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Research Paper

PRELIMINARY STUDIES ON THE CONSUMABLE PROPERTIES OF TOBACCO SEEDS

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Abstract

Tobacco seeds were studied in aspect oil and their application in the feed. At present restrictions on tobacco culture and restrictions by the WHO are too aggressive. On the other hand, there are areas where alternative agricultural plant there is no tobacco. Third - problems with feeding people are growing. There are no known research findings on the consumable properties of tobacco seeds. Our aim is to examine the contents of tobacco seeds in the aspect of a potential food source. Were studied tobacco seeds of the three main groups of tobacco varieties - Burley, Virginia and Oriental. The values for the content of proteins, oil, carbohydrates, fiber and energy value are compared with sesame and poppy seeds. Used are standardized methods for analysis and data processing. From the results of the research so far can be summarized conclusion that tobacco seeds have hidden food energy potential.
Key words: *tobacco, tobacco seed, food potential*.

INTRODUCTION

Tobacco seeds in Bulgaria were tested early 30s of last century with an emphasis fat [3, 7, 8]. It is known that they do not contain nicotinic alkaloids. Central Agricultural Testing Institute has found that tobacco seeds contains 28% -30% oil that can be consumed. At the same time in this direction carried out studies and other countries. In Romania found that tobacco oil can be used by the industry for the preparation of soap, varnish, grease and fuel material. In Germany, questions the use of tobacco seed oil is assigned to the military. They found that after appropriate processing is obtained linseed oil and margarine. In all these studies after extraction or pressing separated pomace, which is recognized as a good animal feed [9, 10]. Tobacco seeds are used for the preparation of bio-diesel [1, 2, 6, 11]. By the fact that profits are mainly from obtaining quality tobacco leaves, in our country these studies terminated. Ten years ago prof. Zlatanov and colleagues examined tobacco seeds from small-and large leaf in relation lipid composition and more accurate determination of phospholipid, sterol and tocopherol fraction as biologically active substances in the oil [4, 12, 13]. Tobacco seeds are studied as a protein additive in feed [5]. There are no known research findings on the consumable properties of tobacco seeds. At present restrictions on tobacco culture and restrictions by the WHO are too aggressive. On the other hand, there are areas where alternative agricultural plant there is no tobacco. Third - problems with feeding people are growing. Our aim is to examine the contents of tobacco seeds in the aspect of a potential food source.

MATERIALS AND METHODS

We examined tobacco seeds from three types of tobacco grown in Bulgaria-Oriental, Virginia and Burley. For each type of performed a common characteristic Content of essential chemical substance groups. Analyze biologically active substances in the seeds and energy value. Analysis and processing used standardized methods.

RESULTS

The results of the overall chemical composition of the investigated tobacco seed tobacco types is displayed in Figure 1.
Compared with the overall chemical composition of poppy and sesame seeds - the results are presented in Figure 2.
The content of the fatty acids groups - saturated, monounsaturated and polyunsaturated fatty acids is depicted in Figure 3.
The results for the energy value of the tested seed types and tobacco compared with poppy and sesame are presented in Figure 4.

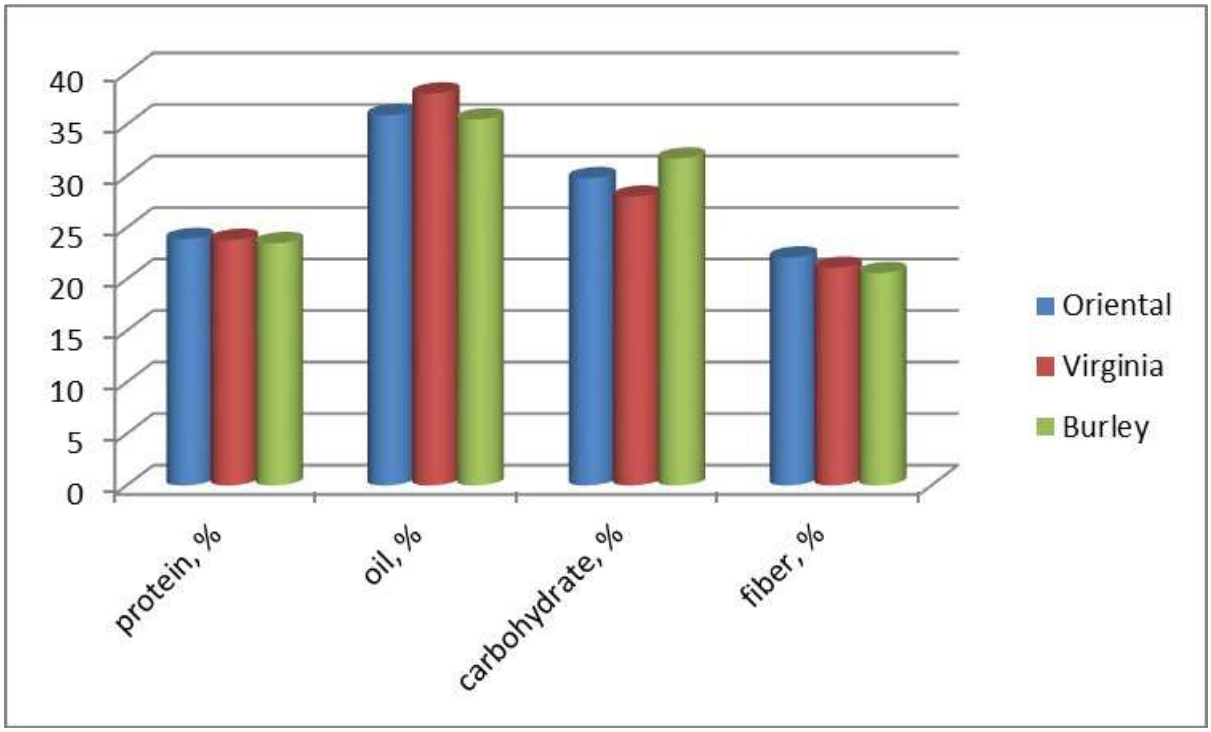

Figure 1. Chemical composition of tobacco

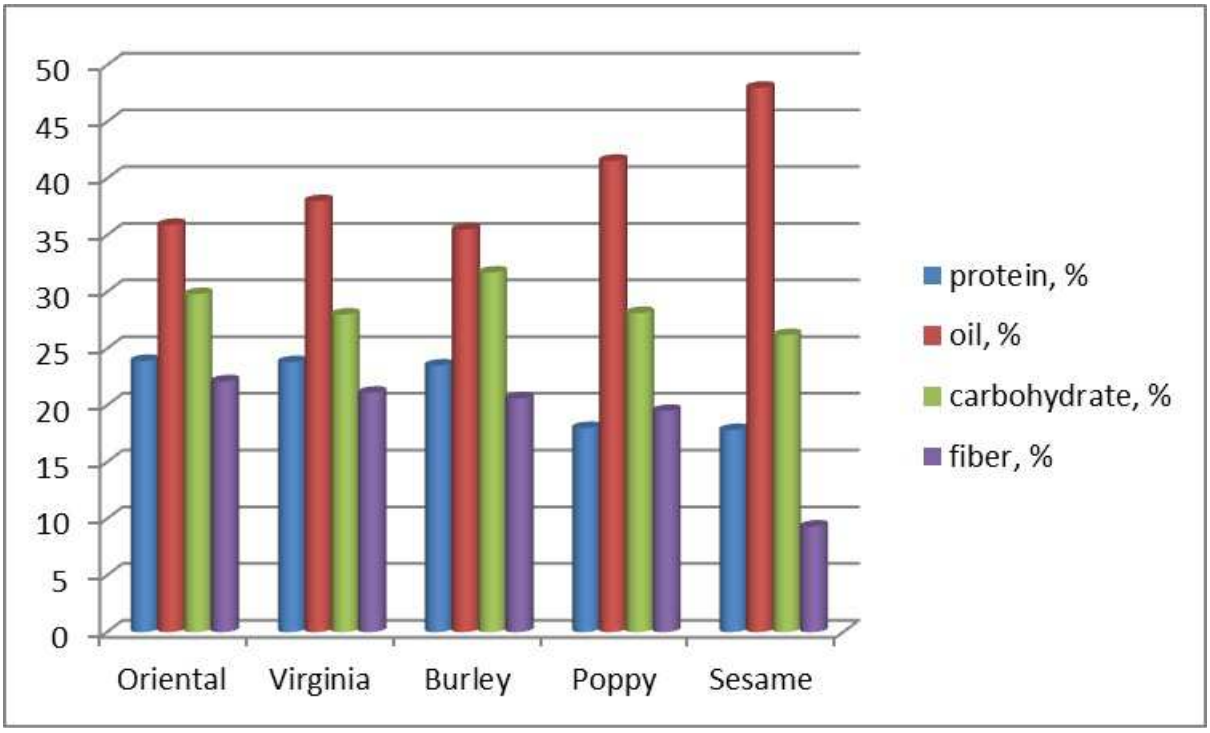

Figure 2. Chemical composition of tobacco, poppy and sesame seeds

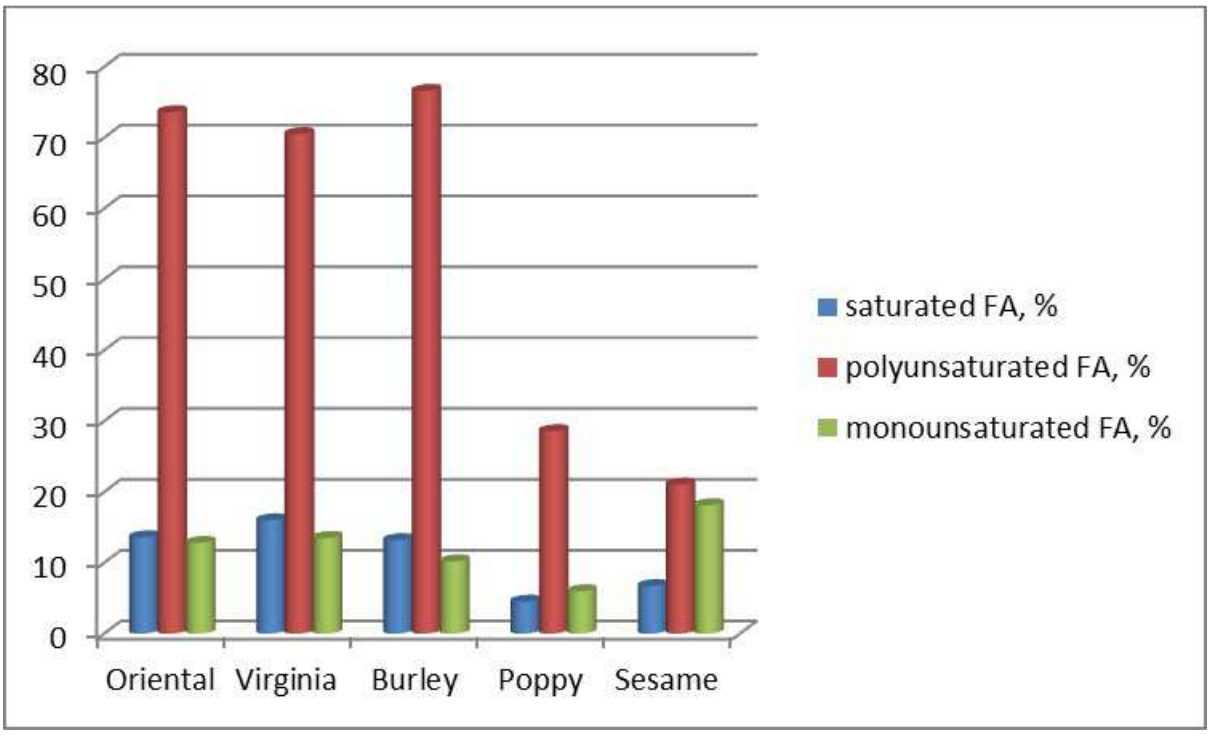

Figure 3. Fatty acids

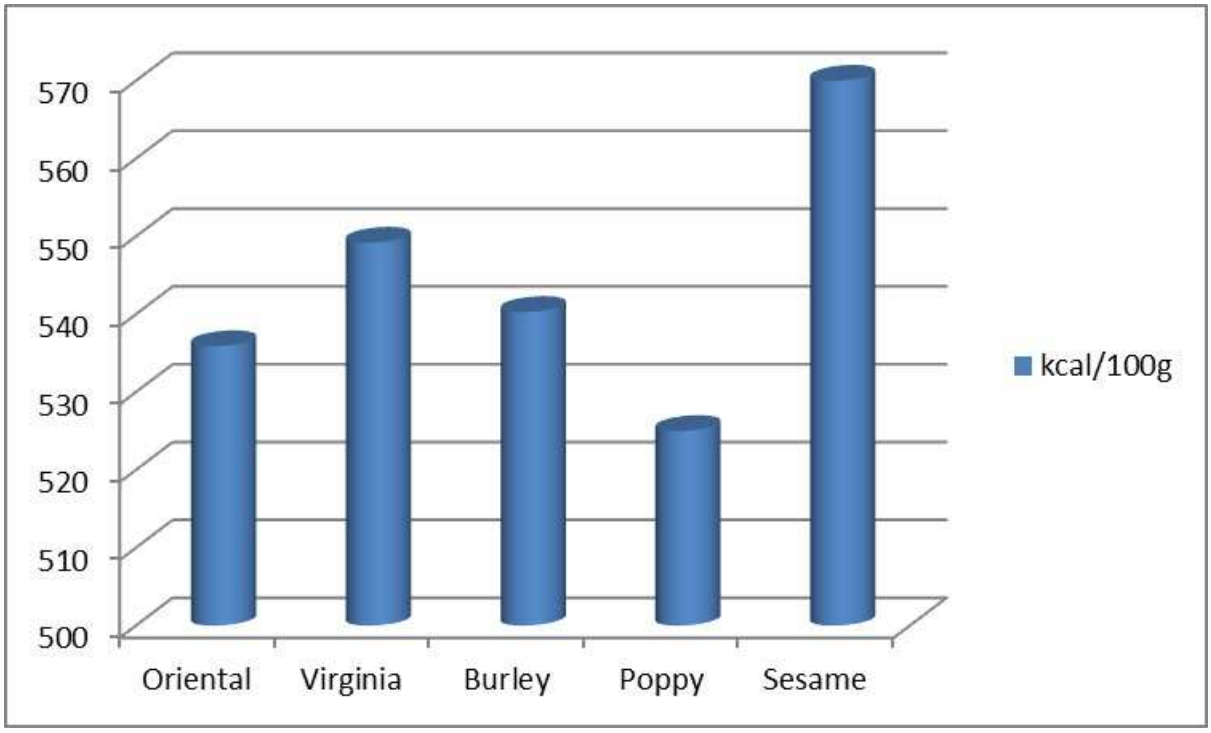

Figure 4. Energy value

DISCUSSION

The protein content of tobacco seeds is approximately the same for the three groups of varieties. The seeds of Virginia tobacco are the highest values for fat and seeds of Oriental tobacco with the highest values for fiber content.

Data poppy and sesame seeds are USDA /United States Department of Agriculture/. From the figure it is clear that the sesame seeds and poppy superior in values tobacco only oil, inferior in strength of the protein and fiber. On the carbohydrate content with the highest values of Burley tobacco seeds, followed by seeds of Oriental tobacco. Poppy seeds and seeds of Virginia tobacco are relatively close. The lowest levels are found in sesame.

The seeds of the three groups of tobacco varieties are superior in content of polyunsaturated fatty acids, poppy and sesame seeds. They contain more saturated fatty acids. In monounsaturated greatest content is found in sesame, followed by seeds of Virginia tobacco, Oriental, Burley and lowest values of poppy seeds.

The greatest energy value are sesame seeds. Poppy seeds fall far short of tobacco in all three types of tobacco.

CONCLUSION

From the results of this stage of the research can be summarized conclusion that tobacco seeds hiding food and energy potential not only for the animals.

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