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PAPER=8

Plant Resources, Civilization ,Palynology and Biostatistics

Unit-1

Centers of Diversity and Origin of Crop Plants :-

1> Chinese center of origin

2>Indian center of origin

(a>main center of origin

(b> Indo-Malayan center)

3>Central Asiatic Asiatic centre of origin

4>Near Estern center of origin

5 >Mediterranean center of origin

6>Abyssinian centre of origin

7> South Mexican and Central American centre of origin

8> South American centre of origin

(aChilo centre

(b- Brazilian praguanyan centre

INTRODUCTION-

Centre of diversity

And origin of crop plants -

The first necessity of human being is food the primitive man obtained his food from wild plants but with the

advancements of Civilization , culture and development of equipment the man started cultivation of plant to meet the requirement of its food the cultivation of useful crops was perhaps first started on the lower slope of Zargos mountains and the fertile crescent of the Tigris and Euphrates Valley in Northern Iraq and in the Tehucan Valley of Mexico as their region had large a numbers of ancient settlements.the available evidences indicate that domestication of the plant dates back to 7000 B.C.

The Prehistoric man discovered the virtue of certain wild plants and profoundly altered them into domesticated that today their wild ancestors cannot be traced with certainty .

Earlier Greek and Roman naturalists like Theophrastus , Dioscorides ,Pliny the Elder and Galen laid down the scientific foundation of domestication of wild plants In ancient times its believed that useful cultivated plants were a gift of God .

According to Alexander von Humbolt (1807) the origin plants as impenetrable secret .later Darwin's evolutionary theory (1868)suggested that origin of useful cultivated plants has occurred through natural selection and hybridization.

The recent naturalists works proposed theory reported to maney origin centers of world wide The plant diversity origin centrs above .

De Candolle:-

In 1883 De Candolle written his book ``origin of cultivated plants ``his classical work was based on ancient literature and technological , reported 247 species of cultivated plants originated at some time in the remote

past from wild ancestors in rather's restricted area of the world .He also

Considered that the each crop generally has a single region of origin The following 6 classes of economic plants were recognised by De Candle (1883).

Nikolai Ivanovich Vavilov:-

The contribution of Nikolai Ivanovich in (1887 - 1947)the outstanding work in this field , Vavilov Russian botany their work is origin of cultivation of plant was milestone in this field his work based on a variety of evidence on morphology ,anatomy cytology ,genetic plant geography and their distribution he collected data from different parts of the world about the distribution and possible and ancestors of cultivated plant .He published his result in 1926 in a book title ``The Centre of the Origin of Cultivated plants and is now a classic.`` He considered that great centre of them distribution of for cultivation crops cultivated crop where always lower mountain's and Hills of tropical and subtropical regions he also recognised secondary centre of origin where to or more species crossed together and where natural and artificial selection occurred subsequently the 8 centre of origin of cultivated crop plants recognised by Vavilo (1926) are given below

1--Chinese centre of origin

The chinese is the the earliest and largest independent centre of the centre of origin of cultivated plant include in the mountain mountain reason of Central and western China and the adjacent lowland total of 136

Endemic species listed below listed from the centre including millets Soybean that box plants cashew nut citrus after seed

2:- Indian centre of origin

They are two type of Origin

a) Main center :- this centre includes Assam and Burma (now called Myanmar) with 117 endemic species like paddy mango orange jute coconut black Pepper egg plant, yam.

b) Indo - Malayan Center -

There are about 55 species endemic to Indo- China and Malaya Archipelago .the important ones are banana ,sugarcane black pepper ,clove, notmegand Manila hemp.

3:- Central Asiatic Centre of Origin:- this centre consists of north west India Afghanistan Ujbekistan ,Tajikistan and western Tian -shan (china) nearly 43 planted or ntp to this reason and these include common wheat ,lentils, cotton ,carrot, almond, Apple ,ham ,beans, garlic,and apricot , this region is important potential source of variety of common wheat known as a triticum aestivum .

4:- Near Eastern centre of origin:-

the area cover by this centre is the interior of of Asia Minor ,whole of the transcaucasia and Iran and highlands of Turkmenistan

There are 83 species endemic to this region the centre is important as it has at least 9 indigenous

Species of wheat and rye many subtropical and temperate fruits for example pomegranate almond ,fig , cherry ,walnuts.etc

And several forage crops like alfalfa Persian clover etc and are also native to this region.

5:- Mediterranean centre of origin:- in in which reason 84 is procedure native which include the border of the Mediterranean sea the important ones are

turnip ,emmer ,wheat, cabbage ,rhubarb, white- clover, black- mustard ,peppermint, Sage, hops etc most of the cultivated vegetable had they are origin in this region.

6:- - Abyssinian Center of Origin:- this region include Ethiopia, Eritrea, and part of Somalia it has 38 native species like wheat ,barley, sesame , bean, castor ,coffee, lady's finger, wheat and barley, specially rich in diversity in this region.

7:- South -Mexican and Central American of Origin:- in this region includes the Savdhan part of Mexico Costa Rica Guatemala and Honduras region is the home of many important cultivated plants it is the the primary centre of corn and sweet potato and red pepper upland cotton, papaya ,guava, tobacco are other important crop of this region.

8:- South American centre of origin:-

a:- Peruvian-Ecuadorean -Bolivian Center :- the high mountainous region of of Pre- Inca ,civilisation is native of potato, tomato ,red Piper, sinchona, tobacco, pumpkin, Egyptian cotton etc.

b:- Chiloe Center:- it is an island near the coast of Southern Chile which is considered to be a region of origin of potato.

C:- Brazilian -Praguayan Centre:- the important crops native to Brazil and Paraguay regions are groundnut, cashew nut ,rubber tree, cassava and pineapple.

Vavilov considered that more than one centre of origin exist for some primary crops like wheat and barley.

For instance , some variety of wheat have developed in Mediterranean region where as other in South -West- Asia ,North Africa and South-East -Asia secondary crop crops like rye and oats develop in the form of weeds along with primary crops .

