Results of

SMALL GRAIN VARIETAL TESTS

Conducted in Virginia
in 1964

Department of Agronomy
Department of Plant Pathology and Physiology

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Results of Small Grain Varietal Tests Conducted in Virginia in 1964[1/]

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The Agronomy Department and Department of Plant Pathology and Physiology conducted small grain varietal tests at 7 locations in 1963-64 as a part of the small grain breeding and improvement program. Released varieties and experimental strains from both public and private breeding programs were included in the tests. The purposes of these tests are to determine which varieties of wheat, rye, oats, and barley are suitable for production in various areas of Virginia, and to determine whether experimental strains are worthy of release as new varieties. Although an effort is made to test all new varieties released in this region, there is no intention to imply that varieties not included in these tests will not perform well in Virginia.

The small grain varietal recommendations included in this report for various areas of Virginia are based on data from the 1963-64 tests, and from tests conducted in previous years. Varieties vary widely in their performance from year to year, and their performance over a period of years is a more valid criterion of their expected performance than performance in a single year. For this reason, readers are encouraged to refer to previous reports before drawing conclusions about the expected performance of a variety.

1/ The following individuals were responsible for growing the tests and collecting data at the indicated test locations: Painter - E. M. Dunton, Jr.; Petersburg - M. T. Carter; Warsaw - W. L. Sisson and H. M. Camper, Jr.; Charlotte Court House - R. D. Sears; Orange - G. D. Jones; Steeles Tavern - W. H. McClure and A. M. Woodside; Blacksburg - A. M. Price, T. M. Starling, and C. W. Roane. Appreciation is expressed to Mrs. Christina Snellings and Mrs. Ginny Kelly for their assistance in preparing and typing the tables.

2/ Professor of Agronomy and Associate Professor of Plant Pathology, respectively, Virginia Agricultural Experiment Station, Blacksburg.

Test Locations and Areas of Adaptation

Fall oats, barley, and wheat were tested at Warsaw, Petersburg, Charlotte Court House, Orange, and Blacksburg. Spring oats were tested at Orange, Steeles Tavern, and Blacksburg. Rye varieties were tested at Painter and Petersburg. These tests provide adequate information for determining the comparative performance and areas of adaptation of varieties. Varietal recommendations are made for the Coastal Plain, Piedmont, and West of Blue Ridge areas - each area being served by 1 or 2 test locations.

Winter hardiness is an important factor in determining varieties to recommend for various regions. Varieties which perform well in the Coastal Plain area may not have sufficient winter hardiness for the Piedmont and West of Blue Ridge areas. This is indicated clearly in the fall oat data obtained in 1964. Varieties which survived well in the Coastal Plain had severe winterkilling at Blacksburg. It can be assumed, however, that varieties recommended for one region of the state should perform well in contiguous areas of other regions.

Growing Season and Testing Conditions

Satisfactory stands of most varieties were obtained from fall and spring plantings at the test locations. The soil was dry at planting time at Orange and Charlotte Court House and remained dry until November, but varieties germinated and made fair growth. Winter and early spring moisture was adequate, but it was dry at most locations throughout April and May. The dry spring reduced yields of some crops and reduced height and lodging.

The only test location having an appreciable amount of winterkilling was Blacksburg, where fall oats were severely damaged. There was little killing in barley and wheat.

Powdery mildew was prevalent throughout the state on susceptible varieties of wheat, barley, and oats. Leaf rust was severe on wheat at Blacksburg, but the nursery there was artificially inoculated. Little or no leaf rust was present on crops at other locations.

Birds caused extensive damage to early maturing varieties in the fall oat nursery at Orange. The nursery was sprayed with bird repelling compounds as soon as this damage was noted, and little damage was done to other varieties.

Procedure

Small grain varieties and strains were compared in 3-row plots replicated from 4 to 6 times in randomized, complete-block designs. The rows were one foot apart and 20' long. A rod-long section of the center row of each plot was harvested to determine grain yield. The samples were threshed in nursery threshers and grain weights were recorded in grams or hundredths of a pound per plot; yields were converted to bushels per acre. Notes on growth characteristics and reaction to diseases were recorded at some locations and are included in this report.

Where forage yields were determined, a rod section from the center row was harvested, and green and dry weights were determined. Hay yields are reported on a dry-weight basis, and the percent dry matter at time of harvest is indicated.

Interpretation of Data

Yield data presented in this report have been analyzed statistically. The least significant difference (LSD), in terms of bushels or pounds per acre, is given at the bottom of each yield column. Unless the yield difference between 2 varieties is as great or greater than the least significant difference, the varieties should not be considered as having yielded differently from each other. Where there is no significant difference, none of the varieties should be considered as having yielded differently from each other.

Recommended Varieties for 1965

Data included in this report and data from other tests have been used to determine the small grain varietal recommendations for various regions of Virginia for spring and fall of 1965.

COASTAL PLAIN	PIEDMONT	WEST OF BLUE RIDGE
	Spring Oats	
Spring oats are not recommended for this area. If spring oats are planted, use one of the varieties recommended for the Piedmont.	Andrew Clarion (1) Mo. 0-205 (1) Newton Nodaway	Andrew Clarion (1) Mo. 0-205 (1) Newton Nodaway
	Winter Oats	
Carolee Moregrain (2) Lee Roanoke	Bronco (3) Carolee (4) Dubois (3) Lee Norline (3) Roanoke	Bronco Dubois Forkedeer Lee (1) Norline Roanoke (5)
	Barley	
Davie (semi-bearded) (1) Dayton (semi-smooth bearded) Colonial 2 (semi-bearded) Hudson (rough-bearded) (1) James (semi-bearded) Wade (short-bearded) Wong (semi-bearded	Colonial 2 (4) Davie (4) (1) Dayton Hudson (1) James Kenbar (semi-smooth bearded) (1) Pennrad (semi-bearded) (3) Rogers (rough-bearded) Wade (4) Wong	Dayton Hudson (1) Kenbar (1) Pennrad Rogers Wong
	Wheat	
Anderson (1) Atlas 66 Coker 47-27 (1) Seneca Tayland (1) Thorne Wakeland	Anderson (1) Atlas 66 (4) Coker 47-27 (4) (1) Redcoat Reed (3) Seneca Tayland (1) Thorne Wakeland (4)	Redcoat Reed Seneca Tayland (1) Thorne

(1) To be dropped from the recommended list after 1965.
(2) Recommended also for late-winter planting (February) in Coastal Plain and Piedmont.
(3) Recommended north of James River only.
(4) Recommended south of James River only.
(5) Recommended only in Lee County and low elevations of Scott County.

Table 1. Performance of fall oat varieties tested at Warsaw in 1963-64.

Entry number	Variety or selection[1]	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Lodging (%)	Date 1/3 headed (May)	Powdery mildew (%)
7	Lee	78.2	36.6	44	0	14	55
8	Roanoke	88.1	34.8	51	0	10	1
9	62-32-26	78.2	36.7	52	0	11	2
10	62-32-17	92.7	37.6	51	1	10	10
11	Fairfax	86.6	34.5	52	0	12	5
12	61-3-351	83.3	34.7	52	0	11	6
13	62-32-44	95.9	34.7	52	0	11	9
14	C.I. 7757	75.8	38.1	47	0	8	62
15	62-31-12	93.1	36.4	47	0	8	1
16	61-31-15	81.3	36.0	44	7	11	48
17	61-1-12	88.4	34.0	42	0	4	22
18	62-4-22	92.0	35.3	43	31	7	15
19	62-4-28	88.4	33.3	45	19	5	25
20	62-32-2	92.2	36.6	47	0	9	16
21	62-4-5	86.9	36.0	45	3	9	36
22	61-34-156	80.3	37.4	44	0	9	52
23	62-4-230	91.2	34.3	48	9	9	47
24	62-4-263	98.9	35.8	49	0	12	5
25	Mid-South	97.6	34.5	46	2	7	0
26	Carolee	85.8	33.9	40	21	11	47
27	Moregrain	88.2	36.4	38	4	7	22
28	Coker 62-26	85.4	35.3	39	34	7	20
29	Coker 62-42	93.1	36.2	44	0	10	20
30	Coker 63-18	83.8	38.0	39	3	9	8
31	Coker 62-11	88.4	38.4	38	2	10	17
	LSD (.05)	8.0					

(1) Parentage of experimental entries is given on page 27.

Table 2. Performance of fall oat varieties tested at Petersburg in 1963-64.

Entry number	Variety or selection[1]	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Date 1/3 headed
7	Lee	55.1	36	39	5/8
8	Roanoke	61.6	35	46	5/2
9	62-32-26	59.0	34	46	5/4
10	62-32-17	63.4	37	45	5/2
11	Fairfax	52.4	35	44	5/5
12	61-3-351	60.6	33	46	5/3
13	62-32-44	66.0	36	46	5/4
14	C.I. 7757	58.3	36	39	4/30
15	62-31-12	59.7	34	39	4/28
16	61-31-15	57.5	36	38	5/5
17	61-1-12	57.3	33	35	4/21
18	62-4-22	63.5	34	39	4/27
19	62-4-28	66.1	33	39	4/22
20	62-32-2	57.6	33	42	4/30
21	62-4-5	61.2	34	40	4/30
22	61-34-156	47.3	35	37	5/1
23	62-4-230	64.6	33	41	5/1
24	62-4-263	66.4	34	41	5/5
25	Mid-South	59.0	34	37	4/27
26	Carolee	60.1	35	34	5/4
27	Moregrain	65.7	36	33	4/27
28	Coker 62-26	57.2	34	32	4/27
29	Coker 62-42	62.8	36	36	5/1
30	Coker 63-18	72.0	36	33	4/29
31	Coker 62-11	67.4	36	30	4/29
	LSD (.05)	8.6			

(1) Parentage of experimental entries is given on page 27.

Table 3. Performance of fall oats varieties tested at Charlotte Court House in 1963-64.

Entry number	Variety or selection (1)	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Date 1/3 headed	Winter survival (%)	Lodging (%)
7	Lee	66.4	36.0	37	5/11	95	3
8	Roanoke	86.6	36.5	46	5/8	97	1
9	62-32-26	80.0	35.0	43	5/8	97	0
10	62-32-17	79.2	36.0	43	5/8	96	3
11	Fairfax	70.5	36.5	44	5/8	97	4
12	61-3-351	86.6	33.5	45	5/8	96	0
13	62-32-44	68.9	34.0	46	5/10	96	18
14	C.I. 7757	68.5	36.5	38	5/6	97	3
15	62-31-12	75.5	32.5	38	5/3	95	8
16	61-31-15	77.1	35.0	36	5/8	95	0
17	61-1-12	77.1	30.0	34	4/29	99	1
18	62-4-22	68.9	32.0	33	5/2	98	6
19	62-4-28	65.6	30.0	35	5/1	99	11
20	62-32-2	67.2	31.0	35	5/4	98	13
21	62-4-5	67.7	30.0	34	5/5	98	14
22	61-34-156	75.5	34.0	37	5/7	92	0
23	62-4-230	73.4	32.0	39	5/7	98	10
24	62-4-263	79.2	30.5	34	5/8	97	8
25	Mid-South	73.0	31.0	35	5/4	78	0
26	Carolee	69.7	32.0	32	5/8	88	0
27	Moregrain	71.4	34.0	30	5/5	84	0
28	Coker 62-26	77.6	30.0	29	5/4	87	16
29	Coker 62-42	82.5	34.5	31	5/7	88	6
30	Coker 63-18	75.1	35.0	31	5/6	94	1
31	Coker 62-11	84.6	35.0	30	5/6	91	0
	LSD (.05)	None					

(1) Parentage of experimental entries is given on page 27.

Table 4. Performance of fall oat varieties tested at Orange in 1963-64.

Entry number	Variety or selection[1]	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Date 1/3 headed (May)
1	Bronco	58.8	33	41	18
2	Forkedeer	87.0	35	43	14
3	Dubois	76.0	34	38	16
4	Norline	79.0	33	40	20
5	Atlantic	73.3	34	42	14
6	Wintok X Tech 495	67.0	34	38	12
7	Lee	58.9	34	39	17
8	Roanoke	72.5	33	43	15
9	62-32-26	63.7	34	43	16
10	62-32-17	72.9	33	41	14
11	Fairfax	72.1	34	44	15
12	61-3-351	71.7	34	44	15
13	62-32-44	64.1	34	44	17
14	C.I. 7757	73.6	33	39	13
15	62-31-12	75.4	32	38	12
16	61-31-15	71.6[2]	35	37	12
17	61-1-12	65.7[2]	33	34	5
18	62-4-22	63.2[2]	34	38	5
19	62-4-28	66.5[2]	32	37	7
20	62-32-2	91.5	32	39	10
21	62-4-5	81.6	31	39	11
22	61-34-156	76.0	36	37	13
23	62-4-230	77.5	34	37	12
24	62-4-263	86.0	33	37	14
	LSD (.05)	13.5			

(1) Parentage of experimental entries is given on page 27.

(2) Yield of these varieties was reduced by bird damage.

Table 5. Performance of fall oat varieties tested at Blacksburg in 1963-64.

Entry number	Variety or selection[1]	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Lodging (%)	Date 1/3 headed (May)	Winter survival (%)	Powdery mildew (%)
1	Bronco	58.8	34.7	33	5	24	59	24
2	Forkedeer	39.7	33.5	33	13	22	32	46
3	Dubois	49.5	33.4	31	3	22	55	33
4	Norline	59.8	34.5	32	6	24	62	36
5	Atlantic	30.4	32.3	33	7	20	11	42
6	Wintok X Tech 495	44.8	32.3	28	4	19	44	64
7	Lee	32.5	32.7	34	4	23	9	38
8	Roanoke	37.4	34.1	36	3	20	8	4
9	62-32-26	40.0	34.0	38	8	20	13	3
10	62-32-17	34.1	34.4	33	3	19	18	11
11	Fairfax	50.8	34.3	37	2	20	21	2
12	61-3-351	27.5	33.0	35	3	19	11	2
13	62-32-44	30.2	33.7	35	15	21	20	6
14	C.I. 7757	31.5	33.8	33	6	19	11	54
15	62-31-12	26.7	32.5	31	4	19	11	26
16	61-31-15	20.3	32.0	33	4	22	4	47
17	61-1-12	41.4	33.0	28	3	16	13	32
18	62-4-22	73.1	34.7	30	14	14	60	60
19	62-4-28	26.5	30.0	29	4	17	11	56
20	62-32-2	50.3	33.6	31	6	17	29	23
21	62-4-5	57.6	34.7	31	4	17	68	30
22	61-34-156	27.3	34.1	29	4	19	10	48
23	62-4-230	51.3	34.4	33	9	20	26	32
24	62-4-263	54.2	34.7	31	7	19	34	44
	LSD (.05)	19.0						

(1) Parentage of experimental entries is given on page 27.

Table 6. Performance of spring oat varieties tested at Orange in 1964.

Entry no.	Variety or selection[1]	Grain yield per acre	Bushel weight	Date 1/3 headed	Height	Lodging	Hay yields per acre at indicated stage of growth[2]			
							Bloom		Soft dough	
							Yield	Dry matter	Yield	Dry matter
		(Bu.)	(Lbs.)		(In.)	(%)	(Lbs.)	(%)	(Lbs.)	(%)
1	Andrew	62.4	28	5/26	43	48	3137	20.7	5292	43.1
2	Newton	53.2	29	5/28	40	3	3012	17.3	4495	35.6
3	Nodaway	63.7	32	5/26	43	54	2900	20.1	5498	41.4
4	Putnam 61	67.4	29	5/26	40	73	3328	20.0	5022	42.1
5	Clintland 60	49.1	25	5/30	39	1	3348	21.4	4614	35.9
6	Bonkee	55.0	29	5/26	41	28	3052	20.3	5121	40.6
7	Clinton 59	48.7	26	5/31	38	1	3289	20.2	4469	34.8
8	Dodge	62.4	28	6/1	40	8	3243	17.9	4113	34.4
9	Garland	67.2	31	5/29	37	0	3084	18.7	4765	37.5
10	Garry	55.1	23	5/30	41	0	2933	18.8	4277	31.7
11	Goodfield	58.4	32	5/28	36	0	3005	20.3	4548	40.5
12	Nemaha	49.9	28	5/26	40	33	3032	19.8	5273	40.9
13	Rodney	56.3	26	6/7	39	13	4119	24.3	4857	37.2
14	Russell	66.9	27	5/31	41	3	3256	21.2	4587	34.7
15	C.I. 7690	75.5	30	5/28	43	85	2795	18.3	5721	36.7
16	C.I. 7662	70.6	26	6/1	42	1	3269	20.1	5049	35.9
17	C.I. 7663	73.1	29	5/26	37	24	2953	23.1	4851	45.4
18	Mo. 0-205	67.2	30	5/26	45	3	3256	21.4	5339	40.9
	LSD (.05)	13.2					378		521	

(1) Parentage of the experimental entries is given on page 27.

(2) Hay yields are reported on a dry-weight basis.

Table 7. Performance of spring oat varieties tested at Steeles Tavern in 1964.

Entry no.	Variety or selection[1]	Grain yield per acre	Height	Date 1/3 headed	Hay yields per acre at indicated stage of growth[2]			
					Bloom		Soft dough	
					Yield	Dry matter	Yield	Dry matter
		(Bu.)	(In.)	(June)	(Lbs.)	(%)	(Lbs.)	(%)
1	Andrew	52.9	28	6	2058	25.7	2592	30.2
2	Newton	53.4	27	8	2722	28.6	2804	33.7
3	Nodaway	38.2	25	6	1764	26.2	2461	31.1
4	Putnam 61	49.9	27	8	1873	28.2	2864	30.9
5	Clintland 60	37.7	27	8	2918	30.9	2957	37.9
6	Bonkee	46.5	26	8	1710	24.6	2298	31.2
7	Clinton 59	36.9	26	8	2440	29.5	2946	35.4
8	Dodge	38.0	27	8	1971	28.2	2646	35.7
9	Garland	45.7	24	4	1666	25.6	2537	30.6
10	Garry	50.3	27	13	1852	25.9	2548	32.7
11	Goodfield	43.9	21	8	1808	26.1	2396	32.3
12	Nemaha	33.5	26	8	1677	25.7	2526	29.9
13	Rodney	45.8	26	12	2020	26.3	2624	32.9
14	Russell	53.2	26	8	2146	26.2	2461	32.4
15	C.I. 7690	49.7	26	4	1895	25.1	2788	33.1
16	C.I. 7662	54.1	29	8	2559	28.7	2929	36.3
17	C.I. 7663	52.8	23	8	1558	26.4	2210	31.3
18	Mo. 0-205	48.6	26	8	2308	31.7	2788	36.1
	LSD (.05)	8.1			435		303	

(1) Parentage of the experimental entries is given on page 27.

(2) Hay yields are reported on a dry-weight basis.

Table 8. Performance of spring oat varieties tested at Blacksburg in 1964.

Entry no.	Variety or selection[1]	Grain yield per acre	Bushel weight	Height	Date 1/3 headed	Powdery mildew	Hay yields per acre at indicated stage of growth[2]			
							Bloom		Soft dough	
							Yield	Dry matter	Yield	Dry matter
		(Bu.)	(Lbs.)	(In.)		(%)	(Lbs.)	(%)	(Lbs.)	(%)
1	Andrew	77.0	32.1	37	5/30	30	3337	22.5	4494	44.5
2	Newton	75.9	32.5	34	6/3	20	2785	19.0	4513	38.8
3	Nodaway	74.9	33.9	38	5/29	26	3317	21.0	4966	44.0
4	Putnam 61	73.3	30.1	37	5/30	33	2456	20.0	4523	41.6
5	Clintland 60	75.2	30.6	36	6/5	33	3660	23.2	4838	55.5
6	Bonkee	72.5	32.0	38	5/30	25	2761	21.1	3965	41.6
7	Clinton 59	66.1	30.4	34	6/5	48	3505	23.8	4663	50.3
8	Dodge	61.0	26.8	36	6/6	28	3246	23.7	4471	53.9
9	Garland	81.6	31.6	34	6/3	43	3372	21.0	5000	51.1
10	Garry	74.7	31.0	39	6/7	15	3942	26.4	4866	49.4
11	Goodfield	62.0	32.1	32	6/4	58	2931	21.6	4265	44.8
12	Nemaha	74.1	32.2	37	5/30	20	3166	22.0	4347	43.1
13	Rodney	73.1	28.5	35	6/10	29	4060	30.4	4789	45.5
14	Russell	77.4	27.9	35	6/6	35	3801	26.4	5016	52.2
15	C.I. 7690	86.8	32.2	38	6/1	28	3214	19.9	5059	44.1
16	C.I. 7662	78.5	26.3	39	6/7	20	3977	27.1	5424	51.5
17	C.I. 7663	71.7	32.2	35	5/30	45	2730	22.2	4346	43.7
18	Mo. 0-205	75.8	30.9	38	6/3	4	3027	20.8	4379	42.9
	LSD (.05)	10.3					333		367	

(1) Parentage of the experimental entries is given on page 27.

(2) Hay yields are reported on a dry-weight basis.

Table 9. Mid-winter planted oat test grown at Warsaw in 1964.

Entry no.	Variety	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Lodging (%)
1	Moregrain	68.5	32.1	30	55
2	Carolee	50.1	31.8	26	66
3	Roanoke	57.0	34.0	34	58
4	Lee	43.6	30.1	32	26
5	Irradiated Arlington (61-31-15)	54.0	33.5	31	58
6	Mid-South	58.2	34.5	27	63
7	Andrew	53.0	31.3	34	56
8	Newton	48.1	33.7	32	22
	LSD (.05)	9.3			

Table 10. Performance of barley varieties tested at Warsaw in 1963-64.

Entry number	Variety or selection (1)	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Lodging (%)	Date 1/3 headed
1	Wong	82.0	48.4	46	0	4/26
2	Early Wong	71.0	48.6	44	7	4/20
3	James	81.1	48.0	45	0	4/25
4	Pennrad	89.1	49.0	44	0	5/3
5	Hudson	87.5	52.2	45	0	5/2
6	Dayton	84.1	45.0	42	0	4/23
7	Kenbar	85.4	45.7	40	0	4/27
8	Rogers	96.0	51.3	43	0	4/30
9	58-40-27	77.0	46.8	41	0	4/27
10	61-41-7	79.5	46.3	41	0	4/29
11	61-42-13	84.7	47.4	41	0	4/29
12	62-42-13	76.1	48.3	41	0	4/30
13	62-11-17	87.1	48.6	45	0	4/30
14	62-44-8	85.3	48.6	46	0	4/28
15	62-44-431	90.7	46.1	45	0	4/26
16	62-44-216	77.3	48.6	42	0	4/28
17	62-14-345	81.2	48.2	48	0	4/28
18	62-42-22	78.8	46.2	38	0	4/29
19	62-12-34	83.3	48.8	46	0	4/29
20	62-44-154	82.6	47.5	41	0	4/27
21	62-44-34	70.8	48.1	43	0	4/24
22	62-44-436	76.0	50.8	44	0	4/24
23	Wade	83.4	47.2	41	0	4/28
24	Davie	77.2	44.9	45	0	4/28
25	Colonial #2	87.8	45.8	41	0	4/29
26	Ga-Jet	70.8	42.8	38	0	4/23
27	S.C. 60-534	81.6	48.8	45	0	4/26
	LSD (.05)	7.3				

(1) Parentage of the experimental entries is given on pages 27 and 28.

Table 11. Performance of barley varieties tested at Petersburg in 1963-64.

Entry number	Variety or selection (1)	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Lodging (%)	Date 1/3 headed
1	Wong	44.6	42	43	12	4/20
2	Early wong	38.6	43	41	25	4/18
3	James	42.4	39	43	10	4/23
4	Pennrad	49.0	44	39	7	4/30
5	Hudson	38.3	46	41	10	4/30
6	Dayton	33.4	44	39	15	4/22
7	Kenbar	40.1	40	38	3	4/23
8	Rogers	37.7	46	39	0	5/1
9	58-40-27	50.3	40	38	4	4/25
10	61-41-7	40.2	40	38	3	4/27
11	61-42-13	47.3	42	37	10	4/27
12	62-42-13	40.4	41	39	5	4/27
13	62-11-17	40.6	41	40	2	4/28
14	62-44-8	51.2	41	44	12	4/26
15	62-44-431	44.7	39	43	12	4/24
16	62-44-216	51.4	42	38	0	4/26
18	62-42-22	42.7	40	35	3	4/25
19	62-12-34	47.7	44	43	0	4/27
20	62-44-154	43.8	41	37	13	4/25
21	62-44-34	44.4	42	42	1	4/22
22	62-44-436	43.7	45	41	2	4/22
23	Wade	44.1	41	37	1	4/25
24	Davie	39.7	39	40	2	4/25
25	Colonial #2	44.3	41	36	6	4/28
26	Ga-Jet	40.6	39	37	12	4/21
	LSD (.05)	5.7				

(1) Parentage of the experimental entries is given on pages 27 and 28.

Table 12. Performance of barley varieties tested at Charlotte Court House in 1963-64.

Entry number	Variety or selection[1]	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Lodging (%)	Date 1/3 headed (April)	Spring stand (%)
1	Wong	54.3	43.0	40	30	25	70
2	Early wong	48.6	44.0	40	54	21	73
3	James	49.5	39.0	41	61	24	74
4	Pennrad	55.2	40.5	39	35	29	75
5	Hudson	54.6	42.0	38	33	27	70
6	Dayton	73.0	37.0	36	10	21	74
7	Kenbar	58.1	37.5	35	15	23	72
8	Rogers	60.3	44.0	38	29	28	72
9	58-40-27	64.5	41.0	35	23	25	72
10	61-41-7	53.7	38.0	38	29	27	67
11	61-42-13	56.3	39.0	38	43	26	75
12	62-42-13	64.5	40.5	39	24	27	72
13	62-11-17	66.0	43.0	38	6	29	68
14	62-44-8	64.2	44.0	41	24	25	71
15	62-44-431	64.7	39.0	39	28	24	72
16	62-44-216	56.8	42.0	37	34	25	71
18	62-42-22	55.0	39.5	34	34	26	70
19	62-12-34	63.8	43.5	39	31	26	69
20	62-44-154	55.0	37.5	38	40	26	70
21	62-44-34	63.1	41.5	43	28	23	71
22	62-44-436	49.3	44.5	38	54	21	67
23	Wade	60.9	40.0	35	7	26	65
24	Davie	49.9	38.5	39	43	26	65
25	Colonial #2	53.5	36.0	34	25	28	67
26	Ga-Jet	54.3	35.5	36	30	22	66
	LSD (.05)	12.1					

(1) Parentage of the experimental entries is given on pages 27 and 28.

Table 13. Performance of barley varieties tested at Orange in 1963-64.

Entry number	Variety or selection (1)	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Lodging (%)	Date 1/3 headed
1	Wong	51.2	41	40	5	5/7
2	Early wong	42.2	42	42	23	4/28
3	James	56.2	42	43	1	5/6
4	Pennrad	51.0	41	40	50	5/8
5	Hudson	49.7	44	39	23	5/8
6	Dayton	57.8	42	39	0	4/29
7	Kenbar	45.2	41	39	1	5/2
8	Rogers	71.2	48	38	0	5/6
9	58-40-27	53.3	40	37	0	5/7
10	61-41-7	52.3	38	37	0	5/10
11	61-42-13	52.1	40	36	0	5/9
12	62-42-13	50.6	38	40	12	5/9
13	62-11-17	63.0	42	40	0	5/9
14	62-44-8	57.3	44	41	1	5/6
15	62-44-431	56.4	40	41	25	5/6
16	62-44-216	55.9	43	39	25	5/6
18	62-42-22	54.8	39	35	11	5/9
19	62-12-34	54.7	42	43	0	5/7
20	62-44-154	54.2	41	38	3	5/7
21	62-44-34	55.4	44	43	0	5/3
22	62-44-436	58.1	48	38	0	4/29
23	Wade	66.8	45	36	0	5/2
25	Colonial #2	60.0	41	34	0	5/7
26	Ga-Jet	55.1	38	34	1	5/2
	LSD (.05)	7.6				

(1) Parentage of the experimental entries is given on pages 27 and 28.

Table 14. Performance of barley varieties tested at Blacksburg in 1963-64.

Entry number	Variety or selection[1]	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Date 1/3 headed (May)	Lodging (%)	Leaf rust (%)	Seedling reaction[2] Leaf rust	Powdery mildew	Scald
1	Wong	72.7	49.3	40	10	26	55	S	I	S
2	Early wong	66.7	49.6	38	6	23	18	S	I	S
3	James	72.9	49.9	39	9	4	6	S	S	S
4	Pennrad	69.4	47.4	38	11	26	30	S	S	R
5	Hudson	73.8	51.0	36	10	3	22	S	I	R
6	Dayton	76.6	45.6	36	6	6	50	S	S	I
7	Kenbar	68.8	46.4	32	8	7	30	S	R	I
8	Rogers	74.2	50.8	31	10	0	13	S	HR	R
10	61-41-7	76.6	47.2	34	13	1	0	R	HR	S
11	61-42-13	68.7	47.7	31	12	1	0	R	R	S
12	62-42-13	68.2	48.7	35	12	14	13	R	R,I	S
13	62-11-17	88.4	49.5	37	12	1	2	R	S	S
14	62-44-8	71.6	50.1	35	10	2	T	I	R	R
15	62-44-431	71.0	48.6	34	10	4	5	I	R	R
16	62-44-216	68.8	48.7	32	10	1	8	R	I,R	R
17	62-14-345	63.8	48.7	38	12	12	2	I	S	S
18	62-42-22	74.5	47.3	29	11	1	0	HR	S	R
19	62-12-34	71.5	50.3	35	10	2	4	IS	I	R,S
20	62-44-154	67.8	48.0	32	11	3	0	HR	R	R
21	62-44-34	78.1	49.2	38	9	T	19	S	R	R
22	62-44-436	64.1	51.7	34	8	2	40	S	S	R
27	S.C. 60-534	73.6	49.6	37	10	1	10	R	S	S
	LSD (.05)	17.4								

(1) Parentage of the experimental entries is given on pages 27 and 28.

(2) S=susceptible; I=intermediate; R=resistant; HR=highly resistant.

Table 15. Performance of wheat varieties tested at Warsaw in 1963-64.

Entry number	Variety or selection (1)	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Lodging (%)	Date 1/3 headed (May)	Powdery mildew (%)
2	Seneca	42.9	60.6	50	10	18	53
3	Anderson	43.3	60.1	54	9	17	23
4	Tayland	45.5	59.2	50	19	17	48
5	Redcoat	50.2	59.4	46	5	16	21
6	Taylor 49	44.7	58.4	47	15	15	55
7	Reed	49.5	60.1	46	1	18	45
8	Va. 61-51-3	51.6	59.5	52	21	14	13
9	Va. 61-51-13	48.0	58.5	50	10	15	52
10	Va. 60-15-11	49.6	60.1	49	16	14	36
11	Knox 62	48.4	59.1	45	38	10	30
12	Coker 61-10	48.1	58.7	47	23	9	0
13	Coker 61-19	52.8	60.3	48	23	15	35
14	Hadden	48.6	58.9	45	18	8	0
15	Wakeland	50.1	58.6	45	28	8	9
16	Atlas 66	46.7	58.2	46	32	14	9
17	Ga. 1123	48.1	58.0	49	12	10	25
18	Coker 47-27	50.9	60.3	51	12	13	18
	LSD (.05)	5.0					

(1) Parentage of experimental entries is given on page 28.

Table 16. Performance of wheat varieties tested at Petersburg in 1963-64.

Entry number	Variety or selection (1)	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Lodging (%)	Date 1/3 headed (May)	Powdery mildew (%)
2	Seneca	35.5	60	46	1	12	85
3	Anderson	36.6	61	49	0	12	63
4	Tayland	36.0	60	46	0	12	67
5	Redcoat	36.8	58	40	0	10	25
6	Taylor 49	34.0	59	45	0	10	75
7	Reed	36.2	60	41	0	12	82
8	Va. 61-51-3	35.1	60	45	1	9	17
9	Va. 61-51-13	41.2	58	44	0	11	70
10	Va. 60-15-11	38.8	61	45	0	10	54
11	Knox 62	32.8	59	42	15	2	25
12	Coker 61-10	37.4	58	43	3	7	0
13	Coker 61-19	39.9	59	44	0	10	44
14	Hadden	37.2	59	45	0	7	T
15	Wakeland	32.8	59	42	6	3	13
16	Atlas 66	29.9	59	43	1	9	3
17	Ga. 1123	36.8	58	45	7	3	34
18	Coker 47-27	35.8	59	46	0	8	29
	LSD (.05)	3.4					

(1) Parentage of experimental entries is given on page 28.

Table 17. Performance of wheat varieties tested at Charlotte Court House in 1963-64.

Entry number	Variety or selection (1)	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Lodging (%)	Date 1/3 headed (May)	Spring stand (%)	Powdery mildew (%)
2	Seneca	30.2	63.0	43	0	11	73	60
3	Anderson	31.8	62.5	45	0	12	70	38
4	Tayland	32.0	62.0	44	0	11	73	60
5	Redcoat	37.0	62.0	38	0	11	74	14
6	Taylor 49	30.4	62.0	44	0	11	69	60
7	Reed	33.7	63.0	38	0	13	76	60
8	Va. 51-61-3	39.6	62.5	43	1	10	75	23
9	Va. 51-61-13	41.1	62.5	43	1	11	73	45
10	Va. 60-15-11	42.2	63.5	43	0	8	75	33
11	Knox 62	37.8	61.5	42	46	1	76	30
12	Coker 61-10	43.0	62.0	45	8	2	78	0
13	Coker 61-19	42.5	63.5	42	1	9	77	30
14	Hadden	43.6	62.0	44	6	2	78	0
15	Wakeland	40.0	62.0	44	13	30	74	9
16	Atlas 66	40.8	61.5	42	1	9	76	15
17	Ga. 1123	42.5	59.0	42	26	5	72	28
18	Coker 47-27	38.9	63.0	43	1	8	73	28
	LSD (.05)	3.9						

(1) Parentage of experimental entries is given on page 28.

Table 18. Performance of wheat varieties tested at Orange in 1963-64.

Entry number	Variety or selection (1)	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Lodging (%)	Date 1/3 headed (May)	Powdery mildew (%)
1	Dual	40.7	60	46	54	21	20
2	Seneca	36.6	61	48	86	21	50
3	Anderson	26.2	60	49	78	23	10
4	Tayland	35.6	59	47	63	22	50
5	Redcoat	44.9	62	44	10	21	T
6	Taylor 49	41.1	60	49	90	21	30
7	Reed	43.6	61	45	17	21	70
8	Va. 61-51-3	37.6	61	46	59	20	T
9	Va. 61-51-13	41.8	59	47	59	21	10
10	Va. 60-15-11	44.0	62	45	84	20	T
11	Knox 62	29.2	61	43	35	13	10
12	Coker 61-10	37.5	61	43	55	17	T
13	Coker 61-19	42.9	62	43	95	21	T
14	Hadden	42.8	61	43	69	17	0
15	Wakeland	36.9	61	41	70	16	10
16	Atlas 66	32.3	59	41	40	22	10
17	Ga. 1123	31.8	60	42	28	15	10
18	Coker 47-27	35.4	61	46	12	21	10
	LSD (.05)	6.7					

(1) Parentage of experimental entries is given on page 28.

Table 19. Performance of wheat varieties tested at Blacksburg in 1963-64.

Entry number	Variety or selection (1)	Yield per acre (Bu.)	Bushel weight (Lbs.)	Height (In.)	Date 1/3 headed (May)	Powdery mildew (%)	Leaf rust (%)	Stem rust (2) (%)
1	Dual	43.5	59.0	40	24	40	5	60
2	Seneca	38.4	59.9	42	24	42	100	100
3	Anderson	37.4	60.9	47	25	28	5	40
4	Tayland	32.4	59.3	43	24	47	37	80
5	Redcoat	46.4	61.5	39	23	18	4	30
6	Taylor 49	40.6	60.2	44	22	47	35	50
7	Reed	47.7	61.0	39	24	27	25	80
8	Va. 61-51-3	39.6	60.5	44	23	23	57	80
9	Va. 61-51-13	37.5	59.8	42	23	63	50	40
10	Va. 60-15-11	44.2	62.0	42	22	53	33	30
11	Knox 62	49.5	63.0	41	18	22	7	80
12	Coker 61-10	45.8	61.6	41	19	0	4	40
13	Coker 61-19	45.7	62.2	41	22	45	20	30
	LSD (.05)	6.8						

(1) Parentage of experimental entries is given on page 28.

(2) Readings from special stem rust nursery.

Table 20. Performance of rye varieties tested at Petersburg in 1963-64.

Variety	Planted October 9					Planted October 30				
	Yield per acre (Bu.)	Bushel weight (Lbs.)	Date 1/3 headed (April)	Height (In.)	Powdery mildew (%)	Yield per acre (Bu.)	Bushel weight (Lbs.)	Date 1/3 headed (April)	Height (In.)	Powdery mildew (%)
Abruzzi (Va. Found.)	31.5	54.0	14	76	19	28.8	54.0	19	72	28
Elbon	31.2	56.5	16	72	23	28.8	55.5	21	71	20
Explorer	28.6	55.0	15	70	21	24.0	56.5	22	70	33
Wren's Abruzzi	28.0	55.5	12	70	27	24.6	55.5	20	70	39
Gator	29.8	54.5	11	70	19	28.6	54.5	19	69	28
Average	29.8	55.1	13	71	22	27.0	55.2	20	70	30
LSD (.05)	(none)					3.0				

Table 21. Performance of rye varieties tested at Painter in 1963-64.

Variety	Forage yield per acre[1] (Dry weight) (Lbs.)	Grain yield per acre (Bu.)
Abruzzi (Va. Foundation)	2246	34.6
Elbon	1736	38.3
Explorer	1892	32.9
Wren's Abruzzi	1749	26.7
Gator	2110	24.9
LSD (.05)	339	7.3

(1) Harvested on March 23, 1964 at stage for plowing under as green manure.

Parentage of Experimental Entries Tested in 1963-64

Fall Oat Varieties

Entry No.	Selection No.	Parentage
6	-	Wintok x Tech
9	62-32-26	Selection from Roanoke
10	62-32-17	Arlington x (Wintok x Clinton^2 - Santa Fe), C.I. 7220
12	61-3-351	Selection from Fairfax
13	62-32-44	Arlington x (Wintok x Clinton^2 - Santa Fe), C.I. 7220
14	C.I. 7757	(Arlington x LMHJA) x (Letoria x Clinton^2 - Santa Fe x Arlington)
15	62-31-12	Forkedeer x Victorgrain 48-93
16	61-31-15	Irradiated Arlington
17	61-1-12	Victorgrain 48-93 x Cimarron
18	62-4-22	Victorgrain 48-93 x Cimarron
19	62-4-28	Victorgrain 48-93 x Cimarron
20	62-32-2	Bronco x Victorgrain 48-93
21	62-4-5	Bronco x Victorgrain 48-93
22	61-34-156	Bronco x Victorgrain 48-93
23	62-4-230	LeConte x Arlington
24	62-4-263	Ballard Selection x Fulwood
28	Coker 62-26	C.I. 7925, (Fulgrain x Suregrain x Victorgrain^2) x (Bond - Fulghum x Suregrain)
29	Coker 62-42	C.I. 7927, (Victorgrain x Fulwood) x (Arlington - Delair x Trispernia)
30	Coker 63-18	(Woodgrain x Suregrain) x Coker's 56-21
31	Coker 62-11	Selection from Moregrain

Spring Oat Varieties

Entry No.	Selection No.	Parentage
15	C.I. 7690	Putnam x [Landhafer x (Mindo - H-J) x Andrew]
16	C.I. 7662	[Osage x (Bonda x H-J) - Santa Fe] x Clintland
17	C.I. 7663	[Osage x (Bonda x H-J) - Santa Fe] x Clintland

Barley Varieties

Entry No.	Selection No.	Parentage
9	58-40-27	Modia x Wong
10	61-41-7	(Modia - Wong) x (Wong - Bolivia)
11	61-42-13	(Cebada Capa - Calhoun x Wong - Jet) x Wong^1
12	62-42-13	[(Cebada Capa - Wong x Modia - Ky. #1) x Wong^1] x Wong - Bolivia
13	62-11-17	(C.I. 2524 - Wong) x (Huga - Wong)
14	62-44-8	(Batna - Wong x Huga - Wong) x Hudson
15	62-44-431	(Batna - Wong x Huga - Wong) x Hudson
16	62-44-216	[(Modia - Ky. #1 x Wong - Jet) x Hudson] x (Cebada Capa - Wong x Huga - Wong)
17	62-14-345	(Cebada Capa - Ky. #1) x (Wong - Bolivia)

Barley Varieties

Entry No.	Selection No.	Parentage
18	62-42-22	(Cebada Capa x Wong) x Awnletted Hudson
19	62-12-34	(Cebada Capa x Wong) x Awnletted Hudson
20	62-44-154	(Cebada Capa x Wong) x Awnletted Hudson
21	62-44-34	(Wong - Atlas 46) x [(Cebada Capa - Wong x Modia - Wong) x Awnletted Hudson]
22	62-44-436	Hudson x Decidious Awn
27	S.C. 60-534	Wong x Bolivia

Wheat Varieties

Entry No.	Selection No.	Parentage
8	61-51-3	(Atlas 66 - Vahart) x (Atlas 50 - Leap)
9	61-51-13	Hardired x Taylor
10	60-15-11	Carala x (Mich. Amber - Thorne)
12	Coker 61-10	Coastal x [Coker 47-27 x (Asosan - Hardired x Triticum hybrid - Chancellor)]
13	Coker 61-19	Hardired x Taylor