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(Origin of Crop plants)

Origin of Crop plants

The first necessity of human beings is food. The primitive man obtained his food from wild plants. But with advancement of civilisation, the man started cultivated plants to meet the requirements of his food. "Origin of cultivated plants" written by de Candolle in 1883 was perhaps the first concentrated effort on the subject. Origin of crop plants are given below -

1- Origin of Rice :- Rice (*Oryza sativa*)

had originated probably in 3000 BC in South and South-East Asia. The cultivated forms might have been arisen from the wild species of rice like *Oryza perennis*. From India rice moved to China and to Africa and America where during domestication three different forms has been originated - *Oryza indica*, *Oryza japonica* and *Oryza javanica*.

During domestication many morphological, physiological changes have occurred starting from adaptation to habitats.

normal lands and open sun to the shady swamps. Change in leaf shape and size, grain character and other plant type characters differentiated Oryza sativa into three forms.

Origin of Wheat →

Triticum might have been originated about 6000 years ago in Afghanistan and South Western Himalayas and then moved with man westwards and eastwards. In total four species of Triticum is in India - Triticum durum, T. aestivum, Triticum dicoccum and Triticum turgidum,

which are allopolyploids. During domestication the plant type has got change with major changed character in non brittle rachis.

Origin of Cotton →

Out of four species of cotton (Gossypium) under cultivation, two are diploid and other two are tetraploid. The diploid cotton have been originated during Indus Civilization about 2000 B.C. From India two species moved Africa and America and these during domestication the tetraploid species have

Originated.

The major character which have been developed during domestication is the corballed lint and its spinnability. The diploid species are Gossypium arboreum,

Gossypium herbaceum where as the

tetraploid species are Gossypium barbadense, Gossypium hirsutum.

New world cotton is an allo tetraploid.

Origin of tea -

This crop might have been originated in Central Asia and then differentiated into two types, small leaved china type and broad leaves Assam type. The china type (Camellia sinensis) further differentiated and domesticated in South China which has been introduced into India in the early part of 19th Century and the Assam type (Camellia assamica) had the secondary centre of origin in North East India.

Origin of Maize

Maize (Zea mays) is a member of the grass family Poaceae. Maize is thought to have originated 55-70 million years ago in Central or South America and has since diversified into nearly 10000 nondomestic relatives. Maize is the domesticated variant of teosinte. The two plants have dissimilar appearance, maize having a single tall stalk with multiple leaves and teosinte being a short, bushy plant.

The contribution of Nikolai Ivanovich Vavilov (1887-1943), the famous Russian botanist, on the origin of cultivated plants was a milestone in the field.

The eight centre of the origin of cultivated crop plants recognised by Vavilov are given below -

1 → Chinese centre of origin →

A total of 136 endemic species listed from this centre include millets, soyabean, bamboo, onion, citrus etc.

2. Indian Centre of Origin → The centre includes Paddy, mango, orange etc.

3. Central Asiatic Centre of Origin

This centre consists of North-West India, Afghanistan, Uzbekistan, Tajikistan and Western China. These include Common wheat, pea, cotton, carrot etc.

4. Near Eastern Centre of Origin!

The area covered by the centre is the interior of Asia minor, whole of Transcaucasia, Iran and Turkmenistan. The centre include wheat, rye, pomegranate etc.

5. Mediterranean Centre of Origin.

It includes turnip, wheat, cabbage etc.

6. Abyssinian Centre of Origin →

This region includes Ethiopia and parts of Somalia. It has 38 native species like wheat, barley, sesame etc.

7. South Mexican and Central American Centre of Origin →

It is primary centre of corn, sweet potato etc.

8. South American Centre of Origin →

It is native home of tomato, potato, red pepper etc.