**Table S3**: Main information extracted from the 43 papers that experimentally tested priority effects (compared simultaneous and non-simultaneous sowings), as well as the references for each article. (Weidlich 2020)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Author** | **Experiment** | **Duration** | **Type plant** | **Biome** | **Local** | **Vegetation** | **Sowing interval** | **Found priority?** | **Main response variable** |
| Eriksson & Eriksson 1998 | Greenhouse | < 1 year | Native | Temperate forest | Europe | Grassland | < 1 month | yes | Germination |
| Turnbull et al. 2005 | Field | 1 year | Native | Temperate grassland | Europe | Grassland | 12 months | yes | Aboveground biomass |
| Ejrnæs et al. 2006 | Mesocosm | 2 years | Native | Temperate grassland | Europe | Grassland | 12 months | yes | Nr species |
| Chadwell & Engelhardt 2008 | Field Greenhouse | < 1 year | Both | Temperate forest | North America | Wetlands | 1-6 months | yes | Aboveground biomass |
| Körner et al. 2008 | Greenhouse Mesocosm | < 2 year | Native | Temperate grassland | Europe | Grassland | < 1 month | yes | Aboveground biomass Belowground biomass |
| Abraham et al. 2009 | Greenhouse |  | Both | Dry grasslands | North America | Grassland | < 1 month | yes | Aboveground biomass |
| Collinge & Ray 2009 | Field | 7 years | Native | Dry grasslands | North America | Grassland | 12 months | yes | Species frequency |
| Grman & Suding 2010 | Greenhouse | < 1 year | Both | Dry grasslands | North America | Grassland | 1-6 months | yes | Aboveground biomass |
| Stevens & Fehmi 2011 | Greenhouse | < 1 year | Both | Dry grasslands | North America | Grassland | < 1 month | yes | Aboveground biomass  Plants traits |
| van de Voorde et al. 2011 | Greenhouse | < 1 year | Native | Temperate grassland | Europe | Grassland | 1-6 months | yes | Plant-soil effect |
| Dickson et al. 2012 | Greenhouse | < 1 year | Both | Temperate grassland | North America | Grassland | < 1 month | yes | Aboveground biomass  Nr species |
| Martin & Wilsey 2012 | Field | 5 years | Native | Temperate grassland | North America | Grassland | 12 months | yes | Nr species |
| Martin & Wilsey 2014 | Field | 8 years | Native | Temperate grassland | North America | Grassland | 12 months | yes | Nr species  Diversity |
| Moore & Franklin 2012 | Greenhouse | < 1 year | Native | Temperate grassland | North America | Grassland | 1-6 months | yes | Aboveground biomass Belowground biomass |
| Kardol et al. 2013 | Mesocosm | < 1 year | Native | Temperate grassland | North America | Grassland | < 1 month | yes | Aboveground biomass Belowground biomass  Species richness |
| Orloff et al. 2013 | Greenhouse | < 1 year | Both | Temperate grassland | North America | Grassland | when natives had 2 leaves | yes | Aboveground biomass Belowground biomass |
| Ulrich & Perkins 2014 | Greenhouse | < 1 year | Both | Temperate grassland | North America | Shrubs | < 1 month | yes | Aboveground biomass |
| Young et al. 2014 | Field | < 1 year | Both | Dry grasslands | North America | Grassland | < 1 month | yes | Cover exotics  Cover natives |
| Cleland et al. 2015 | Field | < 1 year | Both | Temperate grassland | North America | Grassland | < 1 month | no | Aboveground biomass Other |
| Vaughn & Young 2015 | Field | 3 years | Both | Dry grasslands | North America |  | < 1 month | yes | Cover natives |
| Wilsey et al. 2015 | Greenhouse | < 1 year | Both | Temperate grassland | North America | Grassland | < 1 month | yes | Aboveground biomass  Diversity |
| Sarneel et al. 2016 | Field Greenhouse | 1 year | Native | Temperate grassland | Europe | Grassland Trees | < 1 month | yes | Aboveground biomass  Height  Priority strength |
| Sikes et al. 2016 | Greenhouse | < 1 year | Both | Temperate forest | North America | Grassland Shrubs | < 1 month | yes | Aboveground biomass Belowground biomass |
| Stuble et al. 2016 | Mesocosm | < 1 year | Both | Temperate grassland | North America | Grassland | < 1 month | yes | Aboveground biomass |
| Zuo et al. 2016 | Greenhouse | < 1 year | Native | Temperate grassland | North America | Grassland | < 1 month | yes | Other |
| Lang et al. 2017 | Greenhouse | < 1 year | Both | Temperate grassland | Europe | Grassland | < 1 month | yes | Relative competition index |
| Torrez et al. 2017 | Field | 2 years | Native | Temperate grassland | Europe | Grassland | < 1 month | yes | Evenness  Cover exotics  Cover natives  Diversity |
| Weidlich, Temperton, et al. 2018 | Greenhouse | < 1 year | Both | Temperate grassland | Europe | Grassland | < 1 month | yes | Aboveground biomass Belowground biomass |
| Young et al. 2017l | Field | 4 years | Both | Dry grasslands | North America | Grassland | 2 weeks and 12 months | yes | Cover natives |
| Goodale & Wilsey 2018 | Greenhouse | < 1 year | Both | Temperate grassland | North America | Grassland | < 1 month | yes | Aboveground biomass Diversity |
| Delory, Weidlich, Kunz, et al. 2019 | Greenhouse | < 1 year | Both | Temperate grassland | Europe | Grassland | < 1 month | yes | Aboveground biomass  Shoot N  Priority effect index |

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