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Effects of interspecific competition on plant-soil feedbacks generated by long-term grazing

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# 1 **Effects of interspecific competition on plant-soil feedbacks generated** 2 **by long-term grazing**

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## 18 19 **Abstract**

20 Grazing by large herbivores leads to changes in soil properties which can in turn modify plant  
21 performance. However, little is known about how competition among plant species alters the  
22 strength and direction of grazing-induced plant-soil feedbacks (PSFs). In a previous monoculture  
23 experiment, we found that the intensity of sheep grazing generated consistent abiotic feedback  
24 effects and species-specific biotic feedback effects. To test if and how interspecific plant competition  
25 modifies the PSFs observed in our previous monoculture experiment, five naturally-occurring plant  
26 species (*Artemisia capillaris*, *Dodartia orientalis*, *Lespedeza davurica*, *Oxytropis racemosa*, and  
27 *Stipa bungeana*) were grown in mixed communities in sterilized and unsterilized soils from plots of  
28 four grazing intensities (0, 2.7, 5.3, and 8.7 sheep/ha). Further, the five plant species were grown in

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