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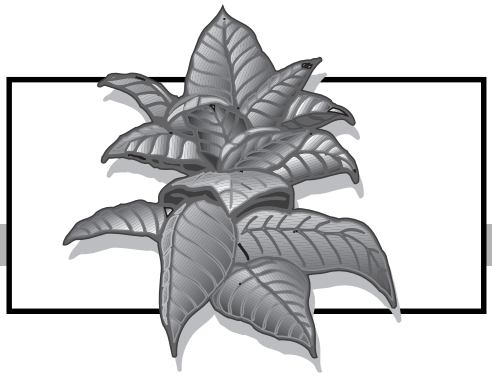

Virginia Dark-Fired Tobacco Variety Information for 2000

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Both pelleted seed and raw seed of VA 309, VA 355, VA 359, Shirey, and Brownleaf, JH will be commercially available for 2000. Raw seed of Lizard Tail Orinoco and VA 312 will also be commercially available. VA 355 and VA 359 are two new varieties that were released for the 1999 growing season. 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 100 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. Grower experience has shown that VA 359 is preferable in quality to VA 355 in the absence of black shank.

Information is provided for widely grown varieties in Tables 1 to 4 of this publication. Average performance of five varieties included in the 1999 Virginia Dark-fired Variety Tests are presented in Table 1. These tests were conducted in Campbell (M. Cheatham, Jr.), Charlotte (C. Vaughn, III), and Nottoway (Southern Piedmont Agricultural Research and Extension Center) counties under the joint supervision of Extension Agents in respective counties and Virginia Polytechnic Institute and State University research and Extension personnel. Data from 1995 to 1999 are presented in Table 2.

Certain agronomic and disease information are 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 and black root rot are diseases caused by soilborne fungi that have continued to cause yield reductions in many seasons. VA 309 and VA 359 are suggested for fields where black shank pressure is low to moderate. VA 355 is suggested for fields with high black shank pressure. VA 312 is 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.

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Table 1. Virginia Dark-Fired Tobacco Variety Test Results: Yield, Value, Price, and Grade Index, 1999. [1]

	State Average				So. Piedmont AREC				Campbell Co.				Charlotte Co.			
Variety	Yield lbs/A	Value $/A	Price $/cwt	GI[2]	Yield lbs/A	Value $/A	Price $/cwt	GI[2]	Yield lbs/A	Value $/A	Price $/cwt	GI[2]	Yield lbs/A	Value $/A	Price $/cwt	GI[2]
Brownleaf, JH	2076	4630	224	74	2611	5603	215	73	1978	4805	243	76	1638	3482	213	74
Shirey	2062	4453	217	72	2310	4703	204	70	1886	4581	243	76	1990	4074	205	70
VA 309	2158	4859	225	73	2747	6345	232	74	1718	3983	231	72	2008	4248	212	72
VA 355	2004	4325	216	70	2171	4879	225	75	1512	3178	213	66	2328	4919	211	70
VA 359	2201	5207	237	77	2368	5607	237	78	2050	5544	271	84	2184	4470	204	69

[1] Tests were conducted in Nottoway (So. Piedmont Ag. Res. and Ext. Ctr.), Campbell (M. Cheatham, Jr.), and Charlotte (C. Vaughn, III) counties in 1999.
[2] 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. [1]

	Yield, lbs/A						Value, $/A					Price, $/cwt				
Variety	1995	1996	1997	1998	1999	Avg.	1995	1996	1997	1998	1999	1995	1996	1997	1998	1999
Brownleaf, JH	2308	2421	2301	2083	2611	2345	3816	4779	4862	4658	5603	165	198	211	224	215
Daniels Special	2096	2390	2275	1889	2457	2221	3341	4437	4816	4006	5012	159	186	211	217	204
Liz Tail Orinoco[2]	2159	2480	2279	2238	2527	2597	3371	4972	4795	4790	5198	156	201	211	214	206
Liz Tail Tur Ft[2]	2273	2384	2480	2269	2714	2424	3966	4719	5386	5115	6699	175	198	217	225	248
Sears Special	2265	2417	2446	2128	2742	2400	3741	4712	5134	4626	5620	165	195	210	216	205
Shirey	2140	2409	2454	2066	2310	2276	3649	5021	5616	4553	4703	170	209	229	220	204
VA 309	2170	2465	2454	2323	2747	2432	3618	4807	5221	4698	6345	167	195	213	202	232
VA 310	2373	2324	2346	2154	2599	2359	3714	4621	4922	4733	5031	157	198	210	219	193
VA 312	2296	2445	2613	2275	2561	2438	3940	4956	5651	5141	6661	172	203	217	225	261
VA 331	2134	2085	2147	2040	2363	2154	3373	3665	4207	3988	4594	158	176	196	196	195
VA 355	2044	2249	2241	2130	2171	2167	3476	4640	4726	4596	4879	169	206	211	215	225
VA 359	2171	2243	2444	2059	2368	2257	3747	4893	5315	4772	5607	173	200	217	231	237
Walkers Broadleaf	2067	2299	2438	2187	2533	2305	3389	4579	5129	4829	4865	164	201	211	221	194
Year Average	2192	2355	2378	2142	2516		3626	4677	5060	4654	5447	165	197	213	217	217

[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 3. Agronomic and Disease Information for Dark-Fired Tobacco Varieties Tested at the Southern Piedmont Agricultural Research and Extension Center, Blackstone, VA, 1999.

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] L	F	M	G
Brownleaf, JH	58	24.6	12.8	0	32.5	14.5	31.0	11.7	S	S	L	13	61	26	0	81	13	6
Daniels Special	56	25.7	14.0	0.3	32.2	15.1	31.3	13.6	S	S	L	16	41	43	0	92	8	0
Liz Tail Orinoco[5]	58	27.1	13.5	2.0	31.1	14.6	30.8	13.5	S	S	S	11	58	31	0	82	18	0
Liz Tail Tur Ft[5]	57	25.9	13.5	0	30.3	15.2	30.7	13.0	S	S	S	6	94	0	0	94	6	0
Sears Special	56	27.1	13.1	3.0	31.6	14.2	32.6	14.2	S	S	M	0	82	18	0	74	12	14
Shirey	58	26.1	12.7	0.3	31.2	13.5	29.9	12.4	S	S	L	14	69	17	0	74	26	0
VA 309	57	25.2	13.5	1.0	30.2	13.8	28.2	10.8	M	S	M	0	91	9	0	81	10	9
VA 310	57	——	13.3	0	30.6	14.8	29.5	12.5	M	S	L	17	48	35	0	83	17	0
VA 312	57	23.5	12.5	1.0	31.6	14.7	30.0	12.5	S	R	H	0	88	12	0	84	7	9
VA 331	55	28.3	14.2	0.3	31.0	14.7	29.1	12.5	M	S	L	14	50	36	0	77	23	0
VA 355	58	21.9	11.7	0.3	31.0	14.9	29.0	12.2	M	S	—	0	79	21	0	93	7	0
VA 359	58	24.3	12.8	0.3	31.5	15.0	29.9	11.9	M	S	—	0	88	12	15	70	15	0
Walkers Broadleaf	58	25.1	13.6	0	30.9	15.4	30.1	13.7	S	S	L	12	48	40	0	57	26	17

[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 4. Percent plants with black shank at the end of the season after transplanting into a naturally infested field.[1]

Variety	State Average	Nottoway County	Dinwiddie County	Halifax County	Charlotte County
Brownleaf, JH	38.1	100	12.9	1.4	—
VA 309	12.8	47.7	0.6	1.4	1.7
VA 355	1.1	1.6	0.3	2.5	0
VA 359	19.5	74.2	0.8	2.3	0.8

[1] Tests were conducted in Nottoway (So. Piedmont Ag. Res. and Ext. Ctr.), Dinwiddie (E. Baskerville farm), Halifax (B. Carr farm), and Charlotte (D. Lacks farm) counties in 1999.

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