

CHLOROPHYL CONTENT IN LEAVES OF NON-TRADITIONAL OIL CROPS

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Abstract

This article studies the amount of chlorophyll grains in the leaves of non-traditional oilseed crops during the tillering phases of the growth period. The results of the analysis of the causes and consequences of changes in the amount of chlorophyll grains in the leaves during these periods are reflected.

Keywords: Oilseed radish, mustard, rape, tillering, chlorophyll meter, chlorophyll.

Introduction

Growing oilseed crops in our republic allows not only to use the land productively, that is, meeting the population's needs for oilseed products and forming a seed production system for oilseed crops is one of the urgent tasks of today.

The government of our country is implementing a number of comprehensive measures to further develop the country's oil and fat industry and fully satisfy the needs of the population, increase production volumes and expand the range of finished products.

In particular, "systematic measures are being taken to introduce non-traditional types of agricultural crops bred in foreign countries, taking into account the soil and climatic conditions of the regions of our republic"[2].

Rapeseed oil is used in the food and technical industries. Rapeseed seeds contain 32-50% oil. The cake and meal remaining after oil extraction are highly nutritious products, containing up to 45% protein [1]

Oilseed radish belongs to the radish family (*Raphanus sativus* L), is resistant to cold, has a short growing season and is characterized by high productivity. Oilseed radish is a very adaptable crop, capable of adapting to various environmental conditions. It can yield 25-30 tons of crop after 35-40 days of germination.[3].

The rye belongs to the group of relatively early maturing plants. The duration of its vegetation period depends on climatic conditions. In conditions of insufficient moisture, the vegetation period of rye is reduced by 15 or more days, which leads to a decrease in yield and oil content [4].



In a market economy, crops that are in high demand on the market suffer greatly. In recent years, interest in winter rye has increased sharply in the Russian region, as it is in constant demand on the market as an oilseed crop and is a good predecessor for crop rotation[2].

The amount of chlorophyll in a plant leaf is important for the formation of organic matter. The more or less developed the amount of chlorophyll in a plant leaf, the more significant the development of valuable economic traits.

Taking into account the above, within the framework of the project "Testing of non-traditional oil crops in the conditions of the Kashkadarya region and the creation of modern technologies for their cultivation", the amount of chlorophyll in the leaves of oil crops was determined using a chlorophyllmeter "Chlorophyllmeter" during the stem formation period of the growing season. Based on leaf diagnostics, the chlorophyll meter allows for rapid determination of nitrogen content in plants, as well as chlorophyll content in leaves and nitrogen requirements in the field.

The amount of chlorophyll in the leaves was measured in 10 plants of each crop species. The measurements were taken and analyzed during the period of stem formation of the plant. In this case, not only the period of stem formation differed from each other, but also varied depending on the type of crop.

When studying the amount of chlorophyll grains in the leaves of oil crops during the stem formation period of the growing season, it was noted that on average for oil crops it ranges from 0,41% to 0,48%.



Figure 1. Chlorophyll measuring device

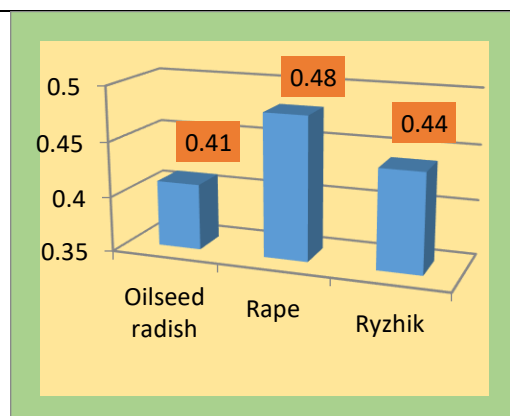


Figure 2. Chlorophyll content in the leaves of oil crops.

During the studies, during the stem formation period of the oilseed crop vegetation period, chlorophyll grains in the leaves were observed in rapeseed, which has a high chlorophyll content and amounted to 0,48.

The results of the analysis showed that the content of chlorophyll and rede maslichnoy is relatively low compared to culture, it is 0,41% (Figure 2). Their leaf blades turned out to be thin and light green in color. This indicates a low chlorophyll content. Among crop species with an average chlorophyll content, it was noted that rye had up to 0,44%.

**Conclusion**

Based on the above data, according to the results of the study conducted in the Kashkadarya region, the chlorophyll content in oilseeds was studied, and it was shown that the chlorophyll content in rapeseeds is high during the stem formation period.

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