

Light, dry, friable loams, or sands of tolerable consistence, are the best soils for potatoes; but they will grow upon almost any land that is not too wet and clayey; reclaimed bogs and peat land, well drained, produce good crops; alluvial soil yields a good return, but green sward and burnt new lands are most favourable to their growth and quality. It is probable, however, that different kinds of potatoes would thrive equally well on different soils, as regards the weight of produce, although the nutritive qualities might differ.

The product of 4 eyes, cut from the same cluster of potatoes, and planted on 4 different soils, was—

On a strong rich loam,	34 lbs.
On a light rich loam,	29 "
On a good gravel,	19 "
On a sandy soil,	13 "

This experiment is by no means conclusive, as another kind of potatoe, on the same soils, might have reversed the proportions—the above shews merely the difference of weight. An analysis of the various quantities, by shewing the quantity of starch in each, would have determined the actual preference of the soil, as the amount of nutritive matter is not always in proportion to the amount of bulk. We would therefore suggest to our farmers the expediency of ascertaining the fitness of particular soils to particular potatoes, with a subsequent inquiry into the quantity of nutrition in each. This may be easily done by planting one hill of the same kind of potatoe in different soils, measuring the weight yielded from them, and ascertaining the quantity of starch, which is the nutritive principle contained in the respective products. This may be effected by those who do not understand chemical analysis, in the following manner: grate the potatoe, diffuse the pulpy mass through a large quantity of cold water, and allow it to remain at rest for a little while; in this process the saccharine and mucilaginous matters that exist in the potatoe are dissolved by the water

—the starch being insoluble, and heavier than water, falls to the bottom in the form of a fine powder, and the fibrous matter floats above. It may be purified by washing it repeatedly with cold water, and pouring off the supernatant liquor, after the deposit of the starch. On the large scale, the supernatant liquid is not poured off until it begins to ferment; a larger quantity of starch is procured in this manner, and the fibrous matter is more easily separated.

The starch, (or fecula,) is obtained mechanically in this way from the potatoe, and in like manner from the fruit and roots of other plants. Potatoe-flour, Indian arrow root, British and foreign tapioca, sago, and cassava, consist almost entirely of starch. We may here observe, that the nutritive power of the potatoe is increased when it is eaten in conjunction with flesh, or substances containing *gluten*, viz. wheat or oats, as the gluten renders the starch capable of assimilation, or digestion. Thus potatoes, when given with hay alone, are scarcely capable of supporting the strength of a horse, but form with hay and oats a strong and wholesome food. For it has been observed, that granules of unchanged starch have been discovered in the excrements of persons who live almost exclusively upon potatoes, while none was discoverable in the discharges of those who took some flesh or glutinous food with them.

The chemical analysis of the potatoe has discovered the following constituents, viz.

Starch,	- - - - -	13	3
Water,	- - - - -	73	12
Albumen,	- - - - -	0	92
Uncrystallizable sugar,		3	30
Volatile poisonous matter,		0	05
Peculiar fatty matter,	-	1	12
Parenchyma,	- - -	6	79
Malic acid and salts,	-	1	40

We may here observe that starch is converted into sugar when germination takes place; this is exemplified in the malting of barley. This loss of starchy principle after germination