

MORPHO-BIOLOGICAL, PRODUCTIONAL, TECHNOLOGICAL-PHYSICAL AND CHEMICAL CHARACTERISTICS OF THE NEWLY CREATED SEMI- ORIENTAL VARIETY O. ZLATOVRV

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ABSTRACT

The semi-oriental variety O. Zlatovrv was approved by the State Variety Commission in 2010. Its higher yields as well as morpho-biological, technological and chemical characteristics typical for Otlia tobacco make this variety attractive for growers and manufacturers.

Key words: The semi-oriental variety, otlja, zlatovrv

МОРФО-БИОЛОШКИ, ПРОИЗВОДНИ, ТЕХНОЛОШКО-ФИЗИЧКИ И ХЕМИСКИ СВОЈСТВА НА НОВОПРИЗНАТАТА ПОЛУОРИЕНТАЛСКА СОРТА О. ЗЛАТОВРВ

Полуориенталската сорта О. Златоврв е призната од Државната сортна комисија во 2010 година. Поголемиот принос во однос на стандардот и карактеристичните морфо-биолошки, физичко-технолошки и хемиски својства за овој тип на тутун, ја прават оваа сорта поинтересна за производството и фабрикацијата.

Клучни зборови: полуориенталски сорти, отлја, златоврв

INTRODUCTION

Semi-oriental tobaccos belong to the group of additional types of tobaccos with low midrib content and good manufacturing performance. Its share in cigarette mixtures is about 25%. According to their neutral tobacco raw, they are close to the Virginia tobaccos. These tobaccos are sun-cured, which reduces the costs related to energy consumption and construction investments. Naumoski (1985) reported that according to its technological and

tasting properties, Otlia tobacco is competitive to the Virginia type.

One of the most widely grown tobacco varieties in R. Macedonia in the past period was Otlia 9-18/2. Although new varieties of this type have been created in R. Macedonia meanwhile, they fail to attract any significant interest among producers. One of these varieties is O. Zlatovrv, created by the research team of Tobacco Institute-Prilep.

Through presentation of its morpho-biological, productional-technological and chemical properties, our aim is to encourage the

potential growers, manufacturers and consumers to include this variety in their tobacco mixtures.

MATERIAL AND METHODS

Four-year comparative investigations (2000 - 2004) which included the variety O. Zlatovrv were made (Photo 1). Morphological measurements, phenological observations, harvest and curing were performed during the growing season. Later, qualitative estimation

of the raw material was made. Physical and chemical characteristics of tobacco raw were investigated in the accredited laboratories of Tobacco Institute-Prilep and tasting properties were determined by the Tasting Panel of Tobacco Factory - Prilep.



Photo 1 - O. Zlatovrv

RESULTS AND DISCUSSION

O.Zlatovrv is a newly created fertile semi-oriental variety approved by the State Commission of the Ministry of Agriculture, Forestry and Water Economy and registered in the List of Macedonian newly created agricultural plants (Official Gazette of R. Macedonia, July 16, 2010).

-Morphological properties

The variety O. Zlatovrv has a conical habitus and well developed root system. The stalk height with inflorescence is 156 - 166 cm, average

leaf number 36 - 37 and middle primings height 33.8 cm and width 20.6 cm, depending on soil and climate conditions. During the growing season, leaves are light green, elliptic and in maturation they turn to yellow. The stalk is strong, with medium thickness and green in color. The average length of internodia in the lower belt is 3.9 cm, in the middle 5.7 cm and in the upper belt 2.9 cm. The inflorescence is conical, with light pink flowers (Photo 2). Seed capsules are peanuts-like and they do not crack and drop the seed.



Photo 2 - Inflorescence of O. Zlatovrv

- Biological properties

The variety is adapted to coluvial and alluvial-coluvial soils, in regions with high precipitations and conditions for irrigation during the growing season, when good quality raw, typical for this type of tobacco is obtained.

- Seedling production

For production of seedlings under polyethylene, the required amount of seed is 4g/10 m². In this period, suitable agrotechnical measures (watering, nutrition and protection) should be applied in order to obtain healthy and well developed seedlings. Depending on temperature conditions and cultural practices applied (weeding, watering, nutrition, protection etc.), seedlings of this variety will be ready for transplanting in 50 - 58 days.

- Field production

One autumn and two spring plowings are necessary in this period. Fertilization with NPK should be applied in accordance with the results of agrochemical analysis of soil.

Planting is made at 50 x 25cm spacing, i.e. 80 000 stalks/ha, with 0.12 m² nutrient area per stalk.

Flowering normally occurs in 76 days, 50% flowering in 87 days and 100% flowering in 107 days. Matured leaves are swollen and turn to yellow. Matured tobacco is harvested in 5-6 primings and then sun-cured. The yield per stalk varies from 35 g to 36.40 g and the average yield per hectare is 2850 kg. With application of suitable cultural practices and additional irrigations, this variety can achieve even higher yields.

The variety showed tolerance to a number of economically important diseases (PVY, PTA, TMV etc.).

- Technological properties

The color of dry leaves of O. Zlatovrv is yellowish to pale red (Photo 2). Thickness of the middle belt leaves is 73 μm, their midrib percentage is 20.98% and substantiality is about 53.11 g/m².



Photo 3 - Dry leaves of O. Zlatovrv by insertions

- Tasting properties

The Tasting Panel of Tobacco Factory - Prilep determined that according to its aroma, strength, taste, irritation and harmony, O. Zlatovrv is a typical semi-oriental variety.

- Chemical composition

Depending on climate during the growing season, applied agrotechnics, irrigation, harvest and curing conditions, the investigated samples of O. Zlatovrv contains the following components:

- nicotine: 0.58% in irrigated to 1.39% in unirrigated conditions,

- proteins: 6.62% (irrigated) - 7.94% (unirrigated),

- soluble sugars: 18.61 % (irrigated) - 16.64% (unirrigated),

- mineral matters: 13.16 % (irrigated) - 11.91 % (unirrigated) and

- Shmuks quality index: 2.81 to 2.23.

CONCLUSIONS

- According to its morpho-biological, productional, physical-technological and chemical characteristics, the variety O. Zlatovrv is typical representative of semi-oriental tobaccos.

- this variety can successfully find its place in production and in fabrication of tobacco mixtures.

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