

***Germination and vigor of seeds of Scots pine (*Pinus silvestris* L.) in  
different colors***

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The results of studies vigor, germination and seedling length of Scots pine seeds pine (black, white, brown) in different colors are devoted.

Scots pine, and many other conifers in vivo restored only by seeds. Therefore, the quality of the seeds depends on the formation of the stability and performance of pine plantations. The most important element of the technology of growing of planting material is a pre-sowing seed treatment, it helps to speed up biochemical and physiological processes, increase seed germination, reduction in terms of germination, increase the vigor and yield of standard planting material. The main objectives of forestry production is improving the quality of crops and increase their productivity. The decisive role in this is the quality of the seed back to the connection it is necessary to use only high-quality plants for planting.

Quality seeds of Scots pine depends on many factors stand age, hereditary characteristics, the location of cones on the trees, and a great place is the damage of pests and pathogens. Thus, one of the factors is the quality of the seeds of its size, color, and coated spores of harmful microorganisms.

**Actuality of theme.** The study of quality of seeds, depending on the age of Scots pine plantations and sustainable forms of long-term color, especially their growth and development, is especially important in our time to increase productivity and biological stability of forest stands.

**The results of research.** Quality seeds - a set of characteristics and properties of seeds that characterize their compliance with statutory requirements as a seed. An important indicator of seed quality is its purity, germination, vigor, weight of 1000 seeds, goodness, vitality infection and damage to plant pathogens harmful insects. Vigor – measure of the rate of seed germination. In violation of the technology of growing seeds, post-harvest and pre-preparation and storage, this figure is reduced much more intense than the similarities. Numerous studies have

found that seeds with high vigor provides friendly and stairs than seeds with the same affinity, but low vigor. Particularly intense falls field germination of seeds with low vigor: the emergence of seedlings stretched, and this increases the risk of damage to the seedling pathogens fungal diseases and pests, which leads to their withering away. High energy characterizes the ability of sprouting seeds germinate quickly and simultaneously. This property has a healthy seeds, aligned to the physiological state. Fast and friendly sprouting seeds shows that sprouts are durable and resistant to adverse environmental conditions during germination obtain.

According to our research we found that seeds of different colors is characterized by different rates of occurrence of the first signs of growth. Black seeds compared with a light, usually larger, heavier, has the best quality of sowing, germination was 80%, brown seeds – 76 % of the white seeds similarity did not reach 70 %.

There is also no dependence on the length of seedling vigor and seed germination. The length of sprouts from the seeds of various parties in color was different. Thus, the average length of the seedlings from seed in a batch of black seeds averaged 1 cm white seeds– 0,5 cm, brown seeds – 0,5 cm. During the experiment the best performance was characterized by black seeds, it indicates the prospects of its use in the forestry.