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## Recovery of leafy spurge seed from sheep manure

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Sheep are used to control several noxious weeds. However, if sheep graze noxious weeds when seeds are maturing they may help disperse seed. We recovered leafy spurge (Euphorbia esula) seed from manure of sheep grazing an Idaho fescue (Festuca idahoensis) rangeland infested with leafy spurge. Manure from four yearling Targhee ewes grazing three separate pastures was collected from late June until mid-August 1993. After airdrying, washing, and weighing, we estimated the number of spurge seeds (g<sup>-1</sup>dry weight) in manure. We also estimated the number of leafy spurge seeds (m-2) before sheep grazed each pasture. In the first pasture, there were 647 spurge seeds m<sup>-2</sup> on 27 June. We recovered 0.18, 0.40, and 0.14 leafy spurge seeds g<sup>-1</sup> of manure 3, 11 and 16 days afterward, respectively. On 14 July there were 608 leafy spurge seeds m<sup>-2</sup> before sheep grazed the second pasture. Three and 11 days later, we recovered 0.52 and 0.41 leafy spurge seeds g<sup>-1</sup> of manure. On 29 July, the third pasture had 226 spurge seeds m<sup>-2</sup>. Two and ten days later we recovered 0.06 and 0.07 seeds g<sup>-1</sup> of manure. On 14 August, we recovered less than 0.01 seeds g<sup>-1</sup> of manure. Sheep grazing leafy spurge consumed most of the seed produced in each pasture. Some of that seed passes through the animal, remains viable, and thus enhances the dispersal of the weed.