

Annotation

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Germination ability and sprouting energy of spelt samples

Analysis of spelt sowing qualities is not paid enough attention although their indicators greatly influence profitability of growing seeds.

Sowing high quality seeds is one of the main agro technical techniques aimed at cultivating high yields of agricultural crops.

Seed quantity which has grown in first 3–4 days shows its sprouting energy. Seeds that sprout rapidly and simultaneously are characterized by high sprouting energy, give simultaneous sprouting, less inhibited by weeds and more stable to unfavorable conditions. Time of sprouting energy determination and germination ability is established by the standard for every agricultural crop.

Germination ability is the most important index of seed quality. It depends on soil and climatic conditions, growing technology and fertilizing system. Sowing qualities depend on seed germination ability. Appropriate standards are established for all field crops.

State standard of Ukraine 4138-2002 “Seeds of Agricultural Crops. Methods of Quality Determination” doesn’t provide the analysis of spelt seeds. Demands and methods of determining sowing qualities of this crop were established by ISTA, international association of seeds quality and Standard technique of germination ability and soft wheat sprouting energy analyzing according to the State Standard of Ukraine 2240-93 corresponds to similar methodology ISTA for spelt.

Germination ability and sprouting energy were determined as a percentage of the total amount of taken seeds for sprouting as an average among four samples of 100 seeds. Sprouting energy was determined in three days of sprouting, in 7 days – laboratory germination ability.

Europa spelt variety was characterized by the highest sprouting energy with an average index of 90%. Seed sprouting energy varied from 75 to 88% in check samples.

Germination ability of Europa spelt variety was about 95% for two years. Selected numbers 001 and 1786 were characterized by the highest laboratory germination ability; samples 002 were proximal to them; 1694 and 1792 with an average index 97–98%. All-Union State Standard 2240-93 provides the standard of laboratory germination ability for spelt that is lower than 92%. Therefore, all analyzed spelt numbers had higher germination ability than it was provided by appropriate normative documents.

Seed sprouting energy of spelt samples generally varied from 75 to 88% on average for two years. Seed germination ability of selected numbers was 92–99%.

Key words: sprouting energy, germination ability, sowing qualities, seeds.