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

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

(invasive)			