The Potential of Sunflower as a Rubber-Producing Crop for the United States. (C02-pearson111200-Poster)

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Abstract:

All commercial natural rubber comes from a single plant species, the Brazilian rubber tree (Hevea brasiliensis) and the USA is totally dependent on imports from other countries. Primarily due to its molecular structure and high molecular weight (molecular weight is strongly correlated with rubber quality), natural rubber has high performance properties that cannot be duplicated by synthetic rubber produced from petroleum. The USA is the single largest consumer of natural rubber, using approximately 20% of the global supply of 6.8 million metric tonnes for its commercial, medical, transportation, and defense industries. A field performance test of sunflower cultivars was conducted in western Colorado during 2001 to determine agronomic characteristics and latex production. Dry matter yields ranged from a high of 25,187 kg/ha for cv. 682 to a low of 8,284 kg/ha for cv. CL803. Dry matter production, averaged across all cultivars, was 16,393 kg/ha. Latex concentration of sunflower plants was greatest for cv. 9404 at 6.07 mg/g of leaf (dry weight basis) and lowest for cv. 652 at 0.97 mg/g of leaf material. Data for natural rubber production in sunflower at Fruita are similar to those previously reported in the literature. The potential for increasing natural rubber production in sunflower appears possible, given current levels are low and reasonable advances in sunflower plants could be achieved.

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