. The prizes offered are divided into five classes, for draught and saddle horses, and the age of the animals limited, four to six years old, as also their height, but no distinction is made, as hitherto, as to their district of origin. For the first time a prize has been opened for horses suited to army purposes, and twenty-eight competitors have thus entered the list. There are also exhibited fourteen Corsican ponies, the most diminutive of their class ever seen. The animals on a whole are light, and not specially remarkable in a carriage point of view. There are 464 entries and 89 exhibitors, of whom five represented two-thirds of the animals exhibited, 63 are breeders, 15 landed proprietors, and 11 horse dealers. Normandy and the district of Poitiers contributed 89 per cent of the total entries; it is on the rich pasture lands of these parts of France that the breeding, &c., of horses is concentrated, and where most of crossing with English horses takes place. In other districts it is Arab, or rather Oriental blood, that holds sway. Those persons in England and the States who admire the Norman horse or *percheron*, may be astonished to learn that the French themselves do not consider that race to be the finest in the world, and are still seeking "the ideal." It is a mother, but not a perfect race, for the *percheron* lacks uniformity and homogenity. English blood would remedy these defects, and produce a type more powerful and less heavy, more active and enduring, while retaining the largeness of bone and fulness of muscle. In Brittany there is an excellent breed of horses compact, muscular, powerful and enduring, admirably adapted for general service, requiring only the introduction of Arab or English blood to give it a cleaner look and a lighter movement.

Germany is as rapidly going ahead in the manufacture of beet root sugar as France; she possesses no less than 322 factories; but French cultivators are not falling asleep respecting ameliorations in this branch of industry they have had shows and trials of the various implements connected with the culture and lifting of beets; they now wish to solve the complex question of the action of manures on that plant, and to this end they have established an exhibition of manures suitable to beet culture. Each competitior is to furnish a quantity of his preparation sufficient for half a rood, as well as two pounds of the same as sample, with analysis, and which will be sealed and placed under lock and key. The commission will give a "number" to each lot, so that no names will be known till the crop has been harvested. The manure will be divided into two portions for quarter of a rood each, applied to different soils; the seed will be sown the same day and a similar process of cultivation adopted. The roots will be lifted and weighed within forty-eight hours, and their saccharine richness tested. An important beet-root grower in the North of France states, that to have roots rich in sugar, the soil should have the manure well plowed in during the winter, and only lightly tilled during spring, to be sparing in the use of fertilizing agents, and never apply liquid or pulvurulent matures to the growing crop. Matured, not monster roots, is the object to be kept in view.

French agriculturists decline to purchase guano in its natural state, and insist on its first being treated by sulphuric acid, which ensures the solubility of the insoluble phosphoric acid, and consequently the immediate action of manures.

FEED FROM AN ACRE.

A pair of farm horses will consume in a year 6½ tons of hay and 270 bushels of oats, their daily ration being 18 pounds of hay and 12 pounds of oats each. It will take 14 to 16 acres of average land to raise this amount of fodder. A cow will consume 18 pounds of hay and 6 pounds of corn meal daily, equal to 3¼ tons of hay and 40 bushels of corn, allowing for toll for grinding it, per year. This will require about 4 acres of average land. One acre of good corn land will produce enough grain and stalks to keep a cow during a year. This estimate, which is deduced from practice, accords elsewhere, as gathered from statistics, which prove that eight acres of land are needed to support a horse during a year in Belgium and Holland—countries which, as regards the supply of food, are self-sustaining. There would be no practical difference between the crops mentioned and others that might be chosen, for the reason that more prolific crops require a greater amount to be consumed to yield an equal sustenance, with less prolific, but more nutritious crops. The most economical single crop to raise for feeding animals is corn, when the whole stalks are well cured and properly used.—*N. Y. Tribune.*

SOWING PEAS IN THE FALL.

"Ruralist" writes the *Rural New Yorker* that "it is to be supposed that everybody knows that the pea will grow in very cool weather, and the seed sprout at a very low temperature; consequently, market gardeners sow, for an early crop, as soon as the seed can be got into the ground in spring. This plan has always been the extent of my efforts towards securing an early crop; but I have to own up that for once I am beaten; for two of my neighbors informed me to-day that they had peas up and growing finely just as I was getting ready to plant. Upon inquiring how it was done, I learned that the seed was sown last fall, and remained in the ground uninjured during the winter. I have sown tomatoes, lettuce, spinach and a few other vegetable seeds in the fall in order to gain time, but never tried peas; still, as I am not too old or too bigoted to learn anything useful, I will try not to be outdone on the pea question next year."

A FEED CUTTER.

A correspondent of the *Vermont Farmer* gives his method of converting a mower into a feed cutter as follows: Place the machine standing upright on the back end, and brace it firmly. Then brace the bar so that it will be steady, and fit a board on the top of the fingers of the guard bar so that the hay cannot get over the bar. Then make a table to feed on. Throw the machine into the gear, put the hay on the table and turn the wheel. The hay is fed against the under side of the bar. With a horse power and belt to the wheel this makes a first rate power feed cutter, doing the work fast and well.

FARMING IN NEW HAMPSHIRE.

The *Mirror and Farmer* says:—Farmers are still determined to sell out in the back towns of our State; they have lost all hope of getting ahead by cultivating the soil, and they have no fears of doing worse. We hear of frequent sales of farms to be turned into pasture, and their owners seeking other occupations in the cities and villages. We must say that many of them are too hasty, and will regret their acts. Hold on a little longer and see if by cultivating less area and in a better manner, and turning out to pasture and to woods the hardest and roughest portions, something of advantage does not follow.

The *Germantown Telegraph* has the following:—

In reply to inquiries about the Alsike clover we would say that it ought to be tried in a small way by farmers having cattle to pasture and fodder. We regard it superior in quality to the ordinary red clover, and about equally productive. The seed is for sale at all our first class seed stores. We think that it will be generally introduced after a trial.