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### Registration of Ten Sorghum Parental Lines

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# Registration of Parental Lines

## REGISTRATION OF TEN SORGHUM PARENTAL LINES<sup>1</sup> (Reg. No. PL49 to PL58)

W. M. Ross, H. J. Gorz, F. A. Haskins, and O. J. Webster<sup>2</sup>

THE Nebraska Agric. Exp. Stn. and AR-SEA-USDA released in January 1980 10 pairs of A and B (male-sterile and maintainer) *Sorghum bicolor* (L.) Moench inbred lines for producing grain and forage sorghum hybrids. All A-lines have milo cytoplasm.

N30 is a selection from 'Redlan' that flowers 3 to 4 days earlier than Redlan (Table 1). Hybrids involving N30 also flower 3 to 4 days earlier than Redlan hybrids, but yield as well as Redlan hybrids.

<sup>1</sup>Registered by the Crop Sci. Soc. of Am. Contribution from AR-SEA-USDA and the Nebraska Agric. Exp. Stn., Lincoln, NE 68583. Published as Paper No. 5970, Journal Series, Nebraska Agric. Exp. Stn. Research was conducted under Projects 12-009 and 12-088. Accepted 8 Aug. 1980.

<sup>2</sup>Respectively, geneticists, AR-SEA-USDA; George Holmes professor of agronomy, Univ. of Nebraska; and former agronomist, AR-SEA-USDA, Univ. of Nebraska, Lincoln, NE 68583. Dr. Webster's address is Dep. of Plant Sciences, Univ. of Arizona, Tucson, AZ 85721.

N31 is a sparse-bloom (*h h*) mutant found in the variety 'Martin' and is nearly devoid of wax (bloom) on the stems and leaves. This characteristic is associated with greenbug nonpreference and is recessive in its inheritance. If N31 is used in a hybrid, the male parent should carry the same gene for sparse bloom.

N32 is a combine-height sorghum dominant for  $Dw_1$  and recessive at the other three height loci. Aside from being a genetic height tester stock, N32 can be used with males of the same genetic height to produce grain hybrids or with lines carrying complementary genes for forage sorghum hybrids. N32 is heavily seeded and has a juicy but nonsweet stem.

N34 has two dominant height genes ( $Dw_1, Dw_2$ ). It can be used with males carrying complementary height genes to produce forage sorghum or sorghum  $\times$  sudangrass hybrids. The seed of N34 has a colored testa layer.

N35, N36, N38, N39, and N40 were developed with the objective of obtaining combine-height female forage sorghum parents; evaluation of some of them reveals that they also make productive grain sorghum hybrids. Stalks of these lines are sweeter and juicier than those of most grain sorghums. N38 has waxy endosperm starch.

N48 produces hybrids similar to those having N4692 females. N48 has two dominant height genes ( $Dw_1, Dw_2$ , or  $Dw_2 Dw_3$ ), but it normally can be combined for seed production.

The inbreds are maintained by the Dep. of Agronomy, Univ. of Nebraska, Lincoln, NE 68583. Requests for 5-g samples of each A and B line should be directed to W. M. Ross at this address.

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

Reg. no.	Inbred	Pedigree	Identification	Seed color	Genetic height	Other pertinent characteristics
PL 49	N30	Redlan selection	70LN5148	Red	$dw_1Dw_2dw_3dw_4$	Early
PL 50	N31	Martin mutant ( <i>h h</i> )	73LN8844	Red	$dw_1Dw_2dw_3dw_4$	Sparse bloom (wax)
PL 51	N32	SC102-9 selection	71LN4288	White	$Dw_1dw_2dw_3dw_4$	
PL 52	N34	Early Hegari $\times$ Greenleaf	70LN1021	White	$Dw_1dw_2Dw_3dw_4$	Testa layer
PL 53	N35	Combine Kafir-60 $\times$ White Collier	70LN1069	White	$dw_1Dw_2dw_3dw_4$	
PL 54	N36	Combine Kafir-60 $\times$ White Sourless	70LN1076	White	$dw_1Dw_2dw_3dw_4$	
PL 55	N38	Combine Kafir-60 $\times$ Ellis	70LN1105	White	$dw_1Dw_2dw_3dw_4?$	Waxy endosperm
PL 56	N39	Combine Kafir-60 $\times$ Atlas	70LN1109	White	$dw_1Dw_2dw_3dw_4$	
PL 57	N40	Combine Kafir-60 $\times$ Atlas	70LN1117	White	$dw_1Dw_2dw_3dw_4$	
PL 58	N48	(Midland $\times$ Leoti <sup>3</sup> ) $\times$ Atlas <sup>4</sup>	70LN4152	White	$Dw_1Dw_2dw_3dw_4$ or $dw_1Dw_2Dw_3dw_4$	