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*Published by: Great Plains Agricultural Council: Leafy Spurge Symposium.*

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## **Sunn hemp is allelopathic to leafy spurge**

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Our research over several years has focused on using crop plants for allelopathic weed control. Recently, we discovered that sunn hemp (*Crotalaria juncea*) seeds contain a potent phytotoxin. The water-soluble compound(s) extracted from the sunn hemp seeds inhibited the growth of *Lemna obscura* in bioassay by 50%, when applied at a concentration of 50 ppm (freeze dried weight).

Leafy spurge was established in a sand-nutrient culture. When the plants were near the flowering stage, they were cut at soil level and two, four, or eight sunn hemp seeds were planted in the pots. The regrowth of leafy spurge in pots with sunn hemp was only 37% of the control plants after five weeks. When the leafy spurge was again cut after five weeks, and the emerged sunn hemp severed at the cotyledonary node, the leafy spurge growth over three weeks was 25 and 12% of controls with two and eight sunn hemp seeds, respectively. In soil culture, significant inhibition of leafy spurge was achieved using 12 or more sunn hemp seeds per pot. A crude water extract of the sunn hemp seeds at 10,000 ppm applied as a spray reduced leafy spurge growth by 54%. With further development and testing, we hope to use sunn hemp and/or its phytotoxin as an integrated biological control strategy for leafy spurge.