Morphological and Anatomical Structure of Cotton Seed

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Abstract: In the era of full mechanization of cotton cultivation, seed morphology is of great importance. A good spread of the seed during planting is very important, especially when precision seed drills are used. In order to increase the dispersion of hairy seeds, they are artificially depilated and dredged in factories. As a result, in the process of planting, the depilated and dredged seeds are completely poured without being caught in the seeding paths of the seed drills. It will be possible to sort artificially depilated or dredged seeds according to their size and weight, and to calibrate them according to large and small sizes. The use of sorted and calibrated seeds for sowing allows to reduce the rate of sowing per hectare and to place the seeds evenly and to the same depth in the sowing area.

Key words: Cotton plant, morphological structure, anatomical structure

Introduction

Morphological structure of cotton seed

A fully formed and mature seed is ovoid or irregularly pear-shaped. Depending on the variety, the cotton seed can be elongated, slightly elongated or almost round. The seed consists of two layers of skin surrounding the pulp, pith, and these. The outer, i.e. upper, bark of the seed is woody and hard, and the inner bark is soft and membranous. The upper skin of the seed is covered with hairs. These hairs consist of only long hairs in some types of cotton, while in others they consist of both long and short hairs. Long hairs are called fibers and short hairs are called seed hairs or lnter.

Anatomic structure of cotton seed.

The wide roof of the seed is called chalazae, and the thin roof is called micropyle. The reason why it is called a micropyle is that there is a small hole-micropyle on the tip side of the seed, that is, on the side that "produces a niche". During fertilization, the pollen tube enters the seed bud through this micropyle. The micropyle ends with a sharp beak, which is a lignified seed band.

This ensures that the sown seeds grow evenly and horizontally. Artificial hairless and natural hairless seeds require less warehouses and bags during storage, and are also easier to transport by vehicles. he says. A fully ripe seed is egg-shaped or irregularly pear-shaped, and the ratio of the length to the width of the seed varies. The seed consists of a hard outer shell, an inner husk, an inner membranous skin surrounding the husk, and the remains of the seed pod. The outer side of the seed is covered with hairs, in some types of cotton these hairs are long and are called fiber, in some there are short hairs along with long fiber, they are called seed hair or linter. The thickness of the outer shell surrounding the seed core

reaches 0.25 mm. The shell of a fully ripe seed is more complex in structure and very strong. Half or two-thirds of the shell's thickness is made up of thick-walled cylindrical lattice-like tissue, so it is very strong. These lattice-like tissues are saturated with lignin during seed ripening and turn into a solid cone-shaped state.

Ripe seed pods are dark brown or even dark brown. The shell of the companion seed can be light brown, yellow, or even runny, depending on the degree of maturity of the seed. If the thickness of the seed is well matured, its shell will be so dark in color. The length of the seeds of all cultivated cotton varieties is 12-14 mm, and the thickness is 6-8 mm. The weight of one seed varies from 50 to 200 mg, depending on the type of cotton and the growing conditions. The seeds of wild plants are usually small and hard. The seeds of cultural cotton varieties differ in terms of their shape and weight. The seed attaches to the inner surface of the pod through this seed band and is fed by the mother plant.

If the seed is thawed in warm water, its insides will look very good. If the husk of the seed is removed in warm water, it is visible that there is a skin surrounding the seed.

• If the seed is thawed in warm water, its internal parts will be visible very well. If the husk of the seed is removed in warm water, it is visible that there is a skin surrounding the seed.

• If you put the embryo under a magnifying glass, you can see two shriveled cotyledon beginnings, between them the growth point of the future plant and the first root beginnings. When the seed is cut crosswise, many small dark spots and oil glands are visible. This oil consists of nutrients used in the growth and development of the embryo.

If the temperature is higher than 10-12 degrees with sufficient moisture and air entering, the seed will swell and crack, and the cotton will be removed from the cracked place.

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• root emerges. No matter how the seed is placed on the ground, the root that emerges from it grows downwards into the soil. At the same time, the cotyledon develops, which later becomes the cotton stalk. As the cotyledon grows, it sheds or lifts the seed coat to the surface.

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