

University of Nebraska - Lincoln

## DigitalCommons@University of Nebraska - Lincoln

---

Agronomy & Horticulture -- Faculty Publications

Agronomy and Horticulture Department

---

5-1990

### Registration of 10 Sudangrass Inbred Lines

Herman J. Gorz

*United States Department of Agriculture*

Francis A. Haskins

*University of Nebraska-Lincoln, fhaskins@neb.rr.com*

K. P. Vogel

*United States Department of Agriculture, kvogel1@unl.edu*

Follow this and additional works at: <https://digitalcommons.unl.edu/agronomyfacpub>



Part of the [Plant Sciences Commons](#)

---

Gorz, Herman J.; Haskins, Francis A.; and Vogel, K. P., "Registration of 10 Sudangrass Inbred Lines" (1990). *Agronomy & Horticulture -- Faculty Publications*. 230.

<https://digitalcommons.unl.edu/agronomyfacpub/230>

This Article is brought to you for free and open access by the Agronomy and Horticulture Department at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Agronomy & Horticulture -- Faculty Publications by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

**Table 1. Brief description of 10 Nebraska A and B sudangrass inbred lines.**

Inbred	HCN-p† (mg kg <sup>-1</sup> fresh wt.)	Height at maturity (cm)	Plant color	Midrib color	Glume color	Caryopsis color
N112	182 ± 15	210	Tan	White	Straw	Lt. tan
N113	131 ± 4	190	Tan	White	Straw	Lt. tan
N114	151 ± 27	200	Tan	White	Straw	Lt. tan
N115	276 ± 37	185	Tan	White	Straw	Lt. tan
N116	180 ± 38	188	Tan	White	Straw	Lt. tan
N117	356 ± 31	190	Tan	White	Straw	Lt. tan
N118	459 ± 34	160	Tan	White	Straw	Lt. tan
N119	410 ± 28	160	Tan	Green	Straw	Lt. tan
N120	321 ± 15	133	Tan	Green	Sienna	Lt. brown
N121	585 ± 33	135	Purple	Brown	Black	Brown
NP25ms	228 ± 26	162	Tan	White	Sienna	Brown
Piper	325 ± 12	207	Purple/tan	White	Mixed	Brown
Greenleaf	567 - 32	193	Tan	Green	Mahogany	Brown

† Hydrocyanic acid potential based on a spectrophotometric assay (1) of extracts from 10 first leaves of 1-wk-old seedlings per replication, three replications.

search Division and were released in April 1989. The major objective in the development of these lines was reduction in hydrocyanic acid potential (HCN-p) to facilitate the production of sudangrass hybrids low in HCN-p. While good progress in lowering HCN-p has been made in most lines, some still exceed the level found in 'Piper' sudangrass (Table 1). All lines except N120 and N121 are quite closely related, and all A-lines have milo (A1) cytoplasm. N112 to N119 were derived from the progeny of a high-HCN-p B-line obtained from commercial sources crossed to low-HCN-p selections of Piper sudangrass, but N117 to N119 differ from the others in also having a single backcross of the F<sub>1</sub> to the B-line parent. N120 and N121 contain germplasm from the two sources listed above, but they also contain germplasm from 'Sweet' sudangrass, from a brown midrib (*bmr-6*) sorghum line obtained from Purdue University, and from a low-HCN-p sudangrass breeding line from the University of Wisconsin. In addition, N120 contains germplasm from an experimental forage sorghum line derived from a cross of 'Early Hegari' × 'Rox', and N121 has some germplasm from 'Nebraska 7035' sudangrass.

A brief description of the 10 lines is given in Table 1. All A-lines have had at least six backcrosses to the maintainer line except N113 and N116, which have had only five backcrosses, and all B-lines have been selfed more than six generations.

Seed of inbreds N112 to N121 will be maintained and distributed by the Department of Agronomy, University of Nebraska, Lincoln, NE 68583. Germplasm amounts will be provided without cost to each applicant upon written request while supplies last. Recipients of seed are asked to make appropriate recognition of the source of the germplasm if it is used in the development of a new germplasm, parental line, cultivar, or hybrid.

H. J. GORZ,\* F. A. HASKINS, AND K. P. VOGEL (2)

#### References and Notes

1. Gorz, H.J., W.L. Haag, J.E. Specht and F.A. Haskins. 1977. Assay of *p*-hydroxybenzaldehyde as a measure of hydrocyanic acid potential in sorghums. *Crop Sci.* 17:578-582.
2. H.J. Gorz (retired) and K.P. Vogel, USDA-ARS; and F.A. Haskins (retired), Dep. of Agronomy, University of Nebraska, Lincoln, NE 68583. Cooperative investigations of the USDA-ARS and the Nebraska Agric. Res. Division. Published as Journal Series Paper no. 8937, Nebraska Agric. Res. Division. Registration by CSSA. Accepted 31 Aug. 1989. \*Corresponding author.

Published in Crop Sci. 30:763 (1990).

#### REGISTRATION OF 10 SUDANGRASS INBRED LINES

TEN pairs of A and B (male-sterile and maintainer) inbred lines (N112 to N121, Reg. no. GP 261 to 270, PI 535797 to 535806) of sudangrass [*Sorghum bicolor* (L.) Moench] [formerly *S. sudanense* (Piper) Staph] were developed cooperatively by the USDA-ARS and the Nebraska Agricultural Re-