Title:	Phenology observation of Wheat (Triticum Aestivum) of four Indian winter wheat cultivars under different thermal growing conditions
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Abstract:	In this study we have explored the phenology of the four different cultivars (GW322, C306, DBW88, Local breed) of triticum aestivum during wheat growing season from November 2018 to April 2019. The cultivars GW322, C306 and DBW88 were acquired from breeders while Local breeds were obtained from seed shop were grown for comparison. To study our objective, wheat was grown in three different plots with variations in growth conditions and time periods. Sowing was done on November 1 st for plot 1, November 15th and December 1 st for plot 2 and 3 respectively. Different parameters such as temperature, plant phenology, and time period were analysed for all different cultivars of triticum aestivum. These analyses were performed to observe their effects on the yield of wheat cultivars. Most cultivars show a similar thermal sum to reach flag leaf stage for plot 1 and plot 1 but a significantly lower thermal sum for plot 3. This is despite the fact that the temperature at which the thermal sum is conventionally capped was not reached before this growth stage. Plants on plot 3 did not reach tillering growth stage before temperatures, dropped as winter started early. While the plats reach the flag leaf stage fast, heading and flowering is significantly delayed, possibly because the vernalisation was affected by the plats tillering after temperatures rose. We observe, that there is a decrease in the number of active tillers for plot 2 and even more so for plot 3. Plot 3 also shows shorter heads compared to plot 1 and 2 as the plants were exposed to heat stress at the time of flowering and shortly before. This obviously affected the head length.
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