

Appendix S5. Details of the relationships between plant invasion and soil K availability.

| Site and species | Study type | Effects | Reference |
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| Venezuela, savannas <i>Melinis minutiflora</i> (invasive) | Soil fertilization in the field | Higher soil K availability favors alien success | Barger <i>et al.</i> (2003) |
| United States of America, <i>Hilaria jamesii</i> (native), <i>Bromus tectorum</i> (invasive) | Observational studies in field and greenhouse experiments | Higher soil K availability favors alien success | Belnap <i>et al.</i> (2005) |
| <i>Bromus tectorum</i> and <i>Taeniatherum caput- medusae</i> (invasive), <i>Elymus elymoides</i> , <i>Pseudoroegneria spicata</i> (native) | Greenhouse experiment | Alien plants decreased soil K availability | Blank (2010) |
| North American great plains, <i>Bromus inermis</i> (invasive) | Field manipulation experiment | Alien plants decreased soil K availability | Blankespoor & May (1996) |
| Southern Andes (Chile), <i>Taraxacum officinale</i> (invasive) | Field observation | Lower soil K availability favors alien success | Cavieres <i>et al.</i> (2008) |
| Bahamian, forests, <i>Casuarina equisetifolia</i> (invasive) | Field observation | Alien plants decreased soil K availability | Buehler & Rodgers (2012) |
| Southwestern Oregon, <i>Taeniatherum caput- medusae</i> (invasive), <i>Agropyron desertorum</i> (perennial) | Field observation | Higher soil K availability favors alien success | Davies <i>et al.</i> (2010) |
| North American grassland, <i>Festuca hallii</i> (native), <i>Poa pratensis</i> (invasive) | Field observation and manipulation experiment | Higher soil K availability favors alien success | Desserud & Naeth (2013) |
| Australian Alps alpine grasslands, <i>Achillea millefolium</i> (invasive) | Field observation | Higher soil K availability favors alien success | Johnston & Johnston (2004) |
| Southeastern USA semiarid grasslands, <i>Bromus tectorum</i> (invasive) | Field manipulation experiment | Higher soil K availability favors alien success | Miller <i>et al.</i> (2006) |
| USA boreal forest, <i>Celastrus orbiculatus</i> (invasive) | Field manipulation experiment | Higher soil K availability favors alien success | Pavlovic <i>et al.</i> (2011) |
| Australian coastal grassland, <i>Macfadadyena unguis- cati</i> (invasive) | Field observation | Higher soil K availability favors alien success | Perrett <i>et al.</i> (2012) |
| Andean grasslands, <i>Taraxacum officinale</i> (invasive) | Field observation | Lower soil K availability favors alien success | Quiroz <i>et al.</i> 2009 |
| Texan coastal prairie, <i>Sapium sebiferum</i> (Chinese tree) | Field manipulation experiment | Higher soil K availability favors alien success | Siemann & Rogers (2007) |
| Nepalese grassland communities, <i>Parthenium hysterophorus</i> | Field observation | Alien plants decreased soil K availability | Timsina <i>et al.</i> 2011 |

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| (invasive) | | | |
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