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J. G. Ross

S. S. Bullis

G. L. Holborn

T. J. Heilman

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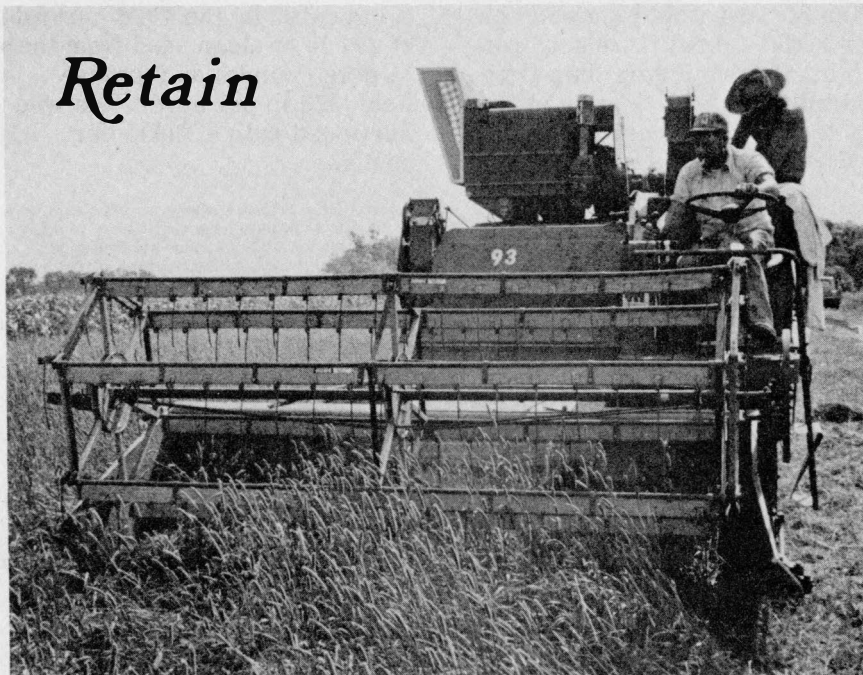
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Retain

Agricultural Experiment Station
South Dakota State University
Brookings, South Dakota 57007



Retain



J.G. Ross, S.S. Bullis, G.L. Holborn, and
T.J. Hellman,
Plant Science Department

Retain is a variety of creeping foxtail (*Alopecurus arundinaceus* Poir.) developed by the South Dakota Agricultural Experiment Station and released February 1, 1979.

Retain does not shatter its seed immediately as it matures as does the Garrison variety of this species. It is possible to leave Retain until it has ripened and harvest it with a sickle bar combine. The greater ease of harvesting and higher yields will make the seed more readily available.

Creeping foxtail is adapted to low, fairly saline areas which are flooded for about two weeks in the spring. It will not stand as much flooding or yield as much forage as reed canarygrass but is more palatable and digestible.

Seed increased by the Foundation Seed Stock Division has been released to a South Dakota seed firm. Certified seed will be available from harvests made in 1981 or 1982. Plant Variety Protection has been applied for, so Retain will be sold only by variety name as certified seed.

Origin

Retain was selected for seed retention from the variety Garrison. Garrison was increased from a field collection made near Max, North Dakota, in 1950. The original seed was probably brought to this area by early settlers from the USSR, possibly from north of the Black Sea.

In 1965, approximately 500 plants of Garrison creeping foxtail were placed in the field at Brookings. From one plant which retained its seed better than the others, a nursery of 150 plants was established in 1967. In 1969, six of the best plants from the standpoint of seed retention were crossed in all combinations; and in 1971, a nursery of 1,440 plants was established. After 2 years of evaluation, the best five plants selected for seed retention and forage production were placed in a synthetic.

Description

Retain is a five-clone synthetic variety which retains its seed on the rachis of the mature panicle so it can be harvested with a

sickle bar combine directly. It is otherwise indistinguishable from Garrison creeping foxtail in its growth habit. It is a very early grass, heading in mid-May, and well adapted to wet areas of somewhat saline nature.

It will stand flooding in the spring but not to the same extent as reed canarygrass. It yields about two-thirds as much as reed canarygrass but is very palatable and digestible.

Performance

In a test under irrigation at Redfield (Table 1) Retain yielded significantly more forage in 1976 and 1978 than Garrison and about the same in 1975 and 1977. Under irrigation at Brookings (Table 2) forage yields were not significantly different in 1976 and 1977, but in 1978 Garrison yielded significantly more. Under dryland at Brookings in 1976 (Table 3) no difference was found.

Table 1. Redfield irrigation test, 1974.

Variety	Forage yield, T/A*			
	1975			
	6/19	8/4	9/17	Total
Garrison	2.86a	1.61a	1.85a	6.32a
Retain	3.05a	1.64a	1.52b	6.21a
	1976			
	6/8	7/12	8/24	Total
Garrison	1.18b	2.05a	.02b	3.24b
Retain	2.90a	1.75a	.13a	4.78a
	1977			
	6/2	7/13	Total	
Garrison	1.83a	1.28a	3.11a	
Retain	2.10a	1.33a	3.44a	
	1978			
	6/13	7/19	10/10	Total
Garrison	2.53b	1.16a	.29a	3.98b
Retain	2.89a	1.15a	.62a	4.66a

* Yields followed by different letters show significant difference.

Table 2. Brookings irrigation test, 1975.

Variety	Forage, T/A*			Seed, lb/A*
	1976	1977	1978	1978
Garrison	2.50a	2.31a	2.46a	10.7b
Retain	2.30a	2.28a	2.12b	57.0a

*Yields followed by different letters show significant difference.

Table 3. Brookings, dryland test, 1975.

Variety	1976	
	Forage,* T/A	Seed* lb/A
Garrison	.56a	4.0b
Retain	.59a	11.9a

*Yields followed by different letters show significant difference.

Seed yields were taken after considerable shattering had occurred, at a later maturity

than harvest would normally be made. Five times more seed was obtained from Retain than from Garrison under irrigation in 1976 and three times as much under dryland the same year.

These amounts do not represent the seed production potential of Retain, only the seed retention differential between the two varieties.

The seed production potential

is indicated by the 1978 harvest of 281 lb of clean seed from the $\frac{3}{4}$ -acre Foundation increase field (375 lb per acre). This was harvested with a sickle bar combine.

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