

Scientific and Agronomic Classification of Field Plants

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ABSTRACT

Afghanistan is an agricultural country where most crops such as wheat, rice, corn, beans, chickpeas, mung bean, sorghum, bean, etc. are grown. Afghanistan's climate is favorable for the cultivation of these plants and the country's economy also depends on these plants.

Field crops have played a major role in human history and throughout history have saved humans from hunger and famine, so knowing the origins of its production helps in the sustainability of human food and food security in the world. The world's population is growing, which is answered only by scientific agriculture and the use of technology.

Field crops are very diverse and are consumed in different ways and there are many differences in agricultural operations. Field crops have many commonalities, so crops can be classified into different types such as plant characteristics, purpose of production and consumption, plant longevity, environmental needs and favorable development conditions, agricultural operations and so on. Because these classifications are based on the common characteristics of their members. Some agricultural decisions may apply to all members of a group, thus facilitating the production process for them. Note that these classifications are not absolute. Also, agricultural products with different characteristics and multi-purpose production may be in two or more different groups. Some categories are introduced below.

The classification of field crops cooperates in introducing plants and identifying the relationships between them, and known plants are used for various purposes.

Keywords- Angiosperme, Anthrophyta, Binomial nomenclature, Durum, Fungi, Gymnosperme, Taxonomy, Vascular.

I. INTRODUCTION

The science of taxonomy was not invented by any scientist or philosopher, but it is as old as time, because the name of a plant or an object is not just the name of that particular plant or object, and refers to a group of people of that plant or object that are similar. To be.

The science of taxonomy has two purposes. 1. Identify plants 2. Places plants in their own classification tables so that their true affinity is determined. People have always needed to name objects so that they can communicate and associate. In the language of science, it is necessary that we be able to consider and use names

more accurately and scientifically. The early culture of the Chinese, Egyptians, and Assyrians shows that they cultivated crops and that the material was passed from one person to another. Even primitive tribes knew crops and how they were grown. Have been classified. Attempts to classify plants gradually shifted from artificial to natural classification. In the artificial classification, for example, plants are divided into four categories: herbaceous, shrub, shrub, and tree.

Linneus was also classified according to the germinal organs of the plant, and the natural classification of the plant is based on the order of natural evolution or the order that can be deduced from genetic experiments.

II. ORIGIN OF AGRICULTURAL PLANTS

The use of plants for food purposes, spices, clothes, etc. has been common since ancient times. In 1822, the Swedish botanist Deacandol published The Origin of Crops. He inferred that crop originated from their wild ancestors, which grow in different parts of the world. [3]

In 1916, 92 years after Deacondol, a Russian botanist named Wavilof began research. After twenty years of research, he supplemented and expanded the results of decandol. He found that most crops are different from similar wild crops and have specific distribution centers, and some plants even have multiple distribution centers, some of which are as follows:

Plant propagation centers in the world include China, India, Central Asia, the Middle East, the Mediterranean, South Mexico, Central America, South America, and useful plants such as the wheat family and legumes in Afghanistan and turmeric in Europe 2000 BC Been. A. Ehsanullah 2006 General Biology, Peshawar, Aqra Library Publications [7].

The world's current crops are made from wild species. Due to the necessity of early humans, these plants have been brought from the wild to the seed state. Ancient archaeological evidence shows that the origin of the current crops of the world indicates the antiquity of that time. The main difference between field crops and wild plants. They are most useful to humans and the characteristics that distinguish them from their wild forms are:

- 1- High yield
- 2- Better sex

- 3- Decrease in grain shedding property
- 4- Good quality.

Over the centuries, humans have chosen from thousands of plants that meet their most pressing needs and at the same time agree on the conditions under which they live and cultivate their habitat. The first humans showed the necessary skill in choosing different types of plants, and the humans of the new age did complementary work to continue their work.

Major agricultural centers and centers of origin of major plant crops in the world are specific areas. Which have a similar climate. According to Vavilov, the center of origin of a plant is a place where there are many varieties [5].

According to the above opinion, all field plants are divided into the following groups.

- 1- Those that originate from weeds such as oats, rye, etc.
- 2- Those that are known in the field, such as corn, etc.

Domestic oats are believed to have evolved from wild oats, which have now spread to winter wheat and barley fields in some parts of Asia, including Afghanistan. Seed oats are said to grow as weeds in wheat fields and are now domesticated [1].

According to Alphonse De Candolle, 199 seed plants originate from the Old World and 45 species from the New World. Crops that originated in the ancient world of Asia and Europe include wheat, barley, oats, millet, rice, chickpeas, cypresses, legumes, sugarcane, and many forage crops. Bajra, beans, and Cow pea originated in Africa. Plants from the Americas originated include potatoes, beans, chamomile, corn, tobacco are other promises. Before the discovery of the Americas in Europe and Asia only native plants were grown, When the US was discovered by Columbus, the plants of the Americas were introduced to Europe and Asia and then spread throughout the world.

III. SCIENTIFIC CLASSIFICATION OF PLANTS

It is a very old and ancient classification of plants, which is based on the similarity of different parts of plants.

The names of different plants vary from region to region, or sometimes completely different plants are called by the same name. For example: types of wheat for non-professionals means wheat. But ordinary wheat (bread wheat) which is used to make bread. Durum wheat, which is used to make macronutrients, has many genetic differences as well as consumption. It is not possible to produce good bread from Durum wheat and good macronutrients from bread wheat [2].

So that experts can understand each other and know exactly what plants they are talking about. Plants are called binomial nomenclature. This method, which is the most accurate method, was founded by Carolus Linnus who lived between 1778-1707 and is also known

by the same name. In this method, creatures are placed in seven classes based on structural, evolutionary, and genetic characteristics.

It should be noted that all plants have ten files, including Anthrophyta flowering plants and field plants. This file has 235,000 types. The plants contained in this film produce eggs and the eggs are located in a carpel and in total the eggs and carpel are located inside the fruit. These plants are pollinated by insects, wind and other methods. And all plants based on their similarities are divided into four groups based on structural characteristics [6].

1. Thallophyta

This file contains plants that are free of leaves, roots, stems and flowers such as fungi and bacteria. These plants are not sown in the form of field plants and cause diseases in other plants. One of the weeds that is sown as a vegetable is Fangi (Samarooq).

2. Bryophyta

This file contains small green plants that have excellent evolution or are similar to excellent plants. And are not grown on farms as field crops.

3. Pteridophyta

These include small green plants and vines (vascular) that have roots, stems and leaves. These flowers do not produce, they multiply through spores and are not sown for use.

4. Spermatophyta Spermatophyta

This branch includes excellent and developed plants and produces flowers and seeds and includes two classes.

A: Gymnosperme: Gymnosperme

The above class has 800 species and many groups of granular plants belong to the genus Sperm. They differ from ovens in that they develop eggs.

The term gymnosperme means (naked seeds) and the plants above produce seeds without a special tissue area that rest on the scales that produce the seeds.

Pines are a variety of this class and are coniferous and evergreen woody plants. Famous tree species include Pines, Junpes, Fire and Surpes.

Pines generally produce cones, which generally have two types of male cones (Male Strobili) and female cones (Female Strobili).

Male pollen-producing cones are small and volatile, and after the pollen is released, they dry out and fall off the trees. Female cones are initially small and have a large number of scales. Inside the scales are one or more egg cells. When the eggs are fertilized by pollen, scaly structures develop into seeds, which enlarge the body of the female cones, then take on a wooden form and form multiplicative units in the above plants.

B: Angeosperme: Angeosperme

These plants are called flowering plants and have 260,000 species. In these plants, there is a special tissue to keep their seeds, which with the participation of seeds, forms the fruit in the plants. These plants are

scattered all over the world and form a special organ called the flower.

Anjosperm plants are excellent in terms of biological evolution, including plants that have developed and excelled, including trees, shrubs, and annuals and perennials. Flowers are also among the organs that produce pollen, and pollen is essential for plant fertilization. Pollen fertilizes the egg and turns it into a seed.

The seed is placed inside the egg. Vegetable pollen is transferred through the pollen tube into the female and fertilization takes place on the stigma.

1. **Class Monocotyledones**

This group of plants has a single chrysanthemum seed and mostly stores food in the endosperm. It belongs to the family (Graminaea or poaceae). These plants have thin and sharp leaves, 3 flower components, which includes about 50,000 species in this class. Such as: wheat, rice, corn, barley, etc.

2. **Class of Dicotyledons**

The plants of this group have bivalve seeds and store their food in the chrysanthemums and have 4-5 flower components which are about 210,000 species. Such as: musk, mempli, cotton, tobacco, cybin, zogr, chameleon, etc.

Each type of plant includes a set of plants that have many similarities in appearance and can be easily fertilized and produced eggs without special tactics such as embryo transfer, etc., so that the eggs can germinate and reproduce. can [4].

IV. AGRONOMIC CLASSIFICATION

In this classification, the type of product produced and its consumption method are considered. Therefore, a product can be produced for different purposes and may be divided into several groups.

1. **Cereals (Cereal crops):** Wheat crops are plants that are grown mainly for grain and are used as human food and animal nutrition. The plants of this group include wheat, corn, rice, barley, barley, millet, etc. and the seeds of these plants are rich in starch.

2. **Legumes pulses** Legumes are cultivated to produce seeds or forage and are used as human food and animal feed. The plants of this group include beans, peas, lentils, beans, mung bean, clover, ryegrass, etc. and the seeds of these plants are rich in protein.

3. **Oilseeds:** These are the plants from which oilseeds are obtained. Plants include this group such as cumin, sesame, sabin, chameleon, illustrated, cotton, mumble, saffron and so on.

4. **Forage crops:** These plants are seeded and fed to animals to prepare green fodder, sage, dry fodder, etc. Fodder plants are fed directly to animals or harvested or collected for the purpose of fodder, sail, willow, etc. and then fed. Plants include this group, such as forage maize, herbaceous grasses, spruce, clover, etc.

5. **Root crops:** These include plants that grow to use their roots. Such as lip balm, turnip, turmeric, sweet potato, national and so on.

6. **Fiber crops:** The plants of this group are sown mainly because of their fibers. These fibers may have originated from the skin and seeds. The fibers used in the fabrication factories are used to make clothes. In addition to preparing clothes, the mentioned fibers are also used in making strings, kilims and maps. Such as cotton, linen, hemp and so on.

7. **Tuber crops:** This type of tuber crops produce short, fleshy, thick underground stems and are used as food. Like potatoes.

8. **Sugar crops:** These are plants that are cultivated for the production of their sugar syrup, from which sugar is obtained after processing. Like lipstick, sugarcane.

9. **Medicinal plants (Drug crops):** In order to extract chemical citrus seeds that are used in medicine. Such as tobacco, licorice, cumin, cumin, coffee, tea, poppy, etc.

10. **Rubber crops:** These plants are grown for their sap and are used in the rubber industry. A prime example is Parthenium spp., Which grows in the Americas.

11. **Cover crops:** These are plants that are sown in order to cover and protect the soil from destruction by destructive agents, and in the stage when they are still green, they are peeled off and used as green manure. Such as clover, ryegrass, oats.

12. **Catch crops:** These plants are grown when the main crop has been destroyed. Plant plants should have a short growth period. Such as millet, mung bean, mung bean.

13. **Companion crops:** These are plants that are planted with perennials, so that in the first year when the main crop does not produce good results, the crop can be used. The accompanying plant also helps the main plant to germinate and also protects the main plant from wind and cold in the early stages of development. Examples of accompanying plants include onions with sugarcane, clover with wheat, barley, corn, and mung bean.

14. **Receptor crops (Trap crops):** This type of plant is cultivated to attract insects and pathogens and also to stimulate the germination of seeds of some parasitic weeds. After meeting this goal, the plant is buried in the soil or buried. Will be destroyed. Like rose water [3].

V. CONCLUSION

From the writing and research of the above article, we came to the following conclusion:

From the first days of human origin, plants have been considered as one of the means of life, the happiness and comfort of human life, and human beings have tried to make their basic necessities such as food, clothing, and housing available through plants. Therefore, cultivation of crops and their classification helps us to better promote the science of crops, and through them, we can raise our own economy and that of our families, and on the other hand, we can provide the food needed by human beings and reduce material

poverty. Prevent food and its shortage in Afghanistan and export it to other countries in need so that we can increase our country's economy and on the other hand cultivate the mentioned plants so that the body needs it more in terms of health and nutrition.

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