

(Main Forage Crop Families)

1- Grass family

On both temporary and permanent farm pastures, cultivated forage plants are the ones most extensively grown. **Many** of the species used **yield heavily**, and **remain palatable during a long growing season**,

. Classification of Cultivated Forage Grasses.

The world over, there are probably not less than **10,000 species of grasses**. about **1,500 species** occur in the United States (as example), of these, about **25**, or maybe a few more, species are extensively cultivated, some as cereal crops, and others for the pasture, hay, or fodder which they produce.

Not more than **five perennial grasses** are sown extensively on permanent pastures.

These are:

1. Kentucky bluegrass,
2. Canada bluegrass,
3. Bermuda grass,
4. Hungarian brome grass,
5. and redtop grass.

Some of these are **drought-tolerant**; others are well **adapted to wet** or, indeed, **acid soils**; and one (Bermuda grass) is well suited to the **humid, warm** conditions.

For hay and pasture combined, **timothy, orchard grass, Kentucky bluegrass,** and **redtop** are generally listed as the "**big four**" — the leaders.

2- Legume Family

Of the more than **10 thousand species** of plants in the family **Leguminosae** only a relatively few are useful as forage. ?????

- 1- Use of legumes is complicated by the fact that many are **poisonous**. Others are **unattractive to animals** due to **pubescence**, or **taste**.
- 2- Furthermore, many species are **trees** that could be grazed but are generally out of reach of animals.

The importance of legumes in the pasture or field of forage is double. (why?)

First, legumes contain large amounts of protein

Second, probably all legumes have the ability to enrich the soil with nitrogen, although this probably does not occur until the plant or part of its roots dies. This ability reduces the need for nitrogenous fertilizer.

Economic importance of forage Legumes;

- 1-Forage plants are the cheapest source of supply of energy and animal protein.
- 2- Helps to reduce the prices of animal products, as the price of feed constitute the largest share in the costs of livestock production.
- 3-Forage crops can be grown on land unsuitable for other crops

Growing legumes

- 1- A few legumes can be grown in pure stand, but most grow and serve better in mixed plantings with grass. Mixed plantings are easy to establish but difficult to maintain. .

- 2- Most legumes are planted from seeds. Seeds are sown in normal ways, often alternated with rows of grass.
- 3- Problems are often encountered with hard seeds that do not imbibe water readily and thus germinate irregularly.
- 4- Seeds are sometimes scarified in hot water or sulfuric acid,
- 5- After scarifying and as soon as possible, seeds can be planted and watered.

Legume diseases

Legumes are subject to some pests and diseases including nematodes. No recommendations can be given here for the use of pesticides on the legumes of the small farm, a dangerous practice.

The most important legumes as Forages

The most important legumes used as cultivated plants are:

The true clovers, sweet clover, , alfalfa, cowpeas, soybeans, vetches, velvet bean,

Good Germination and Purity of Seed Essential.

It is not to be expected that good forage or other crops can be grown unless seed of high viability is used.

The soil, the seed bed, and the conditions of growth may be ideal; yet all these are as anything if poor seed is planted.

Good seed should be true to name and relatively free from impurities of all kinds; furthermore it should show a high percentage of germination.

The germination and purity of the seed to be sown should be determined before planting.

A satisfactory germination chamber may be made by using two dinner plates. Two or three layers of paper tissue or a half-inch of sand should be placed in the one plate, covered by a piece of heavy cloth. When the sand and cloth have been saturated with water as pure as can be obtained, 100 seeds should be placed on the cloth, and the second plate inverted over the first, care being taken that the edges fit so closely as practically to prevent evaporation. The seed should be examined every few days and the results noted. Care must be taken at all times during the test to keep the seed moist and at a proper temperature for growth.

To make sure of obtaining a supply of good and genuine seed the three following precautions should be observed:

1. Require from the seed agent, at the time of purchase, a guarantee of purity, germination strength, and identity.
2. Insist that each species purchased be supplied separately, and always avoid the acceptance of seed mixtures.
3. Purchase the seed with the understanding that if, when tested, it fails to come up to the requirements, it is to be returned with no obligation on the part of the buyer.

Suggest Questions

1. (a) Approximately how many native grasses occur in the United States?
- (b) How many grasses are extensively cultivated?
- (c) Name the five perennial grasses that are grown extensively on permanent pastures.

- . (1) What are the requirements of "good" seed?
- (2) How would you determine the degree of purity of the seed of grasses, clovers, and other species ?
- (3). Describe some simple device for determining seed germination.
- (4). What precautions in general should be taken to obtain good, genuine seed?