
"OREOL" - GREEN BEAN CULTIVAR RESISTANT TO HALO BLIGHT

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This is to report the development of a first green bean cultivar with resistance to the most important bean bacterial disease in Bulgaria. The new bean was named Oreol.

Oreol was derived from a 1973 cross between the susceptible but prolific commercial cultivar "Plovdiv" and the resistant line Wis HBR 72, sent to us by D. J. Hagedorn. Hybridization was made in the greenhouse, where were grown F_1 , F_2 , F_3 and F_4 progenies too. Plants of F_2 - F_4 progenies were individually tested and selected with Pseudomonas phaseolicola. Seeds of resistant lines were sown in the field where both artificial and natural inoculum of Pseudomonas phaseolicola and Bean common mosaic virus was abundant. Selection for resistance to both diseases was made. F_{12} of the resistant line 28592 was bulked and named Oreol.

Plant height, maturity and architecture are similar to most modern green beans cultivars, adopted for mechanical harvesting. Leaves are medium sized and medium green. Pods are borne quite high and primarily toward the middle of the plant. They are 10,5 - 11,5 cm long, medium green, straight, smooth, round in cross-section, have no fiber at normal maturities. Seeds are white and of regular size and shape.

**TESTING OF THE EPIDEMIOLOGICAL PERFORMANCE OF
Pseudomonas phaseolicola ISOLATES WITH DIFFERENT AGGRESSIVITY
ON THE SUSCEPTIBLE BEAN VARIETY, Cherokee**

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Identical quantities of seeds were inoculated by soaking with differently aggressive isolates. We counted the number of seedlings emerged. At the end of the season the number and weight of ripe seeds produced, the yield pe plant and the ratio of infected seed have been assessed (Table 1).

Table 1. The performance of *Pseudomonas phaseolicola* isolates with different aggressivity in the inoculated Cherokee bean plants

	<i>Pseudomonas phaseolicola</i> isolates	
	<u>weak aggr.</u>	<u>strong aggr.</u>
inoculated seeds number	1620	1620
seedlings emerged number	936	532
%	58	33
ripe seeds produced number	7720	4812
weight (g)	1853	1155
yield per plant weight (g)	1.98	2.17
ratio of infected seed %	12.2	4.6

The germination of seeds inoculated with weakly aggressive isolates with 58%, while the germination of seeds inoculated with isolates of strong aggressivity with 33% under field conditions.

Plant raised from seed inoculated with weakly aggressive isolates produced more seed, but the yield per plant was higher in the treatment which has been inoculated with the more aggressive isolates.

The ratio of systemically infected seeds produced by the plants raised from seed inoculated with weakly aggressive inoculates was 12.2%, but in the case of isolates with strong aggressivity, it was only 4.6%.

HIGH-PROTEIN AND DROUGHT-RESISTANT
LOCAL DRY BEAN VARIETIES, *Phaseolus vulgaris* L.

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A lot of interesting local dry bean varieties are grown in private vegetable gardens in Bulgaria. Every year we collect seeds of such varieties and subject them to evaluation as regards important economic characters. So, many Bulgarian bean varieties have been developed by individual selections in local forms. Such are var. 1026, Roussenski ran, Bistrenski, Bisser etc.

The present paper offers some results concerning the evaluation of a part of our collection of local forms (148 varieties) as regards protein content, drought-resistance and seed productivity. Table 1 gives the forms of highest protein content. Evidently there exists no positive correlation between yield and protein content. We believe that components in an inter-varietal hybridization should be the determinate varieties of high protein content Skomlya 2 (28.6%), Bistra (28.9%), Rouzhintzi 2 (25.3%), and Smolentzi 1 (26.8%).