

## **COMPETITION BETWEEN COWPEA COVER CROP AND WEEDS**

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Competitive cover crop varieties are needed to reduce weed problems and herbicide use. Identifying specific crop traits related to competitive ability would provide breeders with useful information that could be used to develop an ideotype for highly competitive cover crop varieties. Cowpea varieties with different growth habits were grown with sunflower or purslane to determine which growth habit (erect, semi-erect, and prostrate) is more competitive to weeds. Regression models were used to analyze additive experiments and replacement series experiments. The results showed that erect varieties were more competitive to weed than semi-erect varieties and prostrate varieties. However, the simple regression models don't provide much information with competitive mechanisms which are helpful to breed new cowpea varieties. An ecophysiological model, INTERCOM, is used to understand competitive mechanisms. Validated INTERCOM model will provide us with more information about competitive cover crop traits, including competitive growth habit.