# Origin of cultivated plants

The information on origin of crop plants is important in plant breeding to locate wild related plants, and new genes.

The Russian scientist Vavilov and his colleagues visited several countries and collected a large number of crop plants and their wild relatives. They used this collection in plant breeding for developing improved varieties.

## Concept of centers of origin

Vavilov considered that great centres of origin were always located in lower mountains and hills of tropical, sub-tropical regions.

### Vavilov's centers of origin

He published and developed a theory on the centres of origin of cultivated plants in 1926. He proposed 8 centres of origin of crop plants,

1. Chinese centre: It is one of the earliest and largest centres of origin of cultivated plants.

This centre includes mountain regions of central and western China. The endemic species listed from this centre are Soya bean, radish, Pear, Peach, Plum, brinjal, oranges, etc.

2. Himalayan centre: It also known as the Indian centre of origin.

This centre includes regions of Assam, Burma, Indo-china and Malayan Archipelago. The endemic species listed from this centre include Rice, red gram, Mung dal, brinjal, cucumber, sugar cane, black pepper, cotton, turmeric, indigo, millets etc.

3. Mediterranean centre: This centre includes borders of Mediterranean Sea

The endemic species listed from this centre include , emmer wheat, oat, barley, pea, cabbage, pepper etc.

4. Abyssinian centre: This region includes Ethiopia and parts of Somalia. The endemic species listed from this centre include Wheat, sorghum, bajra, castor, broad bean, okra, coffee etc.

5. Central Asian centre: This centre includes north-west India, Afghanistan, Uzbekistan and western China.

The endemic species listed from this centre include Bread wheat, club wheat, sesame, muskmelon, carrot, onion, garlic, grape, cotton etc.

6. Asia minor centre: This centre covers East Asian regions like Iran and Turkmenistan. The endemic species listed from this centre include Wheat, rye, Pomegranate, Almond, Fig, Cherry, Walnut, etc.

7. Central American centre: This centre includes southern parts of Mexico, Costa Rica, Guatemala and Honduras region.

The endemic species listed from this centre include Maize,  melon, pumpkin, sweet potato, chilly, cotton, papaya, guava,etc.

8. South American centre: This centre includes Peruvian regions, islands of southern Chile, Brazil and Paraguay regions.

The endemic species listed from this centre include Potato, sweet potato, tomato, papaya, tobacco,  rubber, Ground nut, pineapple

## Crop domestication and loss of Genetic diversity

Crop domestication is the process of artificially selecting plants to increase their suitability to human requirements like taste, yield, storage, and cultivation practices.

There is increasing evidence that crop domestication can alter interactions among plants, herbivores, and their natural enemies

Domesticating plants marked a major turning point for humans to settle in a place and to begin agriculture.

Many such domesticated  plants have similar or the same genes. This makes domesticated crops to lose genetic diversity,  Because of this many plants.  are easily yielded to  a killing disease.