

The chief points for effecting the desired object consist—1, in increasing the functional powers of the tubers; 2, in restricting the metamorphosis of the leaves. We effect both these points in the following manner:—During the 5th, 6th, and 7th week after the tubers had been planted, or in the 4th or 5th week after the planting of rooted shoots, or at any time when the young plants have reached a height of 6 to 9 inches above the ground, the tops of the branches are lopped or clipped by means of the thumb and first finger to the extent of half an inch.* This operation must be repeated the 10th or 12th week after planting, it being immaterial at what hour of the day. This process produces a check to the development of the stem and branches, the consequence of which is an increased effort of the nutritive and assimilating substances, not only upon the functional powers of the tubers, but likewise upon the branches of the aerial stems, which not only benefits the functional powers of the root, but strengthens likewise its leaves and branches so materially that the nutritive substances increased through the physiological activity of these parts are now employed for the improvement of the tubers; besides which, the more vigorous branches and leaves prevent the direct influence of the sun upon the soil and the injurious effect of desiccation. By checking the metamorphosis of the leaves, their transmutation into calyx, corolla, organs of fructification, and petioles, is prevented, which parts are produced at the expense of the nutritious substances reserved in the plant; hence by preventing the metamorphosis of leaves, these substances benefit the development of the tubers. Actuated by such considerations, I tried the experiment in 1846, of clipping the extreme points of the branches of some potato plants which I marked for the sake of distinction. They distinguished themselves in their growth so strikingly by a stronger ramification, larger and darker leaves, from the other plants, that it did not require any marking on my part to recognise them again. The produce of tubers was abundant, and they were quite sound, while the other plants in the neighbourhood upon which I had not tried the experiment, produced without exception not only a much smaller quantity, but the surface of the tubers was likewise uneven, and suffering in numerous instances from the prevailing epidemic. Though I consider this experiment imperfect, and not quite certain in its results, it gave me, nevertheless, encouragement to renew it. I repeated the experiment in April, 1847, upon a low situated piece of land, with the white round potato usually cultivated here, and which suffered only slightly at the period that the disease showed itself for the first time in 1845. They were planted by a farm-servant well acquainted with the method of planting. After they had been weeded, towards the end of May, I tried again my experiment by clipping the tops of the plants of every alternate row; which process was repeated towards the end of June. The success surpassed all my expectations. The stems of the plants which had not been clipped were slender, weak, and possessed only a few leaves. On a neighbouring piece of land tubers of the same quality had been planted on the same day as mine, the herbage of which was left to nature. It looked healthy, even luxuriant, during the first six weeks, but as the plants approached the state of flowering and fruiting, it assumed a more meagre appearance, and resembled the herbage of those plants on my land on which I had not tried the experiment of clipping.—The crop commenced upon this neighbouring land in the middle of August; it was only moderate. The tubers were smaller than usual, very much pitted (pockig) on the surface, and in many instances suffering from rotteness (wasser Paule.) At the end of August the contrast of the plants in the rows which had been experimented upon, in comparison to those which had been left to nature, was so great that it attracted the general attention of the persons who laboured in the neighbourhood, who made continual inquiry after the cause. At that period the stems of those which had been left to nature were withered or dried up, while the others, which I had treated in the manner just described, looked quite luxuriant; the herbage was ample, and the leaves were large and of a dark-green colour, which circumstances caused the greater number of people to believe that these rows had been planted at a later period. The difference in the production of the tubers was equally striking, not so much with respect to the size of the tubers as to the quantity. They were neither pitted (pockig) nor did they show any other disease, only a few were not quite round, which must be ascribed to a late rain, in consequence of which they did not acquire a perfect development. On the other hand, the tubers of the plants which had not been experimented upon, fell off from the stem in spite of the most careful proceedings, and disease and rotteness increased rapidly among them.—Far be it from me to assert that I am able to explain the nature of the disease which has recently shown itself among the potatoes, but I am certain of having found a remedy which invigorates the potatoe plant in such a manner as to resist the influence of the prevailing disease. If any person should feel inclined to relinquish the cultivation of the potato for fear of the trouble connected with this operation, which might be done by children, I would remind him that from an equal area of land twice the number of

* It would be a sad disappointment for the purpose of producing the desired result if the process of clipping the branches exceeded half an inch.

persons may find nutriment if planted with potatoes as if planted with wheat.

REMEDY FOR THE POTATO DISEASE.—A paper appears in the 'Agricultural Bulletin,' from which we learn that a chemist, named Eusobius Griss, had been paying great attention to the disease, and has found a direct and radical remedy. This gentleman, guided by analogy, has compared the disease of the vegetable to the chlorosis which attacks the human frame; and the idea suggested itself to him whether to apply the same remedies which improve the vitality of the blood, which restore its energy and its colour, might be advantageously restored to in re-animating the languishing vitality and tone of the discoloured leaves. He accordingly had recourse to an application of salts and iron. He watered the plants with a solution of sulphate of iron, containing from 10 to 20 grains to a litre of water, and moistened the leaves with a lighter solution, containing only about three grains to a litre of water. This last method proved much more immediately the efficacy of the remedy than when it is done watering the plants; for in the latter case it might be attributed to a chemical re-action produced in the interior of the soil. A committee was appointed by the Royal Society to test the result of Mr. Griss's remedy. Experiments were made in various parts, some on an extended, some on a smaller scale: they were very successful in regard to the disease itself, and the committee reported that although some further trials were needed to prove facts, yet it was thought probable that this solution might likewise be found valuable in sandy soil.—*Dublin Farmers' Gazette.*

THE WHEAT FLY.

As the Wheat crop on this Island is said to be considerably damaged by the ravages of a grub, miscalled the 'Weevil,' the following description of the real cause of the mischief may prove interesting to our readers. We publish it at the request of the committee of the Royal Agricultural Society. It is taken from an Essay on the Wheat Fly, by Asa Fitch, M. D., Salem, New York, published in the *American Quarterly Journal of Agriculture and Science.* Under the name of the Wheat Fly the author includes the *Cecydomyia tritici*, previously discovered by the Naturalist Kirby, and another species differing from the above in its spotted wings, and first noticed by himself. Belonging to the same genus and alike in habits and in transformations, they may both be conveniently described under the same common name.

From the more detailed remarks of the writer, it appears that this fly is an exceedingly minute insect, less than one-eighth of an inch in length, with two wings, spotted in one species, in the other clear. The antennae are about as long as the body, the eyes deep black, face yellow, as also the thorax. The abdomen is throughout of an orange color, more inclining to red than yellow. There are six legs of a whitish yellow color, long and slender, and nearly of the same diameter through their entire length. All the parts of the body are clothed with minute, slender, longish hair. The male is somewhat smaller in size than the female. In searching for this insect in the field, care must be taken to avoid mistaking for it a small black fly, about one-third of the size of the common house-fly, and resembles it in appearance.

The wheat-fly may be met with daily, from the fore part of June, until as late as the middle of August. Although it congregates in swarms about fields of wheat at the time it is in blossom, yet it also occurs in a great variety of other situations. It often enters houses, upon the windows of which it may be observed dancing along the panes of glass. It may also be taken among the grass of pastures and of alluvial meadows that have never been turned up by the plow.

The fly during the sunshine of the day, moves about but little, remaining mostly at rest, or lurking about in the shade furnished at the roots of the growing grain. In the twilight of the evening, it becomes active, and continues so, it is probable, during the entire night; for before the morning sunrise, it may be seen abundantly upon the wing, though less agile than in the evening, as if now become somewhat wearied, or rendered sluggish by the coolness and dampness of the night air. It is during the evenings which succeed hot days of sunshine, that it appears to be most busy and full of life. If a field infested with them be visited with a lantern at this time, such hosts as were little imagined, will be found busily hovering about the grain, the most of them with wings and legs extended, dancing, as it were, slowly up and down along the ears, intently engaged in selecting the most suitable spot where to deposit their eggs. This being found, the insect alights, and standing upon the outer glume or chaff of the kernal, curves its abdomen so as to bring its tip in contact with the surface of the glume. It now toils industriously to insinuate its ovipositor through the scale, which is not accomplished without considerable exertion. Thus the eggs are deposited, from six to ten in number. These eggs are nearly round, very small, of a slightly yellowish

color, and are hatched in about a week after they are deposited.

From this egg proceeds the larva, which is a minute, oblong, soft worm, without feet or hairs, whitish at first, but soon changing to a bright amber or orange yellow color. It moves but slowly, by a wriggling motion of its body. When full grown, this worm is less than the tenth of an inch long, of a rich orange color, and oval shape. Having reached this state about the time that the grain is ready to be cut, it waits a warm rain or heavy dew, when it descends, most probably by night, by gliding down the moistened stock and enters the ground. Here it remains during autumn and winter, preparing for its transformation into a winged insect, when the general heat of spring shall arouse it to a new existence. Facts show that when the grain is cut before the descent of the larva or maggot, great quantities of them are often carried into the threshing-floor, and may be found among the screenings of the wheat. These being kindly emptied out by the farmer into his barn-yard, have a secure asylum provided for them until the coming season.

ITS NATURAL ENEMIES.

It appears that the most effective destroyer of this insect, is the common yellow-bird. (*Fringilla trisilis*, Lin.) This beautiful little bird is in the habit of frequenting grain-fields when the fly is at work, and wood-pecker-like extracts the nascent larva from the ears of the wheat. Alighting, it adroitly grasps the wheat stalk just below the ear, and clinging fearlessly to it, even when swayed to and fro by the wind, with its bill, it parts down the chaff from the grain, and rapidly picks off the worms. Ignorant persons suppose that its object is the kernel of the wheat, not knowing that in common with all our small birds it is the natural friend and ally of the farmer. Sowing the field with lime, at the time when the wheat is in blossom, has been much urged as a remedy against this fly, but facts show that it is not to be depended upon.

Early sowing in the fall so that the wheat will be too far advanced in the spring to be penetrated by the fly, appears the most ready and practicable means of avoiding its destructive effects. In many cases, it is undoubtedly efficacious, but the observations of the writer tend to show that the swarming of the fly covers a space of six weeks or more, during some part of which, the grain must necessarily be in the proper state for the deposition of its eggs.

He recommends that the screenings of the fanning-mill be closely examined, and if the minute yellow wheat worms are numerous in them, the farmer should consider it a sacred duty which he owes to himself and his neighbors, to consign these screenings at once to the flames. If there are but occasional worms among them, let them be emptied into the hog-trough, but never empty them upon the ground, or among the straw of the barn-yard, unless they appear to be entirely free from those vermin. Farther experiments are necessary to determine in what manner the perfect insect may be most successfully attacked.

Arrival of the English Mail.

Examiner Office, Monday, 4 p. m.

As our Paper was prepared for Press we received our files of English Papers, which arrived in the Mail Packet between 12 and 1 o'clock. The intelligence being important and interesting, we delay the publication of our Paper, in order to insert as much as we can possibly make room for.

Threatened Insurrection in Ireland.

[From the European Times, July 29.]

The position of this unfortunate and disturbed country is becoming every day more and more critical. The reign of terror has at length begun. Parliament, in the short space of seventy-two hours, has suspended the Habeas Corpus Act; and already an immense number of warrants, to take up, seize, and imprison all persons to the 1st of March next, who are suspected of being disaffected towards her Majesty's Crown and Government, have been issued; troops in great numbers are being sent into the country, and everything that might and power can do to curb the rebellious tendencies of the people is put into operation with a degree of alacrity and zeal very unusual in the administration of Irish affairs—meantime the people are organising. The south is in a state of extreme excitement, and the cry on all hands seems to be for arms. The clubs are proclaimed, but the leaders, Smith O'Brien, Meagher, Doheney, &c., continue to visit the provinces for the purpose of arming the people. A conflict seems inevitable.

The Lord-Lieutenant has lost no time in bringing into force the new powers with which he has been invested by the passing of the Habeas Corpus Suspension Act. The Banshee left this port with the act on Tuesday night, at eleven o'clock, and reached Dublin on Wednesday morning early. An extraordinary Gazette was published the same afternoon, containing a proclamation, declaring that her Majesty's representative in