

## Breeding of Oil Flax for Rainfed Conditions

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**Annotation.** This article presents the results of breeding studies of oil flax on rainfed areas. The results of a correlation analysis to identify the relationship between the elements of the structure of plants and the productivity of oil flax with the yield are presented. 2 varieties of oilseed flax with high yields have been identified.

**Key words:** oilseed flax, variety, development phases, plant height, weight of 1000 grains, yield, root length, coleoptile length.

**Introduction.** According to the FAO, flax occupies about 3.5 million hectares of sown area in the world. Of these, more than 3 million hectares are sown with oil flax, which is used to obtain oil and seeds (Lukomets V.M. et al., 2013).

According to the research results of D.A. Krasnova (2010), the yield advantage was achieved due to the greater mass of 1000 seeds, the number of seeds in a box and the number of boxes per plant.

**Materials and methods.** The research material was the varieties of competitive oil flax variety testing in rainfed conditions of the Gallyaaraal Research Institute of Rainfed Agriculture.

According to the methods of the State Commission for variety testing of agricultural crops (1985), varieties of competitive variety testing of oil flax were studied.

**Research results.** Our results of correlation analysis are consistent with the data of Luchkina T. N. (2011), in that the signs of the duration of the growing season, the number of seeds in a box and the height of plants have a low relationship with seed yield (Table 1.).

**Table 1**

**Correlation coefficients between the elements of the crop structure and the yield of oil flax on average for varieties**

Параметры	Correlation coefficient
Plant height	0,19
Vegetation period	-0,13
Number of branches per plant	0,54
Number of boxes per plant	0,93
The number of seeds in a box from one plant	0,33
Weight of 1000 grains, g	0,32
Coleoptile length (sugar)	-0,47
Coleoptile length (t <sup>0</sup> )	0,34
Root length (sugar)	-0,66
Spine length (t <sup>0</sup> )	-0,09

Table data show that high positive correlation coefficients were observed between the number of branches per plant ( $r=0.54$ ) and the number of bolls per plant ( $r=0.93$ ) with the yield of oil flax varieties. Therefore, these traits are the main components of the crop. According to the duration of the vegetative period

( $r=-0.13$ ), the length of the coleoptile (sucrose) ( $r=-0.47$ ), the length of the roots (sucrose, to) ( $r=-0.66$ ,  $-0.09$ ), a negative relationship was observed .

When studying varieties of competitive oil flax variety testing, varieties with high yield RNS-2019/8, RNS-2019/9 were identified (Table 2.).

**Table 2**  
**Characteristics of selected varieties of oilseed flax competitive variety testing (Gallyaaraal 2021).**

Options	Varieties				
	Bahorikor, st	RNS/2019	RNS-2019/5	RNS-2019/8	RNS-2019/9
Plant height, cm	43,0	47,7	37,6	49,7	42,8
Vegetation period, days	89	91	85	86	93
The number of branches from one plant, pcs.	3,8	3,3	4,1	4,0	4,2
The number of boxes from one plant, pcs.	15,1	11,9	13,8	15,4	16,7
The number of seeds in a box from one plant, pcs	6,7	6,5	7,0	6,7	6,5
Weight of 1000 grains, g	4,1	3,9	3,5	4,4	4,0
Productivity, c/ha	4,5	3,3	3,7	4,9	4,7
Fusarium, score	5	5	5	5	5
Yellow rust, score	5	5	5	5	5
Coleoptile length (sugar)	3,8	3,3	4,1	2,1	3,2
Coleoptile length (to)	3,4	2,8	2,2	3,4	2,8
Root length (sugar)	4,0	4,9	4,7	3,0	3,5
Spine length (to)	3,2	3,4	3,6	3,9	2,8

According to the table, it can be seen that the height of oil flax plants ranged from 37.6 cm (RNS-2019/5) to 49.7 cm (RNS-2019/8) for varieties, 43.0 cm for the standard (Bahorikor), the duration of the growing season period - from 85 days (RNS-2019/5) to 93 days (RNS-2019/9), the standard has 89 days (Bahorikor), the number of boxes from one plant is from 11.9 pcs. (RNS-from/2019) up to 16.7 pcs. (RNS-2019/9), standard 15.1 pcs. (Bahorikor), the yield is from 3.3 c/ha (RNS-ot/2019) to 4.9 c/ha (RNS-2019/8), the standard has 4.5 c/ha (Bahorikor).

**Conclusions.** High positive correlation coefficients were established between the number of branchings from one plant and the number of bolls from one plant with the yield of oil flax varieties. Varieties of oil flax RNS-2019/8, RNS-2019/9 with high yields have been identified.

## References

1. Krasnova D. A. Breeding value of oil flax samples in the conditions of the forest-steppe of the Middle Volga region. Thesis. 2010.
2. Lukomets V. M., Piven V. T., Tishkov N. M. Oilseed flax is a promising crop. // Supplement to the journal "Plant Protection". 2013. No. 2. 20 p.

3. Luchkina T. N. Creation of the starting material of oil flax for the zone of insufficient moisture in the Rostov region. Thesis. 2011.
4. Покровская М. Н., Мавланов Ж. С. МОРФОФИЗИОЛОГИЧЕСКИЕ ОЦЕНКИ ЗЕРНОВЫХ КУЛЬТУР В БОГАРНЫХ УСЛОВИЯХ //АКТУАЛЬНЫЕ ВОПРОСЫ СОВРЕМЕННОЙ НАУКИ И ОБРАЗОВАНИЯ. – 2022. – С. 51-55.
5. Покровская М. Н. и др. ИСХОДНЫЙ МАТЕРИАЛ ТВЕРДОЙ ПШЕНИЦЫ ДЛЯ СЕЛЕКЦИИ НА УСТОЙЧИВОСТЬ К АБИОТИЧЕСКИМ СТРЕССАМ //АКТУАЛЬНЫЕ ВОПРОСЫ ОБЩЕСТВА, НАУКИ И ОБРАЗОВАНИЯ. – 2022. – С. 104-107.
6. Dilmurodovich D. S. et al. CREATION OF NEW VARIETIES OF WINTER BREAD WHEAT FOR RAINFED FIELDS EARLY, BIOMETRICAL INDICATORS HIGH AND LODGING RESISTANT //British Journal of Global Ecology and Sustainable Development. – 2022. – Т. 1. – С. 68-78.
7. Dilmurodovich D. S. et al. CREATION OF NEW DROUGHT-RESISTANT, HIGH-YIELDING AND HIGH-QUALITY VARIETIES OF BREAD WHEAT FOR RAINFED AREAS //British Journal of Global Ecology and Sustainable Development. – 2022. – Т. 2. – С. 61-73.
8. Мавланов Ж. С. У. НАСЛЕДОВАНИЕ МАССЫ 1000 ЗЕРЕН В ГИБРИДАХ F1 ТВЕРДОЙ ПШЕНИЦЫ //Life Sciences and Agriculture. – 2022. – №. 3 (11). – С. 9-13.