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South Dakota State University Agricultural
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Millet

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(So. DAK. BUL. No. 60.)

May, 1898.

Bulletin 60.

U. S.
EXPERIMENT STATION,
SOUTH DAKOTA,



IN CONNECTION WITH THE
SOUTH DAKOTA AGRICULTURAL COLLEGE.

MILLET.

Departments of Agriculture and Botany.

BROOKINGS, SOUTH DAKOTA

DUTCHER, BREED & STORGAARD BROOKINGS, S. D.

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Any farmer of the state can have the Bulletins of this Station free upon application to the Director.

MILLET.

E. C. CHILCOTT.

D. A. SAUNDERS.

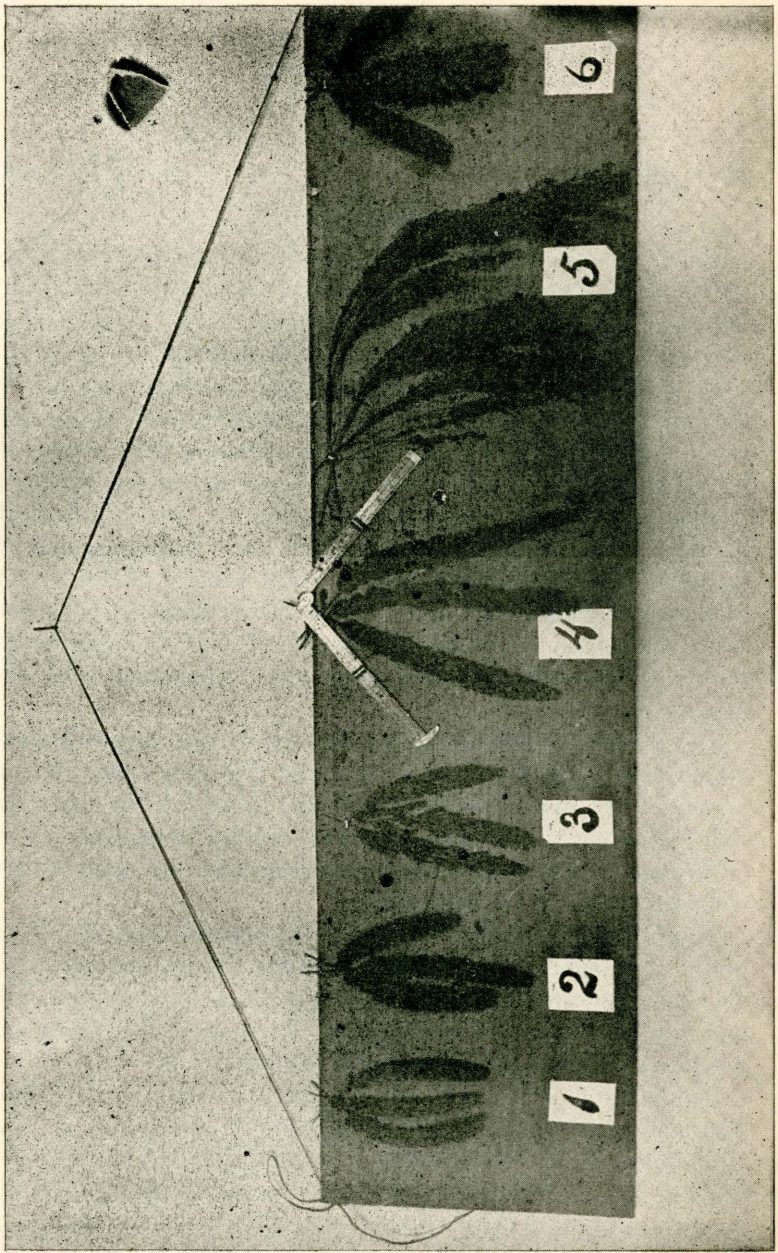
INTRODUCTION.

In the spring of 1897 the Division of Agrostology, U. S. Department of Agriculture sent a collection of Millet seed which it had gathered from seedsmen at several widely distant places throughout the United States, with a request that we co-operate with them by raising, harvesting and carefully noting the characteristics of each of the various samples and reporting to them. This we have done, and we presume that results obtained from the co-operative experiments conducted at this, as well as many other stations, will soon be issued in bulletin form from the Department at Washington. Believing that the bulletins from this station reach a large number of the farmers of this state who do not receive the Department publications, we have decided to publish the results of our own experiments, both with the seeds obtained from the Department and from other sources.

The purpose of this bulletin is to classify the various samples which are being sold under so many different names, and to arrange them in groups; each such group having the characteristics of some well-known, popular variety, regardless of the trade names under which they are being sold, and to show their comparative value for this state.

The Millets were all sown on well-prepared land of uniform quality, no manure having been applied for at least five years. The sowing was done on May 21, with a hand garden drill, making the rows two feet apart. They were cultivated and hoed during the season and kept free from weeds.

Samples of each lot were taken at the several dates designated in the table on Page 133. As near as possible these samples were taken when the plants had reached a certain stage of development; that is, when they had fully headed, but before the seed had fully formed—at the best stage of growth for cutting for hay. The remainder of each row was allowed to stand until the seed ripened or frost occurred, which was on September 18, when it was harvested and the seed saved.



CLASSIFICATION.

The term "Millet" is applied to some thirty different species of grasses cultivated for forage or as a cereal.

No. I. COMMON MILLET. (*Setaria Italica*). Fig. 1. An annual grass, 2½-3 ft. high; stem slender, leaves narrow, 6-10 inches long, ¼-½ inches wide; heads 2-5 inches long and ½ inch wide, green, yellow or sometimes purple, slender, compact; usually tapering from the base to the apex of the head; bearing slender bristles at the base of the outer covering of the seed. The standard hay and forage millet for this state.

No. II. HUNGARIAN MILLET. (*Setaria Italica*). Fig. 2. Like the last, but larger, 3-4½ ft. high; the stalk heavier; the heads longer and broader, 3-6 in. long, by ½ in. wide, and uniformly darker in color.

In this group is included the "New Siberian Millet" which has longer compact heads, 4-6 in. long, and orange colored seeds, about equal to "Common."

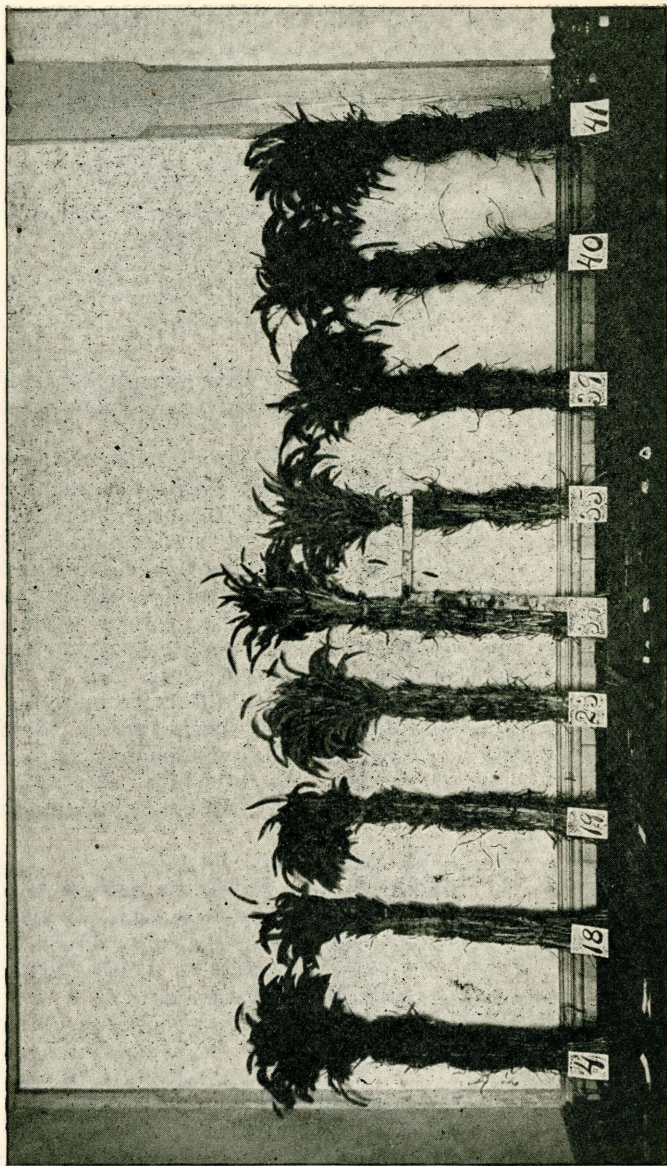
No. III. BARNYARD GRASS OR COCKSPUR GRASS. (*Panicum Crus-Galli*). Fig. 3. A coarse annual, 3½-6 ft. high; leaves ½-1 in. broad; 9 in. to a foot long; heads dark brown, 3½-7 in. long, composed of many small, (1 in. long) somewhat spreading branches, outer covering of the seed having no awns or bristles.

This is only a large cultivated variety of one of our worst weeds. Wherever it escapes or runs wild it returns to its wild condition. Of questionable value if not positively dangerous.

No IV. GOLDEN WONDER. (*Setaria Italica*). Fig. 4. This variety is closely related to No. 1, but differs from it in the larger size of the stalk (4-6 ft.) and the heads which are 4½-8 in. long and nearly 1 in. broad, the sub-divisions being large and rounded. The seeds are a clear, pearly white. A great seed producer when a good crop is secured; not so reliable as Common or Hungarian.

No. V. BROOM CORN MILLET. *Panicum milliaceum*. Fig. 5. A coarse grass; this variety is from 2½-6 ft. or more in length; easily recognized by the long, slender, irregularly branched, drooping heads; the seeds borne on long, slender stalks, without awns or bristles, principally valuable as a seed producer. Not so sure a cropper as Common or Hungarian.

No VI. GERMAN MILLET. *Setaria Italica Germanica*. Fig. 6. This variety differs from No. 1 in being larger and coarser, 3½-5 ft. high; the heads are from 3-6 in. in length, ¾-1½ in. in diameter, and usually taper from the rounded end to the base; the awns or bristles are very long and numerous. Under favorable conditions will produce an immense amount of forage, but it is not so early maturing nor so drouth-resistant as Common or Hungarian.



COMMON MILLET.

[COMMON MILLET.

☞ (*Setaria Italica.*)

No. 4. "Common Millet" from home grown seed, one of the earliest maturing and best of the common millets.

No. 18. "Common Millet" from Iowa Seed Co., nearly as tall but not so well headed or leaved as No. 4.

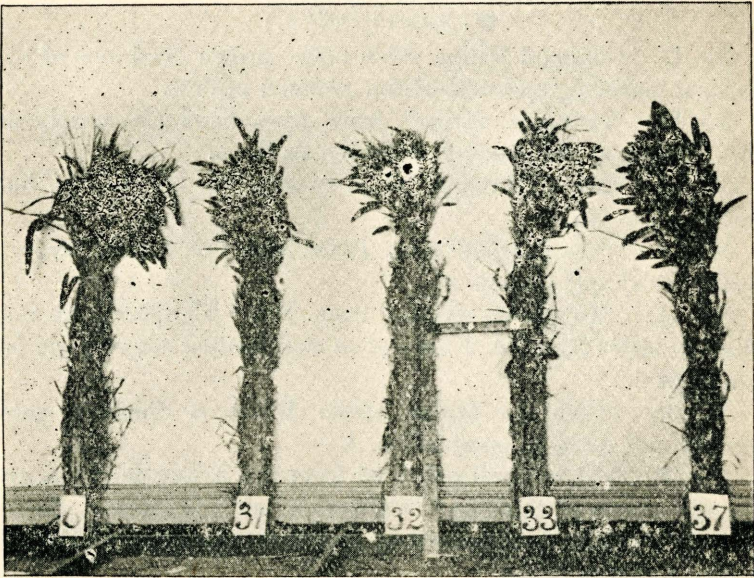
No. 19. "Early Harvest" slightly superior to No. 18, but not equal to No. 4.

No. 23. "Small Millet" from Texas Seed Co., a good variety, well headed and leaved.

No. 34. "Hungarian Grass" from Peter Henderson & Co., slightly taller than No. 4 but not so well headed nor so early by ten days.

No. 35. "Common Millet" from Breck & Sons, a good variety, not quite so good as No. 4.

Nos. 39-40-41 were all procured from the Salzer Seed Co., under the names of "Dakota," "California" and "German." As far as we are able to determine they are all the same, good Dakota grown common millet.



HUNGARIAN GRASS.

(*Setaria Italica*.)

No. 6. "New Siberian" from the Ki-ote Seed Co. Although we have classed this with the Hungarians, it seems to combine some of the best features of both the Hungarian and the Golden Wonder and is the most promising variety yet tested.

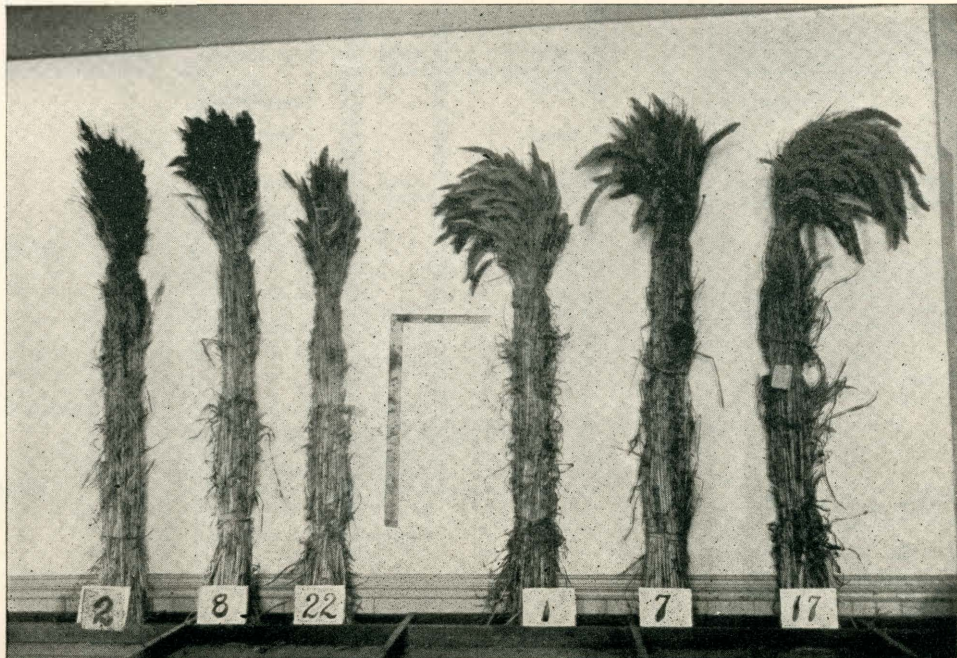
No. 31. "Hungarian Honey Millet," from J. M. Thorburn & Co.; a good variety.

No. 32. "Hungarian Millet," from D. Landreth; a good variety.

No. 33. "Hungarian," from Iowa Seed Co.; about like Nos. 31 and 32.

No. 37. "Hungarian Millet," from the Salzer Seed Co.; a very good variety, superior to Nos. 31, 32 and 33, but not equal to No. 6.

	St. No.	Seed from	Per cent Stand.	Date Heading.	Samp's Gathered.	Harvested.	H'ght. ft.in.	
Japanese Millet	1	Gregory	50	July 29	Sept. 15	Sept. 18	4-5	Golden Wonder (<i>Setaria Italica</i> .)
"	2	"	33	Aug. 6	"	"	4-6	Barnyard (<i>Panicum Crus-galli</i> .)
"	3	"	50	"	Aug. 26	"	5-4	Broom Corn (<i>Panicum milliaceum</i> .)
Common	4	Home gr'n	100	July 26	"	"	3-4	Common (<i>Setaria Italica</i> .)
Early Fortune Millet	5	Ki-Ote	12	"	"	"	2-8	Broom Corn (<i>Panicum milliaceum</i> .)
New Siberian	6	"	100	"	"	"	3-5	Hungarian (?) (<i>Setaria Italica</i> .)
Japanese	7	Gregory	100	Aug. 4	"	"	4-9	Golden Wonder
"	8	"	100	"	Sept. 7	"	4-10	Barnyard (<i>Panicum Crus-galli</i> .)
"	9	"	50	"	"	"	5-4	Broom Corn (<i>Panicum milliaceum</i> .)
German or Southern Millet	10	Landreth	100	Not fully headed	Sept. 18	"	4	German (<i>Setaria Italica Germanica</i> .)
" American	11	Thorburn	100	Sept. 10	"	"	4-6	"
Golden or German	12	Burpee	100	July 26	"	"	4-5	"
German or Golden	13	Henderson	100	Not headed	"	"	4	"
German	14	Wood	100	Not fully headed	"	"	3-10	"
Imp. German or Golden Wonder	15	Phillips	100	Aug. 15	"	"	4-2	"
Golden Wonder	16	Iowa	100	"	Aug. 16	"	4	"
German Millet	17	"	70	"	"	"	5	Golden Wonder (<i>Setaria Italica</i> .)
Common	18	"	100	July 24	Aug. 26	"	3	Common
Early Harvest Millet	19	"	100	"	"	"	3-2	"
Common	20	Landreth	100	Aug. 12	Sept. 15	"	4-4	German (<i>Setaria Italica-Germanica</i> .)
Turkish	21	Texas	-10	July 20	Aug. 26	"	3-4	Broom Corn (<i>Panicum milliaceum</i> .)
Japanese	22	Henderson	66	"	Sept. 15	"	4-2	Barnyard (<i>Panicum Crus-galli</i> .)
Small	23	Texas	100	"	"	"	3-3	Common (<i>Setaria Italica</i> .)
Manitoba	24	Iowa	-10	"	Aug. 26	"	3	Broom Corn (<i>Panicum milliaceum</i> .)
Buckbees' California Millet	25	Buck bee	-10	"	"	"	3-6	"
Manitoba or Russian	26	Phillips	-10	"	"	"	2-9	"
Pearl	27	Landreth	-10	"	"	"	2-6	"
Bird	28	"	100	Aug. 10	Sept. 15	"	4-2	German (<i>Setaria Italica Germanica</i> .)
Red French	29	Thorburn	-10	July 20	Aug. 26	"	2-10	Broom Corn (<i>Panicum milliaceum</i> .)
White French	30	"	-10	"	"	"	3-2	"
Hungarian Honey	31	"	100	"	"	"	3-4	Hungarian (<i>Setaria Italica</i> .)
Hungarian	32	Landreth	100	"	Sept. 7	"	3-6	"
"	33	Iowa	100	"	"	"	3-8	"
Hungarian Grass	34	Henderson	100	"	"	"	3-6	Common
Common Millet	35	Breck	100	"	Aug. 26	"	3-2	"
Breck's Japanese Millet	36	"	100	Not fully headed	Sept. 18	"	4	German (<i>Setaria Italica Germanica</i> .)
Hungarian	37	Salzer	100	July 26	Aug. 26	"	3-5	Hungarian (<i>Setaria Italica</i> .)
Hog	38	"	-10	"	"	"	2-10	Broom Corn (<i>Panicum milliaceum</i> .)
Millet (Dakota)	39	"	100	"	"	"	3	Common (<i>Setaria Italica</i> .)
" (California)	40	"	100	"	"	"	3-2	"
" (German)	41	"	100	"	"	"	3	"



COCKSCOMB.

GOLDEN WONDER.

COCKSCOMB OR BARNYARD GRASS.

(*Panicum Crus-Galli*).

Nos. 2 and 8. "Japanese Millet," from Gregory & Sons. No. 2 was sown broadcast and No. 8 in drills; both made a good growth of coarse, woody stalks, of little value for fodder.

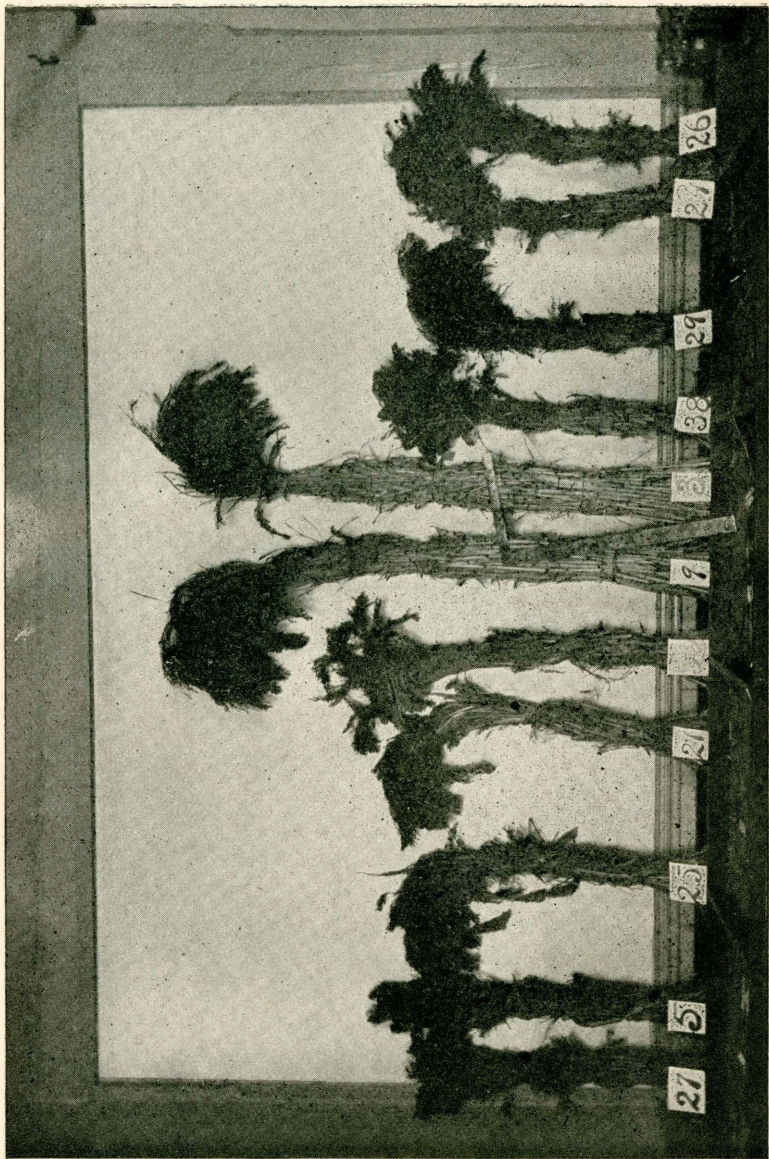
No. 22. "Japanese Millet," from Peter Henderson & Co.; about like Nos. 2 and 8, only that neither so good a stand nor growth was obtained.

GOLDEN WONDER MILLET.

(*Panicum Italica*.)

Nos. 1 and 7. "Japanese Millet," from Gregory & Sons. No. 1 was sown broadcast and No. 7 in drills; both made a good growth, although a poor stand was secured from the broadcast seeding. With a good stand and favorable conditions this variety would produce an immense amount of both forage and seed.

No. 17. "German Millet," from Iowa Seed Co. This gave a good stand, made a splendid growth and ripened a large amount of seed, superior even to Nos. 1 and 7.



BROOM CORN MILLET.

BROOM CORN MILLET.

(Panicum Milliaceum.)

Nos. 3 and 9. "Japanese Millet (red)," from Gregory & Sons. No. 3 was sown broadcast and No. 9 in drills. Only about half a stand was obtained in either instance, but a fine growth and yield of seed was obtained from both; very much the best Broom Corn millet sown.

No. 5. "Early Fortune," from the Ki-ote Seed Co.

No. 21. "Turkish Millet," from Texas Seed Co.

No. 24. "Manitoba Millet," from Iowa Seed Co.

No. 25. "Buckbee's California Beauty," from H. W. Buckbee.

No. 26. "Manitoba or Russian," from H. Phillips.

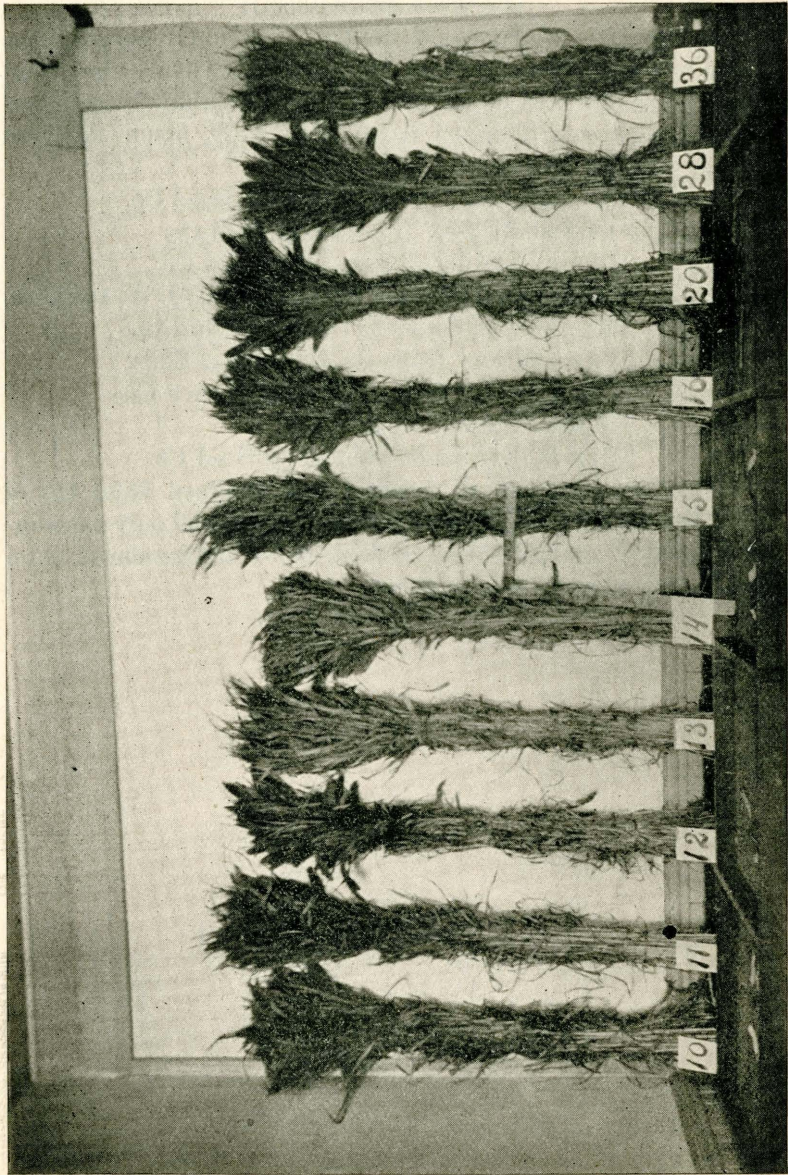
No. 27. "Pearl Millet," from D. Landreth & Sons.

No. 29. "Red French," from J. M. Thorburn & Co.

No. 30. "White French," from " " "

No. 35. "Hog Millet," from The Salzer Seed Co.

Only about one-tenth of a stand was obtained from any of these Broom Corn Millets, except Nos. 3 and 9, and only a moderate growth of stalks, which crinked badly and produced but a scanty crop of seed, was obtained.



GERMAN MILLET.

GERMAN MILLET.

(Setaria Italica Germanica.)

- No. 10. "German or Southern," from W. A. Burpee.
 No. 11. "German or American," from J. M. Thorburn & Co.
 No. 12. "Golden or German," from W. A. Burpee.
 No. 13. "German or Golden," Peter Henderson & Co.
 No. 14. "German," from T. W. Wood & Sons.
 No. 15. "Improved German or Golden Wonder," from H. Phillips.
 No. 16. "Golden Wonder," from Iowa Seed Co.
 No. 28. "Bird," from D. Landreth & Sons.
 No. 36. "Breck's Japanese," from Breck & Sons.

These are all so near alike that it is difficult to make distinctions, except that Nos. 10, 13 and 14 did not head out. The others formed heads but none fully ripened seed before frost came, September 18. A fine stand and growth was obtained from all.

NAMES AND ADDRESSES OF THE SEEDSMEN
FURNISHING SEED.

T. W. Wood & Sons, Richmond, Va.
Salzer Seed Co., LaCrosse, Wis.
Gregory & Sons, Marblehead, Mass.
D. Landreth & Sons, Philadelphia, Pa.
Peter Henderson & Co., New York City, N. Y.
J. M. Thorburn & Co, New York City, N. Y.
W. A. Burpee, Philadelphia, Pa.
H. Phillips, Detroit, Mich.
Iowa Seed Co, Des Moines, Iowa.
Texas Seed Co., Galveston, Texas.
H. W. Buckbee, Rockford, Ills.
Breck & Sons, Boston, Mass.
Ki-ote Seed Co., Sioux Falls, S. D.