

leaf-buds. Thus: I. All the leaf-buds active and open, as in the wild-cabbage, kail, &c. II. All the leaf-buds active, but forming heads, as in Brussel-sprouts, &c. III. Terminal leaf-bud alone active, forming a head as in common cabbages, savoys, &c. IV. Terminal leaf-bud alone active, and open, with most of the flowers abortive and succulent, as in the cauliflower and broccoli. V. All the leaf-buds active and open, with most of the flowers abortive and succulent, as in the sprouting-broccoli. This latter variety is a new one, and bears the same relation to common broccoli, as Brussel-sprouts do to common cabbages; it suddenly appeared in a bed of common broccoli, and was found faithfully to transmit its newly-acquired and remarkable characters.

The principal kinds of cabbage existed at least as early as the sixteenth century,⁷⁰ so that numerous modifications of structure have been inherited for a long period. This fact is the more remarkable as great care must be taken to prevent the crossing of the different kinds. To give proof of this: I raised 233 seedlings from cabbages of different kinds, which had purposely been planted near each other, and of the seedlings no less than 155 were plainly deteriorated and mongrelized; nor were the remaining 78 all perfectly true. It may be doubted whether many permanent varieties have been formed by intentional or accidental crosses; for such crossed plants are found to be very inconstant. One kind, however, called "Cottager's Kail," has lately been produced by crossing common kail and Brussel-sprouts, recrossed with purple broccoli,⁷¹ and is said to be true; but plants raised by me were not nearly so constant in character as any common kind of cabbage.

Although most of the kinds keep true if carefully preserved from crossing, yet the seed-beds must be yearly examined, and a few seedlings are generally found false; but even in this case the force of inheritance is shown, for, as Metzger has remarked⁷² when speaking of Brussel-sprouts, the variations generally keep to their "unter art," or main race. But in order that any kind may be truly propagated there must be no great change in the conditions of life; thus cabbages will not form heads in hot countries, and the same thing has been observed with an English variety grown during an extremely warm and damp autumn near Paris.⁷³ Extremely poor soil also affects the characters of certain varieties.

Most authors believe that all the races are descended from the wild cabbage found on the western shores of Europe; but Alph. De Candolle⁷⁴ forcibly argues, on historical and other grounds, that it is more probable that two or three closely allied forms, generally ranked as distinct species, still living in the Mediterranean region,

⁷⁰ Alph. De Candolle, 'Géograph. Bct.' pp. 842 and 989.

⁷¹ 'Gardener's Chron.,' Feb. 1858, p. 128.

⁷² 'Kohlarten,' s. 22.

⁷³ Godron, 'De l'Espèce,' tom. ii. p. 52; Metzger, 'Kohlarten,' s. 22.

⁷⁴ 'Géograph. Bct.,' p. 840.