



## **Water Use and Water Use Efficiency of Winter and Spring Camelina in Northeastern Montana**

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Knowledge of crop water use (WU) in dryland semiarid environments is important for crop water use efficiency (WUE) and optimizing crop production systems. The WU and WUE of winter camelina (*Camelina sativa*) 'Joelle' and spring camelina 'CO46' were evaluated in a 2-yr field study conducted in Sidney Montana under dryland conditions. Winter camelina was grown between 19 September 2012 and 15 July 2013 and spring camelina was grown between 5 May and 5 August 2013 in plots each 3 m×9 m. Treatments were replicated four times in a randomized block design. Soil water content measurements were obtained from the surface 1.22 m at preplant and post harvest. Seasonal WU varied from 351mm for winter camelina to 346 mm for spring camelina in 2013. Water use efficiencies for winter camelina were 5.5, 3.9, and 1.6 kg ha<sup>-1</sup> mm<sup>-1</sup> for above ground biomass, seed, and oil, respectively. Water use efficiencies for spring camelina were 5.5, 3.6, and 1.4 kg ha<sup>-1</sup> mm<sup>-1</sup> for biomass, seed, and oil, respectively, though differences in WU and WUE were not significant between winter and spring camelina.