

Correspondence.

To the Editor of the Farmer's Advocate.

DISEASES OF THE WHEAT PLANT.

Sir:—In the "Advocate" for February, I noticed an article upon "Smut" by "Ristic," who wished to know the cause of it. The following appears to me to be the most rational cause of its appearance. During the Spring, Summer, Autumnal, and even Winter months, the air contains multitudes of the germs or seeds of small microscopical plants, which are carried about by winds, and begin to grow whenever they alight upon a suitable soil, if the temperature and moisture of the air be sufficient to call their vitality into action. The descent of every shower of rain, or even snow, brings down myriads of minute seeds invisible to the naked eye, which fall upon the leaves or stalks, or pass into the system of plants with the water which enters at the roots.

These fungi in general absorb oxygen, instead of carbonic acid, from the air; they thus assimilate more to animals than to vegetables. They obtain their nourishment from the substances upon which they grow, and not directly from the soil or atmosphere. They appear to germinate underneath the skin or epidermis of the vegetables in which they have found a lodgement, and as they increase in size they protrude their heads through its pores.

Smut presents us with one of the forms in which minute parasitical plants prey upon the vegetables of larger growth. It is usually found to effect grains of wheat. There are two varieties of this noxious fungus. One not discoverable until the husk is opened, when it appears in the form of a black powder, having a very disagreeable smell. The other variety shows itself on the outside of the grain. Farmers possess a remedy for both, which consists in steeping the seed in some liquid which will destroy the vegetative powers of the fungal seeds. These seeds are so minute, that a grain of smutty wheat will infect the contents of a bushel; and wheat placed in bags which have at one time held smutty wheat will certainly be infected. The best sample for seed should always be steeped before sowing. Various liquids are selected for that purpose—stale urine, brine, and blue vitriol dissolved in water. The last is perhaps the best. Five pounds of blue vitriol are dissolved in ten gallons of water. When the solution cools, three bushels of wheat may soak in it for six hours, the floating grains being skimmed off. The same solution will serve to steep twenty bushels of wheat, and effectually prevent smut, except in peculiar situations and in seasons distinguished by an unusual fall of rain.

CHESS.—The appearance of this common and troublesome weed is the source of more dispute than any subject which comes within the province of the agriculturist to investigate. The most erroneous impressions respecting its origin prevail among farmers throughout the whole of Canada and the neighboring States. Many persons, "Ristic" among others, ascribe to what is termed diseased, or winter killed wheat, the property of transmutation into chess; and this opinion is promulgated and sustained in the most positive manner, upon the deceptive and erring evidence of individual observation, without the slightest reference to the botanical distinctions which mark wheat and chess.

Chess is a very hardy and fruitful kind of grass, called in Britain the soft brome grass. Its seeds possess the power of lying dormant in the soil for many years without losing their vitality. There are many modes of accounting for the presence of this weed among wheat and other crops. It is sown with the wheat, or its seeds lying dormant in the soil, have

their vitality called into action when the soil is ploughed up and exposed to light, air, and warmth, or it is conveyed by floods, or carried by winds, or carted on to the soil with manure. The reason why chess surplants wheat, and grows with luxuriance is to be found in bad cultivation.

On undrained soils, and especially on those parts where water is permitted to lodge, the wheat plant is winter-killed or thrown out; chess, being a more hardy vegetable than wheat, survives the winter, and produces a most abundant crop of seed. Good surface draining, the use of clean seed and a rotation of crops, will soon extirpate chess, and effectually remove the impression of an imaginary transmutation. We might, with as much reason, suppose that the oak was capable of changing into pine, the pine into the birch, the beech and maple into the poplar, the grass of the prairies into the white clover.

CHARLES S. MANLEY,

St. Catharines.

To the Editor of the Farmer's Advocate.

ACKNOWLEDGEMENTS.

WM. WELD, Esq.:—Dear Sir,—I beg to acknowledge, through your valuable paper the receipt of the very handsome prize—"the Grain Crusher or Feed Mill"—which was awarded me for obtaining subscribers to the "Farmer's Advocate."

We have tested the above mill on two occasions, and found it to work complete. Several of our neighbors were called upon to witness the trial, and came to the unanimous conclusion that it was as near perfect as can be made, on the cylinder or roller principle. The above mills are manufactured by Abell & Bros., Woodbridge, Township of Vaughan. Price \$30, \$35, and \$40.

Yours most respectfully,

A. G. MACHELL.

WYANDOTT, Feb. 2d, 1869.

MR. WM. WELD: Dear Sir:—My Sewing Machine given as a prize for getting up a club for your widely known and highly appreciated paper, has just come to hand in due order. Please accept my thanks and my sincere wish for your success in so important an enterprise.

I remain dear sir, yours respectfully,

W. A. AYERST.

BEAMSVILLE, Jan. 27th, 1869.

WM. WELD, Esq.:—Dear Sir: I received yours of to-day, asking me to send receipt for the picture you sent. I am much obliged to you for it. I received the picture of Tropical and Summer fruits last week, but have been very busy, so much so that I did not take time to write you a receipt for pictures. I am well pleased, and if you intend making the receipt of my picture public, please do so and oblige.

Yours respectfully,

W. MARLATT.

To the Editor of the Farmer's Advocate.

COMMENDATION.

This is to certify that we the undersigned, witnessed the working of one of Abell's of Woodbridge, Grain Crushers, at Mr. Thomas's Farm, Lots 68 and 69 on Talbot Road, West-

minster, on the 28th of January 1869, and are highly pleased with the efficient way it performed its work. The grain used was Oats and Rye, and Oats and Peas mixed, and it ground it quite equal to any Grist Mill, and put through two bushels of Oats and Rye in the incredible space of 3½ minutes:

Squire Mathews, J. P., Hiram Jones, Saml. Hunt, John Heard, David Patrick, John Scott, Lewis Baker, George Heard, Mr. Colwell, Richard Mills, Thos. Heard, J. McWilliam, T. Hall, John Mill's, Fred. Lown, Wm. Scott, Richard Thomas, W. Lown, and W. Hall.

To the Editor of the Farmer's Advocate.

POTATOES.

MR. EDITOR—Dear Sir—Since I wrote you on the 12th of September last, my brother and myself have gathered our "Harrison" potatoes, the best of which yielded at the rate of eight hundred and ten bushels to the acre, and from a little less than one barrel of seed we have one hundred and ten bushels of splendid potatoes.

"Early Goodrich" yielded forty-five bushels from 1½ of seed. The Goodrich being an early potatoe, were very much injured in consequence of the dry season.

"Early Rose." Two of our neighbors tried this new variety of potatoe with the following result. No. 1, from one lb. of seed yielded 16 lbs. of fine potatoes. No. 2, planted six eyes, obtained from you, Mr. Editor, last spring, about 22½ lbs. were raised. I am now fully convinced, after a careful examination of those cultivated here, that the "Early Rose" is no "Yankee Sell."

W. PECK, Albury.

For the Farmer's Advocate.

THIN WHEAT.

ALMONTE HOUSE, Jan. 24th, 1869.

MR. WM. WELD, London:—Dear Sir:—The other day I had a chat with a very intelligent farmer, a Mr. Thos. Mordey of Huntley Township. Among other matters talked over he told me of a field of fall wheat he once had which in the Spring showed such signs of winter-killing that he was on it for five days, debating in his own mind the advisability of ploughing it under and sowing to Spring Wheat. There was on an average one stool he said to every two feet square, but having read considerably about thin sowing at last he decided to let it stand. It stood out to use his own words tremendously, making very strong stalks, but was all the summer so thin that he could walk about among it as easily as through a corn-field. When cutting came time he had to reap it with a sickle, and the branches were so heavy that only about half a stool could be grasped by the hand at once. The yield was something over 40 bushels to the acre, and the finest grain he ever grew, resembling peas in size more than the ordinary run of wheat. Ground was well prepared with manure.

A. PONTY.