

ECONOMIC AND CONSUMER CHARACTERISTICS OF NEW LINES BURLEY TOBACCO

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ABSTRACT

The aim of this study to evaluate by economic performance and consumer properties of our new lines Burley. Therefore defined economic ones, chemical indicators and the smoking properties of the newly selected seven lines of Burley tobacco. The obtained results show that with the best economic performance is Line 1362, followed by Line 1390. With respect to all new production lines superior standard Burley 21 variety, which is an indication of the success of the selection work. In complex by chemical parameters differ Line 1362, Burley 21 variety and Line 1390. Good smoking and properties revealed Line 1362 and Burley 21 variety. The overall results suggest that as a variant with the best economic features and consumer properties is presented Line 1362. Other research options are with medium quality. Very good comprehensive evaluation of Line 1362, allowing it to be offered for production testing and offering for recognition as a new variety of Burley tobacco.

Key words: Burley tobacco, new lines, yield, chemical indicators, smoking properties

ЕКОНОМСКИ И УПОТРЕБЛИВИ СВОЈСТВА НА НЕКОИ НОВИ ЛИНИИ ТУТУН ОД ТИПОТ БЕРЛЕЈ

Целта на ова испитување е оценка на стопанските карактеристики и употребната вредност на нашите нови линии од тутун тип Берлеј. Определени се стопански, хемиски индикатори и пушачките својства на седум нови линии тутун тип Берлеј. Добиените резултати покажуваат дека со најдобри стопански карактеристики е линија 1362, проследено со линија 1390. Сите нови линии се споредени со најдобрата стандардна сорта Берлеј 21, која е показател за успешноста на селекцијата. По комплексноста на хемиските параметри се истакнуваат линијата 136, сортата Берлеј 21 и линијата 1390. Со добри пушечки својства се одликуваат линијата 1362 и сортата Берлеј 21. Целосно резултати укажуваат на тоа дека како една варијанта со најдобри својства карактеристики и употребната вредност е линијата 1362. Други испитувани параметри се со среден квалитет. Многу добра сеопфатна проценка има добиено линијата 1362 и затоа постои можност истата да биде понудена за тестирање во производство и признавање како нова сорта од тутун од тип Берлеј.

Клучни зборови: тутун Берлеј, нови линии, принос, хемиски индикатори, пушачки својства

INTRODUCTION

Although restrictions against tobacco and smoking, recent years there is even a small

increase in the consumption of cigarettes American blend type / 0.6% year /. Tobacco

Burley type is indispensable component of cigarettes of this blend. Participate in their composition to 45% (Spears and Tones, 1981; Davis and Nielsen, 1999). Bulgaria is not a traditional producer of Burley tobacco. Therefore its cultivation is associated with a number of difficulties (Bozukov, 2012). The first place obtained yields are lower compared with the leading producing countries. The lower is percentage of first class (Turner, 1989). This requires the creation of new, high-yielding varieties adapted to our conditions and not least desirable of tobacco (Mutafchieva 2009, Palmer et al., 2007; Risteski et al., 2012). The own sake increase the quantities of Burley tobacco leads to a lack of market realization (Snell. 2006). His search is based

on the specific requirement, satisfying the needs of the tobacco industry (Kirkova, 2005; Kirkova and Taskova, 2005).

Combining good economic qualities and custom properties in a variety is very difficult and long process (Dimanov and Masheva, 2011; Dimitrieski et al., 2006). The main task of the Bulgarian selection is established and implemented in producing new, high yield varieties of Burley tobacco satisfying as claims of tobacco growers and requirement of the industry (Dyulgerski 2011).

The aim of our research to do assessment by economic performance and consumer properties of our new lines Burley tobacco. On this basis, to performed selecting for production testing.

MATERIAL AND METHODS

The experimental work is carried out in TTPI - Markovo in the period from 2008 to 2010. At the study are subjected created by us seven lines of Burley tobacco, namely: Line 1231, Line 1252, Line 1277, Line 1323, Line 1362, Line 1383 and Line 1390. All they have shown good biological indicators and are very well aligned morphological and vegetative. To control used Burley 21 variety officially recognized standard in Bulgaria by 2010 in Burley tobacco. For all variants is applied uniform technology of growing, harvesting and drying. Production after manipulation defined dry tobacco yield per hectare,

percentage of first, second and third class. In the chemical-technological laboratory in TTPI are provided samples harvested and air-dried tobacco leaves for analysis of basic chemical indicators as follows: nicotine, sugars (soluble carbohydrates), total nitrogen, ash, ammonia, chlorine and proteins.

To determine the chemical composition, tasting evaluation, and subsequent data processing are used standardized methods. To detect differences between the versions used ANOVA and many rank test of Duncan (1995).

RESULTS AND DISCUSSION

1. Economic indicators

Average for the period of study Line 1362 gives the highest yield per hectare (Table 1). This line is formed by high-yield. With a small margin her following Line 1390.

With high yield and are distinguished Line 1383 and Line 1323. The lowest yield is presented standard Burley 21 variety.

Table 1. Yield and percentage of classes of variants of Burley tobacco included in the experience average for the period of study

Variety/ Line	Yield kg/ha	Percentage of classes		
		I	II	III
Burley 21	2718 ^e	34	49	17
Line 1231	3023 ^c	36	51	13
Line 1252	2937 ^{cd}	26	52	22
Line 1277	2783 ^e	24	56	20
Line 1323	3178 ^b	28	58	14
Line 1362	3347 ^a	41	44	5
Line 1383	3117 ^{bc}	30	59	11
Line 1390	3282 ^a	33	53	14
LSD _{5%}	98			

With regard to yield any new lines exceed the testimony of the standard. This is an indication of success in selection work regarding such an important indicator.

In terms of percentage of the classes data in Line 1362 again with the most favorable parameters (Table 1). Line 1362 gives the highest percentage of first-class, and also this line provides the lowest percentage of third class of all studied variants. Only her first class percentage of is over 40, and a

third class is below 10%.

In a complex of economic indicators in the first is ranked Line 1362, followed by Line 1390. With a relatively good indication of the percent of classes are also present Line 1231, Line 1390 and Burley 21 variety. The lowest quality formed Line 1277.

The results of the new lines concerning the percentage of classes should be considered satisfactory, since all of them prevailing percentage of second class.

2. Chemical indicators

With the highest values for nicotine content is Line 1362 (Table 2). None variant does not detect values above 3%. In Line 1252

nicotine content is too low by a requirement of Burley tobacco. In other variants obtained results are satisfactory.

Table 2. Chemical indicators of the studied lines Burley tobacco

Variety/ Line	Nicotine	Sugars	Total nitro- gen	Ashes	Ammono- nia	Chlorine	Protein
Burley 21	2,67	0,83	3,25	17,88	0,32	0,34	9,76
Line 1231	2,02	0,95	2,71	17,17	0,34	0,35	8,43
Line 1252	1,90	1,07	2,56	21,87	0,35	0,37	11,34
Line 1277	2,36	1,01	2,82	12,43	0,34	0,41	10,22
Line 1323	2,62	0,90	2,94	17,15	0,33	0,34	15,62
Line 1362	2,93	0,82	3,63	17,71	0,31	0,32	10,66
Line 1383	2,74	1,23	3,33	17,12	0,31	0,33	9,27
Line 1390	2,69	0,88	3,28	18,26	0,33	0,34	8,85

Lowest, respectively the best sugars content reveals Line 1362, followed closely by a

standard - Burley 21 variety. The results of the other options are satisfactory. The

sugar content in Line 1383 is too high for standards in Burley tobacco.

The content of total nitrogen for all variants is in the norms for Burley tobacco. Best results in terms highest values are found in Line 1362.

The ash content of at most the variant is at an optimum for Burley tobacco. At Line 1277 values for ashes are too low, and in Line 1252 too high.

Line 1362 is with the lowest content of ammonia and chlorine which extremely undesirable for Burley tobacco. In Line 1383 are found good results. Unacceptably high levels of chlorine are reported in Line 1277.

Line 1323 stands too high values for protein content. In other studied variants it is within legal limits for Burley.

3. Smoking properties

Tasting evaluation is performed on mono cigarettes without filter segment and equal conditions. By elements of the perceptions

the smoking properties of the studied lines Burley tobacco are presented in Figure 1 and Figure 2.

Figure 1. Aroma

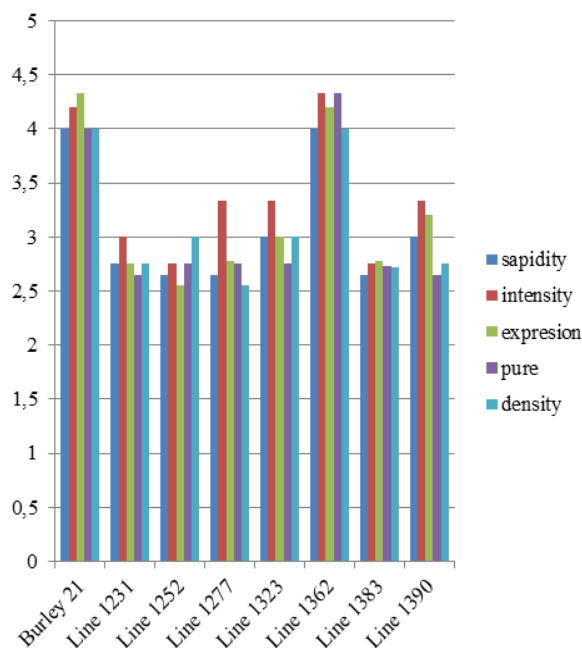
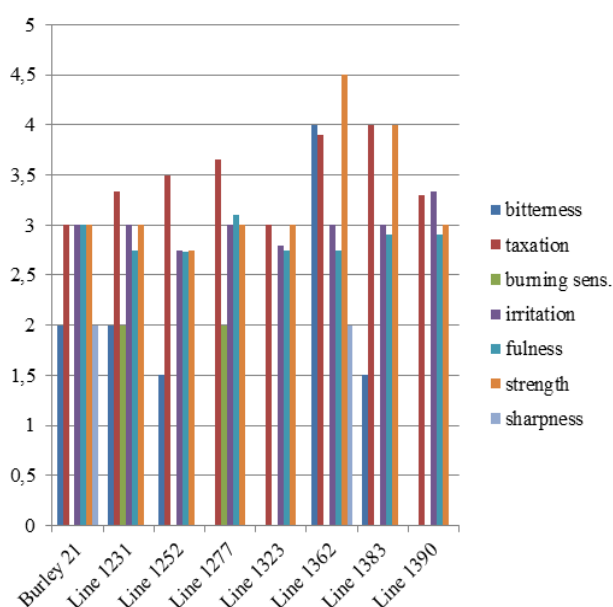


Figure 2. Taste, physiological strength and sharpness



The results clearly show the favorable smoking properties at Line 1362 and standard Burley 21 variety.

In conclusion, it can summarize that a complex of economic and consumer properties stands out Line 1362. This variant is superior to the standard variety in all tested parameters. The lines subject

to our research is observed other options superior standard Burley21 in economic performance, but his inferior in the smoking properties.

New created Line 1362 of varietal group Burley tobacco is with very good economic and consumer properties, allowing it to be offered for production testing.

CONCLUSION

Line 1362 gives the highest yield per hectare of all studied variants. From the

same line receives the highest percentage of first class.

With best economic qualities is present Line 1362. With good economic characteristics is also Line 1390.

In complex studies chemical indicators most distinguished Line 1362. With relatively balanced chemical composition is characterized also Burley 21 variety and Line 1390.

With good smoking and properties are presented Burley 21 variety and Line 1362.

Regarding economic parameters all new lines are superior to the standard Burley 21 variety, but the most his retreat for consumer properties.

In a complex of studied parameters with the best results stands out for Line 1362. This is a prerequisite to be offered for production testing and offering for recognition as a new variety of Burley tobacco.

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