

Temporal variations in leaf traits, chemical composition and *in vitro* true digestibility of four temperate fodder tree species

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Table S1. Phenological stage (vegetative and, when present, reproductive; average values per species) at each sampling date for the four tree species following the extended BBCH scale.^A All surveys have been conducted in 2015. GDD, growing degree days, expressed as the mean values of the four tree species (\pm standard error).

| Date | GDD | Phenological stages | | | |
|---------|------------------|---|---|--|---|
| | | <i>Acer pseudoplatanus</i> | <i>Fraxinus excelsior</i> | <i>Salix caprea</i> | <i>Sorbus aucuparia</i> |
| 15 Apr. | 137.7 \pm 2.76 | Buds show green tips | Beginning of bud swelling; Flower buds visible | First leaves separated; Beginning of flowering | Buds show green tips |
| 23 Apr. | 205.0 \pm 3.90 | Buds show green tips | First leaves separated; 30% of flowers open | First leaves separated; Full flowering | First leaves separated |
| 28 Apr. | 238.6 \pm 3.94 | Buds show green tips | First leaves separated; 40% of flowers open | Four true leaves unfolded; Flowering finishing | First leaves separated; Beginning of heading |
| 6 May | 309.0 \pm 4.23 | Buds show green tips | Four true leaves unfolded; 60% of flowers open | Seven true leaves unfolded; Flowering finishing | Four true leaves unfolded; Beginning of heading |
| 12 May | 391.4 \pm 4.86 | First leaves separated; Half of inflorescences emerged | Five true leaves unfolded; End of flowering; fruit sets visible | Eight true leaves unfolded; End of flowering, fruit sets visible | Four true leaves unfolded; Half of inflorescence emerged |
| 19 May | 482.0 \pm 5.27 | Three true leaf pairs unfolded; First flowers open | Five true leaves unfolded; Fruits have reached 10% of final size | Eight true leaves unfolded; Fruits have reached 10% of final size | Five true leaves unfolded; End of heading |
| 29 May | 576.6 \pm 5.82 | Four true leaf pairs unfolded; 40% of flowers open | Five true leaves unfolded; Fruits have reached 30% of final size | Nine true leaves unfolded; Beginning of fruit coloration | Five true leaves unfolded; Full flowering |

| Date | GDD | Phenological stages | | | |
|---------|---------------|---|---|--|---|
| | | <i>Acer pseudoplatanus</i> | <i>Fraxinus excelsior</i> | <i>Salix caprea</i> | <i>Sorbus aucuparia</i> |
| 4 Jun. | 661.3 ± 5.98 | Four true leaf pairs unfolded; End of flowering; fruit sets visible | Five true leaves unfolded; Fruits have reached 40% of final size | Nine true leaves unfolded; Fruits begin to soften | Five true leaves unfolded; Fruits have reached 10% of final size |
| 18 Jun. | 869.5 ± 6.16 | Five true leaf pairs unfolded; Fruits have reached 10% of final size | Shoot development completed; Fruits have reached 60% of final size | Shoot development completed; Fully ripe | Shoot development completed; Fruits have reached 50% of final size |
| 2 Jul. | 1086.0 ± 5.99 | Shoot development completed; Fruits have reached 30% of final size | Shoot development completed; Fruits have reached 70% of final size | Shoot development completed; Fully ripe | Shoot development completed; Nearly all fruits have reached the final size |
| 29 Jul. | 1623.5 ± 6.16 | Shoot development completed; Fruits have reached 60% of final size | Shoot development completed; Fruits have reached 70% of final size | Shoot development completed | Beginning of leaf fall; Beginning of fruit coloration |
| 25 Aug. | 2054.3 ± 6.61 | Shoot development completed; Nearly all fruits have reached the final size | Shoot development completed; Nearly all fruits have reached the final size | Shoot development completed | Beginning of leaf fall; Fully ripe |

^A Hack H, Bleiholder H, Buhr L, Meier U, Schnock-Fricke U, Weber E, et al. Einheitliche codierung der phänologischen entwicklungsstadien mono-und dikotyler pflanzen—erweiterte BBCH-Skala, Allgemein. Nachrichtenblatt Dtsch Pflanzenschutzdienstes. 1992;44(12):265–70.