

## THE NPK FERTILIZATION EFFECTS OF TUBERS STARCH, DRY MATTER AND REDUCING SUGAR CONTENT

Nina BĂRĂSCU<sup>1</sup>, Maria IANOȘI<sup>1</sup>, Marcel M. DUDA<sup>2</sup>,  
Edward MUNTEAN<sup>2</sup>

<sup>1</sup>National Institute of Research and Development for Potato and Sugar Beet  
Brașov, 2 Fundaturii Street, Brasov, Romania

<sup>2</sup>University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca,  
3-5 Calea Manastur, 400372, Cluj-Napoca, Romania

Corresponding author email: nina.barascu@gmail.com

### **Abstract**

*The content of potato tubers in dry matter, starch and reducing sugar determines their quality characteristics. This study shows how the basic fertilization with different nitrogen doses and NPK ratios influence the content of potato tubers in dry matter, starch and reducing sugar.*

*The researches were conducted in the years 2013-2014 in the experimental field of INCDCSZ Brasov, located in Brasov Depression, on a cernoziomoid soil at an altitude of 520 m. For the two potato varieties used in the experiment, Christian and Roclas, was made a basic NPK fertilization with two different ratios 1: 1: 1 and 1: 0.9: 2 and two different doses of nitrogen, 100 and 200 kg/ha.*

*Fertilization ratio 1:0.9:2 as against 1:1:1 ratio had significant effect on reducing the starch content for both varieties, while the reducing of dry matter content is significant only for Christian variety. For both varieties, there were no significant differences in reducing sugar. The higher NPK ratio and nitrogen dose of 200 kg/ha determined reduction of starch in the two years, on average with 0.9-1.2%. Increasing the dose of nitrogen determined a significant decrease in the reducing sugar content only at Christian variety.*

*The decrease in starch content from tubers of Christian variety with increasing potassium ratio and nitrogen dose is more evident and statistically significant in 2014. For Roclas variety there is the same tendency, differences between variants in the two years are lower.*

*In the case of the dry matter content differences due to experimental years are stronger and are manifested mostly for dose N200 both at Christian as well as the Roclas. For the tubers reducing sugar content were found significant differences between the two years for both varieties. To all variants of fertilization the content level of reducing sugar was lower in 2013.*

**Key words:** dry matter, fertilization, potato, starch, reducing sugar.



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SECTION 1

# AGRONOMY



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