

on manure. Let every farmer who scans these pages make it a special duty to "read, mark, learn, and inwardly digest" the valuable suggestions given below. They contain the main secret of successful agriculture:

"At this season a farmer rarely looks over his stock of manure with satisfaction. It is one of those things of which he never has enough, and the need for which grows the more, the more he supplies the need. As soon as one wheat crop is safely housed the preparations for the next are in order, and the first thought is of the manure. The time has gone by when a farmer can afford to neglect this first necessity. American farming pays now only in proportion to the labor and skill exercised in manuring the soil. There are a few exceptions yet remaining in some of the newer western states, but foresighted farmers even there see clearly before them the early disappearance of the present order of things, and the gradual decrease of their crops. The farmer who depends upon his stables alone for his stock of manure fails greatly to secure all the advantages he possesses. There are many sources from which he may add to the stock thus derived. With the good farmer, his stables furnish mostly the leaven with which he may leaven a much greater lump, the basis upon which he may construct a larger heap. The art of composting is but little understood. A week or two ago, in describing the action of nitrogen, we referred incidentally to the value of this art. At the present we desire to impress upon our readers the propriety of putting the suggestions made in that article into immediate practice. The general condition of barnyards during the busy season of summer is a grievous thing to behold. The manure made in the winter that is past lies bleaching in the sun. The spring rains have washed away most of its soluble and most valuable portion. It is yet as coarse and unrotted as when the snow melted from its surface. The few additions which have been made to it are dry and fresh as when put out. In this condition it is useless as plant food. Decomposition must take place before organic matter, or anything that has lived and grown, can become a part of another living and growing thing. If the manure had been, or is even now gathered and piled into a compact heap, it will rapidly ferment and decompose. This fermentation and decomposition disorganizes the substances of which it is composed, and reduces it to its original elements in great part. Then it becomes fit food for plants. But the fermentation induced by moisture and heat in organic matter rapidly spreads through a mass from any central point. A large mass of sods, coarse weeds, rakings of harvest-fields, potato tops, swamp muck, animal offal, or such matters, is brought into active fermentation by the mixture through it of a small portion of stable manure, bone dust, sweeping of poultry houses, lime in a caustic state, or unleached wood ashes. In a month such a mass, say of a hundred loads, may be brought into condition for use upon fall wheat, and if only one-tenth of it consists of stable manure, the other nine-tenths have acquired an almost equal value. Where stable manure is not to be had, or bone dust cannot be afforded, but where the other materials are at hand, a valuable fertilizer may be obtained from them alone. Swamp muck, mixed with one twentieth its bulk of fresh lime, will be brought in four weeks of the present warm weather to a fine condition for use, and ten to twenty loads per acre of such a compost upon a field sown to wheat early in September will go far to replace an equal amount of fair stable manure. If there is an ample supply of stable manure, the admixture of lime is not advisable. It would set free the ammonia produced by the fermentation as soon as formed, and unless some absorbent were provided in large quantity, it would escape into the air and be lost. The better plan would be to sow the lime after the manure had been spread, and mixed with the soil. It should then be harrowed in with the seed, or left upon the surface to be dissolved by the rain and carried into the soil."

#### External Signs of Mature Grain.

Oats are subject to great loss by shelling when dead ripe, and the straw becomes of little value for fodder. Indeed, the straw of all grain loses much of its value for feed from this cause. This is a point to seriously consider when the exact time occurs, which not only gives the greatest value to the grain, but at the same time retains the greatest possible feeding value in the straw.

As there are so many contingencies which affect these results, some of which we have pointed out, it is important that farmers should make some experi-

ments themselves by cutting a few sheaves in different stages of ripeness, and accurately testing the results. When the straw changes from a green to a whitish yellow is generally the time to cut grain upon moist soils or in wet weather. At this time the grain will be plump and sufficiently soft to be crushed with the thumb nail, but yet will be dry and not doughy in the interior. Under other conditions it is better to allow the crop to stand until the straw becomes a darker yellow, and the grain harder.

If the grain is to be threshed as it comes from the field, it may remain until it is fully ripe and shells freely when rubbed in the hand, and that portion which has been selected for seed should be cut the last of all. The fine-skinned white wheats, such as the Diehl or White Mediterranean, and the light amber wheats, such as the Treadwell, need to become riper before cutting than the thicker skinned red wheats, which lose somewhat of their value for milling by standing until dead ripe.

The yield of flour from the hard wheats is lessened by allowing them to stand too long, and the loss by shelling is also greater. The same rule applies to rye and barley, and both these grains are of better color and of greater value when cut before complete maturity has deepened the natural tint of the husk.—N. Y. Herald.

#### Summer Fallowing

The following detail of experience in regard to summer fallowing by a correspondent of the *Practical Farmer*, is well worthy of a thoughtful perusal. It were well if all who till the soil would carry on their operations in a like observant manner, making record of the results for the benefit of others.—

In the summer of 1872 I fallowed 100 acres, ploughing it in June first time, and kept it free from weeds until seeding time, at which time the soil was in the very finest condition, a large portion having been ploughed three times and thoroughly harrowed and pulverized and packed with the roller.

It was seeded to wheat with drills at the usual season, which came up and stood the winter well, and grew off in the spring splendidly. But just as it commenced to head out it began to break down with its own weight, the straw being very soft and weak, and it did not fill, and was a total loss.

On other land adjoining it, which had been part in wheat and part in oats the same season, and was ploughed, harrowed, and rolled and seeded in the usual way, and at about the same time as the fallow ground, it stood up and filled well until the storms came, just before cutting time and blew it down. We cut it, however, while that on the fallow was worthless.

Another very striking effect of summer fallowing, which I am about to relate, happened last year in the following manner:

About the 10th of June there came a very heavy rain, (upon the already very wet soil)—it being a very wet and backward spring here, which prevented us from planting corn. We had one "land" of two acres that was ploughed, which we did not get planted in corn in consequence of the wet, and several acres which we did not plough at all. In the latter part of June we reploughed the two acres of land and planted to beans, but owing to the continued wet they did not come up; so on the 28th of July we ploughed these two acres the third time and sowed it to turnips; the bugs destroyed them as fast as they came up, and thus the ground was ploughed three times, but no crop grew upon it, not even a crop of weeds.

Now, the effect upon the ground is this. This season we have ploughed and planted the whole field in corn, the ground on either side of the two acres which had been ploughed three times last season was all ploughed and planted on the same day this season, the two acres working much the finest; but to-day the growing corn on each side of this fallow is very nearly twice as large as that on the fallow ground, and is of a dark, healthy growth, while the fallow is of a sickly, dull cast.

In another part of the field, which was ploughed once in July last, and was ploughed and planted this season the same as that part which was not ploughed at all last year, there is a marked difference in the appearance of the corn now growing upon it in favor of that which was not ploughed at all, and upon which a large growth of weeds and grass grew last season, and was burned off late in the fall.

Now, what is the cause of these results, which are not at all favorable to summer fallowing, or my farm at least?

The causes which suggest themselves to me are, first, that it is a requisite to the fertility of the soil

that the surface be covered with a growth of vegetation, which is the means, in a, or medium through which and by which the sun and air convey to the earth the properties which they contain and furnish to the soil for the benefit of future crops or vegetation.

Secondly, that the raw soil is deprived of this means of aeration from the air of such properties as it contains for future plant food, and also that it may be the soil is actually giving off at least some of its properties when exposed to the sun and sunshine without its natural covering.

With these facts before me, I conclude that the best way to improve our soil without applying the fertilizers is simply to rest it, but not to plough it.

#### Selection of Seed.

All the improvements that have taken place in vegetables, grains, or animals, from the original wild stock up to their most highly developed present condition, are due to selection of seed or parents and cultivation and feeding. Without the former the latter is ineffectual, for by selecting the best seed from a well-grown plant, the step gained is permanently held and made the base for another step upward, but if this selection is neglected the next crop reverts to its poor original type, and the gain which has been made is lost. It is well to consider this matter at the present time, when a selection of seed of the best and cleanest character can easily be made. If it is not convenient to select sufficient for the whole crop, a quantity sufficient for an acre or less might easily be selected if only by passing around the field and choosing the largest ears from the thrickest portion of the field, carefully avoiding the gathering the seed of a single weed. In this way we have selected from the edges of a wheat-field, where the plants were fully exposed to light and air, those ears only which were over six inches in length, and which grew from thickly stooled plants. A bushel of seed thus gathered, sown upon an acre of well prepared ground the next year, gave a produce of nearly forty bushels, many of the stools leaving thirty stalks and ears from six to nine inches in length. The produce of this second crop scattered through the neighborhood, being all sold for seed, greatly increased the average yield, and started a general effort toward improving the local varieties. It is not in foreign nor high-priced seed that excellence of quality consists altogether. When an extreme price is paid for selected seed, we do but pay for a service performed by another, that we may equally well perform for ourselves. It is necessary only that it be known what is to be done, and how to do it.

As the sheaves come in from the field the best of them may be laid aside until an opportunity occurs, when every stalk of chess, cockle, ox-eye daisy, or other weed should be picked out, and the grain thrashed by beating the sheaf with a light rod, so that the grain be not cracked or broken. The grain should then be cleaned from chaff, freed from all light seeds, and be kept by itself, and sown thinly by itself in a well-manured spot. Next season from this spot the best heads only should be selected, and the course repeated with care and perseverance for a few years. The payment for the care and labor thus bestowed will be an improved seed, possibly worth double that now grown.—N. Y. Times.

ONE GREAT REASON why the excrement of birds are so rich is, that the solid and liquid are combined in them.

The destruction of the crops and the scarcity of provisions consequent thereupon has compelled many Kosuth county, Iowa, farmers to abandon their farms for a time, and to seek more favorable localities, wherewithal to procure the staff of life. Nearly, if not quite, all of the able bodied men will have left the county within the next three weeks.

SALT acts upon the crop for the most part in an indirect manner. It does not contribute greatly to the growth of plants by its own elements, sodium and chlorine, neither of which are needed by agricultural plants in much quantity. It is therefore frequently of no perceptible advantage. Sometimes, however, a moderate dressing produces remarkable effects.

A POTATO CURIOSITY.—It was one of the Early Rose variety, and Mr. Dearing, of Athens, Georgia, dug it last year and kept it on account of its extraordinary size. When it was cut open the other day, it was found full of well developed young potatoes—a note-worthy number of them! This is one of the most bewildering cases of spontaneous generation on record. The old potato with its progeny has been sent to New York for the inspection of scientists.