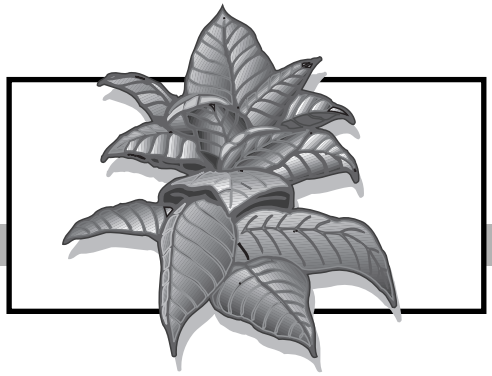
Virginia Cooperative Extension

REVISED 1999

Tobacco

PUBLICATION 436-418



Virginia Dark-Fired Tobacco Variety Information for 1999

*C. A. Wilkinson, T. D. Reed, C. S. Johnson, and J. L. Jones**

Seed of two new varieties, VA 355 and VA 359, will be available to tobacco producers in 1999. Both pelleted seed and raw seed of VA 355 and VA 359 will be commercially available for 1999. Both primed pelleted seed and raw seed of VA 309, Shirey, and Brownleaf JH will also be available. Raw seed of Lizard Tail Orinoco and VA 312 should also be available. Growers should consider planting a limited acreage of any new variety until more information and experience is available from a wider range of soil and climatic conditions.

VA 355 (tested as Dark 955) and **VA 359** (tested as Dark 959) were developed by the Virginia Agricultural Experiment Station. VA 355 was developed from the cross (VA 309 x VA 312) x DF 300. VA 359 was developed from the cross Lizard Tail Turtle Foot x VA 309. Agronomic characteristics of VA 355 and VA 359 are similar to Brownleaf JH, Lizard Tail Orinoco, and VA 309. Average yields of VA 355 are about 80 lbs/A less than the three check varieties, whereas yields of VA 359 are similar to the three check varieties. Average price of VA 359 is slightly higher compared to the three check varieties. Research to date indicates that VA 355 and VA 359 are as resistant, if not more resistant, to black shank than VA 309.

Information is provided for widely grown varieties in Tables 1 and 2 of this publication. The Dark-Fired Official Variety Test was conducted at the Southern Piedmont Agricultural Research and Extension Center, Virginia Polytechnic Institute and State University, in Nottoway County. Data from 1994 to 1998 are presented in Table 1.

Certain agronomic and disease information is given in Table 2. In addition to yield, quality potential, and ease of handling, the history of various disease problems on your farm should be considered when selecting the variety best suited to your farm. Black shank (a disease caused by the soilborne fungus *Phytophthora parasitica*) and black root rot (a disease caused by the soilborne fungus *Thielaviopsis basicola*) have continued to cause yield reductions in many seasons. For fields where black shank is a problem, VA 309, VA 355, or VA 359 are suggested. VA 312 is also suggested for fields where black root rot alone is a problem. Resistant varieties alone cannot prevent losses due to disease. Crop rotation should be practiced in every field, no matter what variety is grown. Resistant varieties should be used with crop rotation, early root destruction, and the proper use of labeled pesticides to achieve consistent, cost-effective disease control. Additional information on disease management systems may be found in the 1998 Dark-fired Tobacco Production Guide (VCE-Publication No. 436-049).

While the traditional flavor and aroma characteristic of certain old-line varieties such as Lizard Tail Orinoco and Walkers Broadleaf is still desirable, disease problems can often limit the production of these varieties. Careful consideration should be given to the choice of variety to meet specific production objectives. Varieties differ in disease reaction, chemical composition, response to nutrient levels in the soil, and many other factors. Careful study of the information presented in this publication may be helpful in choosing a variety which will fit into specific production management systems and alleviate or reduce the severity of particular production problems.

* Associate Professor of Agronomy; Extension Agronomist, Tobacco; Extension Plant Pathologist, Tobacco, and Extension Agronomist, Tobacco, respectively; Virginia Tech, Southern Piedmont Agricultural Research and Extension Center, Blackstone, VA.

Virginia Tech

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Virginia Cooperative Extension programs and employment are open to all, regardless of race, color, religion, sex, age, veteran status, national origin, disability, or political affiliation. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. J. David Barrett, Interim Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; Lorenza W. Lyons, Administrator, 1890 Extension Program, Virginia State, Petersburg.

VT/028/0299/250/992790/436418

VIRGINIA STATE UNIVERSITY

Table 1. Virginia Dark-Fired Tobacco Variety Test Results by Years, Southern Piedmont Agricultural Research and Extension Center, Blackstone, VA. [1]

	Yield, lbs/A						Value, $/A					Price, $/cwt				
Variety	1994	1995	1996	1997	1998	Avg.	1994	1995	1996	1997	1998	1994	1995	1996	1997	1998
Brownleaf, JH	2070	2308	2421	2301	2083	2237	3518	3816	4779	4862	4658	170	165	198	211	224
Daniels Special	2170	2096	2390	2275	1889	2164	3516	3341	4437	4816	4006	162	159	186	211	217
Liz Tail Orinoco[2]	1990	2159	2480	2279	2238	2229	3244	3371	4972	4795	4790	163	156	201	211	214
Liz Tail Tur Ft[2]	2325	2273	2384	2480	2269	2346	3847	3966	4719	5386	5115	164	175	198	217	225
Sears Special	2179	2265	2417	2446	2128	2287	3435	3741	4712	5134	4626	157	165	195	210	216
Shirey	2006	2140	2409	2454	2066	2215	3276	3649	5021	5616	4553	163	170	209	229	220
VA 309	1984	2170	2465	2454	2323	2279	3004	3618	4807	5221	4698	152	167	195	213	202
VA 310	2214	2373	2324	2346	2154	2282	3409	3714	4621	4922	4733	154	157	198	210	219
VA 312	2140	2296	2445	2613	2275	2354	3490	3940	4956	5651	5141	162	172	203	217	225
VA 331	2109	2134	2085	2147	2040	2103	3356	3373	3665	4207	3988	159	158	176	196	196
VA 355	——	2044	2249	2241	2130	2166	——	3476	4640	4726	4596	—	169	206	211	215
VA 359	——	2171	2243	2444	2059	2229	——	3747	4893	5315	4772	—	173	200	217	231
Walkers Broadleaf	2087	2067	2299	2438	2187	2214	3453	3389	4579	5129	4829	165	164	201	211	221

[1] Averages are not directly comparable unless the number of years is equivalent.

[2] Liz Tail Orinoco = Lizard Tail Orinoco; Liz Tail Tur Ft = Lizard Tail Turtle Foot.

Table 2. Agronomic and Disease Information for Dark-Fired Tobacco Varieties Tested at the Southern Piedmont Agricultural Research and Extension Center, Blackstone, VA, 1998.

Variety	Days to Flower	Plant Height (in)	Leaf no.	Ground Suckers per Plot[1]	Length (L) and Width (W) Mid Leaf L	Mid Leaf W	Top Leaf L	Top Leaf W	Disease Reaction[2] BS	TMV	BRR	Group (%)[3] X	C	B	Color (%)[4] F	M	G
Brownleaf, JH	62	24.9	13.3	0.3	29.0	15.1	29.2	13.8	S	S	L	20	48	32	86	14	0
Daniels Special	62	22.6	14.1	0.3	28.0	14.2	27.5	13.1	S	S	L	15	45	39	84	16	0
Liz Tail Orinoco[5]	62	25.4	14.1	1.3	27.5	14.5	28.7	14.1	S	S	S	14	45	41	78	6	16
Liz Tail Tur Ft[5]	61	24.0	14.3	0	30.0	14.5	29.3	13.3	S	S	S	5	75	20	78	22	0
Sears Special	60	23.7	13.5	16.0	28.6	15.1	28.4	15.3	S	S	M	6	80	13	75	25	0
Shirey	62	23.7	13.2	0	29.4	14.9	28.8	13.3	S	S	L	21	44	34	79	21	0
VA 309	60	24.3	13.2	2.3	27.7	14.5	27.1	14.9	M	S	M	20	42	38	51	30	20
VA 310	62	25.1	13.9	1.0	28.3	13.5	28.3	13.0	M	S	L	11	63	26	82	18	0
VA 312	60	24.5	12.9	0.7	29.5	14.9	30.0	15.1	S	R	H	0	86	14	74	26	0
VA 331	57	24.2	13.7	0.7	28.0	14.5	27.8	14.2	M	S	L	16	51	32	51	40	9
VA 355	62	20.6	13.1	0.7	28.1	13.2	27.5	12.3	M	S	—	14	23	63	84	16	0
VA 359	62	22.8	14.0	0	28.3	14.5	29.1	13.6	M	S	—	14	74	12	76	24	0
Walkers Broadleaf	62	26.4	14.2	1.7	28.8	13.6	28.0	13.2	S	S	L	22	47	31	85	15	0

[1] Ground suckers/18 plant plot.

[2] Disease reaction: BS = Black Shank; TMV = Tobacco Mosaic Virus; BRR = Black Root Rot. H= high resistance; M= moderate; L = low; R = resistant; S = susceptible.

[3] X = lugs; C = thin leaf; B =heavy leaf.

[4] F =medium brown; M = mixed or variegated; G = green.

[5] Liz Tail Orinoco = Lizard Tail Orinoco; Liz Tail Tur Ft = Lizard Tail Turtle Foot.

Table 3. Yield and quality data from three on-farm variety tests. [1]

Variety	Yield lbs/A	Value $/A	Price $/cwt	Grade index[2]	Color Grades [3] (%) L	F	M	G
Brownleaf, JH	1853	3858	208	68	0	82	13	5
VA 309	2186	4444	203	65	0	62	29	9
VA 355	1875	3747	202	61	0	60	20	20
VA 359	2116	4627	218	68	18	49	33	0

[1] One test was conducted in 1996 and two tests were conducted in 1997.
[2] Grade index is a numerical quality rating based on government grades. High ratings are best.
[3] L = light brown; F = medium brown; M = mixed or variegated; G = green.

Disclaimer
Commercial products are named in this publication for information purposes only. Virginia Cooperative Extension and Virginia Polytechnic Institute and State University do not endorse these products and do not intend discrimination against other products which also may be suitable.

Virginia Cooperative Extension
U.S. Department of Agriculture
Virginia Polytechnic Institute
and State University
Blacksburg, Virginia 24061

BULK RATE
POSTAGE & FEES PAID
USDA
PERMIT NO. G268