

FOR FARMERS AND GARDENERS.

Deterioration of Fruit and Grain.

On this subject, which is one of vital importance—having a bearing alike upon all classes, the artizan and mechanic as well as the farmer and fruit-grower—we print the annexed short, pointed and practical hints, from our well-known, long experienced and scientific horticulturist, Mr. E. Sayers:

By an observation of the fruit and grain in various parts of the States, it will be seen and is by many readily admitted, that in many cases, fruit and grain is fast deteriorating into a sickly, meager state, or, as it is generally termed, "worn out."

THE CAUSE.

This decline in grain I think, may be partly attributed to the continual growing of the seed in the same soil and climate. We all know that the change of pasture is essential to the health and well-being of animals and it is held as a maxim by physiologists that the change of air and climate are not unfrequently essential to the restoration to health of sickly people.

THE REMEDY—EXCHANGE OF SEED.

Now this theory has been for many years acted upon by the best English agriculturists, who annually exchange the seed of wheat, oats, barley, peas, &c., with farmers at a distance. In the exchange it is considered necessary by the parties that the lands should consist of a different quality of soil; hence, the farmer whose land consists of a heavy loam or clay always prefers to exchange with one whose land consists of chalk, sand or of other light texture.

THE RESULT.

By keeping up this requisite correspondence and the care each party takes in cultivating well the grain for seed, a healthy crop is produced for a long course of time, without any material decay.

We appeal to the farmers of Utah and ask, Is your wheat, your corn, your barley, your oats, etc., deteriorating? Have you observed, from successive crops grown on the same land, any visible decrease in the yield per acre or in the size and plumpness of the grain? If you have perceived all of these symptoms of degeneration, there may probably be found a remedy for the first—the diminished yield—in the adoption of a system commonly called the rotation of crops; that is planting, or sowing, as the case may be, the same ground for different crops each year.

This system has been found highly advantageous to the farmer and has been long practiced with success among extensive grain-growers in the east. It is claimed that the rotation system appropriately carried out, exhausts the soil less, while it largely adds to the crops. For instance, we are informed that corn yields well when planted where potatoes grew the preceding year; but, planted as a succeeding crop to wheat, the yield is materially reduced.

However, we apprehend that, in this region, the most serious injury to the agriculturist will arise from inattention and neglect to adopt the means by wisdom and experience approved, for propagating and perpetuating grains in their most perfect type, without deterioration.

To compass this, a very simple and it is said effectual method is recommended by Mr. Sayers—through a judicious routine of exchanges which, he states, has for many years been practiced in England with entire success.

In the United States there has been, on the part of farmers in general, a criminal delinquency in this respect. They have had an eye only to present remuneration, regardless or unconscious of the incalculable injuries that would follow in consequence, to be entailed upon the community in subsequent years. Thus, the son reaps the diminished crop whose seed grain the father aided in degenerating.

In some portions of the States, summer fallowing has been successfully practiced; but this has generally been confined to small farms; while the extensive grain-growers have almost universally failed to use any exertion either to resuscitate their lands or secure good, pure seed. We have seen large fields sown in wheat, year after year, without manure or any other return to the soil to make good the annual exhaustion caused by cropping, till those fields were almost as incapable of raising a crop of grain as the barren beach of the ocean. When a field was thus disabled it was thrown out to common or suffered to lie, perhaps for many years, without cultivation, while another field is doomed to the exhausting process, which, also, in its turn, becomes sterile and is soon abandoned. In a few years the farm is sold for a trifle, being considered nearly worthless, and the avari-

cious despoiler wends his course westward to the Mississippi valley, where, he has been told, the land is rich and inexhaustible. But even there his impoverishing practice soon brings into bad repute the section or quarter section he occupies and he is again prospecting for richer and more profitable lands, which, in all probability, he may not find. Hence the nomadic character of a large proportion of the population of the Western and Middle States.

In thus seeking their fortunes, they become bankrupt themselves and leave behind them the unmistakable signals of their ruthless ravages, imperishably written on those bleak, unfruitful fields that, with the renewing and enriching treatment of the prudent, industrious husbandman, might have dazzled the eye with their full golden grain.

To this wholesale and wanton neglect of their lands by the farmers of the east for the past few years may be traced the steady rise in the market price of breadstuffs. And the evil is becoming wide-spread. Prices, therefore, will of course continue to advance.

Farmers are, to all appearances, departing from the time-honored and well-proved practices so long and encouragingly successful and transferring themselves into the more precarious field of random culture. Some, indeed, have forsaken their noble, honest and independent calling and turned their attention to gambling and counterfeiting—professions not altogether incongruous with, and evidently somewhat allied in spirit to the philosophy of deterioration, which many of them seem to have practically embraced.

We are informed that in some localities in Western New York, where but a few years past, the best grain in the world was produced, there is now little or none grown.

The fruit trees, also, in the same region and in other parts, once celebrated as fruit-growing districts, fail to yield in their strength, as formerly. The delicious fruit with which they were once wont to be laden is rapidly declining in point of flavor and size. What the late and early frosts pass by, the blight and mildew devour. The complaint is general, especially in the Eastern States, inasmuch that New York and other seaboard marts are principally supplied, the present season, from the Southern States—South Carolina, Georgia and Alabama.

What are the conclusions to be drawn from this complication of evils? Most plainly, in our opinion, unless some favorable reverse takes place, a general famine is inevitable.

The haggard looks of famishing multitudes even now almost stare us in the face! It is not a dream—a dismal foreboding of evil to come. It is a reality so stern that we all shall be compelled to meet it, ere long, should nothing occur to give a supernatural check to the rapid degeneration of vegetation and the alarming decrease of crops, both in fruits and grain.

We call upon the farmers, agriculturists, horticulturists and all who have any part or interest in cultivating the soil in the vales of Utah, to arouse to the importance of securing themselves, so far as prudence, foresight, skill and strict adherence to known axioms and approved rules of culture will go, against the distress of famine—an agent of death more terrible in its operations than the earthquake or the plague and more relentless with suffering humanity, because brought to our doors, or at least aggravated by our own imprudence.

Fail not, farmers, to use every means within your power to preserve your grain from degeneration and always secure good seed and seek to improve it yearly, if possible.

Those who are wise and observe these things, always remembering to take due care of their products, may be sure of having something to eat, tho' the foolish and improvident should want.

Spirits in Grain.

A gentleman of extensive practical experience, and who has for several years interested himself in obtaining statistics and general information relative to the culture of grain in this Territory, has furnished us with some important facts in this connection which we take pleasure in laying before our readers, believing that they will prove not only highly interesting, but of benefit to the community at large.

Our informant states that, in order to ascertain what quantity of spirits or alcohol the valley grain contained in proportion to that of any other State, he made inquiry of Mr. Hugh

Moon, a well known, and intelligent citizen, who has been for several years engaged in distilling wholesome whisky, made principally from wheat and other grain.

Mr. Moon, he says, gave him a very interesting account of his experience and practice, the substance of which was about as follows:

That all grain, when properly matured, gives a great quantity of alcohol or spirits. Good wheat will give three gallons to the bushel of 60 lbs., but wheat not well matured will not give half that quantity. He has fully proved, by his own practical experiment, on the culture of wheat, that, if the crop is not well watered at the time of the maturing of the grain, it does not receive its due portion of alcohol and, in many cases, it receives none at all. This he calls dead grain, or grain containing no life, in which case it does not germinate, and this lifeless grain, when under a state of fermentation, putrifies and in this state much deteriorates the quality of the liquor, and, whether it be whisky, brandy or beer, it has the same effect.

From this fact Mr. Moon asserts the just reason, that the beer brewed in the valley is of poor quality, in consequence of the malt being made of ordinary wheat, containing dead grain, as he calls it.

This dead grain rots and deteriorates the liquor whilst undergoing fermentation, and consequently we cannot have either good whisky or beer unless the wheat is of good quality.

This practical theory, if we may use the term, fully proves the great use of a scientific knowledge of applying water at proper times to growing crops of grain. The grain becoming dead is owing to the life, or germinating quality dying in its infant state for want of water to induce the required supply of nutritious qualities from the ground.

The grain certainly may appear to be full and complete to the eye, but, like an egg, produced from a hen, who has not had the companionship of the rooster, it has no life.

Sorghum Sugar Mill in Operation.

On Friday last we visited the sugar factory of Mr. Joseph Young, near the Seventies' Council Hall, where one of the mills imported here the present fall by ex-Governor Young is erected. We were pleased with its work. We were informed that, with two horses, some 60 gallons of juice can be expressed in an hour. It is thought that, when in full operation, 100 gallons of good syrup can be manufactured in twenty-four hours. Six gallons of juice are estimated to make one gallon of syrup.

The factory, though hastily erected, is compact and commodious and we bid Mr. Young good speed in transforming the canes that tower so conspicuously in many parts of the city, into good, wholesome syrup. The sample we tasted at Mr. Y's was very fair, quite thick and only requiring a little more care in neutralizing the acid, to make it first rate. The cane should be fully ripe before cut, it being a settled fact that unripe cane will neither produce as much nor as good syrup as when it is fully matured.

Several other mills are or soon will be in operation.

ERRATA.—The White Portugal Onions alluded to in our last, were four inches in diameter instead of "circumference."

The cabbage in Hemenway's garden is the "Winnestadt," instead of the improved St. John's.

Mr. Sayers has furnished us the following:

New Varieties of Cabbage.—among the new varieties of garden vegetables that have been introduced this season from the Patent Office, that are well adapted to this climate, are the Winnestadt and St. John's Drumhead Cabbages. The Winnestadt is an early variety; comes into use about ten days after the Early York. It is a good, tender cabbage, forms a compact, sloe head, in shape of a pyramid, grows to a good size and will make a good fall cabbage if sown late, about the middle of May.

The St. John's Drumhead is very similar to the late Flat Dutch and has a flat, compact drumhead shape and is well worth cultivating.

Large Melons, &c.—Mr. James Brown, of Ogden, writes us, Sept. 13, that in the gardens of Joseph Skeen and William Raymus, of Plain city, about eight miles north-west of Ogden, he saw "scores of water melons from 20 to 24 inches round and weighing from 30 to 34 lbs." A squash measuring 5 feet 8 1-2 inches in circumference, weighed 70 lbs. He adds: "Beat this in your rich bottoms and we will try again." Pretty good for the first effort.

Fruit Stealing.—We have an article on this subject which contains some new ideas; it will be printed in our next. Look out, boys!

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A TREATISE ON HORTICULTURE.

BY E. SAYERS, HORTICULTURIST.

No. 12.

PRACTICE OF IRRIGATION.

It requires some experience to well understand the proper use of water and the proper time of its application to crops in their various stages of growth.

Many persons hold long arguments on the state the water should be in when applied, and contend that many crops are chilled, as it were, by applying the water when too cold or at the wrong time of the day. This argument, to any person acquainted with the practice of irrigation, needs but little inquiry, for the reason that no plants ever require water until they arrive at a state of growth when the natural temperature of the air will be equally natural to the plants.

CUCUMBERS, MELONS, ETC.

And indeed any other plants, when forced at an early season, require that water should be warmer than out of doors, to be congenial to the plants.

To see a cultivator take water in the spring, from a pond covered with ice and apply it to a cucumber under glass, growing in a temperature of 60 degrees, we would reasonably infer it was bad management. But as neither cucumbers nor melons will grow in a cold climate until the sun is sufficiently powerful to warm the earth to a certain temperature, the temperature of the water will be equal to that of the ground.

Again, as no crop should be irrigated until they are more than half grown, the time when every plant requires water will be the exact period at which the water will be of the right temperature for the purpose.

IRRIGATING TOO EARLY.

The principal error in irrigation is in applying water to the crops too early. When this is done, the ground becomes close and cold, when it should be loose and warm as the sun can make it by penetrating it deeply; hence too early application of water often chills the ground and makes it in a condition not to receive the necessary and enlivening influences of the sun. The consequence is that the plants are stunted in their growth and the roots cannot descend into the earth to a needful depth.

APPLYING TOO MUCH WATER.

Another error in irrigation is in applying too much water, to saturate the ground, which makes it too close and compact, and in this state the roots of vegetables cannot make a free growth nor penetrate so deep as is necessary to bring the plants to their perfect size and maturity.

OTHER EVILS OF OVER-WATERING.

When vegetables are over-watered they imbibe more than is required for their economy; hence plants often become so overcharged with water that the pores become closed so that the superabundant moisture cannot be carried off, and the water thus taken up by plants becomes putrid and, by a reaction in the plant is often carried downwards through the roots into the ground, where it lies and is again reabsorbed when water is again applied to the ground.

THE POSITIVE INJURY DONE.

It is impossible that a plant in this state can make any growth, as it becomes stunted, turns yellow and continues in a sickly state during the season.

THE ONLY REMEDY

In this case it is to work the ground well about the roots, so as to give free access to sun and air, to warm and neutralize the earth and carry off the sour, putrid substances around the roots.

GENERAL DIRECTIONS FOR IRRIGATING.

No precise rule can be stated for the time or manner of applying water to crops of grain or vegetables; but, in all instances, the rule should be to keep the ground as open as possible and the hoe should be often applied a day or two after watering.

Most plants require but little water in the early stage of their growth. As they increase in growth, the watering should also be increased, particularly when such varieties as peas, beans, wheat and all kinds of grain are in flower or blossom and from thence until the seed or grain is well formed and partly in a matured state. When nearly matured the watering may then be suspended for the seed to ripen.

IT IS AN IMPORTANT ITEM

That all kinds of seed and grain should be well watered when maturing. When plants are neglected in this state it is impossible for the seed to be perfect; it will neither have its full share of nutritious qualities, or form its germ in a strong, robust state, to produce a new and healthy plant when inserted in the ground another season.

IN WATERING FRUIT TREES

Care should always be taken not to continue irrigating too late in the season; particularly the peach tree, in low wet ground; when this is done, the young wood is kept in a growth state too long and the consequence is that it is not matured or well ripened, which is the cause of the wood being winter-killed.

THE RULE

Should always be, when the fruit of the peach or any other tree begins to ripen, water should be suspended in order that the wood and young fruit buds may be matured before the closing in of winter.