

He thus raised many new varieties, some like the graft or like the stock; others having an intermediate character. Several persons witnessed the digging up of the tubers from these graft-hybrids; and one of them, Mr. Jameson, a large dealer in potatoes, writes thus, "They were such a mixed lot, as I have never before or since seen. They were of all colours and shapes, some very ugly and some very handsome." Another witness says "some were round, some kidney, pink-eyed kidney, piebald, and mottled red and purple, of all shapes and sizes." Some of these varieties have been found valuable, and have been extensively propagated. Mr. Jameson took away a large piebald potato which he cut into five sets and propagated; these yielded round, white, red, and piebald potatoes.

Mr. Fitzpatrick followed a different plan;¹¹⁰ he grafted together not the tubers but the young stems of varieties producing black, white, and red potatoes. The tubers borne by three of these twin or united plants were coloured in an extraordinary manner; one was almost exactly half black and half white, so that some persons on seeing it thought that two potatoes had been divided and re-joined; other tubers were half red and half white, or curiously mottled with red and white, or with red and black, according to the colours of the graft and stock.

The testimony of Mr. Fenn is of much value, as he is "a well known potato-grower" who has raised many new varieties by crossing different kinds in the ordinary manner. He considers it "demonstrated" that new, intermediate varieties can be produced by grafting the tubers, though he doubts whether such will prove valuable.¹¹¹ He made many trials and laid the results, exhibiting specimens, before the Horticultural Society. Not only were the tubers affected, some being smooth and white at one end, and rough and red at the other, but the stems and leaves were modified in their manner of growth, colour and precocity. Some of these graft-hybrids after being propagated for three years still showed in their haulms their new character, different from that of the kind from which the eyes had been taken. Mr. Fenn gave twelve of the tubers of the third generation to Mr. Alex. Dean, who grew them, and was thus converted into a believer in graft-hybridisation, having previously been a complete sceptic. For comparison he planted the pure parent-forms alongside the twelve tubers; and found that many of the plants from the latter¹¹² were intermediate between the two parent-forms in precocity, in the tallness, uprightness, jointing, and robustness of the stems, and in the size and colour of the leaves.

Another experimentalist, Mr. Rintoul, grafted no less than fifty-nine tubers, which differed in shape (some being kidneys) in smoothness

¹¹⁰ 'Gard. Chron.,' 1869, p. 335.

¹¹¹ 'Gard. Chron.,' 1869, p. 1018, with remarks by Dr. Masters on the ad-

hesion of the united wedges. See also *ibid.*, 1870, pp. 1277, 1283.

¹¹² 'Gard. Chron.,' 1871, p. 837.