

3. Variety Information

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The variety testing program conducted through the Agricultural Research Service at North Carolina State University evaluates breeding lines through the *Regional Minimum Standards Program* and commercial varieties through the *North Carolina Official Variety Test*.

The purpose of the Regional Minimum Standards Program is to ensure that varieties planted by growers are acceptable to the tobacco industry. Once a breeding line is genetically stable, it can be entered into the Regional Preliminary Test (RPT) conducted cooperatively by university personnel in Kentucky, Tennessee, Virginia, and North Carolina. Breeding lines that pass the minimum standards for chemical quality in the RPT are eligible for entry into the Regional Quality Test (RQT). If a breeding line passes the RQT, which includes a smoke test, it is eligible for release as a commercial variety.

The purpose of the North Carolina Official Variety Test (OVT) is to assist growers with variety selection. For many years, the OVT has been conducted at the Mountain Research Station at Waynesville, N.C., and at the Upper Mountain Research Station near Laurel Springs, N.C. In 2005 and 2006, tests were also conducted at the Upper Piedmont (Reidsville) and Border Belt (Whiteville) Research Stations. These replicated tests include popular commercial varieties and hybrids and advanced breeding lines from North Carolina State University and other public and private breeding programs within the burley belt.

Variety Selection

To select the best variety for your fields, consider disease resistance first (Table 9-1). The level of resistance needed for soilborne diseases varies depending on field history, length of rotation, and crops grown in rotation with tobacco (see Chapter 9, "Disease Management"). Blue mold resistance is important in western North Carolina, and two varieties, NC 2000 and NC 2002, are moderately resistant to this disease.

Once you determine the necessary level of disease resistance, consider agronomic characteristics such as yield, quality, and time of maturity. Time of flowering is an indication of maturity and is an important consideration in choosing varieties suitable for the short growing season in western North Carolina.

Yield, grade index, and flowering data from the 2005 and 2006 tests conducted at Whiteville and Reidsville are shown in Table 3-1. Results from the 2004 and 2005 tests conducted at the mountain locations are shown in Table 3-2. Flowering data are shown in Table 3-3.

Table 3-1. Performance of commercial varieties in the North Carolina Official Variety Test at the Border Belt and Upper Piedmont Research Stations, 2005-2006

Variety	Border Belt Tobacco Research Station				Upper Piedmont Research Station			
	2005		2006		2005		2006	
	Yield (lb/a)	Grade Index	Yield (lb/a)	Grade Index	Yield (lb/a)	Grade Index	Yield (lb/a)	Grade Index
NCBH 129	2,551	73	2,157	65	1,779	64	2,081	75
NC 5	2,763	72	2,560	71	2,108	73	1,928	76
NC 6	2,959	68	2,206	66	2,092	71	1,839	73
NC 7	3,028	69	2,249	65	1,974	69	2,106	71
NC 2000	2,553	65	1,927	65	1,996	67	1,710	70
NC 2002	2,571	74	2,240	68	1,935	67	1,924	73
KT 200	2,772	72	2,209	69	1,660	69	1,759	73
KT 204	2,443	67	2,293	66	1,850	65	1,802	67
TN 90	2,363	70	1,880	69	1,998	74	1,968	71
Ky 14 x L8	2,284	75	2,212	73	1,902	74	1,678	72
R 610	2,432	74	2,271	70	1,900	71	1,767	73
R 630	2,535	70	2,011	70	1,994	75	1,848	73
R 712	2,480	73	2,446	67	1,840	73	2,033	78
HB04P	2,350	75	2,216	65	1,883	70	1,900	68

Table 3-2. Performance of commercial varieties in the North Carolina Official Variety Test at the Mountain and Upper Mountain Research Stations, 2004-2005

Variety	Mountain Research Station				Upper Mountain Research Station			
	2004		2005		2004		2005	
	Yield (lb/a)	Grade Index	Yield (lb/a)	Grade Index	Yield (lb/a)	Grade Index	Yield (lb/a)	Grade Index
NCBH 129	3,153	71	2,348	39	2,398	72	2,689	67
NC 5	2,826	69	2,648	56	2,248	64	2,057	56
NC 6	3,003	68	2,493	51	2,611	68	2,196	58
NC 7	3,299	70	2,877	66	2,497	69	1,688	42
NC 2000	3,527	71	2,653	55	2,560	70	2,746	68
NC 2002	2,933	68	2,625	39	2,210	65	2,336	69
KT 200	3,227	69	2,760	56	2,558	72	1,857	44
KT 204	—	—	2,808	41	—	—	2,660	65
TN 90	3,290	66	2,703	54	2,746	70	1,918	42
Ky 14 x L8	3,180	69	2,390	57	2,580	74	2,397	70
R 610	—	—	2,321	51	—	—	2,304	58
R 630	3,319	70	2,387	45	2,510	72	2,032	42
R 712	3,448	69	2,759	54	2,989	72	2,873	67
HB04P	—	—	2,612	57	—	—	2,458	54

Table 3-3. Flowering times for commercial varieties in the North Carolina Official Variety Test at four locations, 2005-2006

Variety	2005 (% Flowering on Designated Date)				2006 (% Flowering on Designated Date)			
	Whiteville July 13	Reidsville Aug. 8	Waynesville Aug. 19	Laurel Springs Aug. 9	Whiteville July 17	Reidsville July 14	Waynesville Aug. 10	Laurel Springs Aug. 21
NCBH 129	90	25	40	80	90	60	65	45
NC 5	70	10	40	50	35	28	65	60
NC 6	40	30	15	40	20	16	25	25
NC 7	15	0	10	0	0	0	10	0
NC 2000	15	0	0	0	0	8	25	0
NC 2002	60	35	10	60	30	12	20	35
KT 200	25	0	15	0	25	4	35	0
KT 204	50	5	20	20	20	16	50	15
TN 90	65	45	5	30	35	36	45	25
Ky 14 x L8	95	65	85	85	70	88	85	90
R 610	70	25	35	50	65	36	60	60
R 630	90	35	30	50	60	52	55	50
R 712	75	20	40	50	30	36	35	35
HB04P	80	35	40	95	55	80	55	60