

and colour,¹¹³ and many of the plants thus raised "were intermediate in the tubers as well as in the haulms." He describes the more striking cases.

In 1871 I received a letter from Mr. Merrick, of Boston, U.S.A., who states that, "Mr. Fearing Burr, a very careful experimenter and author of a much valued book, 'The Garden Vegetables of America,' has succeeded in producing distinctly mottled and most curious potatoes—evidently graft-hybrids, by inserting eyes from blue or red potatoes into the substance of white ones, after removing the eyes of the latter. I have seen the potatoes, and they are very curious."

We will now turn to the experiments made in Germany, since the publication of Prof. Hildebrand's paper. Herr Magnus relates¹¹⁴ the results of numerous trials made by Herren Reuter and Lindemuth, both attached to the Royal Gardens of Berlin. They inserted the eyes of red potatoes into white ones, and *vice versa*. Many different forms partaking of the characters of the inserted bud and of the stock were thus obtained; for instance, some of the tubers were white with red eyes.

Herr Magnus also exhibited in the following year before the same Society (Nov. 19, 1872), the produce of grafts between black, white, and red potatoes, made by Dr. Neubert. These were made by uniting not the tubers but the young stems, as was done by Mr. Fitzpatrick. The result was remarkable, inasmuch as all the tubers thus produced were intermediate in character, though in a variable degree. Those between the black and the white or the red were the most striking in appearance. Some from between the white and red had one half of one colour and the other half of the other colour.

At the next meeting of the society Herr Magnus communicated the results of Dr. Heimann's experiments in grafting together the tubers of red Saxon, blue, and elongated white potatoes. The eyes were removed by a cylindrical instrument, and inserted into corresponding holes in other varieties. The plants thus produced yielded a great number of tubers, which were intermediate between the two parent-forms in shape, and in the colour both of the flesh and skin.

Herr Reuter experimented,¹¹⁵ by inserting wedges of the elongated White Mexican potato into a Black Kidney potato. Both sorts are known to be very constant, and differ much not only in form and colour, but in the eyes of the Black Kidney being deeply sunk, whereas those of the White Mexican are superficial and of a different shape. The tubers produced by these hybrids were intermediate in colour and form; and some which resembled in form the graft, *i.e.* the Mexican, had eyes deeply sunk and of the same shape as in the stock or Black Kidney.

¹¹³ 'Gard. Chron.,' 1870, p. 1506.

¹¹⁴ 'Sitzungsberichte der Gesellschaft naturforschender Freunde zu

Berlin,' Oct. 17, 1871.

¹¹⁵ *Ibid.*, Nov. 17, 1874. See also excellent remarks by Herr Magnus.