Agronomic Production of Castor (*Ricinus communis* L.) in Texas

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Castor (*Ricinus communis* L.) is an oilseed crop that has the highest oil yield potential for the short season, semi-arid production areas of the High Plains and Trans-Pecos Regions of Texas. Historically a tropically adapted plant, irrigated castor often produces excessive vegetation and exhibits an indeterminate growth habit that makes mechanical harvest difficult. Even cultivars with dwarf internodes can produce excessive plant growth under the heavy watering regimes necessary for successful production under saline conditions. Plant growth regulators (PGR) were evaluated for improving the efficiency of castor production under irrigation. Selected PGR applications were able to reduce plant height, improve harvest index and increase seed yield under irrigated conditions. Other PGR applications on castor as harvest aids improved the uniformity of seed maturation, reduced seed shatter, and enhanced seed yield. These studies show that controlled termination will be necessary for successfully production of castor in this area. Additional studies have shown that castor responds in primarily a linear fashion to increasing rates of irrigation. Optimum yields of the dwarf internode cultivars of 'Hale' and 'Brigham' were obtained with supplemental irrigation rates of 25 to 40 cm depending upon available soil moisture. These production practices will allow Texas growers to become an economically competitive source of ricinoleic acid rich oil needed globally as an industrial chemical feedstock.