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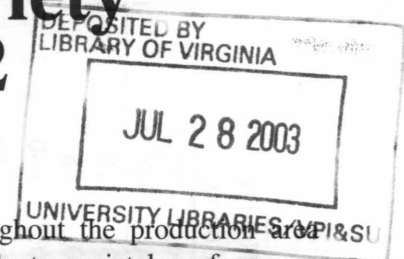
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Tobacco
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Flue-Cured Tobacco Variety Information for 2002

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



Seed of one new variety will be available to tobacco producers in 2002. R 1410 met the chemical and physical standards established by the Regional Variety Evaluation Committee in 1999. 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.

R 1410 (tested as PQ 7) was developed by F. W. Rickard Seeds. R 1410 is a male sterile hybrid and only pelleted seed will be available. Information on parents used to develop a hybrid is not released. Seed of R 1410 will be marketed by Gold Leaf Seed Company. Agronomic data on R 1410 is very limited at this time. Yield and average price of R 1410 was similar to K 326 and K 346 in the 2000 Flue-Cured Variety Test conducted at the Southern Piedmont Agricultural Research and Extension Center. It is a late maturing variety. R 1410 has a moderate level of resistance to black shank and Granville wilt. It is resistant to the common races of the root knot nematode.

Information is provided for widely grown and recently released varieties in Tables 1 to 5 of this publication. Results of eleven varieties included in the 2001 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 Virginia Cooperative 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 flue-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 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. Color grade information is presented in Table 2. Where available, yield and quality averages that include 1997 to 2001 data are also presented in Table 3.

Information on agronomic performance and disease resistance levels is given in Table 4. 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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* 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.



Table 1. Virginia Flue-Cured Official Variety Test Results: Yield and Price, 2001.¹

Variety	State Average		So. Piedmont AREC		Charlotte County		Halifax County		Pittsylvania County	
	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
K 326	3149	184	3950	184	2868	183	2393	181	3386	188
K 394	3189	186	3851	185	3081	186	2620	184	3204	188
NC 71	3320	184	4178	187	3248	184	2740	180	3112	186
NC 72	3321	187	4204	187	3065	187	2736	186	3278	186
NC 297	3267	184	4146	188	2986	183	2633	180	3304	186
NC 606	2979	185	3522	188	2725	186	2724	184	2946	182
PVH 09	2934	184	3366	186	2984	181	2594	182	2790	186
RG H4	3000	184	3454	187	2926	180	2580	184	3039	186
RG H51	3220	184	3901	187	2954	184	2502	180	3522	184
Sp. G-179	2591	181	-----	---	2822	183	2396	180	2556	180
Sp. H20	2857	182	3597	185	2659	185	2462	172	2708	184
Loc. Avg.	3075	184	3817	186	2938	184	2580	181	3077	185

¹Tests were conducted in Nottoway (So. Piedmont Ag. Res. and Ext. Ctr.), Charlotte (Jamie Newcomb), Halifax (Wayne Palmer), and Pittsylvania (Kevin Motley) counties in 2001.

Table 2. Percentage of certain color grade factors of varieties tested at four locations 2001.¹

Variety	L	F	K	KR	V	KL	KF	KV	KM	G
K 326	1	51	32	0	0	0	4	3	9	0
K 394	3	52	42	0	0	0	0	0	3	0
NC 71	0	48	34	0	3	0	0	0	15	0
NC 72	3	53	36	0	4	0	0	0	4	0
NC 297	0	47	36	0	0	0	4	3	10	0
NC 606	0	64	29	0	0	0	0	0	5	2
PVH 09	2	34	40	8	9	4	3	0	0	0
RG H4	0	39	37	9	4	0	0	0	11	0
RG H51	2	41	33	6	4	0	0	0	14	0
Sp. G-179	3	19	39	0	3	0	4	0	32	0
Sp. H20	0	35	49	0	0	0	5	4	7	0

¹ L= lemon; F = orange; K = variegated red; V = greenish; KR = variegated red; V = greenish; KL = variegated lemon; KF = variegated orange; KV variegated greenish; KM = variegated mixed; G = green.

Table 3. Virginia Flue-Cured Tobacco Official Variety Test Results by Years, Southern Piedmont Agricultural Research and Extension Center, Blackstone, VA.

Variety	Yield, lbs/A						Price, \$/cwt				
	1997	1998	1999	2000	2001	Avg. ¹	1997	1998	1999	2000	2001
Black Shank AND Granville Wilt (High Resistance)											
Sp. G-179	----	3380	2989	3509	----	3293	---	180	169	180	---
Sp. G-168	2909	3453	3276	3521	----	3290	180	182	175	181	---
Sp. H20	----	----	----	3606	3597	3602	---	---	---	184	185
NC 606	----	----	3159	3695	3522	3609	---	---	174	184	188
OX 207	3224	3300	2891	3257	3251	3185	179	182	173	185	187
Sp. NF3	2890	2921	2763	3455	----	3007	179	180	172	183	---
K 346	3100	3250	3141	3203	3365	3212	177	179	164	183	186
Black Shank (High Resistance)											
NC 72	3308	3702	3505	3462	4204	3636	181	182	174	182	187
NC 297	----	----	3584	3762	4146	3831	---	---	174	180	188
NC 71	3221	3896	3784	3985	4178	3813	178	181	175	182	187
C 371 Gold	3246	3765	3063	3332	3326	3346	177	182	178	183	185
RG H51	----	----	3430	3818	3901	3716	---	---	176	184	187
Sp. G-172	3164	3303	3573	3341	3705	3417	178	181	174	183	184
OX 940	3285	3078	2928	3522	3048	3172	177	180	170	182	184
K 394	3668	3439	3352	3465	3851	3555	180	181	175	180	185
Granville Wilt (High Resistance)											
K 149	3331	3124	3019	3264	3276	3203	179	180	172	182	186
GL 939	2990	3141	3392	3372	3564	3292	177	181	172	181	187
RG H4	3123	3357	3331	3487	3454	3350	178	181	170	181	186
Other Varieties											
K 326	3069	3754	3436	3260	3950	3494	180	182	174	183	184
K 358	2878	3280	3200	3313	3356	3205	179	181	172	182	186
K 730	2890	3453	3491	3231	3493	3312	180	182	172	181	187
NC 55	3355	3274	3289	3603	3467	3398	179	181	174	185	187
OX 414 NF	----	3682	3538	3607	3958	3696	---	182	170	184	188
PVH 03	----	----	3205	----	3439	3322	---	---	174	---	187
PVH 09	----	----	3159	----	3366	3263	---	---	165	---	186
RG 17	3251	3359	3410	3620	----	3410	179	181	173	183	---
RG 81	3288	3486	3372	3681	3559	3477	180	182	173	179	187
VA 116	3341	3433	3183	3685	3543	3437	179	183	174	183	186
Year Average	3177	3401	3276	3502	3605		179	181	173	182	186

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

Table 4. Agronomic and Disease Information for Varieties Tested at the Southern Piedmont Agricultural Research and Extension Center, Blackstone, VA, 2001.

Variety	Plant	Height (in.)	Leaf No.	Disease Reactions ²			
	Grade Index ¹			BS	TMV	RK	GW
Black Shank AND Granville Wilt (High Resistance)							
Sp. G-179	---	---	---	VH	S	R	H
Sp. G-168	---	---	---	VH	S	R	H
Sp. H20	78	37.8	18.9	VH	R	R	H
NC 606	82	40.4	19.4	H	S	R	H
OX 207	81	37.8	20.2	H	S	R	H
Sp. NF 3	---	---	---	H	S	R	H
K 346	80	38.0	19.5	H	S	R	H
Black Shank (High Resistance)							
NC 72	80	40.9	18.8	VH	S	R	L
NC 297	82	38.6	19.9	VH	R	R	M
NC 71	80	37.0	20.2	VH	S	R	M
Coker 371 Gold	80	37.0	18.9	VH	S	S	M
RG H51	83	39.6	19.5	VH	S	R	L
Sp. G-172	79	38.0	20.0	VH	S	R	M
OX 940	78	34.4	18.2	H	S	S	M
K 394	80	36.6	19.7	H	S	S	L
Granville Wilt (High Resistance)							
K 149	80	39.3	20.8	M	S	R	H
GL 939	82	37.7	20.6	M	S	S	H
RG H4	81	38.0	18.6	M	R	R	H
Other Varieties							
K 326	78	38.0	19.2	L	S	R	L
K 358	83	37.4	20.2	L	S	R	M
K 399	79	35.6	19.9	M	S	R	M
K 730	82	38.1	19.5	L	S	R	M
NC 55	83	37.8	20.7	L	S	R	L
OX 414 NF ³	85	41.8	21.4	M	S	R	L
PV H03	82	38.3	19.3	L	R	R	L
PV H09	80	41.0	19.1	L	R	R	M
RG 81	81	38.1	19.5	L	S	R	L
VA 116	82	40.5	19.1	M	S	S	L

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

² 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;

³ NF = nonflowering. Plants should be topped at 20 to 22 harvestable leaves.

Table 5. Harvest rate (cumulative percentage by harvest) as a measure of maturation patterns.¹

Variety	So. Piedmont AREC				Charlotte County				Halifax County				Pittsylvania County		
	H1	H2	H3	H4	H1	H2	H3	H4	H1	H2	H3	H4	H1	H2	H3
K 326	9	30	49	100	20	38	78	100	17	47	100	---	9	41	100
K 394	13	35	64	100	18	44	77	100	18	47	100	---	15	47	100
NC 71	11	30	50	100	22	48	81	100	18	48	100	---	16	31	100
NC 72	10	25	49	100	20	42	78	100	16	40	100	---	11	33	100
NC 297	11	25	56	100	18	43	75	100	18	48	100	---	12	34	100
NC 606	13	32	54	100	20	44	78	100	18	48	100	---	14	44	100
PVH 09	14	37	60	100	23	57	89	100	16	30	71	100	14	49	100
RG H4	17	37	67	100	22	55	90	100	16	32	71	100	19	55	100
RG H51	12	33	62	100	19	47	84	100	17	33	72	100	14	39	100
Sp. G-179	---	---	---	---	23	46	80	100	16	30	70	100	18	58	100
Sp. H20	10	29	55	100	22	59	91	100	18	36	72	100	16	55	100

¹ Harvest data 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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Many Virginia growers have experienced damaging epidemics of tobacco mosaic virus (TMV) during the past two growing seasons. In order to prevent such epidemics, producers need to follow strict sanitation practices in the greenhouse, particularly with regard to sanitizing their clipping mowers. Roots and stalks from the 2001 crop should have been thoroughly destroyed during the fall of 2001 to minimize carryover of the virus from last year's crop. Mosaic resistant varieties such as NC 297, RG H4, and Speight H20 can significantly reduce losses to TMV, as well as

potential inoculum levels for future crops. However, TMV-resistant varieties differ in their yield and quality characteristics and in their resistance to other important tobacco diseases, like black shank and Granville wilt. Do not plant TMV-resistant and susceptible varieties in the same field. Fields planted with a TMV-resistant variety should also be worked before fields planted containing a susceptible variety to minimize potential spread of the virus. A combined approach using early root and stalk destruction, crop rotation, and a resistant variety should minimize TMV.



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*Virginia Cooperative Extension
U.S. Department of Agriculture
Virginia Polytechnic Institute
and State University
Blacksburg, Virginia 24061-0512*