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SUGAR BEET GROWTH AND DEVELOPMENT FEATURES BY THE SEED SOWING, WITH DIFFERENT METHODS PREPARED

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In order sugar beet growing energy saving technologies widespread introduction is significantly quality seed demands increased. He should be characterized not only by high purity, germination energy, germination, but also uniformity in size and odnorostkovist. High-quality seed use for planting is one of the most effective and environmentally beneficial activities of the crop level and quality increase.

The domestic and foreign researches results suggests that one of the effective way to reduce labor costs and increase sugar beet productivity is seed sowing with physical and mechanical properties improved, which its encrusting, encapsulation and pelleting provided [1, 2, 3, 4].

Field germination and plant growth and development intensity are important parameters which depend on plants density, and ultimately sugar beet productivity [5].

Research methodology. During 2009-2012 field experiments were conducted in the experimental field "Maksagro" farm in Khmelnytsky oblast, laboratory tests – in the seed laboratory of the Institute of bioenergy crops and sugar beet NAAS of Ukraine. Area plots sown is 100 m^2, accounting - 50 m^2. Repeated was in four times.

Researches were carried out with the etched, encrusted, pelleted and encapsulated seeds and domestic hybrid Ivano-Veselopodilskyy ChS 84 (IVPChS 84) sugar beet plants.

Experiments were carried out according to field experience and methodical instructions conventional methods of the Institute of bioenergy crops and sugar beet NAAS of Ukraine [6]. Experimental data statistical analysis was performed by variance analysis with modern software package using on a personal computer.

Research results. Data analysis shows that, over research years average, some sprouting intense were in encrusted and encapsulated seeds compared with pelleted. Thus, in the 1st excluding retirement's period at encrusted seeds sowing was noted 53.0%, on day 6 - 100% at pelleted seed sowing 45.8 and 97.7 % respectively.

In the researches was shown that encapsulated and encrusted seeds sowing provides the highest seed field germination, compared with etched and especially pelleted seeds sowing. Over the year's average, in the first case it was 75% in the second – 67-73% (Table 1).

1. Seeding emergence and field germination dynamics depending on preparation Seed preparing different ways were affected on sugar beet plant growth and development. It is set proportionately dependence between sugar beet plants density and field germination. During the full sprouts period density analysis showed that it ranged between variants in an average of three years, from 6.5 to 7.4 units of plants per 1 m row. It has been lowest at pelleted seeds sowing (6.5 units/m) above - encapsulated (7.4 units/m) and encrusted (7.3 units/m). The sprouts number was 7.1

units/m on the control (Table 2).

methods (average of 2009-2012)

№	Variant	Stairs per day from their appearance, %							Field germination, %
		1	2	3	4	5	6	7	
1	Etched seed (control)	51,6	63,5	80,6	86,7	94,1	97,2	100	72
2	Encrusted	53,0	64,5	83,0	92,9	97,7	100	-	73
3	Pelleted	45,8	56,0	81,1	84,9	92,7	97,7	100	74
4	Encapsulated	53,2	65,8	89,6	95,4	99,3	100	-	69
	SSD_{05}								4,0

2. Sugar beet initial plant growth indicators depending on seed preparation methods for sowing (average of 2009-2012)

Variant	Stairs , units/m	100 plants weight, g	Black leg infestation, %
Etched seed (control)	7,1	63,2	15,8
Encrusted	7,9	78,4	15,5
Pelleted	6,5	71,7	14,1
Encapsulated	7,9	78,9	13,6
SSD_{05}	0,6	8,0	1,0

By encrusted seed sowing of 100 plants mass in phase of 1st the 2nd leaves pair was 15.2 g higher compared with controls of the average research years. By pelleted seeds sowing on 8.5 g more than in the control and on 6.7 g less compared with encrusted seed. For plants Black leg infestation, the higher this indicator was by (15.8%) etched seed sowing, the lowest – (13.6%) encapsulated seeds.

Conclusions. 1. Sugar beet seed sowing quality depends on many factors, including its pre-sowing methods and hydrothermal conditions, consisting in the seeding and after seeding periods. 2. For high-productivity sugar beet crops creation is plants standing density optical and biological parameters reach depends primarily on seed field germination. From its level depends the time of its occurrence and stairs completeness, plants uniformity placement in the row and ultimately their productivity.

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