

## **SOME RESEARCHES CONCERNING THE RESISTANCE MECHANISM DETERMINATION OF POTATO TO WART PRODUCED BY *Synchytrium endobioticum* THROUGH BIOCHEMICAL ANALYSES**

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### **Abstract**

The paper presents results concerning the resistance mechanism determination of potato to wart, caused by *Synchytrium endobioticum*, through biochemical analysis, in 10 potato resistant and susceptible genotypes to above pathogen, relating to: dry matter and moisture contents, ash, total nitrogen, total crude protein and starch contents, titratable acidity, catalase and polifenoloxidase activities, ascorbic acid and total free amino acids contents. Following the analysis carried out on resistant and susceptible potato genotypes to the pathogen was found that indicators referring to dry matter and moisture content, ash, ascorbic acid, titratable acidity and starch contents no guarantee expression of the resistance degree or susceptibility level to pathogens. It is interesting the analyzes of total nitrogen and crude protein contents from tubers, catalase and polifenoloxidase activities and total free amino acids contents. Thus we can say, after the first analyzes conducted in this direction, the potato genotypes resistant to pathogens, contain over 0.9g nitrogen/100g tissue tuber crude protein over 5.6% total free amino acids content, over 0.40% from d.s., catalase units less than 110 and below 1.70 micromoles of ascorbic acid oxidized by enzyme in 1 gram of tuber tissue for one minute. It is necessary to continue this type of research on a much larger number of resistant and sensitive potato genotypes and take into account other analyzes to those mentioned in this paper, regarding to quality of the protein content, the essential amino acids content, alkaloids, amides, the study of albuminoidal substances composition etc., which would prevent the cellular system development of the fungus in potato tubers.

**Key words:** wart, *Synchytrium endobioticum*, biochemical analyses, resistance, susceptibility.