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EVALUATION OF GERMINATION OF NON-TRADITIONAL OIL CROPS SEEDS.

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Abstract:

This article presents the results of laboratory and field germination of non-traditional oilseed crops of camelina, oilseed radish and rape studied within the framework of a practical project on the topic "Conduct testing of non-traditional oilseed crops and creation of modern cultivation technologies in the conditions of the Kashkadarya region".

Keywords: oilseed radish, camelina, rapeseed, laboratory, germination, root length, field.

INTRODUCTION. In order to provide the population with affordable and high-quality oilseed products, it is necessary to increase the cultivation of high-oil crops, improve the technology for obtaining oil and introduce them into production. Therefore, in connection with the high demand for oilseeds, one of the pressing issues today is the reproduction of non-traditional oilseeds, the creation of a raw material base and the development of cultivation technologies in soil conditions in the Republic of Uzbekistan.

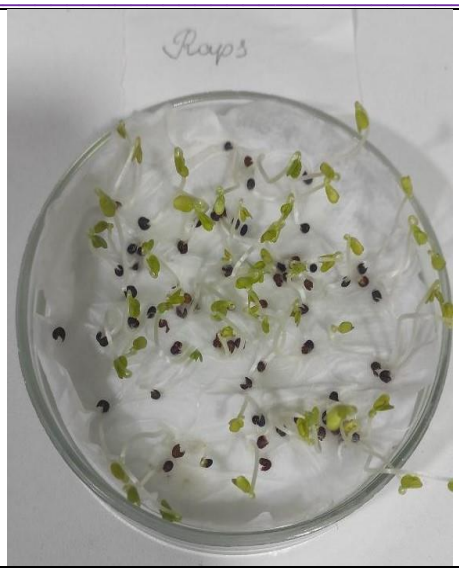
Rapeseed is an annual oilseed and forage crop belonging to the genus Brassica of the cabbage family. There are two species: autumn (V. binnis) and spring (V. appua) species. The seeds germinate at a temperature of 1–3°C and grow and develop well at a temperature of 15–20°C [6].

Camelina is an annual plant belonging to the genus Camelina sativa Crant of the cabbage family. The homeland of the saffron milk cap is Southeast Asia and Eastern Europe. Its cultivation as a cultivated crop from an imported plant began in the 19th century in Russia and France. In nature, there are two species: spring - C. sativa Cranyz and autumn - C. silvestra Waller. Camelina seeds begin to germinate at a temperature of 1 ° C, and germinate quickly at a temperature of 10-12 ° C [7].

Maslenitsa is an annual plant belonging to the genus Raphanus sativus L. var. oleifera Metzg of the cabbage family. Seeds begin to germinate at a temperature of 1–2°C, and germinate quickly at a temperature of 7–8°C [8].

Many literary sources have shown that non-traditional oil crops are highly adaptable crops capable of adapting to various environmental conditions [2,4].

MATERIAL AND METHODS. Taking into account the above, laboratory and field tests of non-traditional oil crops such as camelina, oil radish, and rapeseed are currently being conducted at the Southern Agricultural Research Institute of Agriculture with the aim of testing non-traditional oil crops in the conditions of the Kashkadarya region and creating modern cultivation technologies. In this case, the determination of laboratory seed germination is according to GOST 12038-84 [2], and field germination is according to "Methods for conducting field experiments" [3].



Rapeseed

Oilseed radish

Ryzhik

RESULTS: According to the results of laboratory studies, the germination energy and germination rate of camelina seeds were high and reached 100%. The germination energy of oilseed radish and rapeseed after 3 days, the germination energy of seeds was 86.7-92.0%.

It was found that the germination rate of oilseed radish seeds was 96.7%, rapeseed 98.0%, and the root length of these crops was 3.0–3.1 cm. It was noted that the length of the camelina root was 2.1 cm, which is less than that of rapeseed and oilseed radish (Fig. 1).

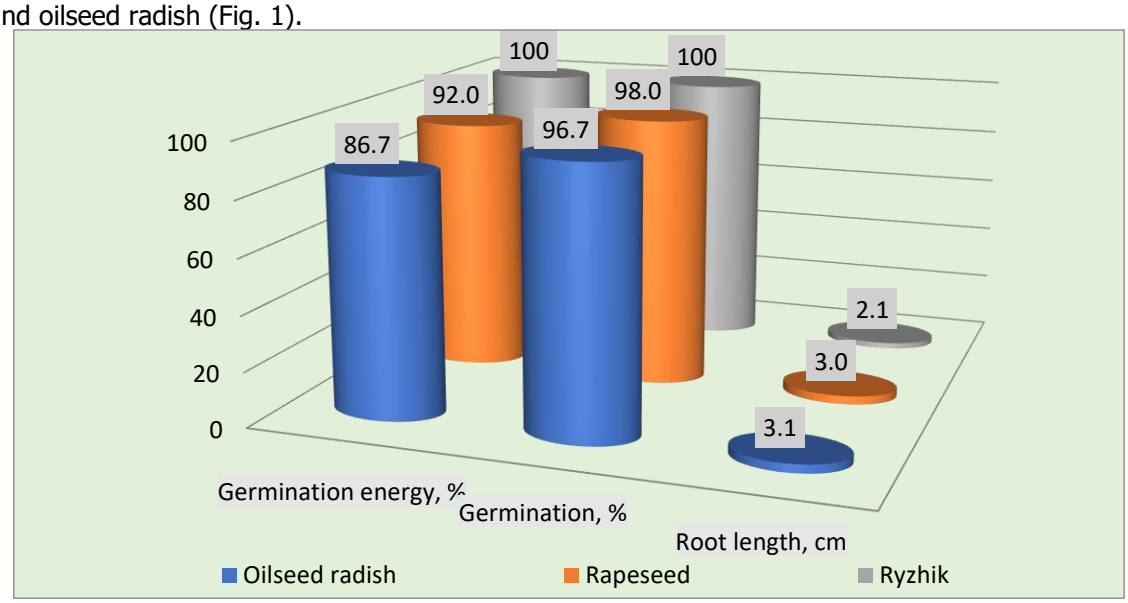


Fig. 1. Seed germination under laboratory conditions.

To ensure high-quality field germination of seeds, it is necessary to determine the germination of seeds used for sowing in laboratory conditions and ensure their full compliance with state standards [1].

When studying the field germination of seeds of non-traditional oil crops, such as camelina, oilseed radish and rapeseed, planted in the field experimental field of the Southern Agricultural Research Institute of Agriculture, it was found that oilseed radish and rapeseed germinated in 10 days, and camelina in 8 days.

CONCLUSIONS. It was established that the laboratory germination of seeds of non-traditional oil crops rapeseed, camelina and oilseed radish was 96.7–100%, while the germination of camelina seeds was higher by 2.0–3.3%. Also in the Kashkadarya region, in field conditions, early germination and shoots were observed in camelina 2 days earlier than oil radish and rapeseed.

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