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THEME: THE IMPORTANCE OF CHOOSING POTATO VARIETIES IN OBTAINING STARCH

I. T. ERGASHEV
ergashev.ibragim.64@mail.ru
Samarkand institute of veterinary medicine, Samarkand, Uzbekistan

I. B. BEGIMKULOV
ilxom.begimkulov@mail.ru
Samarkand institute of veterinary medicine, Samarkand, Uzbekistan

ABSTRACT
In addition to the main directions of potato selection, which are still widely accepted in Uzbekistan, the suitability for processing should be one of the requirements for new varieties.

KEYWORDS: Potato, tubers, chips, sorts, selection examples, recycling, starch, carbohydrate, cellulose.

INTRODUCTION

It is also one of the most important issues in the industry, as it is aimed at meeting the needs of the population in environmentally friendly products, ensuring food security and increasing the export potential of the country through agricultural reforms in the country.

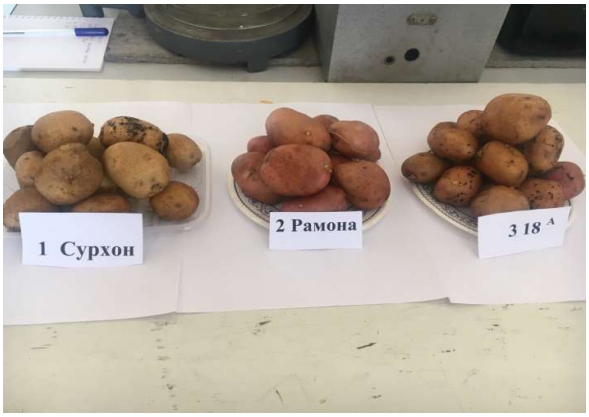
This, in turn, is directly related to the expansion of potato growing areas, the introduction of new forms of farming, the use of high-yielding varieties and high quality seeds, as well as the introduction of scientific and technical achievements in the storage and processing of potatoes.

The starch content in potato tubers belongs to the group of multi-molecular saccharides and is composed of glucose residues. While 600-700 grams of carbohydrate is required for a person's daily needs, its average is 550-600 grams of starch. Starch is a great source of energy in the human body. 100 g of potato starch gives 1250 kJ of energy. Starch is processed in the body and provides blood glucose. Starch is widely used in the food industry in the manufacture of confectionery, chip products, baking, canned fruit, ice cream and other industries. The main raw material in the production of potato starch is the end of the starch-rich varieties of potatoes. The content of starch in the tubers of these varieties used for starch production should be 18-26%. [2]. Therefore, it is important to study the factors that increase the amount of starch in the tubers, both in the selection process aimed at the creation of new varieties of crops, and in the development of elements of potato cultivation technology.

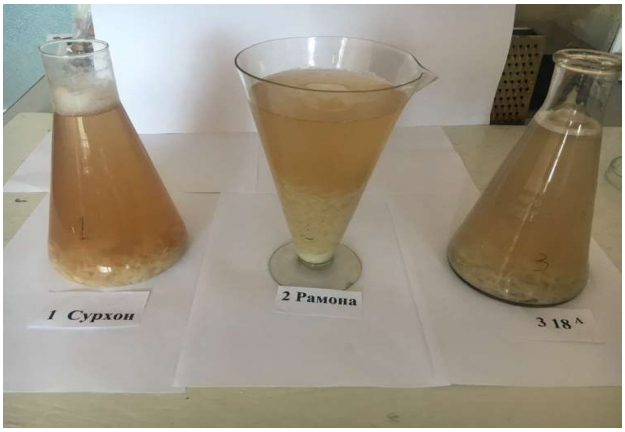
LABORATORY RESEARCH

The research was conducted in the departments of "Plant breeding and fodder" and "Technology of storage, processing of livestock and plant products" of Samarkand Institute of Veterinary Medicine. The object of research was the Surkhan-1 and Ramona varieties of potatoes and the ends of the 18^{A} selection sample. The ends of the potato varieties brought to the laboratory for starch extraction were thoroughly washed to remove sand, soil, and other contaminants that degrade the color, taste, and quality of the starch. They were then peeled and weighed using electronic scales. 200 grams of pure potatoes were weighed from the tubers of each variety.

The ends were crushed to break down the cells and accelerate the release of starch. A scraper was used for this. This process is illustrated in picture 1.



As a result of grinding, potato porridge is formed. In addition to starch, this porridge contains cellulose and other substances. To separate the starch from the slurry, it was placed in a special laboratory glass jar, diluted with water, and mixed with a conical glass jar. When transferred to a special laboratory glass jar, the starch was washed several times with water and the klechatka was filtered. The starch in a special laboratory glass jar was then precipitated in a special laboratory glass jar for 4 or 5 hours. (picture-2)



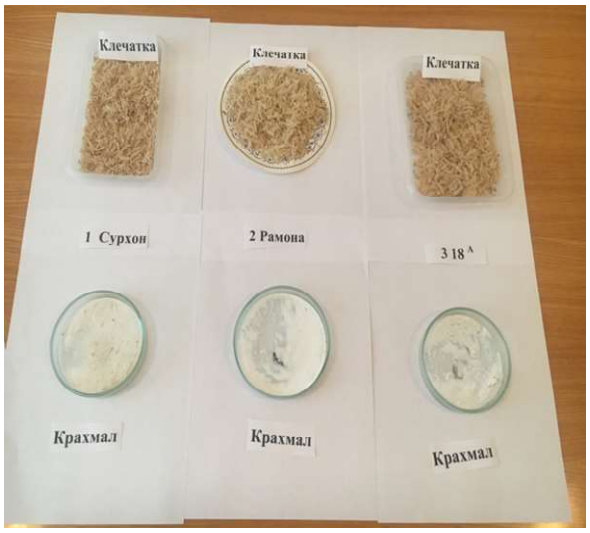
The diluted starch (white precipitate) in the laboratory glass jar was placed in another glass jar using a medical bandage along with the water. The water was then poured into a glass jar and the starch was placed in special containers. This state of starch is called wet starch. This starch contains 50% or more water. Therefore, the air in the laboratory room is dried at a temperature not lower than + 20^0C and not higher than + 40^0C. The drying process was continued until 20% water remained in the wet starch.

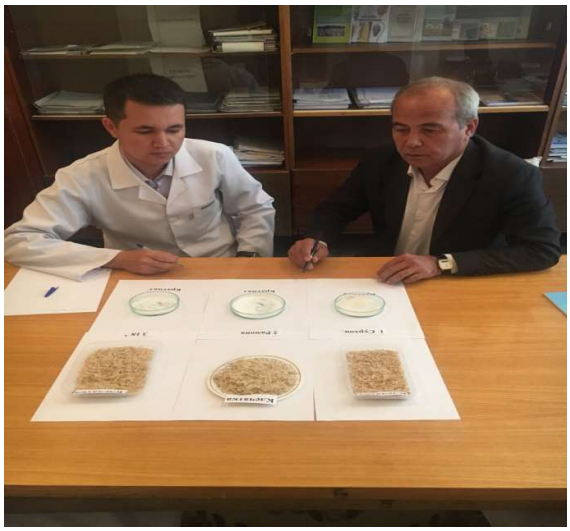
RESEARCH RESULTS

The results of the study showed that the starch yield from potato tubers depends on the varietal characteristics of the crop. The amount of starch and cellulose obtained from Surkhan-1 and Ramona varieties of potatoes and 18^A selection sample is given in the table below. (Table-1).

№	Variety and selection sample name or number	The amount of starch		The amount of cellulose	
		%	gram	%	gram
1	Surkhan-1	17	34	20,25	40,5
2	Ramona	18	36	30,25	60,5
3	18^A	19	38	29,25	58,5

The results obtained show that in order to obtain good and high quality starch, it is necessary to choose the right varieties, as they are related to the chemical composition of the varieties. Research in this sector is ongoing. (picture 3)





CONCLUSION

The amount and quality of starch obtained from the tubers depends on the varietal characteristics of the potato. Therefore, in order to obtain starch from potato tubers in the conditions of Uzbekistan, it is necessary to choose the right varieties, take into account the duration of cultivation and the elements of the applied technology.

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