Variation In Winter Hardiness Among Safflower Accessions. (4647)

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Abstract:

Although safflower (Carthamus tinctorius L.) is traditionally a spring crop in temperate climates, fall planted safflower would provide a winter cover crop and likely yield more than spring planted safflower. Work was completed to evaluate the potential for winter safflower in temperate Inland Pacific Northwest environments. Eleven accessions with reported variation in winter hardiness were fall planted near Pullman WA, at 700 m elevation, and Central Ferry WA, at 200 m elevation, in a RCB design. Clear differences in winter survival were found among accessions. Most plants of the cultivars Oleic Leed and Saffire did not survive the 2002-03 but most plants of the KN-144 from Iran and BJ-27 from China did survive at both locations. In 2003-04, temperatures as low as –12 C in early November resulted in the loss of most plants in Pullman. At Central Ferry, however, with temperatures 5-8 C higher, the majority of plants from winter hardy entries survived. Winter survival appeared to be associated with an extended rosette stage with prostrate habit. The variation in winter survival among safflower accessions was striking. Depending on location, there appeared to be potential for cultivation of fall planted winter safflower in temperate climates.

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