

to the fermenting pile of fertilizing matter There is constant opportunity in the great laboratory of nature to convert death and decay into useful and valuable forms of life, and transform deleterious substances into means of promoting health and wealth.

The Growth of Heavy Oats.

It has often struck us as being not a little remarkable that there should be so many light-weight oats in the market for England, Ireland, and on the Continent. A great portion of this crop will be found to weigh under 40 lb. the bushel, and indeed 38 lb. seems to be the more general weight of the market. In Scotland—as this grain is grown for human food—the case is different, as there the crop is grown in the best soil, and like other grain crops, great care is taken in the cultivation of the oat. It may then be taken to be an established fact, that oat growing as horse and cattle food is not practised with sufficient care to obtain the best results; and we shall therefore offer a few remarks upon the principles to be attended to in attaining different results.

Of all our cereal crops, the oat is the one whose origin is the most clearly established. In the course of a few years, with care, attention, and selection of the wild oat (*Avena fatua*), we succeeded in obtaining very fair crop oats, and while doing so we watched the degeneracy of crop oats into wild ones. Now the grain of *Avena fatua* in its natural state weighs but 14 lb. to the bushel; but by choosing the heaviest seed to carry on our experiments, we arrived in six years at a grain weighing 38 lb. per bushel, and subsequent experiments, presently to be detailed, convince us that far better results might have been arrived at from this stock.

But, in considering the weight of oats, it is necessary to point out that the poorer the oats the greater the disproportion in the relative amounts of meal to husk—the former, indeed, increasing with the increase of weight of the samples. In an article on the Composition of Oats in Morton's Cyclopaedia of Agriculture, by Dr. Voelcker, we find the following:—"The proportion of husk varies in different samples of oats, more than in any other of our generally cultivated cereals. Not only is the quantity of meal produced by different kinds of oats very various, but different samples of the same kind furnish different quantities of husk and meal, according to the mode of culture, season, soil, and manure."

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|------------|----------|------|-------|-------------------|
| Boumains | obtained | | 78 | of meal |
| | | | 22 | of husk (air-dry) |
| Herrnstadt | " | | 58.8 | of meal (dry) |
| | | | 34.2 | of husk (dry) |
| | | | 7.0 | of water |
| Vogel | " | | 60 | of meal |
| | | | 34 | of husk (air dry) |
| Norton | " | | 76.23 | of meal |
| | | | 23.63 | of husk (air-dry) |

Now these figures are sufficiently expressive of differences, but they do not point to the important fact of the sorts operated upon—a point which is more clearly settled by the following:—Dr. Voelcker obtained.

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| From black English oats | | 283 | lb. of meal. |
| | | 71 | lb. of husk. |
| From white Scotch oats | | 333 | lb. of meal. |
| | | 66 | lb. of husk. |

Here, then, in Scotch oats, which the analysis shows to be good, the meal is, as near as may be, half the weight of the husk; whilst in the poorer black oat the meal is a little over one-fourth of the seed, nearly three-fourths being husk.

Now, as these estimates do not mention the weights per bushel of the grain operated upon, we determined to make a careful analysis of these parts in oats of our own that we could weigh, and we got the following results:—

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|---|----------------|
| From black Tartarean oats, 40 lb. bushel: | |
| From the farm, obtained from meal | ... 23 gralus. |
| 100 seeds..... | husk.....16 " |
| From white potato oats, 60 lb. bushels: | |
| From the farm, obtained from meal..... | 40 gralus |
| 100 seeds..... | husk.....20 " |

These great differences point to the ease with which the separation of meal and husk was done; in fact, the husk was separated from each seed so carefully that no amount of powdering or grinding could do it so effectually. The difference between 44 and 60 points to the difference in size of the thin grain of the black, and the plump grain of the white oats, and the fact of the latter, which weighed 50 lb. per bushel, yielding two-thirds meal, shows the great value of the better kinds when compared with poorer ones.

It was, then, the wide difference to be observed in the oat crop that induced us to look carefully to the results in each crop, and if possible to trace the cause,

and in so doing we seem to have arrived at the following conclusion:—

1. Light seed, say from 38 lb. to 40 lb. per bushel, will produce a light grain for two reasons—(a) the quality of the progeny will usually be that of the parent; and (b) thin oats have twice the number of seeds to a given measure than plump ones; and in order to test this we counted an ounce of each of the following, measured in a tall, thin, upright measure 1 oz. of potato oats, 50 lb. bushel, gave 384 seeds; 1 oz. of Waterloo oats, 44 lb. bushel, gave 628 seeds. Here, then, while two bushels of the first, as seed to the acre, would be thin sowing, the same quantity of the latter would be thick seeding.

2. The best and heaviest seed that can be procured is the cheapest to sow, as it will not be too thick at the same rate of sowing, and each seed will be likely to bring a strong plant, and thus to produce a good measure of heavy seed.

3. In our practice we have found that the heaviest oats used as seed not only produce a crop of like character in this respect, but also a greater measure per acre. Here, however, we confess that some of our neighbors disagree. They say that they can produce sacks more per acre of poor black oats than they can of heavy white ones, and hence any quality is to them good enough for seed; at the same time, when we come to ask if they have ever gone to the expense of the best white seed, we are bound to confess that in no case have we obtained an affirmative answer.

We have a lively recollection of a neighbor sowing Waterloo oats, in a field adjoining ours, with a crop of potato oats. Well, at harvest time our friend remarked, "Your oats are as good again as mine; what can be the cause?" On looking into them the cause was soon visible; to every two of our tall stems, of the size of good strong goosequills, there were in our neighbor's field ten goosequills. We therefore suggested that they were too thick: when it came out that, because it was a thin, poor sample, somewhere about a sack and a half of seed had been drilled to the acre, while our own crop was drilled at the rate of two bushels to the acre—not of thin, poor seed, but of plump seed weighing 48 lb. the bushel.

In sowing oats, then, we always procure the best and heaviest seed we can; and we further make a rule of again and again screening all the smaller grains from the bulk; and the result is that, though we do not point to pedigree oats, yet by using the best seed in the market, and selecting, as it were, only the best from this, we always secure a good crop of this grain, far superior in weight and quality to that of any of our neighbors.—*Field.*

New Potatoes—Potato Culture.

Being one of the successful competitors for the \$500 premiums offered by B. K. Bliss & Sons, in the spring of 1873, for the largest quantity of potatoes grown from one pound of tubers planted, I have received numerous letters requesting me to give my views of the best varieties of potatoes for general cultivation, and also my mode of cultivation. If you think this will be of interest to your readers, you will perhaps confer a favor on those who are anxious to know which are the best among so many varieties advertised. All are best in the eyes of their respective advertisers. (I have no potatoes for sale but what I can sell in my own vicinity.) I have tested all, or nearly all, of the new varieties that have come out in the last five years. I have been very successful in my endeavors to test the real merits of the different varieties now before the public, and I will give my opinion as to the varieties which I think are best for general cultivation.

The first is Extra Early Vermont. For an early potato, it is decidedly preferable to anything I have ever tested. It is at least ten days earlier than the celebrated Early Rose; far superior to it in quality and yield; perfectly free from disease, and in fact in every way a most valuable early variety.

The next I would recommend is the Ice Cream. Out of seventy-three varieties that I tested the past season, the Ice Cream was third in productiveness, and fully equal to any in quality and flavor. There is one feature in this potato that will make it a universal favorite with the farmer, especially in the west, and that is, it is almost entirely exempt from the ravages of the Colorado beetle. They will not disturb it as long as there is a stalk of any other variety in the vicinity. The Ice Cream is a late variety, and matures with the Peerless.

Carpenter's Seedling is a potato that I can recommend as a variety which I think is worthy of more than a passing notice. It combines the qualities of the Rose with those of the Peachblow. For earliness, it is fully equal to the Early Rose, and has the keep-

ing quality and splendid flavor of the Peachblow. In fact, if I were to be confined to a single variety, I should select Carpenter's Seedling in preference to any other I have ever tested. It is a bountiful cropper, and in every way worthy of general cultivation.

New York Late Rose is another favorite with me, but it is so well known by this time that it would be useless to give it a special recommendation; but I consider it a valuable variety.

My Mode of Culture.

In the first place, I select the lightest soil I have, one year in advance. If poor, I give it a liberal dressing of barnyard manure; turn it under very deep, then sow on some green crop, such as wheat, rye or oats, and plow under before it gets so large that I cannot cover all with the plow. I let it lie over until spring; then harrow smooth, mark each way three feet apart; select the most perfect tubers, cut to single eyes and drop from one to two eyes in a hill; then make a compost of salt one part, slaked lime two parts, unleached wood ashes four parts; put one good sized handful in each hill; then cover all from four to six inches deep, according as the season is wet or dry, the dryer the soil the deeper the covering should be; keep the weeds down and the ground mellow with the hoe and cultivator until just before the blossoms make their appearance; then hill up broad and flat, slightly cupping towards the vines, in order to hold all light showers of rain; keep the weeds down by cutting off or pulling up. I do not disturb the ground after this time, as it would injure the young tubers that are then in process of formation.—*Cor. Country Gentleman.*

The Barley Crop.

The prevailing question with farmers at present is, shall we sow barley or oats? With the advancing price for seed of the former, will it pay? We have a case of a friend, who a few years since paid \$2.50 per bushel for seed, and sold the crop produced therefrom for five dollars less than the cost of seed. As the price of any farm product is governed by the law of supply and demand, we may safely predict that the price of the next crop will not be very remunerative.

So long as we shall continue to raise barley for market only, it will continue to fluctuate in price; but when we come to appreciate it as one of the most important of the cereals for feeding stock, and that it exhausts the soil the least of any of them, we shall understand its full value, and give it that stability in market realized by the other leading crops.

Let us first consider its value as food for stock in place of oats and corn. Our experience has demonstrated that it has more flesh-producing elements, pound for pound, than corn or oats. It may be said that we can raise two bushels of oats to one of barley. We admit this to be true as a general rule, but claim that one crop of oats will exhaust the soil as much as two crops of barley. In the two crops of barley we have ninety-six pounds of feed to sixty-four pounds of oats. Do we not gain something in retaining the fertility of the soil for the following wheat crop?

As to the question of proof relative to the exhaustion of soil, we give two or three points that have come within our observation:—1. Oats produce more straw in proportion to grain than barley. 2. Barley derives more of its nutriment from the atmosphere by means of its broader leaves. As proof of this, apply plaster to the two crops, under equal conditions, and it will benefit the barley much more than the oats. 3. Barley matures before the intense heat of summer, while oats continue to grow through the hot, dry season, thereby exhausting the strength of the soil. 4. Barley is out of the way of necessary preparations for the wheat crop much sooner than oats. 5. Barley is the best crop to seed with that we ever had any experience with.—*Cor. Rural Home.*

JERSEY FARMING.—In the Island of Jersey, three to ten acres is considered a very respectable farm, and many families reside on an acre or less, keeping a cow, and some pigs and poultry. Lands rent from \$25 to \$50 per acre in our currency, necessitating strict economy in their management. On a farm of twenty acres, one-half is kept for hay and pasture, the balance cultivated in wheat, potatoes, carrots, parsnips, mangolds, turnips, etc. The stock usually kept consists of two horses, six cows, six heifers, and eight pigs. Two men and two women are constantly required. Although large quantities of potatoes, fruit, etc., are exported, horned cattle are the mainstay of agriculture. Col. Waring estimates the number of Jerseys on the Island at upwards of 12,000, or about one to every two acres of agricultural land.—*Live Stock Journal.*