DESCRIPTION OF A NOVEL METHOD TO CALCULATE THE DORMANCY DURATION OF THE POTATO VARIETIES

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The term of dormancy is often used to describe the storability of potato tubers. A dormancy value or duration defines the period potato tubers can be stored before initiating sprouting. Characterization of dormancy value provides useful information to implement strategies for short or long-term storage of potato varieties and can be instrumental to schedule treatment of potato tubers with sprouting inhibitors. The dormancy values of the varieties are provided by breeders and research institutes. Those values can be retrieved from online databases. Comparison of the aforementioned online databases shows that the information is not available for all varieties and that this information can be variable and/or very different for some varieties. The variability can be explained by the heterogeneity of the methods used to determine the dormancy values (e.g. the use of different control varieties and the use of different dormancy scales). The aim of this study is to compare different statistical models based on linear regression analysis that could be used to calculate the dormancy value of a potato variety using field trials data and the corresponding post-harvest observations of tuber sprouting. To perform this comparison, we used dormancy value data collected for 210 potato varieties over 25 years in six locations in Switzerland (Swiss variety testing network datasets). This work provides a comparison of the performances of the different models that are tested and suggests novel methodologies to assess and calculate the dormancy values of the potato varieties.