



# **Flue-Cured Tobacco Variety Information for 2000**

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Seed of five new varieties will be available to tobacco producers in 2000. OX 414 NF and Sp. G-179 met the chemical and physical standards established by the Regional Variety Evaluation Committee in 1997. Both raw and pelleted seed of these two varieties will be available. RG H51, PVH03, and PVH09 met the standards in 1998, are male sterile hybrids, and only pelleted seed will be available. Information on parents used to develop a hybrid is not released. All five new varieties are resistant to the common races of the root knot nematode. OX 414 NF, Sp. G-179, and RG H51 are susceptible to tobacco mosaic virus whereas PVH03 and PVH09 are resistant to tobacco mosaic virus. 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.

**OX 414 NF** (tested as OX 4142 NF) was developed by North Carolina State University from a cross of NC 37 NF x K 346. Seed will be available from RG Seed Company. OX 414 NF is a non-flowering variety whose yield is similar to NC 27 NF and greater than NC 37 NF. It has a moderate level of resistance to black shank and a low level of resistance to Granville wilt.

**Sp. G-179** (tested as Speight 179) was developed by Speight Seed Farms from a cross of Coker 371 Gold x Sp. G-28. Sp. G-179 has a field type similar to Sp. G-28. It has a very high level of resistance to black shank and a high level of resistance to Granville wilt.

**RG H51** (tested as RG5H-17) was developed by RG Seed Company. Seed will be available from F. W. Rickard Seed Company. RG H51 is a moderate yielding hybrid with good quality. It has a very high level of resistance to black shank and a low level of resistance to Granville wilt.

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**PVH03** (tested as PVH03) and **PVH09** (tested as PVH09) were developed by Progenic Inc. Seed will be produced and marketed by F. W. Rickard Seed Co. under the RG Seed Co. label. Both are moderate yielding. PVH03 has a low level of resistance to black shank and Granville wilt. PVH09 has a low level of resistance to black shank and a high level of resistance to Granville wilt.

Information is provided for widely grown and recently released varieties in Tables 1 to 5 of this publication. Results of fourteen varieties included in the 1999 Virginia Official Variety Tests (OVT) are shown in Table 1. These tests were conducted in Charlotte (Jamie Newcomb), Halifax (Wayne Palmer), Pittsylvania (Kevin Motley), and Nottoway (Southern Piedmont Agricultural Research and Extension Center) 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. Such a testing program also provides an opportunity for producers to observe different 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 tobacco on-farm tests.

Data in Table 1 are for only one year and the results may not be indicative of what might be obtained in other years. There was some differential leaf drop among varieties in 1996 due to Hurricane Fran; therefore, yield data from 1996 needs to be interpreted cautiously. Where available,

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Table 1. Virginia Flue-Cured Official Variety Test Results: Yield, Value, Price, and Grade Index, 1999.<sup>1</sup>

Variety	State Average				So. Piedmont				Charlotte				Halifax				Pittsylvania			
	Yield		Price		Yield		Price		Yield		Price		Yield		Price		Yield		Price	
	lbs/A	\$/cwt	lbs/A	\$/cwt	lbs/A	\$/cwt	lbs/A	\$/cwt	lbs/A	\$/cwt	lbs/A	\$/cwt	lbs/A	\$/cwt	lbs/A	\$/cwt	lbs/A	\$/cwt	lbs/A	\$/cwt
K 326	2975	165	3436	174	3402	155	2456	164	2043	166	2584	168	2573	168	2356	162	2459	151	2606	166
K 346	2688	168	3141	164	3117	177	2043	166	2584	168	2573	168	2356	162	2459	151	2452	163	2648	172
K 394	2986	170	3352	175	3360	166	2043	166	2584	168	2573	168	2356	162	2459	151	2305	176	2860	164
NC 71	3129	171	3784	175	3298	175	2043	166	2584	168	2573	168	2356	162	2459	151	2543	168	2305	176
NC 72	2864	167	3505	174	3289	156	2043	166	2584	168	2573	168	2356	162	2459	151	2543	168	2543	168
NC 37 NF	2738	167	2941	175	3008	174	2043	166	2584	168	2573	168	2356	162	2459	151	2543	168	2543	168
OX 207	2531	170	2891	173	2706	174	1844	162	2683	169	2291	156	2563	166	2683	169	2683	169	2683	169
<b>OX 414 NF</b>	<b>2924</b>	<b>167</b>	<b>3538</b>	<b>170</b>	<b>3304</b>	<b>176</b>	<b>2291</b>	<b>156</b>	<b>2563</b>	<b>166</b>	<b>2563</b>	<b>166</b>	<b>2563</b>	<b>166</b>	<b>2563</b>	<b>166</b>	<b>2563</b>	<b>166</b>	<b>2563</b>	<b>166</b>
RG 81	2811	166	3372	173	3142	158	2156	167	2572	166	2572	166	2572	166	2572	166	2572	166	2572	166
RG H4	2706	171	3331	170	2998	175	1969	172	2526	165	2526	165	2526	165	2526	165	2526	165	2526	165
<b>RG H51</b>	<b>2942</b>	<b>173</b>	<b>3430</b>	<b>176</b>	<b>3377</b>	<b>177</b>	<b>2436</b>	<b>169</b>	<b>2524</b>	<b>168</b>	<b>2524</b>	<b>168</b>	<b>2524</b>	<b>168</b>	<b>2524</b>	<b>168</b>	<b>2524</b>	<b>168</b>	<b>2524</b>	<b>168</b>
Sp. G-168	2880	170	3276	175	3000	173	2148	168	3095	164	3095	164	3095	164	3095	164	3095	164	3095	164
Sp. G-172	2734	168	3573	174	2918	163	2130	162	2315	174	2315	174	2315	174	2315	174	2315	174	2315	174
Sp. NF3	2476	171	2763	172	2632	175	2017	170	2492	167	2492	167	2492	167	2492	167	2492	167	2492	167
Location Average	2813	169	3310	173	3111	170	2247	165	2585	168	2585	168	2585	168	2585	168	2585	168	2585	168
	Value	Grade	Value	Grade	Value	Grade	Value	Grade	Value	Grade	Value	Grade	Value	Grade	Value	Grade	Value	Grade	Value	Grade
	<u>\$/A</u>	<u>Index</u>	<u>\$/A</u>	<u>Index</u>	<u>\$/A</u>	<u>Index</u>	<u>\$/A</u>	<u>Index</u>	<u>\$/A</u>	<u>Index</u>	<u>\$/A</u>	<u>Index</u>	<u>\$/A</u>	<u>Index</u>	<u>\$/A</u>	<u>Index</u>	<u>\$/A</u>	<u>Index</u>	<u>\$/A</u>	<u>Index</u>
K 326	4903	62	5969	67	5280	54	4022	64	4342	64	4342	64	4342	64	4342	64	4342	64	4342	64
K 346	4518	55	5152	49	5524	72	3389	52	4006	46	4006	46	4006	46	4006	46	4006	46	4006	46
K 394	5086	63	5853	69	5580	57	4354	68	4557	57	4557	57	4557	57	4557	57	4557	57	4557	57
NC 71	5359	64	6642	66	5770	70	4321	68	4701	52	4701	52	4701	52	4701	52	4701	52	4701	52
NC 72	4782	62	6096	58	5132	55	3845	66	4053	68	4053	68	4053	68	4053	68	4053	68	4053	68
NC 37 NF	4596	67	5149	69	5244	72	3723	62	4268	64	4268	64	4268	64	4268	64	4268	64	4268	64
OX 207	4307	63	4992	64	4720	74	2988	53	4528	60	4528	60	4528	60	4528	60	4528	60	4528	60
<b>OX 414 NF</b>	<b>4920</b>	<b>56</b>	<b>6031</b>	<b>54</b>	<b>5786</b>	<b>66</b>	<b>3592</b>	<b>50</b>	<b>4272</b>	<b>53</b>	<b>4272</b>	<b>53</b>	<b>4272</b>	<b>53</b>	<b>4272</b>	<b>53</b>	<b>4272</b>	<b>53</b>	<b>4272</b>	<b>53</b>
RG 81	4678	60	5848	67	4976	64	3602	54	4284	56	4284	56	4284	56	4284	56	4284	56	4284	56
RG H4	4599	60	5652	50	5242	76	3341	58	4160	54	4160	54	4160	54	4160	54	4160	54	4160	54
<b>RG H51</b>	<b>5088</b>	<b>68</b>	<b>6044</b>	<b>64</b>	<b>5976</b>	<b>76</b>	<b>4055</b>	<b>71</b>	<b>4278</b>	<b>62</b>	<b>4278</b>	<b>62</b>	<b>4278</b>	<b>62</b>	<b>4278</b>	<b>62</b>	<b>4278</b>	<b>62</b>	<b>4278</b>	<b>62</b>
Sp. G-168	4910	64	5755	66	5186	65	3618	70	5080	56	5080	56	5080	56	5080	56	5080	56	5080	56
Sp. G-172	4615	62	6221	61	4764	62	3458	57	4015	66	4015	66	4015	66	4015	66	4015	66	4015	66
Sp. NF3	4226	65	4740	70	4599	76	3404	51	4160	63	4160	63	4160	63	4160	63	4160	63	4160	63

**New varieties for 2000 are in bold.**<sup>1</sup> Tests were conducted in Nottoway (So. Piedmont Ag. Res. and Ext. Ctr.), Charlotte (Jamie Newcomb), Halifax (Wayne Palmer), and Pittsylvania (Kevin Motley) counties in 1999.<sup>2</sup> Grade index is a numerical quality rating based on government grade. High ratings are best.

**Table 2. Virginia Flue-Cured Tobacco Official Variety Test Results by Years, Southern Piedmont Agricultural Research and Extension Center,  
Blackstone, VA.**

Variety	Yield, lbs/A					Value, \$/A					Price, \$/cwt						
	1995	1996	1997	1998	1999	Avg. <sup>1</sup>	1995	1996	1997	1998	1999	1995	1996	1997	1998	1999	
C 371 Gold	3093	2631	3246	3765	3063	3160	5598	5044	5731	6835	5466	181	192	177	182	178	
CU 263	3122	3062	2852	3612	3197	3169	5679	5875	5092	6540	5503	182	192	179	181	172	
K 149	3319	2585	3331	3124	3019	3076	6006	4957	5962	5611	5187	181	192	179	180	172	
K 326	3536	3093	3069	3754	3436	3378	6425	5935	5526	6826	5969	182	192	180	182	174	
K 346	3277	2696	3100	3250	3141	3093	5910	5172	5487	5822	5152	180	192	177	179	164	
K 358	3272	3001	2878	3280	3200	3126	5962	5757	5155	5930	5517	182	192	179	181	172	
K 394	3579	3088	3668	3439	3352	3425	6532	5923	6584	6237	5853	182	192	180	181	175	
K 730	3197	2919	2890	3453	3491	3190	5792	5600	5198	6268	5997	181	192	180	182	172	
GL 939	3319	3026	2990	3141	3392	3174	6029	5802	5282	5697	5847	182	192	177	181	172	
NC 27 NF	3755	3378	3224	3694	3740	3558	6783	6469	5746	6718	6405	181	191	178	182	171	
NC 37 NF	3298	2900	3096	3284	2941	3104	5972	5560	5523	6001	5149	181	192	178	183	175	
NC 55	—	3077	3355	3274	3289	3249	—	5900	6008	5938	5716	—	192	179	181	174	
NC 71	—	3202	3221	3896	3784	3526	—	6143	5737	7067	6642	—	192	178	181	175	
NC 72	—	—	3308	3702	3505	3505	—	—	5978	6714	6096	—	—	181	182	174	
NC 729	3538	2982	3220	3061	2786	3117	6397	5720	5757	5528	4802	181	192	179	181	172	
OX 207	—	2894	3224	3300	2891	3077	—	5554	5783	5997	4992	—	192	179	182	173	
<b>OX 414 NF</b>	—	—	—	<b>3682</b>	<b>3538</b>	<b>3610</b>	—	—	<b>6702</b>	<b>6031</b>	—	—	—	<b>182</b>	<b>170</b>	—	
OX 940	3283	2581	3285	3078	2928	3031	5915	4946	5823	5535	4966	180	192	177	180	170	
<b>PVH 03</b>	—	—	—	—	—	<b>3205</b>	—	—	—	—	<b>5580</b>	—	—	—	—	<b>174</b>	
<b>PVH 09</b>	—	—	—	—	—	<b>3159</b>	—	—	—	—	<b>5213</b>	—	—	—	—	<b>165</b>	
RG 17	3669	3138	3251	3359	3410	3365	6623	6022	5826	6082	5896	180	192	179	181	173	
RG 81	3947	3090	3288	3486	3372	3437	7135	5927	5917	6351	5848	181	192	180	182	173	
RG H4	3667	2720	3123	3357	3331	3240	6658	5215	5570	6050	5652	182	192	178	181	170	
RG H12	—	—	—	—	3162	3422	3292	—	—	5737	5801	—	—	—	182	170	
<b>RG H51</b>	—	—	—	—	—	<b>3430</b>	—	—	—	—	<b>6044</b>	—	—	—	—	<b>176</b>	
RG H61	—	2882	3335	3460	3096	3193	—	5531	6001	6289	5344	—	192	180	182	172	
Sp. G-168	—	—	2909	3453	3276	3213	—	—	5227	6291	5755	—	—	180	182	175	
Sp. G-172	—	—	3164	3303	3573	3347	—	—	5643	5989	6221	—	—	178	181	174	
<b>Sp. G-179</b>	—	—	—	<b>3380</b>	<b>2989</b>	<b>3184</b>	—	—	—	<b>6075</b>	<b>5030</b>	—	—	—	<b>180</b>	<b>169</b>	
Sp. NF3	—	—	—	2890	2921	2763	2858	—	—	5178	5248	4740	—	—	179	180	172
VA 116	3389	2934	3341	3433	3183	3256	6138	5630	5987	6263	5537	182	192	179	183	174	
Year Average	3427	2947	3170	3397	3255	—	6209	5652	5669	6155	5611	181	192	179	181	172	

New varieties for 2000 are in bold.

<sup>1</sup> Averages are not directly comparable unless the number of years is equivalent.

**Table 3. Agronomic and Disease Information for Varieties Tested at the Southern Piedmont Agricultural Research and Extension Center, Blackstone, VA, 1999.**

Variety	Grade Index <sup>1</sup>	Days to Flower	Plant Height (in.)	Leaf No.	Ground Suckers per plot <sup>2</sup>	Disease Reactions <sup>3</sup>				
						BS	VH	TMV	RK	GW
C 371 Gold	75	69	32.4	18.9	0.3					M
CU 263	58	71	34.4	20.3	0	L	S	R	L	
K 149	71	71	32.3	20.2	0	M	S	R	H	
K 326	67	71	32.9	19.7	0	L	S	R	L	
K 346	49	70	34.0	19.7	0.7	H	S	R	H	
K 358	65	71	34.1	19.6	0.7	L	S	R	M	
K 394	69	70	32.9	19.1	0	H	S	R	M	
K 730	59	70	33.6	19.8	1.3	L	S	R	M	
GL 939	55	70	34.0	20.2	0.3	M	S	S	H	
NC 27 NF	NF <sup>4</sup>	75	35.2	20.1	0.7	L	S	S	L	
NC 37 NF	NF <sup>4</sup>	75	36.6	18.7	5.0	L	S	R	L	
NC 55	63	71	30.8	18.7	0	L	S	R	L	
NC 71	66	71	31.9	20.1	0	VH	S	R	M	
NC 72	58	70	35.1	18.8	0.7	VH	S	R	L	
NC 729	70	71	31.0	19.2	0	L	S	R	H	
OX 207	64	72	33.0	19.3	0	H	S	R	H	
<b>OX 414 NF</b>	NF <sup>4</sup>	<b>73</b>	<b>35.6</b>	<b>19.1</b>	<b>1.7</b>	<b>M</b>	<b>S</b>	<b>R</b>	<b>L</b>	
OX 940	59	71	32.3	18.5	1.3	H	S	S	M	
<b>PVH 03</b>	<b>67</b>	<b>70</b>	<b>33.5</b>	<b>19.7</b>	<b>0</b>	<b>L</b>	<b>R</b>	<b>R</b>	<b>L</b>	
<b>PVH 09</b>	<b>52</b>	<b>70</b>	<b>35.6</b>	<b>19.7</b>	<b>0</b>	<b>L</b>	<b>R</b>	<b>R</b>	<b>H</b>	
RG 17	63	71	32.1	20.1	0	L	S	R	M	
RG 81	67	70	32.2	20.1	0	L	S	R	L	
RG H 4	50	70	34.8	19.3	0.7	M	R	R	H	
RG H12	59	70	35.1	18.4	0	M	S	R	M	
<b>RG H51</b>	<b>64</b>	<b>71</b>	<b>34.2</b>	<b>17.7</b>	<b>1.3</b>	<b>VH</b>	<b>S</b>	<b>R</b>	<b>L</b>	
RG H61	69	71	34.1	18.1	1.7	M	S	R	L	
Sp. G-168	66	70	33.0	18.5	1.3	VH	S	R	H	
Sp. G-172	61	70	32.8	19.4	0	VH	S	R	M	
<b>Sp. G-179</b>	<b>55</b>	<b>71</b>	<b>32.8</b>	<b>18.2</b>	<b>0</b>	<b>VH</b>	<b>S</b>	<b>R</b>	<b>H</b>	
Sp. NF3	NF <sup>4</sup>	75	36.5	19.5	0.3	H	S	R	H	
VA 116	71	70	35.2	18.3	2.3	M	S	S	L	

**New varieties for 2000 are in bold.**

<sup>1</sup> Grade index is a numerical quality rating based on government grade. High ratings are best.

<sup>2</sup> Ground suckers/22 plant plot.

<sup>3</sup> Disease reaction - H = highly resistant; M = moderate; L = low; S = susceptible; R = resistant; BS = black shank; (VH ratings are for Race 0 of Phytophthora; resistance to Race 1 may be considerably lower); TMV = tobacco mosaic virus; RK = Root Knot; GW = Granville Wilt.

<sup>4</sup> NF = nonflowering. Plants should be topped at 20 to 22 harvestable leaves.

**Table 4. Percentage of certain color grade factors of varieties tested at four locations in 1999.**

Variety	L,F	K	KR,FR	V	KF	KV	KM	G,GK
K 326	34	45	0	0	3	4	14	0
K 346	19	42	0	0	18	12	4	5
K 394	25	30	19	0	5	4	16	1
NC 71	36	38	0	0	4	4	12	6
NC 72	37	31	0	3	6	1	22	0
NC 37 NF	41	46	0	0	4	0	7	2
OX 207	30	46	0	0	12	6	3	3
<b>OX 414 NF</b>	<b>24</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>7</b>	<b>9</b>	<b>5</b>
RG 81	41	36	0	0	12	4	2	5
RG H 4	32	28	0	0	14	11	15	0
<b>RG H51</b>	<b>35</b>	<b>41</b>	<b>2</b>	<b>2</b>	<b>6</b>	<b>4</b>	<b>10</b>	<b>0</b>
Sp. G-168	30	45	0	0	7	4	14	0
Sp. G-172	26	45	0	3	4	10	12	0
Sp. NF3	34	50	2	0	9	5	0	0

New varieties for 2000 are in bold.

<sup>1</sup> L = lemon; F = orange; K = variegated; KR = variegated red; FR = orange red; V = greenish; KF = variegated orange; KV = variegated greenish; KM = variegated mixed; G = green; GK = green variegated.

**Table 5. Harvest rate (cumulative percentage by harvest) as a measure of maturation patterns.<sup>1</sup>**

Variety	So. Piedmont				Charlotte				Halifax			Pittsylvania		
	AREC				County				County			County		
	H1	H2	H3	H4	H1	H2	H3	H4	H1	H2	H3	H1	H2	H3
K 326	16	36	66	100	20	48	78	100	12	38	100	10	26	100
K 346	19	38	69	100	20	52	78	100	12	41	100	10	23	100
K 394	17	39	71	100	20	50	81	100	15	43	100	10	26	100
NC 71	13	31	56	100	22	51	75	100	15	44	100	10	23	100
NC 72	13	30	61	100	20	48	74	100	15	44	100	11	26	100
NC 37 NF	16	35	64	100	21	49	79	100	16	41	100	11	26	100
OX 207	13	31	61	100	20	53	82	100	14	30	100	10	23	100
<b>OX 414 NF</b>	<b>14</b>	<b>31</b>	<b>56</b>	<b>100</b>	<b>19</b>	<b>43</b>	<b>71</b>	<b>100</b>	<b>15</b>	<b>27</b>	<b>100</b>	<b>8</b>	<b>23</b>	<b>100</b>
RG 81	14	38	66	100	18	54	85	100	14	35	100	10	25	100
RG H 4	16	35	68	100	22	58	90	100	14	76	100	12	26	100
<b>RG H51</b>	<b>12</b>	<b>32</b>	<b>64</b>	<b>100</b>	<b>24</b>	<b>57</b>	<b>94</b>	<b>100</b>	<b>12</b>	<b>41</b>	<b>100</b>	<b>8</b>	<b>28</b>	<b>100</b>
Sp. G-168	12	30	61	100	22	60	92	100	16	44	100	10	24	100
Sp. G-172	14	31	64	100	19	55	92	100	12	34	100	9	30	100
Sp. NF3	17	42	69	100	22	52	82	100	10	30	100	12	27	100

New varieties for 2000 are in bold.

<sup>1</sup> Harvest date for each priming was determined by the appearance of the tobacco at each location. The tobacco produced and the rate of removal were influenced by individual management and local soil and water conditions.

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averages that include 1995 to 1999 data are also presented in Table 2.

Information on agronomic performance and disease resistance levels is given in Table 3. The use of disease resistant varieties is a very effective means of reducing losses due to certain diseases and nematodes. However, varietal resistance cannot be used alone. Any variety may suffer damage when nematodes and disease causing

organisms are present and when weather conditions favor their development. An effective pest management program will also include crop rotation (particularly with fescue and small grains) and other cultural control practices. Combining varietal resistance with crop rotation, early stalk and root destruction, and proper use of pesticides is the only way to achieve consistent, cost-effective disease and nematode control.



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