

stage (BBCH 89) made up 116 days. **Conclusions.** 'Vik 2020' is a new variety of industrial hemp with a high content of cannabigerol (a non-psychoactive component of cannabinoids that has a number of medicinal properties). It is characterized by almost zero content of tetrahydrocannabinol, increased inflorescence size, high seed yield, improved fibre quality characteristics, homogeneous sex structure,

resistance to abiotic and biotic environmental factors. The variety is recommended for growing in order to obtain seeds, fibre, and, potentially, cannabigerol (given the respective changes in Ukrainian regulation).

**Keywords:** *hemp; cultivar; breeding; self-pollination; cannabigerol; tetrahydrocannabinol; correlation; productivity.*

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## Humus effect on Agriculture Tile Drainage

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**Purpose.** Soil moisture is very important for plant productivity, as well amount of fertilize depends on the soil moisture. Drainage is the tool for productive farming in the wet fields, but drainage accelerates leaching biogenous from the soil, so, it is very important the right management of drainage discharge. Drainage discharge depends not only of the temperature, precipitation, but also of the amount of humus in the soil. **Methods.** Field experiments, data comparison, generalization and

evaluation by statistical analyses. **Results.** The results of daily temperature, precipitation and drainage discharge in the object with different hummus thickness layers (bold - up to 40-50 cm - thick and natural – 20-30 cm - layer) on 2018-2020 are presented. The weather was drought (about 15% less as Climatic Normals), and hot (the temperature was about 1,8°C above Climatic Normals) the last 3 years in the Kaunas, Lithuania. The drainage system was working quite short period of investigation time, mainly during winter and early spring only. **Conclusions.** In case of thickened humus layer annual drainage discharge was higher compare with drainage discharge with natural humus layer.

**Keywords:** *drainage discharge, humus layer, soil moisture.*

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## Seeding Density Influence on Grain Yield and Agro-Physiological Parameters of Bread Wheat Genotypes under Rainfed Condition

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**Purpose.** Planting density is an important factor that influences the yield and yield component of bread wheat (*Triticum aestivum* L.) genotypes. The objective of this study was to determine the influence of the seeding rate on the grain yield and yield component of winter wheat genotypes. **Methods.** In the experiment, a total of 8 genotypes and three seeding density (400, 500 and 600 seed per square meter) were evaluated during the 2015-2016 and 2016-2017 growing season. The experiment was conducted in the randomized completely blocks design in the split block with three replications. Grain yield, number of spike per square meter, number of kernel and spikelet per spike, peduncle length,

spike length, flag leaf area, and normalized difference vegetative index (NDVI) were investigated. **Results.** Analysis of the variance showed that there were significant differences between years, among genotypes and their interaction. Genotype G6 had a higher grain yield (7730 kg ha<sup>-1</sup>), and G1 the lowest yield (4994 kg ha<sup>-1</sup>). Genotype G2 had a higher spikelet number per spike (19.28), G4 kernel number per spike (44.78), G3 spike number per square meter (592.9), and G1 had a higher flag leaf area (26.20 cm<sup>2</sup>) and NDVI. The data showed that the seeding density differed non-significantly for the grain yield. The use of 500 seeds per square meter produced a higher grain yield of 6280 kg ha<sup>-1</sup> than other seeding density used. The use of 400 seed per square meter produced higher peduncle length (31.04 cm) and spike length (8.94 cm). In the case of seeding rates, the maximum spikelet

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