

198-12 Climate Change Influence on Potato Crop and Yield Variability in the Central Part of Romania.

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Potato has a relatively long tradition in Romanian agriculture (first references being made in Transylvania in the XVIII Century), crop importance increased in time and potato is now considered the “second bread” of Romania. Central part of Romania is the accountable for supplying a quarter of the total potato production of Romania (INS, AGR108A) and in the last period the potato in Romania is confronted with some problems linked to climatic (seasonal precipitation, maximum and minimum temperatures and extreme climatic variables) and social changes (dramatic reduction of surfaces cultivate with potatoes, diminish of resources, the quality of planting material).

The paper presents a multiyear study regarding the climatic changes in Brasov area (center of Romania) and the influence on the potato crop. For a period of more than 100 years (1910-2015) it was calculated the variation of hydrothermal index (Buiuc, INMH), as well as the extreme climatic variables. The hydrothermal index takes in consideration the rainfalls during the winter and the coefficient of soil retention, the rainfalls quantity and the temperatures sum ($>0.0^{\circ}\text{C}$) in vegetation period. The authors correlated the index with the respective potato yield. The results indicated that climate trends in Brasov area had a significant influence on crop yield levels and variances in various magnitudes and directions and the hydrothermal index is better correlated potato crop performance than to the temperature and rainfalls.

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