

HARVESTING TECHNIQUES FOR CUPHEA, A NEW OILSEED CROP. Dean Peterson, Joe Boots, Russ Gesch, and Frank Forcella, USDA-ARS, Morris, MN 56267.

Cuphea is a potential alternative oilseed crop that produces medium chain-length fatty acids (capric and lauric acids). These fatty acids are feedstocks for non-food products, such as lubricants and detergents, all of which currently are derived from imported coconut and palm kernel oils. Cuphea grows well in the upper Midwest of the United States, and it potentially could become a domestic source for medium chain-length fatty acids. However, harvesting this non-determinant crop remains a challenge. In particular, the best times and methods of harvesting to minimize cuphea seed shattering are unknown. To overcome these limitations, we tested a range of harvesting aids on 'PSR-23' of cuphea (*C. viscosissima* x *C. lanceolata*) in bulk-planted fields. In late August to early September when cuphea was at the mid-seed development stage, the following desiccants were applied in 3 m wide replicated plots: paraquat, glyphosate, sodium chlorate, and paraquat + sodium chlorate. Plots were combine-harvested about 1 wk after treatment. Additionally, 28 plots, each 1.5 x 5 m, were combined after being cut in mid August and drying in windrows for 1 to 7 wk.

Paraquat + sodium chlorate desiccated plants most rapidly and allowed quick combining that minimized seed losses due to shattering and chaff contamination of combined seeds. Windrowing for about 2 to 3 wk after cutting allowed plants to dry thoroughly, permitted efficient combining, and minimized seed losses. Thus, both desiccants and swathing can be used to increase the harvesting efficiency of this partially domesticated crop.