for naked fallow, affording succulent food for cattle and sheep, increasing the fertility of the soil, and thus ensuring heavy crops of grain and hay; therefore, the culture of turnips is considered in Great Britain "*the main stay of all good husbandry on those soils to which it is adapted.*"

A TEST FOR SOUND SEED POTATOES.

"From the now generally diseased state of the potatoe, it appears to us that there is but one way to test the seed before planting, which, if properly attended to, will prevent those melancholy results that may be anticipated in the crop. It is this: select from the potatoes proposed for seed, a dozen or two; cut them with a sharp knife into sets, then put them on the floor of a potatoe house, or any other place free from damp, with the skin next the floor; if, upon examining them three or four days after, it should be found that the incision has dried up, and is covered with a kind of new skin, be assured that the seed is wholesome—plant it. But if, on the contrary, the wound is found to be wet, sluggish, and spotted, touch not the unclean thing, but be certain that the constitution of the potatoe is exhausted. This experiment should not be tried until vegetation has completely taken place, say about the middle of April."—*Dumbartonshire Farmer.*

CHARCOAL.

Various experiments made with charcoal to ascertain its influence upon vegetation have established its extraordinary powers; and as this substance is easily obtained in our Provinces from the slow combustion of wood, during which the air is excluded, we would earnestly recommend the employment of it. We may here observe that we have often seen grass and shrubs growing with rank luxuriance around the margin of charcoal heaps in the woods. To the Horticulturist charcoal will be found an invaluable agent as a substitute for humus in exhausted soils; and we would suggest among other experiments the trial of it upon Indian corn, viz. a few spoons-full on each hill.

Vegetable mould, or *humus*, which is the product of decaying vegetable matter, is, according to Leibig, constantly although very slowly emitting carbonic acid around the roots of plants, supplying them with this important principle in soils permeable to the air. "An atmosphere of carbonic acid surrounds every particle of decaying humus, the cultivation of land by loosening the soil causes a free and unobstructed access of air" around the roots; "an atmosphere therefore of carbonic acid is contained in every fertile soil, and is the first and most important food for the young plants, that grow in it." This will explain in part the beneficial effects of charcoal, which readily condenses carbonic acid, attracting a fresh supply as fast as it loses it from absorption by the roots of plants. In this manner it acts as an excellent substitute for humus. But its influence is not confined to the carbonic atmosphere, which it affords. Charcoal absorbs ammonical gases very largely and condenses the ammonia in its pores. These are very readily separated by water, and as carbonic acid, water and ammonia are indispensably requisite for the existence of plants, the beneficial effects of charcoal must be obvious. Rain or river water are requisite to secure the favourable influence of charcoal upon vegetation; owing to their containing some compound of nitrogen, without the assistance of which charcoal and *humus* are deprived of their powers upon vegetation; for experiment has proved that vegetation is not promoted and matured with charcoal and pure distilled water. Plants thrive in powdered charcoal, and may be