



## **Relationships of Leaf Area Index and NDVI for 12 Brassica Cultivars in Northeastern Montana**

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To our knowledge, there is limited information on the relationship of the normalized difference vegetation index (NDVI) and leaf area index (LAI) in spring Brassica oilseed crops. The 2014 results of NDVI and LAI of 12 spring varieties of oilseed crops were measured in a field study conducted in Sidney, Montana, USA under dryland conditions. These 12 varieties were grouped under six species (*B. napus*, *B. rapa*, *B. juncea*, *B. carinata*, *Sinapis alba*, and *Camelina sativa*). The NDVI and LAI were measured weekly throughout the growing season. The NDVI was continually measured at one sample per second across the whole plot using a Crop Circle ACS-470 active crop canopy sensor. The LAI was measured at two locations at 12 samples per plot using an AccuPar model LP-80 Ceptometer. Treatments were replicated four times in a randomized complete block design in plots of 3 m×9 m. Temporal dynamics of NDVI and LAI in various growth stages of 12 varieties were evaluated throughout the growing season. Significant relationships and models between NDVI and LAI were obtained when 12 varieties were grouped under six species.