REQUEST FOR THE RELEASE OF GRAYHEAD PRAIRIECONEFLOWER CULTIVAR "SUNGLOW" (PMK-1153)

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UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

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I. Suggested Name: Grayhead Prairieconeflower "Sunglow"

II. Species Description: Grayhead Prairieconeflower, Ratibida pinnata (vent.) Barnh., is a herbaceous upright perennial with a compact rootstock and many stout, fibrous, deep roots; stems slender, sometimes branched, 0.5-1.5 m. in height, hoary with minute appressed hairs; leaves pinnately 3-7 divided or parted, lanceolate, acute, coarsely toothed to entire; heads several or occasionally solitary, on long, stiff peduncles; disks ellipsoid, 12-20 mm. high and 0.6-0.9 times as thick, much shorter than the drooping light yellow rays; rays about 5-10, pale yellow, mostly 2.5 - 6 cm. long, spreading or reflexed.

III. Natural Distribution, Adaptation Range and Associated Plant Community:

A. Natural Distribution of Species - Refer to Figure No. 1.

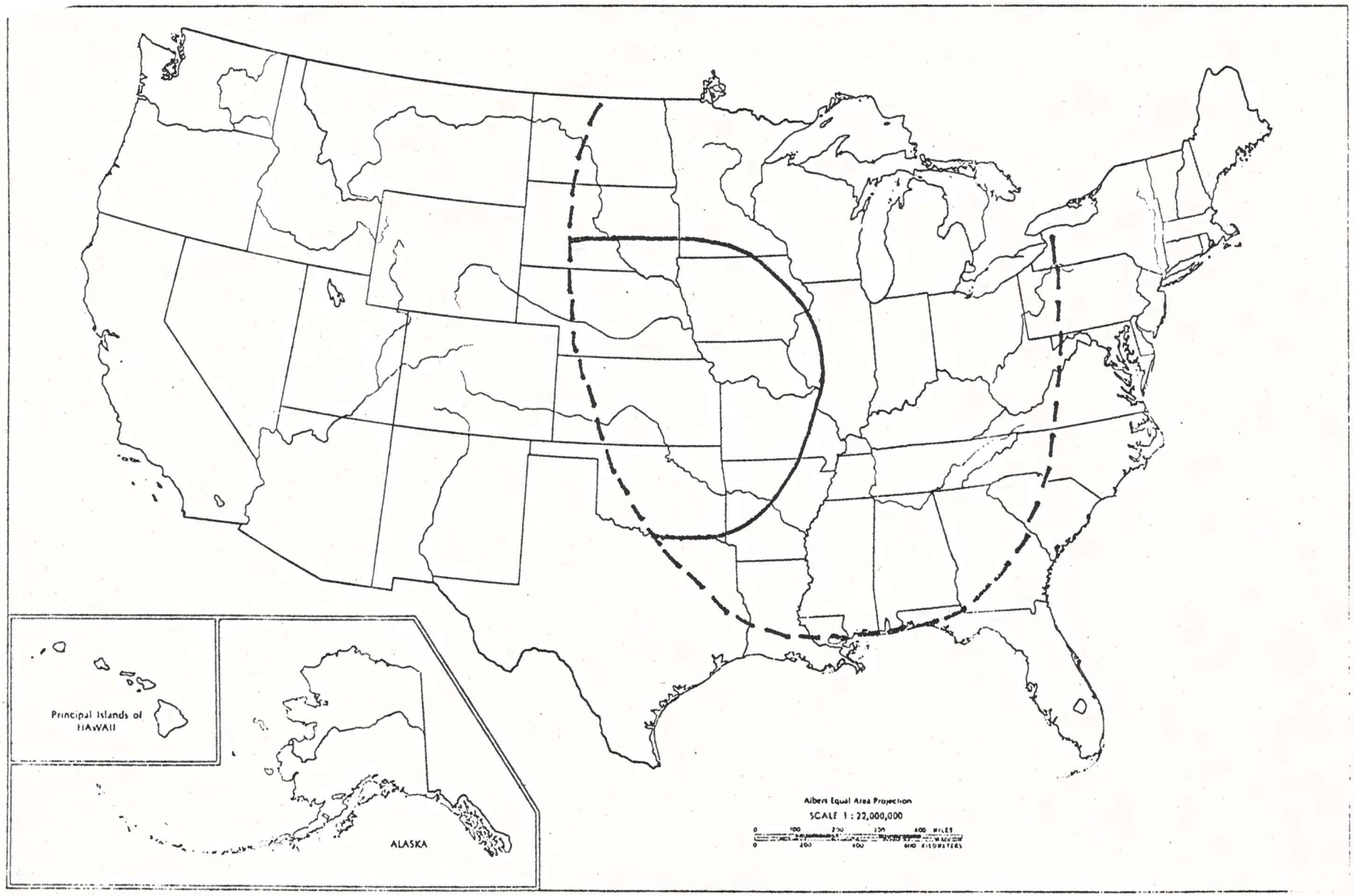
B. Adaptation Range of Cultivar - Refer to Figure No. 1.

C. Associated Plant Community - Grayhead prairieconeflower is associated with plant communities of the true prairie. The plant is found growing on dry pariries and open woods with deep soils that range in texture from clay loams to sandy loams. The plant is usually found growing in association with tall- and mid-growing grasses, including big bluestem, little bluestem, indiangrass, switchgrass, sideoats grama, prairie dropseed, and porcupinegrass.

IV. Procedures Used in Developing the Cultivar:

PMK-1153 (Sunglow) is one of two seed collections made in Nebraska and Kansas in 1967 (Table 1). PMK-1153 (Greenwood Co., KS) and US-S-2000 (Saunders Co., NE) were planted in May 1968 in single rows (20 ft. long at the SCS Plant Materials Center, Manhattan,

...URAL DISTRIBUTION OF GRAYHEAD PRAIRIECONEFLOWER (area enclosed with broken line)
...ADAPTATION OF CULTIVAR "SUNGLOW" (area enclosed with solid line).



Kansas). Single-row plantings (50 ft. long) of UN-S-2000 were also established at the University of Nebraska Field Laboratory at Mead, Nebraska.

PMK-1153 was selected for further evaluation in 1972 because of its better overall performance over UN-S-2000. Seed increase plots consisting of two 100-foot rows were established to serve as sources of seeds for future needs.

V. Field Performance of Grayhead Prairieconeflower "Sunglow":

Summary of the overall performance of two accessions of Grayhead prairieconeflower is presented in Table 1. Plants of PMK-1153 consistently rated excellent in vigor. Those of the other accession showed some variation in their yearly ratings.

The blooming period data did not show any significant trend which might favor over the UN-S-2000 accession. Size of the inflorescence and color of the flowers were also generally about the same for both accessions.

VI. Seed Production and Other Related Data of Grayhead Prairieconeflower "Sunglow":

All data presented in Table 2 was determined from seed harvested and cleaned by hand and mechanically. Yield of seed per acre under conditions of minimum irrigation and no fertilization ranged from 96 to 250 lbs. per acre. Germination of seeds ranged from 88 to 97%. The seeds germinated readily under greenhouse conditions (26 ± 3^{o} C.). The rates of germination reported were obtained 10 to 14 days after seeds were planted in seed flats containing a growing medium of jiffy mix.

The number of seeds per pound range from 400,000 to 500,000.

VII. Seed Increase and Distribution:

Foundation seed of Grayhead Prairieconeflower "Sunglow" will be produced and distributed by the U.S. Soil Conservation Service Plant Materials Center, Manhattan, Kansas. Breeder seed stocks will be maintained by the Department of Horticulture at the University of Nebraska Field Laboratory at Mead, Nebraska.

VIII. Potential Uses:

Roadsides and rest areas; parks, gardens, and recreation areas; and for reestablishing prairies.

TABLE 1. PERFORMANCE OF GRAYHEAD PRAIRIECONEFLOWER "SUNGLOW" AND OTHER SELECTIONS OVER A PERIOD OF FOUR YEARS.

Accession Numbers	Origin or Source	Year	Vigor 1/	Height (Cm.)	Blooming Period Start	Full	End
PMK-1153 "Sunglow"	Greenwood Co., KS	1971	1	146	6-11	7-12	8-23
		1972	1	134	6-19	7-15	8-21
		1973	1	131	6-28	7-18	8-24
		1974	1	116	6-20	7-8	8-12
UN-S-2000	Saunders Co., NE	1971	2	98	7-29	9-1	11-3
		1972	1	131	6-23	7-20	8-29
		1973	1	143	6-27	7-12	8-24
		1974	1	122	6-18	7-4	8-12

1/ Vigor ratings were: 1 = Excellent, 5 = Medium, and 10 = Failure or Very Poor.

TABLE 2. DATA ON SEED PRODUCTION, GERMINATION, NUMBER OF SEEDS PER POUND, AND PURITY OF GRAYHEAD PRAIRIECONEFLOWER "SUNGLOW"

Year	Yield/Acre Lbs.	Germination %	Purity %	Number Seeds Per Lb.
1974	250	88	96.01	400,000
1975	96	97	90.01	435,000
1976	204	93	92.28	500,000

We, the members of the Ornamental Crops Varietal Release Committee of the Nebraska Agricultural Experiment Station, hereby approve the naming of Grayhead Prairieconeflower (PMK-1153) with the varietal or cultivar name of "Sunglow" and recommend that breeder seed of this selection be maintained by the Nebraska Agricultural Experiment Station and the foundation seed be maintained and distributed by the U.S. Soil Conservation Service Plant Materials Center, Manhattan, Kansas. Foundation seed will be available for distribution in March, 1978.

Sotero S. Salac, Committee Chairman
Department of Horticulture — Jan. 11, 1978 (date)

Roger D. Uhlinger, Ex Officio
Department of Horticulture — 1/9/78 (date)

Dale T. Lindgren, Horticulturist
UNL North Platte Station — 1/13/78 (date)

Robert Roselle
Department of Entomology — 1/9/78 (date)

Robert C. Shearman
Department of Horticulture — 1/12/78 (date)

Donald H. Steinegger
Department of Horticulture — 1/11/78 (date)

John Watkins
Department of Plant Pathology — Jan. 12, 1978 (date)

SPONSORING AGENCIES:

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Director, Plant Sciences Division
U.S. Soil Conservation Service — (date)

Director, Kansas Agricultural Experiment Station — February 9, 1978 (date)

State Engineer
Nebraska Department of Roads — 2-23-78 (date)

The production and distribution of foundation seed of Grayhead Prairieconeflower (PMK-1153) and its naming and release with varietal or cultivar name of "Sunglow" is hereby approved:

Harold W. Ottoson

2/27/78
(date)

H. W. Ottoson, Director
Nebraska Agricultural Experiment Station
Institute of Agriculture and Natural Resources
University of Nebraska