

Assessment of the Quality Profile of Oriental Tobacco from the Commodity Segment of Basma Variety Group (Ecotype Krumovgrad)

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GOAL OF THE STUDY

The production of Oriental tobacco has a significant role for the social status of Bulgarian farmers and the economic priorities of the regions. The demand for tobaccos that are truly competitive on the international market has forced the dominant production of Krumovgrad ecotype varieties in the country.

This objectifies the need to conduct the present research with the aim of evaluating the quality profile of Oriental tobacco of Krumovgrad ecotype, a significant part of the commodity segment of Basma variety group.

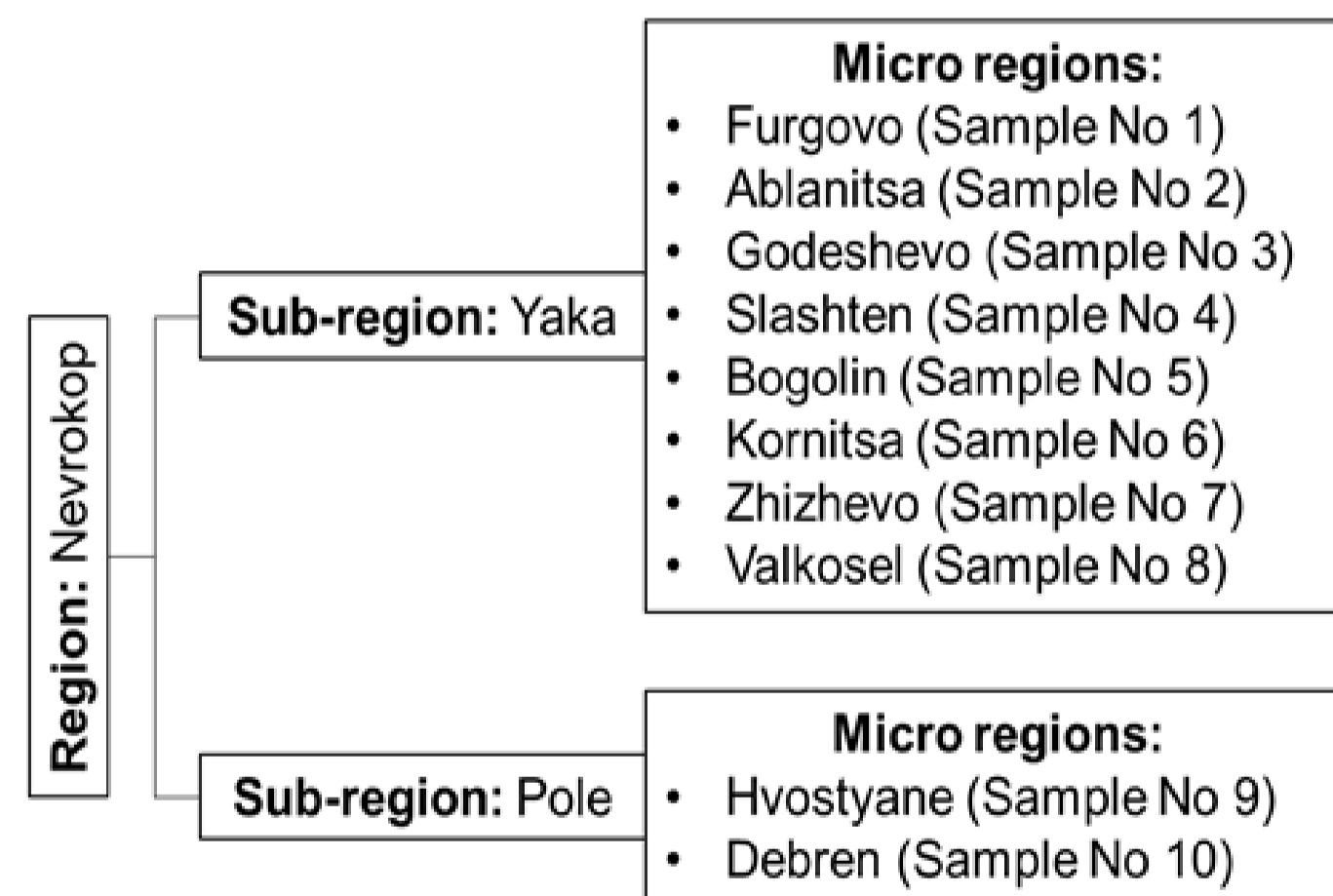
MATERIALS AND METHODS

Plant material

- Tobaccos of ecotype Krumovgrad (variety Krumovgrad 90), crop 2019.

Methodology

- Chemical traits of cured tobacco leaves:
 - nicotine, reducing sugars, total nitrogen, and ash – by standardized methods
- Chemical indicators of tobacco smoke (tar and nicotine, mg/cig)
- Expert assessment of leaf visual quality
- Assessment of smoke sensory characteristics
 - The statistical significance of the obtained ranking orders validated by Kendall's coefficient of concordance W and the F -test, at 95% probability level.
- Complex cured leaf quality and rating of tobaccos:
 - based on sample ranking with regard to the most important quality characteristics (chemical, visual and sensory quality traits);
 - a coefficient of importance (CI) assigned to each of the selected quality traits;
 - the final rating obtained by calculating a “quality index”; a lower value corresponding to a higher quality level.



MAIN RESULTS FROM THE STUDY

Table 1. Chemical indices of Oriental tobacco

Sample No ^a	Index						Smoke composition	
	Tobacco composition						Nicotine (mg/cig)	Tar (mg/cig)
	Nicotine (%)	Reducing sugars (%)	RS/ Nic	Total nitrogen (%)	Ash (%)			
1	0.46	19.80	43.04	1.62	7.80	0.39	21.92	
2	0.44	19.70	44.77	1.51	7.66	0.36	25.07	
3	0.70	18.90	27.00	1.34	10.89	0.63	17.82	
4	0.38	22.10	58.16	0.86	8.69	0.31	20.93	
5	0.75	24.20	32.27	1.16	7.30	0.67	27.55	
6	0.79	22.30	28.23	1.55	8.26	0.70	20.02	
7	0.58	19.70	33.97	1.84	7.62	0.55	25.00	
8	0.45	24.20	53.78	1.53	8.49	0.38	21.45	
9	0.45	19.60	43.56	1.81	8.18	0.38	26.43	
10	0.43	18.60	43.26	0.98	9.16	0.35	24.21	

- Leaf nicotine content was lower than that typical for Krumovgrad 90 variety;
- The reducing sugars (RS) content was relatively high for Oriental tobacco;
- High values of the reducing sugars/nicotine ratio.

Table 4. Complex rating of Oriental tobaccos from Krumovgrad ecotype

Criteria	Sample rank ^a										CI	Quality indices and rating of samples										
	1	2	3	4	5	6	7	8	9	10		1	2	3	4	5	6	7	8	9	10	
Nic, %	9	9	3	9	2	1	4	9	9	9	0.20	1.80	1.80	0.60	1.80	0.40	0.20	0.80	1.80	1.80	1.80	
RS, %	4.5	4.5	2	7.5	9.5	7.5	4.5	9.5	4.5	1	0.12	0.54	0.54	0.24	0.90	1.14	0.90	0.54	1.14	0.54	0.12	
RS/Nic	5	8	1	9	3	2	4	10	6.5	6.5	0.18	0.90	1.44	0.18	1.62	0.54	0.36	0.72	1.80	1.17	1.17	
Tar, mg/cig	5	7.5	1	2.5	10	2.5	7.5	4	9	6	0.10	0.50	0.75	0.10	0.25	1.00	0.25	0.75	0.40	0.90	0.60	
Leaf quality	3	1	6	10	8	2	7	5	9	4	0.15	0.45	0.15	0.90	1.50	1.20	0.30	1.05	0.75	1.35	0.60	
Smoking quality	1	2	6	9	6	6	8	10	3	4	0.25	0.25	0.50	1.50	2.25	1.50	2.00	2.50	2.50	0.75	1.00	
											Quality index		4.44	5.18	3.52	8.32	5.78	4.01	6.36	8.39	6.51	5.29
											Rating		3	4	1	9	6	2	7	10	8	5

- The best-rated in the complex quality assessment procedure was the tobacco from micro region Godeshevo, followed by that from Kornitsa and Furgovo, after which in descending order were rated the tobaccos from Ablanitsa, Debren, Bogolin, Zhizhevo, and Hvostyane, and in the last places – those from Slashten and Valkosel.

CONCLUSIONS

The technological assessment of the quality profile of Oriental tobacco of ecotype Krumovgrad (Basma variety group) produced in the Nevrokop region gives us the reason to summarize that there were significant differences in cured leaf quality characteristics (chemical, visual and sensory) between the tobacco samples representing the same variety and crop year (Krumovgrad 90; crop 2019) but grown in different areas, thus emphasizing once again the effect of soil and environmental conditions in tobacco production.