



# Virginia Dark-Fired Tobacco Variety Information for 2004

*C. A. Wilkinson, T. D. Reed, and C. S. Johnson\**

Variety selection is an important aspect in profitable production of dark fire-cured tobacco. Average performance of seven varieties included in the 2003 Virginia Dark-fired Variety Tests are presented in Table 1. These tests were conducted in Campbell (K. Whitlow), Charlotte (D. Lacks), and Nottoway (Southern Piedmont Agricultural Research and Extension Center, AREC) counties under the joint supervision of Extension agents in the respective counties and Virginia Polytechnic Institute and State University research and Extension personnel. Testing in various locations throughout the production area makes it possible to evaluate varietal performance under the widely ranging soil and weather conditions existing in Virginia. This testing program also provides an opportunity for producers to observe dark fire-cured tobacco varieties under field conditions in their particular region. Contact the Extension agent in your county to arrange a visit to the on-farm variety test nearest you and to learn of tours of other tobacco on-farm tests.

Information is provided for widely grown varieties in Tables 1 to 4 of this publication. Data from Table 1 are for only one year and the results may not be indicative of what might occur in other years. Data from 1999 to 2003 are presented in Table 2. Certain agronomic and disease information is given in Tables 3 and 4. In addition to yield, quality potential, and ease of handling, the history of disease problems should be considered when selecting the variety best suited to your farm. Black shank is a disease caused by a soilborne fungus that has continued to cause yield reductions in many seasons. VA 355 is less susceptible to black shank than VA 309 or VA 359

(Table 4), but use of a soil fungicide is often necessary to minimize crop losses. If a soil fungicide is used, part of the fungicide should be applied at or before transplanting and the remainder at layby. Resistant varieties alone cannot prevent losses due to disease. Crop rotation is critical for disease management in dark fire-cured tobacco, even when disease resistant varieties are used. 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 2002 Dark-fired Tobacco Production Guide (VCE Publication 436-049).

Certified seed of type 21 dark-fire cured varieties VA 309 and VA 359 will be commercially available for 2004. Careful consideration should be given to the choice of variety to meet specific production objectives. Disease problems often can limit the production of oldline varieties such as Lizard Tail Orinoco or Brownleaf, JH. 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 that will fit into specific production management systems and alleviate or reduce the severity of particular production problems.

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

Table 1. Virginia Dark-Fired Tobacco Variety Test Results: Yield, Value, Price, and Grade Index, 2003.<sup>1</sup>

Variety	State Average		S. Piedmont AREC		Campbell County		Charlotte County	
	Yield lbs/A	Price \$/cwt	Yield lbs/A	Price \$/cwt	Yield lbs/A	Price \$/cwt	Yield lbs/A	Price \$/cwt
Brownleaf, JH	2007	225	2386	246	2070	198	1564	232
Liz Tail Orinoco	1925	210	2180	202	2034	196	1561	232
Shirey	1920	223	2130	239	2161	194	1470	235
VA 309	1984	211	2298	206	2117	194	1536	232
VA 312	1951	239	2228	244	2378	244	1246	230
VA 355	1761	219	2295	251	1672	176	1316	231
VA 359	1988	218	2073	221	2014	198	1877	235
Location Average	1934	221	2227	230	2064	200	1510	232
Brownleaf, JH	Value \$/A	Grade Index <sup>2</sup>	Value \$/A	Grade Index <sup>2</sup>	Value \$/A	Grade Index <sup>2</sup>	Value \$/A	Grade Index <sup>2</sup>
Liz Tail Orinoco	4539	72	5879	80	4105	64	3632	73
Shirey	4012	68	4410	69	4002	62	3623	72
VA 309	4254	72	5093	78	4204	62	3465	76
VA 312	4135	67	4751	68	4100	62	3555	72
VA 355	4704	74	5451	78	5788	73	2872	72
VA 359	3924	69	5755	81	2975	53	3042	72
Location Average	4374	71	4714	72	4000	64	4407	76
Location Average	4277	70	5150	75	4168	63	3514	73

<sup>1</sup> Tests were conducted in Nottoway (Southern Piedmont AREC), Campbell (W. Whitlow), and Charlotte (D. Lacks) counties in 2003.

<sup>2</sup> Grade index is a numerical quality rating based on government grade. High ratings are best.

Table 2. Virginia Dark-Fired Tobacco Variety Test Results by Years, Southern Piedmont Agricultural Research and Extension Center, Blackstone, Va.

Variety	Yield, lbs/A					Value, \$/A					Price, \$/cwt					
	1999	2000	2001	2002	2003	Avg.	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003
Brownleaf, JH	2611	2431	2494	2124	2386	2409	5603	4197	5539	4544	5879	215	171	222	212	246
Liz Tail Orinoco <sup>1</sup>	2527	2534	2571	2404	2180	2443	5198	3969	5261	5217	4410	206	156	205	216	202
Liz Tail Tur Ft <sup>1</sup>	2714	2659	2693	2437	2487	2598	6699	4709	6181	5374	5978	248	178	229	218	239
Shirey	2310	2521	2478	2154	2130	2319	4703	4448	5486	4760	5093	204	176	221	221	239
VA 309	2747	2814	2693	2276	2298	2566	6345	5051	5435	4427	4751	232	178	202	195	206
VA 310	2599	2856	2447	2120	2057	2416	5031	5376	5075	4396	4038	193	188	207	206	198
VA 312	2561	2147	2535	2286	2228	2479	6661	4999	5511	5033	5451	261	179	218	220	244
VA 331	2363	2240	2177	2174	2076	2187	4594	2850	3452	4159	4401	195	133	158	192	212
VA 355	2171	2573	2357	2214	2295	2255	4879	3989	4926	4520	5755	225	177	209	204	251
VA 359	2368	2475	2730	2447	2073	2438	5607	4641	5689	5411	4714	237	181	209	221	221
Year Average	2497	2556	2518	2264	2221		5532	4423	5256	4784	5047	222	172	208	211	226

<sup>1</sup> Liz Tail Orinoco = Lizard Tail Orinoco; Liz Tail Tur Ft = Lizard Tail Turtle Foot.

Table 3. Agronomic and Disease Information for Dark-Fired Tobacco Varieties Tested at the Southern Piedmont Agricultural Research and Extension Center, Blackstone, Va., 2003.

Variety	Days to Flower	Plant Height (in)	Leaf no.	Ground Suckers per Plot <sup>1</sup>	Length (L) and Width (W)		Disease Reaction <sup>2</sup>	Group (%) <sup>3</sup>			Color (%) <sup>4</sup>		
					Mid Leaf L	Top Leaf W		BS	TMV	BRR	X	C	B
Brownleaf, JH	49	25.4	12.9	0.7	30.8	15.0	S S L	9	42	49	100	0	0
Liz Tail Orinoco <sup>5</sup>	49	25.2	14.9	0	31.8	14.3	S S S	0	78	22	65	35	0
Liz Tail Tur Ft <sup>5</sup>	49	25.4	13.8	0	34.3	15.9	S S S	0	93	7	83	17	0
Shirey	50	24.8	13.1	0.7	30.4	14.6	S S L	6	64	30	82	18	0
VA 309	50	25.8	13.7	1.0	28.1	14.5	L S M	29	51	20	79	21	0
VA 310	50	23.9	14.0	0	30.6	13.3	L S L	20	57	23	67	20	13
VA 312	50	24.3	13.2	0	32.3	14.5	S R H	0	89	11	91	9	0
VA 331	49	25.0	13.9	0	30.7	14.9	L S L	18	50	32	100	0	0
VA 355	50	22.4	13.1	0.3	33.0	15.4	M S —	0	73	27	88	12	0
VA 359	52	24.5	13.3	0	29.7	14.9	L S —	0	81	19	67	33	0

<sup>1</sup> Ground suckers/18 plant plot.

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

<sup>3</sup> X = lugs; C = thin leaf; B = heavy leaf.

<sup>4</sup> F = medium brown; M = mixed or variegated; G = green.

<sup>5</sup> Liz Tail Orinoco = Lizard Tail Orinoco; Liz Tail Tur Ft = Lizard Tail Turtle Foot.

Table 4. Percent plants infested with black shank at the end of the season after transplanting into a naturally infested field.<sup>1</sup>

Variety	State Average	Nottoway County	Dinwiddie County	Halifax County	Charlotte County
Brownleaf, JH	54.93	100	17.42	47.52	54.64
VA 309	17.71	54.56	8.62	5.76	1.91
VA 355	3.21	3.49	5.07	4.10	0.20
VA 359	20.77	68.14	7.30	7.25	0.40

<sup>1</sup> Tests were conducted in Nottoway (Southern Piedmont AREC), Dinwiddie (E. Baskerville farm), Halifax (B. Carr farm), and Charlotte (D. Lacks farm) counties in 1999 and 2000.



***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.*

