

For the Farmer's Advocate

**AGRICULTURAL EDUCATION.**

For some months past, the Rev. Dr. Ryerson has been on a tour through Ontario, explaining the provisions of his School Bill. The Superintendent has met with some opposition, and the leading educationalists have not hesitated to express their opinion of the proposed change. I am well aware that your columns are not open for subjects such as these, being strictly devoted to the discussion of purely agricultural questions. In this sense I design calling the attention of your readers to this subject. We look in vain through the sections of the New School Bill, for some provision for Agricultural Education. Is it ignored from its unimportance? Is agricultural science in such a crude state, that no principles can be compiled worthy of being mastered? Have so many thousand crops been sown and harvested, without some one recording their varied phenomena? The fruits of the earth, the flocks of the field, and the food and raiment of mankind, to a great extent, depend on our knowledge of the experience of others. Agricultural economy embraces all the varied and important questions which arise in connection with the production and distribution of agricultural wealth. A knowledge of the arts which increase this produce, have a most direct bearing on all the political and social relations of man. Especially is this true in Ontario. Our future prosperity is based on the development of our agricultural wealth. It is not alone enough to level the forest and bring acres under the plow, but we must study how to preserve their riches, yea more, increase their fertility. We do not believe that our fisheries or mines will ever bear any comparison with our farming interest. If this be so, is it not plainly our duty to improve ourselves in those branches of learning that will assist in fostering our main interest?

Many of the leading scientific minds have devoted their powers to agriculture. Chemistry has become a valuable adjunct to the labors of the husbandman. Soils are analyzed and while their constituents are proclaimed, science prescribes artificial manures to repair the exhausted waste of harvested vegetation. Meteorological societies are studying important atmospheric phenomena, to discover the physical laws that must even influence a variable climate. The rain fall is carefully noted, and must have influence on agricultural development. Nor is agriculture without a literature of its own; one to be justly proud of for its careful compilation, abounding in statistical love and practical science. We believe this science should be imparted to our youth in connection with our school system of education; agricultural chemistry should be taught in every school; teach children what they will use when they become men; think of the vast number of farmers

who are ignorant of the simplest principles of the science, and yet that science sustains most intimate relations with his progress in attaining the end sought. Other countries are alive to the importance of the necessity of agricultural education. On the continent, almost every government has made provision for this object; so anxious are they to impart practical knowledge that every department is represented. At Tharand, in Saxony, in the agricultural school, there are two professors solely occupied in giving instruction in the art of forest culture. Even Russia has established agricultural schools, while those of Belgium are world-known. The United States has lately appropriated several million dollars to establish agricultural schools, that cannot fail to influence the development of the country.

That we cannot afford to neglect the teachings of science, as to the means of economizing and increasing our field yield will be admitted. It remains for our generation to show a wise comprehension of the duty of associating science and industry. The natural wealth of our soil has been squandered in the past, and it remains for science, to a great extent, to repair the loss. The principles of this science should be taught in our common schools. At them, the mass of our countrymen are educated. We regard any system of education that neglects this branch as imperfect. It is a subject worthy of government aid and encouragement.

To the Editor of the Farmer's Advocate.

**RUST.**

SIR:—Rust presents us with another form of parasites which prey upon plants of larger growth. Rust is a fungus, (a minute vegetable) of exceeding rapid growth and fruitful character. It is not confined to cultivated, grain-producing crops. No vegetable, indeed, is altogether free from liability to its attacks, or to the destructive growth of other microscopic plants on their flowers, leaves or stems. The general appearance of rust on wheat, is dependent upon the state of the atmosphere. The seeds of rust, like those of smut, are held in the air and carried about by the winds, and every shower of rain or snow brings them down, and they pass into the system of plants. There are many species of rust, the most common of which are the orange and red. When found to a large extent on wheat, they absorb the nourishment of the plants, and frequently destroy the most promising crops.

Air can only contain a certain quantity of moisture dependent upon its temperature. When there is but little difference between the warmth of the air in the day and night times, in the damp, sultry weather in June, July and August, the air remains for some hours saturated with moisture, evaporation ceases as long as the state of saturation continues, and the temperature favors the germination and growth of the seeds of rust. Rust is most frequent upon rank and luxuriant crops, as might be expected from their great evaporating surface.

Since the prevalence of rust is dependent upon the condition of the atmosphere and the more or less luxuriant growth of the vegetable, the attention of the farmer must be directed to two circumstances, in order to lessen the effects liable to be produced by these destructive fungi.

1st. To the period of the season in which the occurrence of damp and sultry weather is to be looked for.

2nd. To the habit of the plant.

If rust strike the plant before the seed begins to form, the most disastrous effects may be produced; if after the seed has been formed, yet before it is ripe, little apprehension need be entertained for the safety of the crop. Now, experience shows that in the climate of Canada, the condition of the atmosphere as regards saturation with moisture concurrently with a high temperature, is very seldom—such as to favor the germination of the seed of rust—before the last week in June. If therefore, at that period, the wheat plant is so far advanced as to be beyond the influence of rust upon the formation of the grain, the danger is provided for.

The precautions to be taken against rust, happily constitute a necessary step in good husbandry. They are—draining, liming and the selection of early varieties of wheat; both of these mechanical operations accelerate the growth and ripening of the vegetable and increase the strength of the straw, besides producing the evaporating surface of the leaf. There is no question that by a judicious introduction of these artifices, the destructive effects of rust on wheat would be very much diminished, if not, in many seasons, entirely prevented. CHARLES MANLEY.

St. Catharines.

To the Editor of the Farmer's Advocate.

**POTATOES.**

MR WELD—Dear Sir:—In the March No. of the "Farmer's Advocate," 1869, I observe an error in printing my report of the Early Rose potatoes. It should read *one hundred and sixty-one pounds* were produced from *one pound of seed*, instead of 16lbs from one pound of seed, as reported in the "Advocate."

Yours, &amp;c.,

To the Editor of the Farmer's Advocate.

**PEAS.**

Dear Sir:—I have just read the second number, vol. four of your paper, which you have sent to my address. I am well pleased with it and the position you take to advocate the farmers' interest in bringing before them, and within their reach, the kinds of seeds which you feel safe in recommending. The reading matter is all, and even more than I expected.

I shall send you a sample of my Dan O'Rourke peas; I sowed, last spring, ten bushels of them and harvested one hundred and forty bushels, which is the best yield this county (Prince Edward) produced this year. I also sowed thirty six bushels of the Golden Vine, and harvested seventy. The dry weather and heat was too great for the tender vine to withstand, after its rapid growth the first of the season. The pea crop was nearly a failure in this county; many fields were not harvested at all. I never grew the Dan O'Rourke before, yet I am of the opinion that every farmer should grow more or less of them. Every farmer has new or rich soil that would grow wheat or barley for a succession of years, but as every successful farmer wishes to grow rotation of crops, he must grow other grains besides wheat and barley. My Dan O'Rourkes were ripe about the time that my barley was, which gave me an opportunity to plough the ground twice after the peas were harvested, which leaves the soil in a fine condition for wheat next year. The Dan O'Rourke does not grow only about two-thirds as much straw as the Golden Vine, and therefore requires stronger soil. Another advantage the Dan O'Rourke has over the Golden Vine, is, it commands in market, more than twice as much per bushel than the common field pea, it being a garden pea, and is readily bought up by seedsmen. This one point of procuring new seeds from reliable sources, seems to be too much neglected by us as farmers.

POTATOES.—The seed of which I had considerable trouble in procuring, (part of which I have grown for two years) has given me every satisfaction, and a yield that was much greater than I expected. The drought was too long and severe for my Early Rose and Early Goodrich, and the yield was not equal to many publications that I saw, yet my sample is good. My Calico, Gleason, Cuzco, Shaker, Russet, Harrison, Garnet Chili, Fluke and American Peach Blow, were all that any man could expect. I shall require some new seeds this year which I see on your list, and shall send you my order in time to prevent any disappointment.

Your very obed't. servant,

WM. R. DEMPSEY

Albury P. O., Co. Prince Edward.