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Phenological pattern of grassland species: relation to the ecological and morphological traits

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We have described changes in abundance of phenological phases of individual plant populations during one vegetative season in an oligotrophic dry meadow. We found that, the capability to record species presence or to estimate species cover is probably dependent on species phenological stage. Many grassland species start their reproductive cycle before mowing, but not all species are able to finish their reproductive cycle before that event. Some species and many individuals (mostly graminoids) never finish their reproductive cycle. We found that the largest changes in phenological phase composition occur immediately before the mowing time.

Furthermore, we attempt to find the predictors of phenological peaks position among species' traits. We compare positions of phenological peaks between graminoids and forbs and between dominant and non-dominant species. Graminoids were found to start their reproductive cycle earlier than forbs. Phenological transition from flowering to fruiting seems to be slower for graminoids than for forbs. Transition of forbs species is slower during the spring then in the summer. On the mentioned gradient of time (from spring to the autumn) is the transition of forbs still faster. Dominant species concentrate their reproductive cycle in the middle of the vegetative season, non-dominant species "exploit" the edges of vegetative season. Positions of phenological peaks are significantly different between graminoids and forbs.