

Propagation and Establishment of Mead's Milkweed

John M. Row and Richard L. Wynia

USDA-Natural Resources Conservation Service, Manhattan Plant Materials Center

Manhattan, KS 66502

ABSTRACT

The Kansas Biological Survey, Lawrence, Kansas, and USDA-Natural Resources Conservation Service's Plant Materials Center (PMC) Manhattan, Kansas, teamed up to assist with development of a recovery plan to reestablish Mead's milkweed (*Asclepias meadii* Torr. ex Gray), a Federally listed threatened species, to eastern Kansas prairies. The PMC focused on areas where information about the species was lacking: germination requirements, propagation and establishment techniques, and maintenance of plant populations. The best germination occurred at the 20/24 °C 16h/8h (night/day) alternating temperature regime following periods of cold-moist stratification. The mean germination rate was 95.7%. The seedlings were transplanted to 10.2-cm³ cone-tainers with a success rate of 95%. Established container stock was transplanted into restored tall grass prairie and monoculture settings at Manhattan to compare cultural techniques in establishment and maintenance of plants. Seedlings were established on monoculture sites at a success rate of 74% compared to 69% on prairie sites over a two-year period. Established plants in the two settings were monitored to observe morphological differences in flowering and non-flowering plant populations. Monoculture plants were more robust than their prairie counterparts in terms of ramet height, leaf width, and stem diameter. The mean number of ramets per clone for the monoculture and prairie settings was 2.4 and 1.3, respectively. No prairie ramets flowered until year 7, while monoculture plants first flowered in year 2. The peak flowering period was in May. During year 6, 73.7% of the more robust ramets in the monoculture produced 199 flowers yielding 14 pods, 14.2 buds per umbel, 1.4 pods per plant, and 80.8 seeds per pod. Mature monoculture plants exhibited greater leaf area and stem diameter to support seed production while prairie plants tended to exhibit juvenile morphological characteristics.