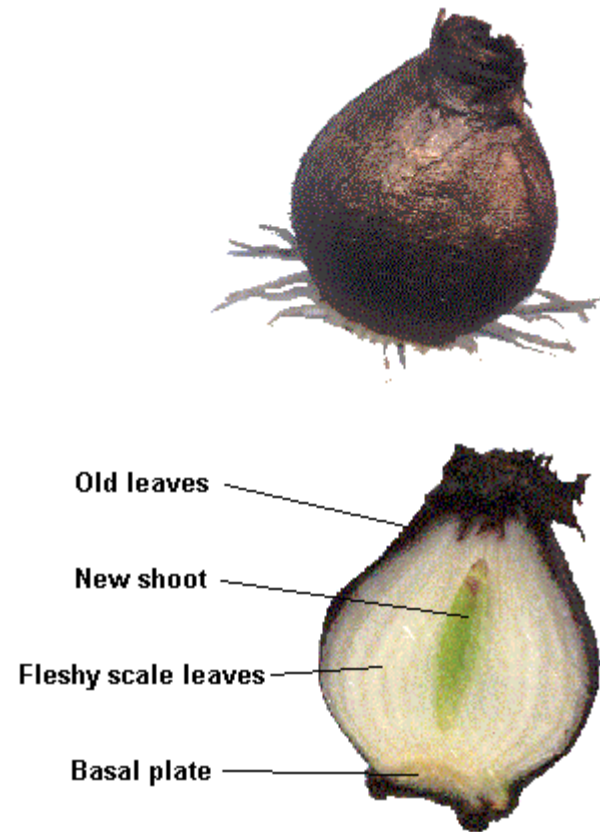


Underground Storage Systems

Bulbs, Tubers, Corms and Rhizomes

Plants have evolved several methods of storing food so they can spring into life when conditions are right. Plants that save their energy resources for future growth are found in places that have a prolonged dry period, either in the winter or in the summer, or where there is too much competition for the available food or water at certain times of the year such as in deciduous woodlands.

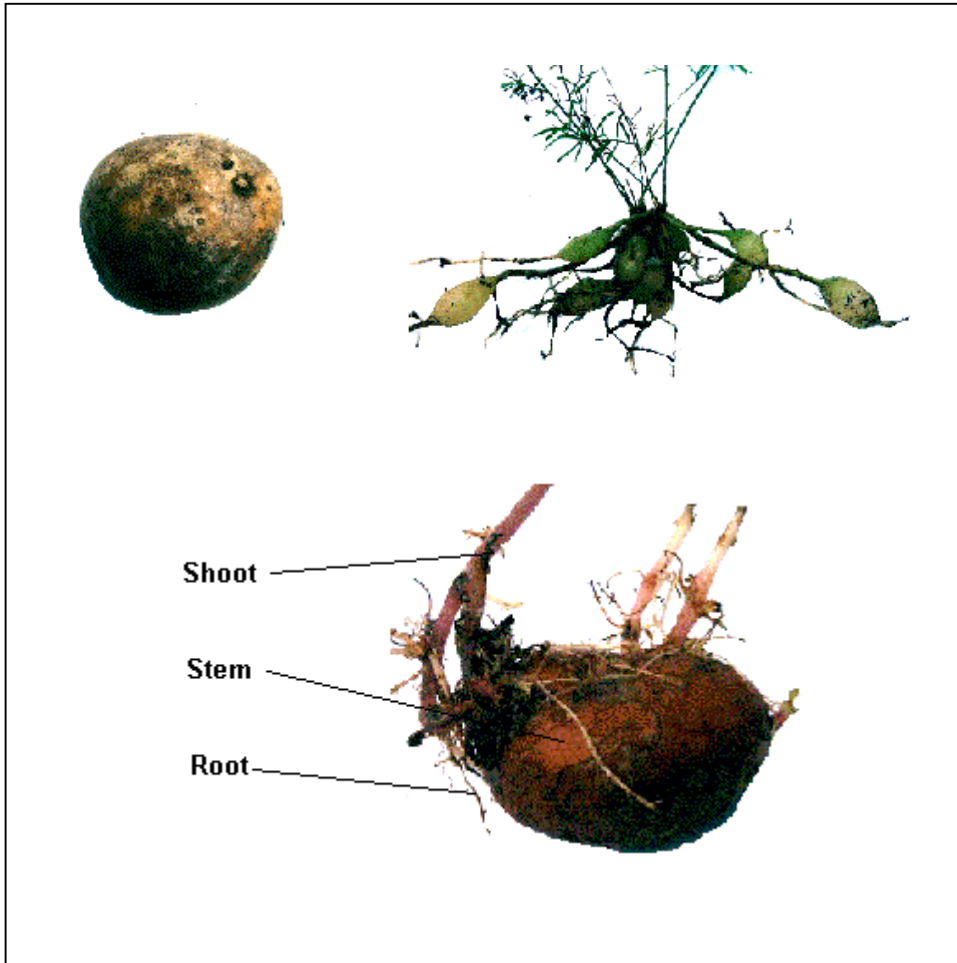
There are several types of underground storage systems formed from modified stems or roots. They are found in members of the monocot plant families *Iridaceae*, *Liliaceae* and *Amaryllidaceae*. Because their purpose is to conserve food for the new growth to use, these roots and stems are relatively large and fleshy. The main types of underground storage systems are bulbs, tubers, corms and rhizomes.



bulb

A bulb is an underground storage organ formed from the plant stem and leaves. During the growing season, the plant uses the food stored in the fleshy scales. At the end of the season, the leaves divert food into new scale leaves for the next season. The old scale leaves form the dried papery covering of the new bulb. New bulbs, called bulblets, are formed around the base of the old bulb. .

Roots grow from the underside of a thin, flat compressed stem, called the basal plate. The body of the bulb is made up of layers of fleshy scales that are modified leaves. In the centre of the bulb is the bud for the next year's flower.



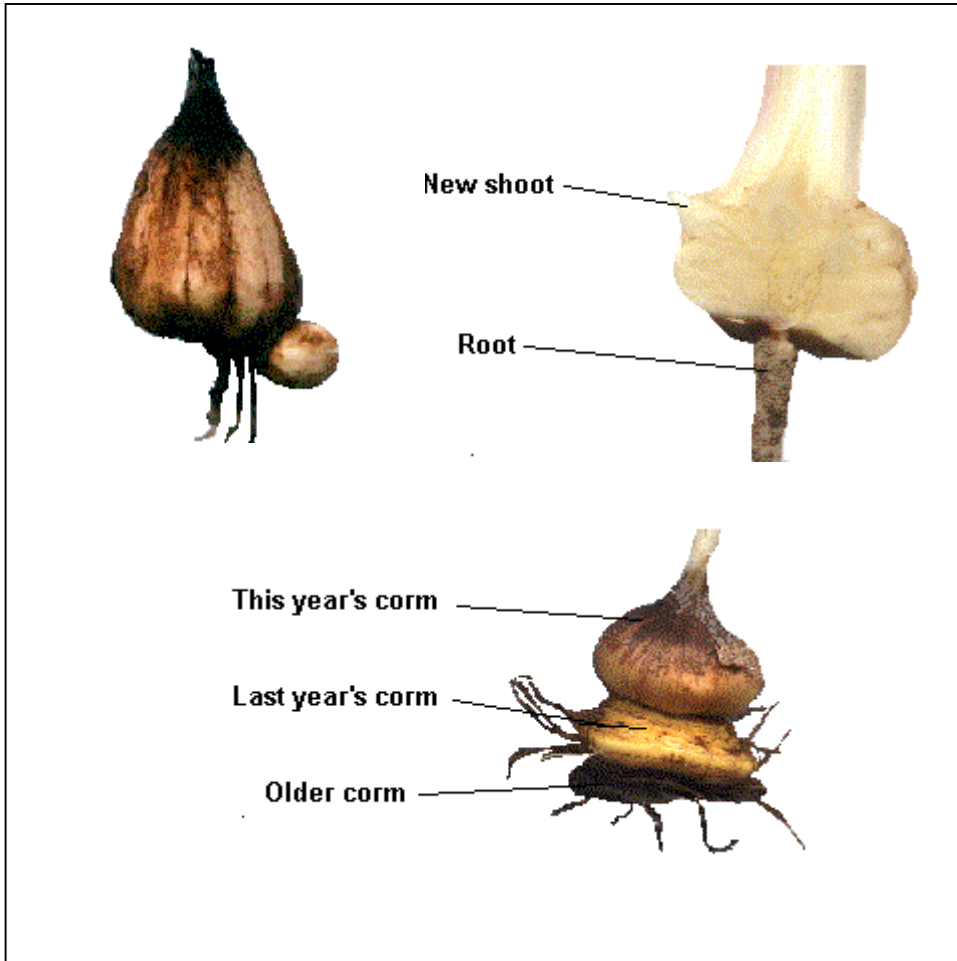
A tuber is a fleshy storage organ formed from either a stem or root.

Some plants form tubers on their roots which are used for storing food.

A potato tuber is formed at the end of the underground stem, and can produce new shoots from eyes or buds on its surface.

During the growing season, the plant uses the food stored in the fleshy tuber, and new tubers are formed at the ends of the current season's underground stems.

tuber

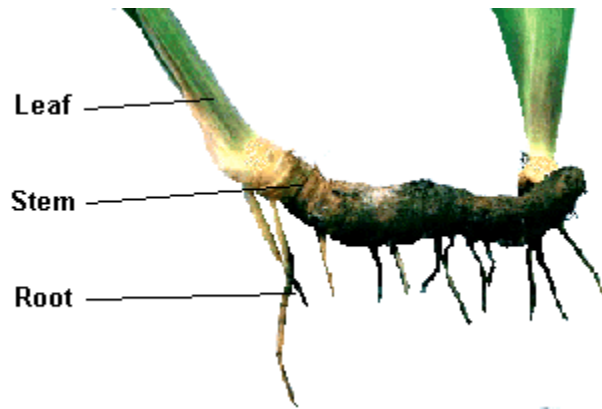


A corm is an underground storage organ formed from the plant stem. It is a mass of solid tissue, without separate fleshy scales, although there is usually a dry papery covering formed of modified leaves.

A corm is formed from the swollen base of the stem, and roots form on the underside of the corm. Buds form at the top of the stem.

During the growing season, the plant uses the food stored in the fleshy stem. At the end of the season, the leaves divert food into producing a new corm on top of the old one.

corm



A rhizome is a swollen stem bearing leaves and roots. It grows horizontally on or just below the surface.

A rhizome is similar to a corm, but new rhizomes are not produced annually. Instead, the older parts die off and the tips of the rhizome grow longer.

A rhizome may be propagated by division, where growth from the ends will produce leaves for a new plant.

rhizome