



## **Relationship between Phenological Data of Spring Barley (*Hordeum vulgare* L.) and Meteorological Data as important input into Phenological Model**

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In this study, phenological and meteorological data have been used to interpret the relationship and influence of weather on current phenological stages of spring barley. The analyses were focused mainly on the stages closely connected with yield and grain filling period of malting spring barley – tillering (BBCH 21), heading (BBCH 55) and yellow ripeness (BBCH 85). The aims of this paper were to: (1) calculate the trend in phenological development of spring barley from phenological data of CHMI phenological stations in period 1991–2012 at different climatic zones; (2) evaluate the trend in number of days between phenological stages; (3) evaluate the sums of growing degree days above 5 °C (GDD) and precipitation totals to phenophase onset calculated since the phenological stage of emergence (BBCH 10); (4) calculate Pearson correlation coefficient (PCC) between phenological stage and meteorological parameter. The highest positive PCC was found between GDD and phenological stages of heading and yellow ripeness at Doksany and Straznice stations situated in lowlands. The average value of GDD to phenological stage heading is within the range from 450 to 645 °C. The sums of precipitation totals fluctuate from 73.9 mm (Doksany station) to 123.2 mm (Chrastava station). The results of this study suggest that GDD can be a more suitable parameter for phenological model of spring barley development than precipitation total.