Registration of ‘VA 355’ Tobacco

‘VA 355’ fire-cured tobacco (*Nicotiana tabacum* L.) (Reg. no. CV-115, PI 604198) was developed by the Virginia Agricultural Experiment Station and released in 1998 because of its improved resistance to both Race 0 and Race 1 black shank [caused by *Phytophthora nicotianae* Breda de Haan var. *parasitica* (Dastur) G.M. Waterhouse; syn *P. parasitica* Dastur var. *nicotianae* (Breda de Haan) Tucker]. It has the pedigree ‘VA 309’ (PI 557004) F1 ‘VA 312’ (PI 551323) × ‘DF 300’ (PI 552626) (1,2,3). From the initial 1989 cross between VA 309 and VA 312, an individual F23 plant was selected for black shank resistance and plant type and crossed with DF 300 (3). The pedigree system of breeding was used. Selection in earlier generations in the development of VA 355 was based on plant type and resistance to black shank. Black shank resistance to Race 0 and Race 1 was confirmed in greenhouse tests. Final selections were made from replicated yield and quality trials. The base for this cultivar is a composite of F6 seed collected from six plants in a single F3 progeny row.

VA 355 was tested as Dark 955 for three years (1995 to 1997) in replicated tests at the Southern Piedmont Agricultural Research and Extension Center and in three on-farm tests in 1996 and 1997. The average yield of VA 355 and the two check cultivars Brownleaf JH and VA 309 were 2270, 2350, and 2547 kg ha−1, respectively. VA 355 was about 58 cm tall, produced an average of 12 harvestable leaves when topped, and flowered about 59 d after transplanting. The average length and width of both the middle and top leaves were 78 and 37 cm, respectively. VA 355 has less than 1 ground sucker per 18-plant plot. All agronomic characteristics were similar to Brownleaf JH, Lizard Tail Orinoco, and VA 309, which are the most widely grown fire-cured tobacco cultivars in Virginia.

VA 355 has an average grade index of 63, compared with 64 for both Brownleaf JH and VA 309; 66% of the cured-leaf graded medium brown, compared with 76 and 66% for Brownleaf JH and VA 309, respectively. The cured-leaf quality of VA 355 was similar to Brownleaf JH based on industry evaluations. Percent nicotine for VA 355 ranged from 5.04 to 6.53; average percent nicotine of VA 355 was 5.59, compared with 6.49 and 5.68 for the check cultivars Brownleaf JH and VA 309, respectively.

In greenhouse tests, compared with VA 309, 61% fewer VA 355 plants died after inoculation with Race 0 black shank and 28% fewer after inoculation with Race 1 black shank. Resistance to black shank in VA 355 originated from Vesta 55 and FL 301, which are flue-cured and cigar-wrapper cultivars, respectively.

VA 355 is adapted to the Type 21 fire-cured tobacco growing area of Virginia. Breeder seed will be maintained and distributed by the Southern Piedmont Agricultural Research and Extension Center, Virginia Polytechnic Institute and State University, Rt. 3 Box 60, Blackstone, VA 23824.

Registration of ‘VA 359’ Tobacco

‘VA 359’ fire-cured tobacco (*Nicotiana tabacum* L.) (Reg. no. CV-116, PI 604199) was developed by the Virginia Agricultural Experiment Station. It was released in 1998 because of its resistance to Race 0 black shank [Phytophthora nicotianae Breda de Haan var. *parasitica* (Dastur) G.M. Waterhouse; syn *P. parasitica* Dastur var. *nicotianae* (Breda de Haan) Tucker]. It has a good yield and quality characteristics. VA 359 is a pedigree selection from a single cross between ‘Lizard Tail Turtle Foot’ and ‘VA 309’ (PI 557004) made in 1989. Foot is a pure-line selection from a landrace of Virginia. VA 309 was released by the Virginia Agricultural Experiment Station in 1972 for its improved black shank resistance. Selection in earlier generations was based on plant type and resistance to black shank. Resistance to Race 0 and Race 1 was confirmed in greenhouse tests. Final selections were made from replicated yield and quality trials. The base for this cultivar is a composite of F6 seed collected from six plants in a single F3 progeny row.

VA 359 was tested as Dark 959 for three years (1995 to 1997) in replicated tests at the Southern Piedmont Agricultural Research and Extension Center and in three on-farm tests in 1996 and 1997. The average yield of VA 359 and the two check cultivars Brownleaf JH and VA 309 was 2502, 2350, and 2547 kg ha−1, respectively. VA 359 was about 62 cm tall, produced 12 harvestable leaves when topped, and flowered about 60 d after transplanting. The average length and width of both the middle and top leaves were 78 and 39 cm, respectively. VA 359 has a comparable level of resistance to Race 1 black shank as VA 309. Resistance to black shank in VA 359 originated from Vesta 55 and FL 301, which are flue-cured and cigar-wrapper cultivars, respectively.

In greenhouse tests, compared with VA 309, 56% fewer VA 359 plants died after inoculation with Race 0 black shank and has a comparable level of resistance to Race 1 black shank. VA 359 has an average grade index of 70, compared with 64 for both Brownleaf JH and VA 309; 62% of the cured-leaf graded medium brown, compared with 76 and 66% for Brownleaf JH and VA 309, respectively. The cured-leaf quality of VA 359 was similar to Brownleaf JH based on industry evaluations. Percent nicotine for VA 359 ranged from 5.84 to 6.64; average percent nicotine of VA 359 was 6.10, compared with 6.49 and 5.68 for the check cultivars Brownleaf JH and VA 309, respectively.

In greenhouse tests, compared with VA 309, 359 plants died after inoculation with Race 0 black shank and has a comparable level of resistance to Race 1 black shank. Resistance to black shank in VA 359 originated from Vesta 55, a flue-cured tobacco cultivar.

VA 359 is adapted to the Type 21 fire-cured tobacco growing area of Virginia. Breeder seed will be maintained and distributed by the Southern Piedmont Agricultural Research and Extension Center, Virginia Polytechnic Institute and State University, Rt. 3 Box 60, Blackstone, VA 23824.