

wealth is made; is it not worth trying to realize upon it? In every clay bank there is a vast wealth of a most valuable metal, aluminum, and just so soon as the scientists of America and Europe have cheapened the process of extracting it, the clays that now are heavy, and in some cases worthless, will become mines of wealth. Would the farmer discourage these scientists from searching after the philosopher's stone whereby these clods of clay shall be turned to metal more useful than silver? So, Mr. Farmer, do you not think it a grand and worthy work for these scientific helpers of yours to continue their search for some plant or some method, whereby this vast ocean of wealth above our heads, which is "as free as air," may be made to give up its riches to the land and to the plant, and thereby to the pockets of those who earn their bread by the sweat of their brow?

You may think there is a contradiction in our statements: plenty of nitrogen in the air and yet worth nothing. There is not a contradiction but a difficulty.

You produce a crop of wheat yielding thirty bushels to the acre, and you rejoice accordingly. Your magnificent crop of wheat, straw and all, contains only forty-five pounds of nitrogen; the question then is as to whether there is any way by which the land and the plants may be made to drink in this nitrogen. The nitrogen of the air is free, it is not in the combined form as found in the soil or in fertilizers.

What a host of questions here suggest themselves! Have plants any power at all to take in this free nitrogen? Are there any plants that have this power more than others? Is there any method whereby man can help the plant to take it up? Can the farmer do anything to enable the soil to prepare it for the plant? The answering of these questions means progress, success, wealth, happiness to the farmer. Some one has said that the atmosphere of nitrogen is like the cup of Tantalus, ever at the lips of the plant but eluding its efforts to drink it in. But the question does not appear to be quite hopeless; it is difficult and baffling, but thereby only demanding greater research and insight and holding out the hope of a grand reward.

(To be continued.)

The Banner Oat.

A NEW PREMIUM.

No grain is more important to the stockman than the oat. He needs it for his horses and other stock, and wishes to grow it as economically and as carefully as possible. Therefore

he wants the best, the most prolific, the hardiest sort he can find.

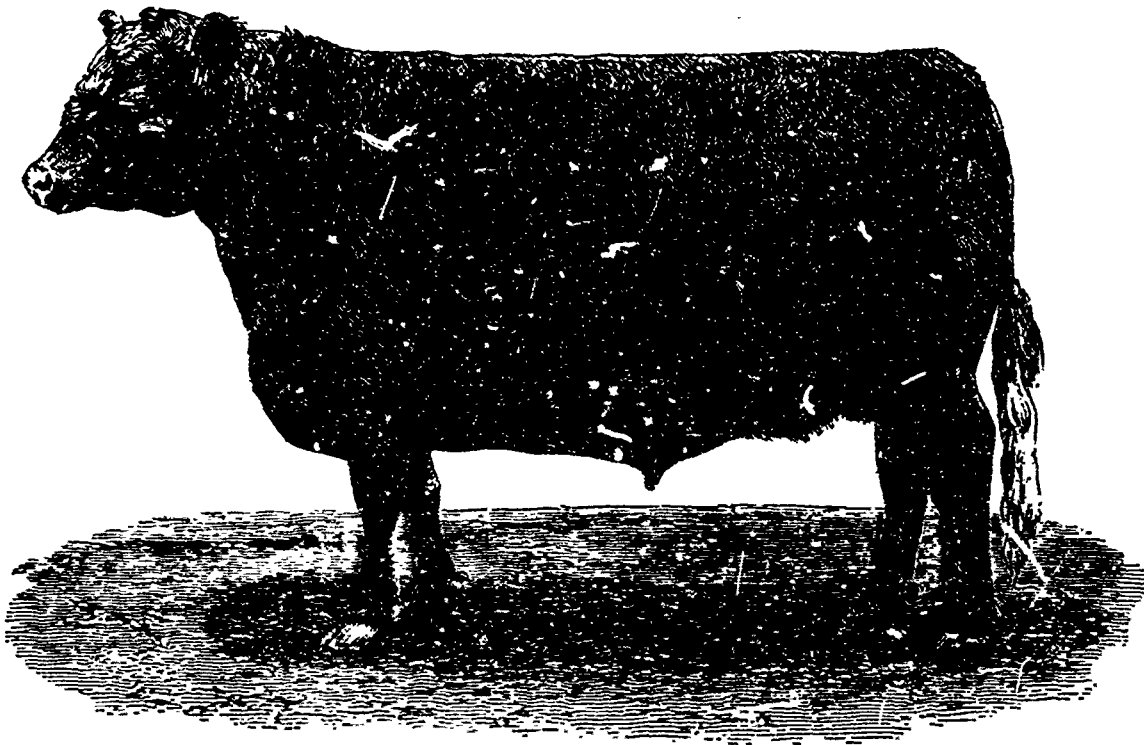
Every reader of the LIVE STOCK JOURNAL has heard of the now famous *Banner Oat*, first brought into notice by Vick the seedsmen of Rochester, and two or three years ago introduced into Canada by Mr. John Miller, of Markham.

These are the points of merit claimed by the growers of the *Banner Oat*:

1. That it is less liable to rust than other varieties.
2. That it is a much better yielder.
3. That it is stronger in the straw, and therefore not so liable to be blown or knocked down.
4. That it is a superior oat for the making of meal.
5. That it ripens earlier than most other varieties.
6. That where other oats fail the *Banner Oat* does well.
7. That it is a hardy variety, and therefore suitable to our northern and north-western districts.
8. And that while it has these merits it is also as good for feeding stock, both in the grain and in the straw, as any other variety.

Here are a few items of interest concerning this oat that Mr. Miller has given us.

1. When he first sowed the *Banner Oat* he planted 1 lb., and his yield from that 1 lb. was 85 lbs.



RED POLLED OX.

Bred by and the Property of Mr. J. J. Colman, M.P., Carrow House, Norwich. Winner of the Champion Prize at Norwich Fat Stock Show, 1889.

2. A neighbor of his this last year had 17 acres in all of oats, of which 5 acres were sown with the *Banner Oat*. From these 5 acres he obtained 476 bushels, or an average of 95 1/4 bushels per acre. He sold these all in one sale at 60 cents a bushel. From the remainder of his 17 acres, which in every respect as to soil and treatment were like the 5 *Banner Oat* acres, he reached only 30 bushels to the acre.

3. In the several competitions open to the whole continent of America, established by *The American Agriculturist* for the best returns from one acre sown with oats, Mr. Miller with the *Banner Oat* stood third, having a yield of 91 bushels. Mr. Miller is confident that had his acre been in one of his ordinary grain fields, and not in an exposed place in a field devoted to root crops, his yield would have been 20 bushels greater (which would have placed him first in the competition) for his acre was so much exposed that a great deal of the grain on it was knocked down and became lodged.

We have made arrangements with Mr. Miller by which we can supply our stockmen and farmers with sufficient seed of this valuable oat with which to make a start, and at little or no cost to themselves.

(1) To any stockman sending us two (2) new subscribers for the LIVE STOCK JOURNAL and \$2.00, we will ask Mr. Miller to send one bushel of these oats.

(2) Anyone sending us three (3) new subscribers and \$3.00, shall receive one and three-quarter bushels.

(3) Anyone sending us four (4) new subscribers and \$4.00 shall receive two and a half bushels.

The above includes the cost of the bag; but it does not include the cost of carriage. This must be defrayed by the receiver.

On examination it will be found that these premium rewards are very liberal.

Three trial orders will count as one regular order. All orders should be written only on our blank forms and these we shall be happy to supply on application. For further particulars as to "Trial Orders," "How to send Money," see the Publishers' Column.

The Farmers and the Millers.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL:

I would like a little space in your columns to call attention of our brother farmers, and especially the directors and members of our Farmers' Institutes, to ask if the farmers are going to allow themselves to be made a "cats paw" of by the millers. This Association of the Millers have kindly volunteered to find

a speaker for our Farmers' Institutes free of charge; and why are they so much interested in the farmers all at once? They don't spend dollars for nothing unless they can get them back for nothing. What is this Combine or Association formed for, whether they say it or not it is like all other Combines, formed to enrich themselves by killing competition at the expense of the producer or consumer, or both. They do not assemble like our farmers at our Institutes to discuss how to cheapen production or increase quality of produce. Not much, if one of them gets an idea that is an improvement on old ways he must have a patent on it to make it dear to other manufacturers, who, if they find it is an advantage, must have it of course to keep up with the time and then take the cost out of the farmer.

We know they have a smart man for the

business, and let me pay this compliment at least, one who knows how to "put his case" (as an old farmer said). This member attends our farmers' meeting and takes up valuable time, and manages to get a resolution passed calling on our government for more duty on flour. Well, no harm in that to our Ontario farmers, but someday we may wake up and find that it is a duty off wheat that millers have obtained. You will notice at their own meetings it is either wheat or flour they want to change, but we don't need to be told that they would rather have the duty off wheat and how is that going to benefit farmers in Ontario? The government dare not put more duty on flour for fear Nova Scotia and New Brunswick would turn them out, they would much more likely if any change were made put the duty on wheat, for don't they know we farmers can always be relied upon to chuck up our hat for our party no matter if said party does wipe their feet with us. Now about the testers, as a matter of fact some such grading has always been done, either by the eye or machine; and there is not so much fault to be found as this is apparently but making the rule cast-iron, apparently we say, because the millers obtain another and greater benefit from the tester. We know they have their standard, both quality and price, and the Association fixes the price and if any member pays more than said standard he can be reported and made to pay the penalty for breaking the rules. In fact by