



## Tobacco Varieties for 2004<sup>1</sup>

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All tobacco varieties undergo rigorous testing before being released for commercial production. This testing includes small plot trials on experiment stations, warehouse evaluations, determination of chemical and physical properties, and finally on-farm testing to evaluate how the potential variety performs in a commercial situation. A variety must meet certain quality standards before being released. Thus, farmers can be assured that any variety that is released has been thoroughly evaluated before seed are made available for commercial planting.

Each farmer may have different requirements for the variety or varieties to be grown on his farm. Ease of growing and curing, disease and nematode resistance and market acceptance should be taken into account when selecting a variety. Since disease and nematode infestations on a farm can seriously limit variety selection, farmers should attempt to keep their fields free of these problems. Crop rotation is necessary on most farms to reduce losses to soil-borne diseases and nematodes.

Information on tobacco varieties is given in Table 1, Table 2, and Table 3. Resistance levels and ratings of several varieties to black shank, southern root-knot nematodes, and brown spot are given in

Table 1. In addition to these three major problems, resistance data also is available for bacterial or Granville wilt, Fusarium wilt, and tobacco mosaic virus in some varieties.

Table 2 presents estimates of which varieties are grown in Florida. For the past several years most of Florida's tobacco varieties have been resistant to the southern root-knot nematode and tolerant to brown spot.

Results of the 2003 tobacco variety test at Live Oak are shown in Table 3. Remember that this is only a one-year trial at one location and the results may not be indicative of what might be obtained on your farm. Where available, averages that include 2002 and 2001 data also are given. Varieties other than those listed also are available.

Quality tobacco should be the goal of every grower. In recent years, fully ripe tobacco has been in much greater demand than unripe tobacco. If you select a slow-ripening variety, be sure to let the leaves mature before harvesting them.

Varieties that were popular in Florida in recent years will probably be widely planted in 2004, but

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1. This document is SS-AGR-29, one of a series of the Agronomy Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Revised January 2004. Please visit the EDIS Website at <http://edis.ifas.ufl.edu>.

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some of the newer varieties may become more accepted by farmers. Almost all varieties that have been popular in Florida have resistance to certain races of the southern root-knot nematode and are tolerant of brown spot. These varieties generally "hold well" in the field, which provides the grower more flexibility in harvesting schedules. Varietal resistance to some races of the southern root-knot nematode is not adequate as the only means of nematode control, as other races and species of the root-knot nematode also can damage tobacco. K326 became popular because of high yields, good quality and resistance to some of the major diseases found in Florida. However, K326 has only low resistance to black shank, which means that crop rotation and pesticides would be needed if K 326 is planted on farms where black shank is a problem. Several varieties have better black shank resistance than K 326. Coker 371-Gold, K 346, NC 71, NC 72, NC 102, NC 291, NC 297, and Speight 168 have high black shank resistance. Other varieties have lower levels of black shank resistance and also tend to produce good yields. There are two recognized races of black shank, designated as Race 0 and Race 1. Many of the newer varieties have high resistance to Race 0, but not to Race 1. Race 1 is present in Florida, but is not believed to be as widespread as Race 0. Your own or your neighbor's experience with different varieties plus information such as that presented in Table 1 and Table 3 should be used to help guide you in the selection of a variety that most closely meets your needs.

Some varieties will be available only as pelleted seed. Also, many of the new varieties are hybrids. Hybrid varieties and/or pelleted seed will be more expensive than conventional varieties or raw seed.

For several years, potato virus-Y (PVY) and tobacco etch virus (TEV) have been problems on Florida tobacco. NC 55 and NC 291 have good resistance to PVY and TEV. NC 102 is resistant to some strains. Tomato spotted wilt virus (TSWV) has become established as a major disease in Florida. No commercial varieties have resistance to this virus. A variety resistant to tobacco mosaic virus (TMV) will not necessarily have resistance to any other viruses. Cucumber mosaic virus (CMV) appears to have become more prevalent and while no varieties are

resistant, it is expected that NC 102 may be stunted less than other varieties.

Tobacco mosaic virus (TMV) has been present on a number of Florida farms in recent years. Sanitation practices should reduce the likelihood of TMV being a problem, but if varietal resistance is desired, NC 297, NC 102 or other new varieties would be good choices.

Target spot has been prevalent in many tobacco fields in the past. While there appear to be differences among varieties in tolerance to the disease, observations have not been adequate to make recommendations.

Due to quota reductions over the past few years, barn capacity has become adequate to cure most grower's crops. Even with the requirement for retrofitting barns with heat exchangers, there may be a tendency to retrofit too few barns. To ease this potential problem of not having enough barn space, growers could plant some of their acreage in the earlier maturing varieties, such as K 394 or Coker 371-Gold, and the remainder in later maturing varieties. Since plans for extending the harvest season by planting such a mix of varieties may be disrupted by late-season disease and nematode problems, it would be a good idea to retrofit enough barns to cure the entire crop produced under normal production practices.

Growers should not depend solely on varietal resistance to prevent losses to diseases and nematodes. Crop rotations and the use of nematicides should be a part of every tobacco program, no matter which variety is grown. On severely infested fields, there will usually be some loss to black shank with any variety. While chemicals are available to combat black shank damage, crop rotation is a proven means of reducing black shank losses. Nematode-resistant varieties have resistance only to certain races of the southern root-knot nematodes. Losses to the peanut and Javanese root-knot nematodes have been increased by short-term rotations and growing varieties resistant only to the southern root-knot nematode. Rotating tobacco with nematode-resistant crops and effective use of nematicides are essential to preventing losses to nematodes.

Brown spot has been severe in Florida in some years. Wet and hot weather are favorable for the development of this disease, especially if leaves are thinner than normal. Nematode damage to the root system or excessive sucker growth can accelerate the losses to brown spot, even in a brown spot tolerant variety. Thus, a farmer needs to consider his nematode control program if he wants to reduce possible losses to brown spot. Lower plant populations and lower topping will tend to improve tolerance to brown spot. Varietal tolerance is an important means of controlling losses to brown spot, but unfortunately most of the newer varieties have not been evaluated as to their tolerance level.

Varieties vary in their tolerance to blue mold, but it appears that fungicides are a far more effective means of preventing losses to this disease than relying on varietal tolerance.

Several agronomic characteristics may assist in the selection of a variety. Yield, quality, suckering habits, height, leaf spacing, leaf size and maturity characteristics are available in various research reports but not presented here. Some of these characteristics may be more affected by cultural practices than by varietal differences.

**Table 1.** Level of resistance of several tobacco varieties.

Variety	Level of Resistance		
	Blackshank <sup>1</sup>	Southern Root-Knot Nematodes <sup>2</sup>	Reaction to Brown spot <sup>3</sup>
Coker 371-Gold	H	S	S
K 326	L	R	T
NC 55	L	R	--
NC 71	H	R	--
NC 72	H	R	--
NC 102	H	R	--
NC 291	H	R	--
NC 297	H	R	--
Speight 168	H	R	MT

<sup>1</sup> L = low; M = moderate; H = high. <sup>2</sup> S = susceptible; R = resistant.  
<sup>3</sup> VS = very sensitive; S = sensitive; MT = moderately tolerant; T = tolerant.

## Tobacco Varieties for 2004

**Table 2.** Tobacco varieties grown in Florida 1998-2003.

Variety	%-----					
	2003	2002	2001	2000	1999	1998
K 326	30	40	45	50	60	70
NC 72	10	15	10	5	4	--
NC 55	5	8	10	15	10	2
NC 71	30	20	25	15	8	8
NC 297	20	10	--	--	--	--
Other	5	2	5	6	6	8

**Table 3.** Yield and Value of Tobacco Varieties in Florida.

Variety	Yield (lb/A)			Price (\$/Cwt)			Value (\$/A)		
	2003	2002-03	2001-03	2003	2002-03	2001-03	2003	2002-03	2001-03
Coker 371-Gold	2693	2585	2952	171	173	169	4604	4461	4983
CU 748	2689	--	--	136	--	--	3643	--	--
GL 737	2045	--	--	147	--	--	3017	--	--
GL 939	2527	2673	3058	163	172	170	4104	4615	5212
GL 973	2273	2193	2630	162	166	163	3680	3646	4279
K 149	2793	--	--	168	--	--	4689	--	--
K 326	3308	3048	3299	166	173	171	5501	5264	5664
K 346	2900	2786	2914	161	166	165	4640	4604	4803
K 358	2538	2755	3111	166	169	165	4238	4678	5151
K 394	2515	2719	3080	154	167	164	3914	4593	5093
K 399	2623	--	--	165	--	--	4300	--	--
K 730	2804	--	--	167	--	--	4655	--	--
NC 55	2899	--	--	162	--	--	4693	--	--
NC 71	2829	2839	3326	166	172	167	4715	4985	5546
NC 72	2695	2916	3289	163	169	166	4356	4920	5461
NC 291	3318	2859	--	176	170	--	5819	4867	--
NC 297	2513	2727	3054	160	168	166	4099	4635	5109
NC 606	2420	--	--	161	--	--	3883	--	--
NC 810	2516	2621	2831	167	171	167	4210	4479	4739
OX 207	2313	2742	3151	156	168	164	3613	4669	5193
PVH 03	2657	2685	3019	161	171	168	4310	4627	5115
PVH 09	3065	2848	3092	162	168	164	4965	4771	5074
PVH 2040	2664	--	--	158	--	--	4199	--	--
RGH 4	2815	2777	3205	148	159	159	4189	4440	5118
RGH 51	2625	2850	3333	163	173	170	4260	4957	5680
RG 17	2993	--	--	163	--	--	4885	--	--
RG 81	3269	--	--	160	--	--	5239	--	--
RS 1410	2739	2748	--	171	173	--	4666	4761	--
Speight H-6	2731	--	--	140	--	--	3892	--	--
Speight H-20	2543	2574	2938	160	156	159	4100	4026	4683
Speight NF-3	2428	2622	2946	159	170	166	3849	4471	4924
Speight 168	2782	2696	2889	167	170	168	4664	4613	4871
Speight 179	2379	2618	2806	146	162	161	3504	4280	4555

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Variety	Yield (lb/A)			Price (\$/Cwt)			Value (\$/A)		
	2003	2002-03	2001-03	2003	2002-03	2001-03	2003	2002-03	2001-03
Speight 190	1929	2181	2579	163	171	166	3135	3748	4286
Speight 196	2460	2485	--	156	164	--	3815	4049	--
Speight 200A	2836	2728	--	151	163	--	4296	4445	--
Speight 210	2361	2782	2956	159	162	166	3777	4512	4922
Speight 218	2415	2717	--	157	168	--	3824	4602	--
Speight 220	2925	--	--	157	--	--	4636	--	--
VA 119	2192	--	--	175	--	--	3849	--	--