Various species of Cucurbitaceae have served humans as important foods and as many useful products for more than 10,000 years. In particular, species of *Cucurbita* were a significant source of nutrition for pre-Columbian populations in the Americas. The Cucurbitaceae are largely tropical in origin with different genera originating in Africa, tropical America, and Southeast Asia. Besides the tropics, cultivation of cucurbits is extensive in many temperate regions having long periods of warm weather. Species of important vegetable cucurbits are frost sensitive, although some tolerate low temperatures better than others, and some are adapted to xerophytic conditions.

**Taxonomy**

The Cucurbitaceae family consists of about 120 genera and more than 800 species. Cultivated cucurbits are found in two major tribes: the Cucurbitae and Sicyoideae. Genera of *Cucurbita, Cyclanthera,* and *Sechium* are of New World origin; others originated in the African or Asian tropics.

Major cultivated species of Cucurbitaceae are as follows:

<table>
<thead>
<tr>
<th>Genus and Species</th>
<th>Common Name</th>
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<tbody>
<tr>
<td><em>Benincasa hispida</em></td>
<td>Chinese winter melon or wax gourd</td>
</tr>
<tr>
<td><em>Citrullus lanatus</em></td>
<td>Watermelon</td>
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<tr>
<td><em>Coccinia grandis</em></td>
<td>Ivy gourd</td>
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<tr>
<td><em>Cucumeropsis mannii</em></td>
<td>White-seeded melon</td>
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<tr>
<td><em>Cucumis sativus</em></td>
<td>Cucumber</td>
</tr>
</tbody>
</table>
Cucumis anguria  West Indian gherkin  
Cucumis melo  Muskmelon, other melons  
Cucurbita pepo  Summer and winter squashes, pumpkins and gourds  
Cucurbita maxima  Winter squashes, pumpkins  
Cucurbita moschata  Winter squashes, pumpkins  
Cucurbita argyrosperma (C. mixta)  Winter squashes, pumpkins  
Cucurbita ficifolia  Figleaf gourd  
Cucurbita foetidissima  Buffalo gourd*  
Cyclanthera pedata  Caihua or wild cucumber  
Hodgsonia macrocarpa  Chinese lard fruit  
Lagenaria siceraria  Bottle/white-flowered gourd  
Luffa aegyptiaca (L. cylindrica)  Smooth loofah  
Luffa acutangula  Angular loofah  
Momordica charantia  Bitter melon, balsam pear  
Momordica cochinchinensis  Sweet gourd  
Sechium edule  Chayote  
Telfairia occidentalis  Fluted gourd or pumpkin  
Telfairia pedata  Oyster nut  
Trichosanthes cucumerina var. anguina  Snake gourd  
Trichosanthes dioica  Pointed gourd

Botany

Plants of the Cucurbitaceae generally develop a strong, fairly long taproot and a highly branched network of lesser shallow roots that thoroughly explore the soil. Horizontal root extension is often equivalent to that of aboveground growth. For some species, taproots can achieve depths of 1-2 m, and some perennial species such as chayote and buffalo gourd develop large storage roots. In moist environments, adventitious roots develop at the nodes of some Cucurbita species.

Trailing vine growth with nodal branching is typical for many species. Branch lengths vary, and for some species can extend to 15 m. Vine growth usually is rapid and may be climbing or prostrate. Usually stems are not woody, although hard stems do occur in some species. Stems often have stiff bristlelike surface hairs, although some are glabrous. Some species have stiff hairs on leaf surfaces. Leaves of most cucurbits are simple, alternate, and palmately lobed. Among species,