Results of

SMALL GRAIN VARIETAL TESTS

Conducted in Virginia
in 1965

Department of Agronomy
Department of Plant Pathology and Physiology

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Results of Small Grain Varietal Tests Conducted in Virginia in 1965[1/]

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The Agronomy Department and Department of Plant Pathology and Physiology conducted small grain varietal tests at 6 locations in 1964-65 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. However, the results reported herein are only those for released varieties. The purpose of these tests is to determine which varieties of wheat, 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 1964-65 tests, and from tests conducted in previous years. Varieties vary widely in

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[1/] The following individuals were responsible for growing the tests and collecting data at the indicated test locations: 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.

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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 and to the long-term yield averages presented in this report before drawing conclusions about the expected performance of a variety.

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. Growth characteristics and reaction to diseases were noted at some locations and were used to prepare the varietal descriptions presented 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.

The varietal descriptions presented herein are based on data recorded from the various tests. It appeared that many readers would be more interested in comparative performance than actual performance. For this reason, an attempt has been made to translate the actual data into comparative word descriptions. These descriptions are subject to error since the variation encountered for most of these characteristics is continuous. An attempt was made to give varieties similar in performance the same description, but there is variation within a

descriptive class.

Most characteristics are fairly stable and their expression is relatively uniform on a state-wide basis. This is not true for winterhardiness, which is a function of climatic conditions. Only varieties with good winterhardiness should be grown in the mountains and western regions, while those with fair to poor winterhardiness can be used successfully in the southern coastal plains. Like the descriptions for other characteristics, those for winterhardiness are comparative and varieties with good winterhardiness may kill in severe winters.

The yield data are presented for 1965 and for various periods. The comparative performance for longer periods should be considered more reliable than that for a single year.

Varieties Recommended for 1966

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 1966.

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 Newton Nodaway	Andrew Newton Nodaway
	Winter Oats	
Carolee Moregrain (2) Lee Roanoke	Bronco (3) Carolee (4) Dubois (1) (3) Lee Norline (3) Roanoke	Bronco Dubois (1) Forkedeer Norline Roanoke (5)
	Barley	
Dayton (semi-smooth bearded) Colonial 2 (semi-bearded) James (semi-bearded) Wade (short-bearded) Wong (semi-bearded)	Colonial 2 (4) Dayton James Pennrad (semi-bearded) (3) Rogers (rough-bearded) Wade (4) Wong	Dayton Pennrad Rogers Wong
	Wheat	
Atlas 66 Seneca Thorne Wakeland	Atlass 66 (4) Redcoat Reed (3) Seneca Thorne Wakeland (4)	Redcoat Reed Seneca Thorne

(1) To be dropped from the recommended list after 1966.
(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. Description of small grain varieties tested in Virginia in 1965.

Crop and Varieties	Bushel weight	Maturity	Plant height	Standing ability	Winter-hardiness	Reaction to indicated diseases: Victoria blight
Fall Oats						
Forkedeer	Good	Late	Medium	Poor	Good	Resistant
Dubois	Good	Late	Short	Fair	Good	Resistant
Bronco	Good	Late	Medium	Fair	Good	Resistant
Lee	Good	Late	Medium	Fair	Fair	Resistant
Norline	Good	Late	Medium	Good	Excellent	Resistant
Roanoke	Good	Medium	Tall	Good	Fair	Resistant
Moregrain	Good	Early	Short	Good	Poor	Resistant
Carolee	Good	Early	Med.Short	Good	Poor	Resistant
Mid-South	Good	Early	Medium	Fair	Poor	Resistant
Coker 62-42	Good	Early	Medium	Fair	Fair	Resistant
Spring Oats						
Andrew	Fair	Early	Medium	Fair		Resistant
Newton	Fair	Medium	Short	Good		Resistant
Nodaway	Good	Early	Medium	Fair		Resistant
Putnam 61	Fair	Early	Short	Poor		Resistant
Clintland 60	Fair	Medium	Short	Good		Resistant
Brave	Fair	Early	Medium	Poor		Resistant
Bonkee	Fair	Early	Medium	Fair		Resistant
Garland	Fair	Medium	Short	Good		Resistant
Garry	Poor	Late	Tall	Good		Resistant
Russell	Poor	Late	Medium	Good		Resistant
Clintford	Good	Early	Short	Good		Resistant
Tyler	Fair	Early	Short	Good		Resistant

Table 1. Description of small grain varieties tested in Virginia in 1965 (Continued)

Crop and Varieties	Bushel weight	Maturity	Plant height	Standing ability	Winter-hardiness	Reaction to indicated diseases: Powdery mildew	Leaf rust	Scald
Barley								
Wong	Fair	Medium	Tall	Fair	Fair	Resistant	Suscep.	Suscep.
Hudson	Good	Late	Medium	Fair	Good	Resistant	Suscep.	Resistant
Davie	Poor	Medium	Medium	Fair	Poor	Intermed.	Resistant	Intermed.
James	Fair	Medium	Tall	Fair	Fair	Resistant	Resistant	Intermed.
Rogers	Good	Late	Medium	Good	Fair	Resistant	Suscep.	Intermed.
Colonial #2	Poor	Medium	Medium	Fair	Fair	Suscep.	Suscep.	Suscep.
Wade	Fair	Medium	Medium	Good	Poor	Intermed.	Resistant	Intermed.
Pennrad	Fair	Late	Tall	Fair	Good	Resistant	Suscep.	Resistant
Dayton	Fair	Early	Medium	Fair	Good	Suscep.	Suscep.	Intermed.
Harrison	Fair	Late	Medium	Good	Good	Resistant	Resistant	Resistant
Will	Poor	Late	Medium	Fair	Good	Resistant	Suscep.	Suscep.

Wheat						Powdery mildew	Leaf rust	Stem rust	Soil-borne mosaic
Seneca	Good	Late	Tall	Fair	Good	Suscep.	Suscep.	Suscep.	Resistant
Anderson	Good	Late	Very tall	Fair	Fair	Intermed.	Intermed.	Intermed.	Intermed.
Dual	Fair	Late	Medium	Good	Excellent	Suscep.	Resistant	Suscep.	Resistant
Redcoat	Good	Late	Medium	Good	Excellent	Intermed.	Resistant	Intermed.	Resistant
Tayland	Good	Late	Tall	Fair	Fair	Suscep.	Intermed.	Suscep.	Suscep.
Reed	Good	Late	Medium	Good	Excellent	Suscep.	Intermed.	Suscep.	Resistant
Wakeland	Fair	Early	Medium	Fair	Poor	Intermed.	Intermed.	Suscep.	Suscep.
Coker 61-19	Good	Late	Medium	Fair	Fair	Suscep.	Intermed.	Intermed.	Intermed.
Hadden	Fair	Early	Medium	Fair	Poor	Resistant	Resistant	Intermed.	Suscep.
Knox 62	Good	Medium	Tall	Fair	Excellent	Intermed.	Intermed.	Suscep.	Resistant
Atlas 66	Fair	Medium	Medium	Fair	Poor	Intermed.	Intermed.	Intermed.	Suscep.

Table 2. Yield performance of fall oat varieties tested in Virginia in 1965 and average performance for indicated periods, based on tests from 1956 through 1965.

Variety	Average yield in bushels per acre for indicated locations and periods.							
	Blacksburg			Orange			
	1965	4 yrs.	8 yrs.	1965	2 yrs.	4 yrs.	10 yrs.
Forkedeer	57.8	69.1	65.7	44.4	65.7		
Dubois	50.5	63.6	56.1	35.6	55.8	69.5	64.3
Bronco	60.3	67.4	60.7	72.6	65.7	75.8	72.8
Lee	65.8	60.6	57.1	49.4	54.2	72.9	67.4
Norline	47.2	66.7		39.2	59.1		
Roanoke	77.7	72.5		42.5	57.5	75.5	

	Charlotte Court House				Petersburg			
	1965	2 yrs.	4 yrs.	7 yrs.	1965	2 yrs.	6 yrs.	8 yrs.
Lee	56.8	61.6	54.1	57.1	42.9	49.0	58.2	60.1
Moregrain	47.2	59.3	51.7	54.7	53.4	59.6	60.6	61.5
Roanoke	45.2	65.9	56.6		66.3	64.0	60.0	
Carolee	55.4	62.6	57.8		53.9	57.0	60.8	
Mid-South	53.8	63.4	46.8		64.4	61.7	62.8	
Coker 62-42	60.4	71.5			63.2	63.0		

	Warsaw			
	1965	2 yrs.	5 yrs.	7 yrs.
Lee	57.0	67.6	72.1	70.5
Moregrain	93.9	91.1	78.0	75.8
Roanoke	81.6	84.9	80.8	
Carolee	72.6	79.3	80.0	
Mid-South	98.3	98.0	82.4	
Coker 62-42	89.1	91.1		

Table 3. Yield performance of spring oat varieties tested in Virginia in 1965 and average performance for indicated periods, based on tests from 1956 through 1965.

Variety

Average grain yield in bushels per acre for indicated locations and periods.

	Blacksburg				Orange				Steeles Tavern			
	1965	2 yrs.	4 yrs.	9 yrs.	1965	2 yrs.	4 yrs.	10 yrs.	1965	2 yrs.	4 yrs.	9 yrs.
Andrew	56.2	66.6	58.9	56.7	64.0	63.2	55.5	52.1	63.1	58.0	54.3	47.6
Newton	54.1	65.0	58.6	57.9	71.0	62.1	57.0	53.9	69.9	61.6	54.9	48.2
Nodaway	77.3	76.1	57.1		63.5	63.6	54.3		64.8	51.5	50.0	
Putnam 61	56.9	65.1	56.4		69.7	68.5	57.6		68.6	59.2	55.9	
Clintland 60	49.8	62.5			69.7	59.4			52.5	45.1		
Brave	50.3	68.5			80.9	78.2			75.5	62.6		
Bonkee	47.9	60.2			57.6	56.3			51.9	49.2		
Garland	74.6	78.1			67.0	67.1			59.5	52.6		
Garry	81.0	77.8			65.8	60.4			57.5	53.9		
Russell	100.1	88.7			69.9	68.4			64.2	58.7		
Clintford	65.5				51.4				51.1			
Tyler	80.7				61.3				66.8			

Average hay yields in pounds per acre (dry weight basis) for indicated locations, stages of growth, and periods.

	Blacksburg				Orange				Steeles Tavern	
	Bloom		Soft Dough		Bloom		Soft Dough		Soft Dough	
	1965	2 yrs.	1965	2 yrs.	1965	2 yrs.	1965	2 yrs.	1965	2 yrs.
Andrew	5197	4267	5828	5161	2429	2783	5023	5156	3365	2979
Newton	5089	3937	5828	5171	4316	3664	6164	5330	3585	3195
Nodaway	5373	4375	5825	5396	2541	2721	5683	5591	3670	3066
Putnam 61	5056	3756	6156	5340	2521	2925	5544	5283	3539	3202
Clintland 60	5091	4376	5515	5177	4607	3977	5102	4858	3506	3232
Brave	4961	4086	5739	5399	2673	2734	5841	5768	3833	3311
Bonkee	4958	3860	5937	4951	2706	2879	4891	5006	3321	2810
Garland	5078	4225	6326	5663	3901	3493	5775	5270	3093	2815
Garry	5402	4672	6393	5630	4237	3585	5980	5129	3060	2804
Russell	5214	4508	6611	5814	4481	3869	5603	5095	3147	2804
Clintford	4679		5735		3901		5056		2799	
Tyler	4947		5972		4046		5029		3104	

Table 4. Yield performance of barley varieties tested in Virginia in 1965 and average performance for indicated periods, based on tests from 1956 through 1965.

Variety	Average yield in bushels per acre for indicated locations and periods.							
	Blacksburg				Steeles Tavern			
	1965	2 yrs.	5 yrs.	8 yrs.	1965	2 yrs.	5 yrs.	9 yrs.
Wong	60.9	66.8	64.2	59.8	48.8	42.4	54.1	51.4
Hudson	69.0	71.4	63.9	62.3	43.1	48.0	55.8	51.8
James	74.7	73.8	71.8		55.1	46.1	52.0	
Rogers	69.1	71.7	70.3		65.8	50.4	61.9	
Pennrad	46.9	58.1			59.4	61.1		
Dayton	62.6	69.6			54.7	45.2		
Harrison	83.8				53.8			
Will	77.2				51.1			
	Orange				Charlotte Court House			
	1965	3 yrs.	6 yrs.	10 yrs.	1965	3 yrs.	6 yrs.	10 yrs.
Wong	41.3	54.0	60.2	56.6	31.5	40.2	49.9	56.6
Hudson	53.8	65.7	71.5	64.8	35.0	40.0	50.6	55.8
Davie					36.1	40.1	51.1	56.5
James	42.0	56.7	58.9		37.6	38.9	50.6	56.0
Rogers	59.5	75.3	78.6		45.5	45.6	55.3	
Colonial #2	49.2	59.3	68.0		48.5	45.9	55.9	
Wade	75.2	76.1	77.1		45.3	41.0	58.7	
Pennrad	56.5	60.7			44.4	46.3		
Dayton	63.5	65.6			49.7	51.2		
Harrison	63.9				31.4			
Will	57.9				43.1			
	Petersburg				Warsaw			
	1965	3 yrs.	6 yrs.	10 yrs.	1965	3 yrs.	6 yrs.	10 yrs.
Wong	52.6	43.7	50.7	50.0	69.6	69.1	67.6	69.5
Hudson	47.3	39.4	47.6	43.3	68.0	70.9	70.8	72.1
Davie	52.3	43.0	49.1	45.7	68.5	67.1	69.0	71.4
James	44.2	37.7	45.7	43.4	69.6	68.2	70.1	70.5
Rogers	50.6	40.4	48.0		67.9	76.2	72.1	
Colonial #2	54.3	47.7	55.3		63.4	69.3	71.3	
Wade	49.7	41.5	51.3		69.2	69.9	73.1	
Pennrad	49.0	48.5			65.5	73.0		
Dayton	49.7	38.6			67.3	69.2		
Harrison	37.0				65.2			
Will	43.6				60.8			

Table 5. Yield performance of wheat varieties tested in Virginia in 1965 and average performance for indicated periods, based on tests from 1956 through 1965.

Variety	Average yield in bushels per acre for indicated locations and periods.							
	Blacksburg				Orange			
	1965	2 yrs.	5 yrs.	9 yrs.	1965	3 yrs.	6 yrs.	10 yrs.
Seneca	44.9	41.7	39.9	40.5	30.9	38.4	40.6	37.0
Anderson	41.0	39.2	39.9	40.3	32.8	34.8	37.5	34.1
Dual	51.3	47.4	42.0		34.0	42.2	42.3	
Redcoat	48.3	47.4	41.2		38.0	44.2	44.9	
Tayland	41.7	37.1	38.6		32.3	40.0		
Reed	50.9	49.3			41.7	47.3		
Coker 61-19	50.1	47.9			33.4	42.2		
Knox 62	44.9	47.2			25.8			
	Charlotte Court House				Petersburg			
	1965	3 yrs.	6 yrs.	10 yrs.	1965	3 yrs.	6 yrs.	10 yrs.
Seneca	26.4	29.9	32.2	34.4	30.6	30.3	34.8	33.9
Anderson	27.7	30.9	33.8	35.5	27.1	28.2	33.8	31.3
Tayland	21.2	29.1	32.1	35.7	28.6	30.5	36.2	34.6
Atlas 66	22.3	28.6	30.6	33.8	28.0	28.0	33.5	31.6
Redcoat	26.7	33.9	36.0		28.4	31.6	35.4	
Wakeland	22.6	30.0	34.6		35.9	33.8	39.8	
Reed	28.9	34.9			28.6	30.6		
Coker 61-19	28.9	35.0			36.9	36.6		
Hadden	23.5	31.4			35.3	34.6		
Knox 62	29.8				28.9			
	Warsaw							
	1965	3 yrs.	6 yrs.	10 yrs.				
Seneca	36.6	39.5	35.5	36.9				
Anderson	36.4	36.2	37.0	35.2				
Tayland	34.2	35.7	35.4	36.9				
Atlas 66	41.0	37.0	35.1	36.9				
Redcoat	36.9	38.7	37.4					
Wakeland	47.5	40.7	40.5					
Reed	32.3	36.5						
Coker 61-19	46.4	43.8						
Hadden	41.1	37.5						
Knox 62	44.1							