

## A Comprehensive *Echinacea* Germplasm Collection Located at the North Central Regional Plant Introduction Station, Ames, Iowa

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*Echinacea* is a well-established, high-value crop, both as an ornamental and dietary supplement. A comprehensive collection of *Echinacea* germplasm is currently held at the USDA-ARS North Central Regional Plant Introduction Station (NCRPIS) in Ames, Iowa, and is available via seed distribution for research purposes <<http://www.ars-grin.gov/npgs>>. The NCRPIS's mission includes: (1) The conservation of genetically diverse crop germplasm through collection and acquisition; (2) The conduct of germplasm-related research; and (3) The encouragement of the use of the germplasm collections and associated information for research, crop improvement, and product development.

Representing all nine species collected throughout their respective North American geographic ranges, the *Echinacea* collection includes 159 accessions (Table 1). Extensive morphological characterization data associated with the collection have been assembled and are available to researchers to aid in selection criteria. The collection has been used extensively for various research projects ranging from ornamental breeding studies for the horticulture trade to HPLC analysis of metabolites of interest to the phytopharmaceutical industry.

Germplasm is collected and made available for distribution through a series of steps. Those steps include: (1) Acquisition and exploration; (2) Regeneration and evaluation; (3) Dormancy and germination studies; (4) Seed propagation in field cages with pollinating insects; (5) Harvesting, drying, cleaning, and processing seeds; (6) Long-term storage under controlled conditions; and (7) Distribution for research purposes.

**Table 1.** *Echinacea* accessions conserved at the NCRPIS.

<i>Echinacea</i> taxa	Accessions (no.)	Available accessions
<i>E. angustifolia</i> DC.	6	5
<i>E. angustifolia</i> var. <i>angustifolia</i>	39	34
<i>E. angustifolia</i> var. <i>strigosa</i> McGregor	2	2
<i>E. atrorubens</i> Nutt.	5	5
<i>E. hybrid</i>	2	2
<i>E. laevigata</i> * (F.E. Boynton & Beadle) S.F. Blake	10	*7
<i>E. pallida</i> (Nutt.) Nutt.	45	41
<i>E. paradoxa</i> (Norton) Britton var. <i>neglecta</i> McGregor	5	4
<i>E. paradoxa</i> var. <i>paradoxa</i>	5	5
<i>E. purpurea</i> (L.) Moench	17	10
<i>E. sanguinea</i> Nutt.	9	3
<i>E. simulata</i> McGregor	10	8
<i>E. tennesseensis</i> * (Beadle) Small	4	*4
82% of the collection is available	159	130

\*Federally endangered, requires letter of intent or appropriate permit.

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