villose, and the largest of its congeners. The *nectaries are small, fringed, and silky.*

A very great many kinds and subordinate varieties are comprehended under this most important and familiar species of wheat, which have not yet been sufficiently investigated either by the botanist or the agriculturist. The chief of these, are the White and Red Lammas Wheat; and these varieties will supply our subjects for description.

3. *Triticum compositum*, or Many-spiked Wheat. *Spikes*, compound. *Spikelets*, crowded. *Corolla*, awned. Native of Egypt, and cultivated at Naples and in the South of France. The *glumes* are smooth. *Awns*, three or four inches long. Linnæus' account of the Many-spiked Wheat is, that it is allied to the Summer or Spring Wheat, but that the spike is four times as large, and a hand in length; formed of spikelets in two rows, alternate, approximating from nine to twelve; the lower ones shorter, but the upper ones single. *Chaff*, smooth, keeled. *Awns* a hand in length. It is probably a variety of *Triticum hybernum*, rather than of *Triticum æstivum*, as Linnæus thought.

4. *Triticum turgidum*, Turgid, or Cone Wheat, and Barley Wheat. *Calyx*, four-flowered, tumid, villose, imbricated, obtuse, with a short point. Native country unknown. The *corolla* varies with or without long awns. The silky or villose glumes alone distinguish this from various awned or awnless varieties of *Triticum hybernum*.

5. *Triticum Polonicum*, Polish, or Poland Wheat. *Calyx*, three or four-flowered, pointed, naked, lanceolate like the corolla, which is compressed with a long awn; teeth of the *rachis*, bearded. Native country unknown. The plant grows large, and yields much flour; but being very easily lodged by rain, it is not much regarded by the farmer. There is no doubt of its being a distinct species. The strength of the whole plant, its large ears, and long, narrow, scarcely tumid glumes, readily distinguish it at first sight. Linnæus defines this *Triticum* as having a two-flowered calyx, the character of *Secale*; but Haller asserts the presence of one, if not two, imperfect florets.

6. *Triticum spelta*, or Spelt Wheat. *Calyx*, imperfectly four-flowered, elliptical, obliquely pointed, shorter than the long-awned corolla. *Straw*, very stout, almost solid. *Spikes*, strong, white. *Glumes*, very Glaucous. The origin of the species is unknown, and the specific character is unsatisfactorily stated It is much cultivated in the southern countries of Europe, and is given to horses in Spain, when barley is scarce. The bread made of it is very dry in quality; but no kind of flour is better for pastry. In the South of France, it is called *épéante blanche*, and is sown in the spring. It ripens in July and August, and requires very strong land. Spelt is supposed to be the *Zea* of the Greeks, and the *Far* of the Romans.

7. *Triticum monococcum*, or One-grained Wheat, or St. Peter's Corn. *Calyx*, angular, strongly toothed, about three-flowered; first floret awned, intermediate one imperfect. Native country unknown. It is much cultivated in the most mountainous parts of Switzerland, where it remains one whole year on the ground. The neat quadrangular form of the ripe ear, as if carved out of ivory, is very remarkable. The straw is hard and firm, and makes excellent thatch. It is less subject to smut than common wheat. The flour is of good quality, and much esteemed for gruels. The bread of it is brown in colour, and light in quality.

For the sake of conciseness, the wheats used in Britain may be reduced to the Red and White varieties, and the Spring and Lammas kinds. The latter is thought to have been got from the former by accidental circumstances, which have imparted the persistent quality. The awns constitute no permanent distinction in any graminous plant.

The Red Wheats are more hardy than the White varieties, and produce more largely on poor soils, and in late situations; but they are inferior in value, as the colour would tinge the flour, if so far driven as white wheats are in the process of grinding. But the flour of red wheats is of very fine quality. The different colours are entirely owing to the soils on which they grow, and it is not a little remarkable, that the grain sooner changes colour than the chaff or straw.

The soil that is best adapted for the growth of wheat, is a deep loam, inclining to clay, with a dry firm subsoil. It requires a large portion of alumen, and also of calcareous matter. Pure clays do not yield large quantities of wheat, but the quality is generally good.

A certain portion of nitrogen is essential to the production of good wheat, that element entering into the composition of the gluten, which will be found to abound in proportion as nitrogen exists in the soil, or can be supplied from the atmosphere. The experiments of Liebig seem to show, that the nitrogen of the atmosphere will not enter into the substance of plants, except in the form of ammonia; and hence the efficacy of manures has, of late, been estimated by the quantity of ammonia which they can produce. But this theory requires much experience for the confirmation of it.

Wheat thrives best on clays that have been well wrought, cleaned, loosened, and pulverised, by the process of fallowing; for, though the plant requires a compact subsoil, some land is found so very stiff and adhesive in quality, as to require loosening of the texture to adapt it for the vegetating of seed, and for the tillering of the roots of plants. Lands that appear to be loose on the surface will produce wheat, provided the subsoil be firm and compact, and at the same time healthy, and not of a repellent nature.

Besides being sown on bare summer fallows,