

not to appear, and even carried off a third of the finest and most vigorous looking crop ever seen. The above must, then, contradict many of the theories which have been advanced as to the cause and origin of the disease. It cannot be owing to any *degeneration* in the plant itself or to any corruption or exhaustion of the land, or from over dunging, as some imagine. If you think this letter worthy of insertion, as throwing any light (if it be only of a negative character) upon the question of the potato disease, either by settling disputed theories, or by preventing Farmers from taking useless precautions and making vain experiments, it is at your service for insertion.—*Cor. of Mark Lane Express.*

From the Scottish Farmer.

ON REAPING CULMIFEROUS CROPS BEFORE THE PLANTS REACH MATURITY.

The value of a crop is expressed by the quantity and quality of produce; and when considering the stage at which grain ought to be reaped, my observations are intended to bear on these essentials, and if possible, to connect them together.

When a culmiferous plant reaches maturity, the straw becomes stiff, sapless, and the ear curved towards the earth; the grain is hard and loose in the chaff. When such effects are manifest, crops are said to be ripe, and frequently not reaped until arrived at this stage of maturation. Some individuals, however, reap crops before the plants reach maturity, and the system is called green-cutting. But green-cutting must be used in a comparative and restricted sense.—It is green only when compared with dead ripeness; and there is a stage of maturity previous to which it must be injurious to reap corn.

Corn is green cut when the straw is full of sap, green in colour—except the part immediately below the ear, which is commonly yellow—the grain soft, though not milky, and the whole plant perfectly pliant. Sometimes, however, the straw immediately below the ear does not become yellow, as in adverse seasons, when it partakes of the dingy green then common to the plant; and in such cases, the stage of maturity for cutting green is indicated by the general appearance of the plant—a thorough knowledge of which can only be acquired in the school of practice.

That culmiferous crops die downwards, might be demonstrated physiologically, and observation leads to the same conclusion. The extreme part of the plant, the ear, first assumes the hue that indicates decay: then that portion of the stalk immediately below the ear, and the change gradually proceeds downwards. The curved ears, which characterise matured crops, are evidence of the plant dying downwards: because, if the lower part of the stalk ripened first, it would be unable to support the heavy, unripened ear. It therefore appears that the grains

of culmiferous crops cease to have intercourse with the rest of the plant before the curvature of ear takes place; and all that is obtained after this symptom is the ripening of straw. The economy of nature is strikingly displayed in the dying of the plant and curvature of the ear.—By the plant dying downwards, the under part of the stalk retains strength to support the curved ear, in which position the grains often drop out and replenish the earth; whereas, were the lower extremes first to die, the heavy ear would fall prostrate, and the grains germinate in the chaff without being in contact with the ground.

Since corn dies downwards, it is evident that when the circulation of juices ceases in that part of the stalk immediately below the ear, the grains derive no further benefit from the rest of the plant, or from the earth; and to delay reaping a crop when at this stage of maturity, is unnecessarily exposing it to the weather. But crops may with propriety be reaped seven or eight days before reaching this state, because the juices which are assimilated in the grains during the interval proceed from receptacles in the plant, and not from the ground; and the circulation of these juices is continued, although the crop is severed from the earth. The fact of juices continuing to circulate after plants are separated from the earth, could be supported by many illustrations from the vegetable kingdom; but an experiment that lately came under my notice will serve for the present, and tend to point out the advantages of green reaping generally.

Last season the occupant of the farm of Muirton cut two ridges of wheat, and left uncut alternately over a portion of a field; and at the expiry of fourteen days the other ridges were cut, the weather, in the interval, having been damp and cloudy. The wheat stood in the field until dry; both kinds being thrashed and carried to market on the same day. The ripe cut portion of wheat yielded 28 lbs. more on the whole extent than the green cut one; but the grain of the latter was much clearer and brighter in colour than the former, and sold at 5s. per quarter higher, although both were equally dry. I had an opportunity of seeing the first cut portion on the day it was reaped, and testify the straw to have been full of sap, and perfectly green in colour, with the exception of a small portion below the ear being yellow.

HIGHLAND SHEEP-DOGS.

The shepherds' dogs in the mountainous districts often shew the most wonderful instinct in assisting their masters, who, without their aid, would have but little command over a large flock of wild black-faced sheep. It is a most interesting sight to see a clever dog turn a large flock of these sheep in whatever direction his master wishes, taking advantage of the ground, and making a wide sweep to get round the sheep with-

out frightening them, till he gets beyond them, and then rushing barking from flank to flank of the flock, and bringing them all up in close array to the desired spot. When, too, the shepherd wishes to catch some particular sheep out of the flock, I have seen him point it out to the dog, who would instantly distinguish it from the rest, and follow it up from the rest till he caught it. Often I have seen the sheep rush into the middle of the flock: but the dog, though he necessarily must have lost sight of it amongst the rest, would immediately single it out again, and never leave the pursuit till he had the sheep prostrate, but unhurt, under his feet. I have been with a shepherd when he has consigned a certain part of his flock to the dog to be driven home, the man accompanying me farther on the hill. On our return, we invariably found that he had either given up his charge to the shepherd's wife, or some other respectable person, or had driven them, unassisted, into the field, laying down himself at the narrow entrance to keep them from getting out till his master came home. At other times, I have seen a dog keeping watch on the hill, on a flock of sheep, allowing them to feed all day, but always keeping sight of them and bringing them home at a proper hour in the evening. In fact, it is difficult to say what a shepherd's dog would not do to assist his master, who would be quite helpless without him in a Highland district. Generally speaking, these Highland sheep-dogs do not shew much aptness in learning to do anything not connected in some way or other with sheep or cattle. They seem to have been brought into the world for this express purpose, and for no other. They watch their master's small crops of oats or potatoes with great fidelity and keeness, keeping off all intruders in the shape of sheep, cattle, or horses. A shepherd once, to prove the quickness of his dog, who was lying before the fire in the house where we were talking, said to me, in the middle of a sentence concerning something else, "I'm thinking, sir, the cow is in the potatoes." Though he purposely laid no stress on these words, and said them in a quiet unconcerned tone, the dog, who appeared to be asleep, immediately jumped up, and, leaping through the open window, scrambled up the turf roof of the house, from which he could see the potato field. He then, not seeing the cow there, ran and looked into the byre where she was, and, finding that all was right, came back to the house. After a short time the shepherd said the same words again, and the dog repeated his look-out; but on the false alarm being a third time given, the dog got up, and, wagging his tail, looked his master in the face with so comical an expression of interrogation, that we could not help laughing aloud at him; on which, with a slight growl, he laid himself down in his warm corner, with an offended air, and as if determined not to be made a fool of