insect damage, and other causes. The number of primary and secondary branches developed on lentil plants depends mostly on cultivar, stand density, and environmental conditions.

Leaves (Fig. 2) of lentil plants are relatively small compared with those of other large-seeded food legumes and have been described as pinnate or imparipinnate and comprise as many as 14 leaflets that can vary in length from 1 to 3 cm. Each leaf is subtended by two small stipules and terminates in a tendril.

The flowers (Fig. 2) are borne singly or in multiples on peduncles that originate from the upper nodes of the plant. Each peduncle normally bears from one to three, and rarely four, flowers, but seven flowers per peduncle have been reported for plants grown in a glasshouse. The individual flower is complete and has a typical papilionaceous structure. Flowers are small (4–8 mm long) and white, pale purple, or purple blue. The flower has a calyx consisting of five equally elongated sepals that equal or exceed the length of the corolla of the unopened flower. The corolla has a standard, two wings, and two lower petals that lie internal to the wings and are united at their lower margin to form the keel. The stamens are diadelphous; nine are united and the upper vestigial stamen stands alone (Fig. 2). The ovary is flat and glabrous and normally contains one or two ovolves that alternate along the margin. The ovary terminates in a short, curved style. The style is plicate on the inner side and usually develops at a right angle to the ovary and is flattened on the outer side. Flowers are nearly completely self-pollinating.

The pods are oblong, laterally compressed, and 3.5–11 × 6–20 mm and usually contain one or two, but rarely three, seeds. Seeds are lens shaped and weigh 2.0–8.0 g per 100 seeds. The diameter of lentil seeds can range from 2 to 9 mm, and the seedcoat (testa) may be light tan, green or greenish red, gray, brown, or black. The outer and black mottling and speckling of seeds is also common in some cultivars and accessions. Seed size differs according to cultivar, and researchers frequently follow the classification of Barulina, who grouped lentils as "macropserma" (those with large seeds that range from 4 to 9 mm in diameter) and "micropserma" (those with smaller seeds that range from 2 to 4 mm in diameter). The macropserma types are common to the Mediterranean basin and the Western Hemisphere, while the micropserma types predominate throughout the Indian subcontinent and in parts of the Middle East.

The primary product of the lentil crop is the seed, which has high concentrations of protein ranging up to 26%. The vast majority of the crop in southern Asia is decorticated and split to make dhal, which is boiled, flavored with various spices, and consumed mostly as an addition to rice. Lentils can be used in main dishes, soups, side dishes, or salads.

Selected References


(Prepared by F. J. Muehlbauer) (Prepared by W. Chen and H. C. Sharma)