wheatgrass. It competes successfully with winter annual weeds and will crowd out cheatgrass when properly managed.

Sherman is recommended in range reseeding for early spring grazing and for hay either alone or in mixture with alfalfa in dryland areas where one hay cut is made annually. It is also used for conservation purposes and for reseeding burned-over forest lands in pine zones of Western States. Beef cattle have gained more weight on Sherman than on other seeded or native species in Colorado studies[4].

Seed yields of Sherman have ranged from 224 to 560 kg/ha depending on seasonal rainfall, culture, and age of stand.

Four classes of seed (breeder, foundation, registered, and certified) are recognized for Sherman. Breeder and foundation seed are maintained by Plant Materials Center, Soil Conservation Service, Pullman, Washington.

REGISTRATION OF TIBBEE CRIMSON CLOVER[1]

(Reg. No. 4)

W. E. Knight[2]

'TIBBEE' crimson clover, *Trifolium incarnatum* L., is an early maturing, reseeding variety. It was developed cooperatively by the Plant Science Research Division, Agricultural Research Service, U.S. Department of Agriculture, and the Mississippi Agricultural and Forestry Experiment Station, State College, Mississippi. The variety was released in 1970 for use in the Southeast for fall, winter, and early spring grazing.

Tibbee is a result of selection from PI 233812 received from Italy in 1956. This introduction also produced 'Frontier,'[3] a soft-seeded crimson clover released in 1962. Tibbee possesses the desirable characteristics of Frontier, i.e. early maturity, superior seedling vigor, greater fall and winter growth, high forage and seed yields, and large seed. It also possesses the ability to reseed under the environmental conditions of the lower Southeastern United States. The hard seed characteristic was obtained by seven generations of natural selection requiring establishment of volunteer stands annually during late summer and early fall.

The new variety has been evaluated in the Southeastern region since 1967 as an experimental strain. Forage yields from reseeding stands of Tibbee indicate that the level of hard seed is adequate to insure good stands and forage production. Results from forage trials in the region indicate much higher fall and winter forage production from Tibbee than from any other winter-hardy legume tested. Tibbee is about equal to other crimson clover varieties in total forage production.

Measurements of seed characteristics over a 5-year period indicate that large seed size has been maintained as the percentage hard seed increased. The average seed weights in grams per 1,000 seed are 2.88, 2.93, 2.32, and 3.55 for varieties 'Autauga,' 'Dixie,' 'Chief,' and Tibbee, respectively. Retention of large seed size contributes to the superior seedling vigor and early fall growth of Tibbee. Large seed size and superior seedling vigor contribute to better stands and earlier growth of forage. These characteristics can best be exploited by early seeding on a prepared seed bed, for initial stands, and by practicing summer fallow for reseeding stands. However, satisfactory establishment can be obtained in perennial grass sod without seed bed preparation provided the grass residue is removed in September. Performance data and a description of the variety have been published.[4]

Tibbee is the earliest maturing reseeding crimson clover variety. Maturity is about 7 to 10 days earlier than the early varieties such as Autauga and 14 to 18 days earlier than the late varieties such as Chief.

Seed production of Tibbee is limited to three generations from breeder seed; namely foundation, registered, and certified. The Mississippi Agricultural and Forestry Experiment Station, State College, Mississippi maintains breeder seed.

[1] Registered by the Crop Science Society of America. Received Cooperative Investigations of the Plant Science Research Division, Agricultural Research Service, U.S. Department of Agriculture and the Mississippi Agricultural and Forestry Experiment Station Journal Paper No. 2222, Mississippi Agricultural and Forestry Experiment Station, State College, Mississippi. Received Sept. 24, 1971.

[2] Research Agronomist, Plant Science Research Division, Agricultural Research Service, U.S. Department of Agriculture, State College, Mississippi.

[3] Knight, W. E. 1963. Registration of Frontier crimson clover. Crop Sci. 3:460.

[4] Knight, W. E. 1970. Tibbee: A new reseeding variety of crimson clover. Mississippi Agricultural and Forestry Experiment Station Information Sheet 1131.

REGISTRATION OF DELCOT 277 COTTON[1]

(Reg. No. 55)

W. P. Sappenfield, T. Kerr, and W. M. Bugbee[2]

'DELCOT 277' cotton (*Gossypium hirsutum* L.), Mo. 63-277D, was developed cooperatively by the Missouri Agricultural Experiment Station and the Plant Science Research Division, Agricultural Research Service, U.S. Department of Agriculture, and released in 1970.

Delcot 277 originated from the cross 'Rex' × (TJ × EF 310)F_5. Rex is early maturing, tolerant to fusarium and verticillium wilts, and resistant to Race 1 of bacterial blight. (TJ × EF 310)F_5, noted for superior fiber properties, was a selection from the following series of crosses:

F_1 (TH 108 × Hopi Acala 6-1-4)

×

F_1 (Cook × Empire) × Tanguis

$F_1 \times F_1$ (Pandora × Early Fluff 310)

F_1 × Early Fluff 310

F_2 Selection phase

F_3 Selection phase

F_4 Selection phase

F_5 Selection designated (TJ × EF 310)

TH 108 originated from the trispecies hybrid *G. hirsutum* — *arboreum* — *thurberi*. 'Tanguis' is a variety of *G. barbadense*.

The early generations of the cross, Rex × (TJ × EF 310), were grown at Portageville, Missouri, under conditions permitting identification of early-maturing plants with resistance to verticillium and fusarium wilts and superior lint quality. A single plant, selected in 1959 from the F_2 generation, gave rise to the strain later designated Mo. 63-277 which proved to have superior resistance to verticillium wilt. Reselections from Mo. 63-277 made in the F_7 generation were evaluated 1965-69 separately and as a composite under the designation Mo. 63-277C in the 1967 Regional High Quality test. Two of the reselections, S65-391 and S65-396, were increased at Iguala, Mexico, 1967-68, and blended 1:1 for production of breeders seed of Mo. 63-277D in 1968. Performance of Mo. 63-277D in local and regional tests has been reported previously.[3,4,5,6]

The outstanding characteristics of Delcot 277 are resistance to verticillium wilt (*Verticillium albo-atrum* Reinke and Berth)

[1] Registered by the Crop Science Society of America. Joint contribution, Missouri Agricultural Experiment Station and Plant Science Research Division, Agricultural Research Service, U.S. Department of Agriculture. Journal Series No. 7000. Received June 12, 1971.

[2] Professor, Department of Agronomy, University of Missouri College of Agriculture and Experiment Station, Delta Center, Portageville, Mo.; Leader, Cotton Quality Investigations, USDA, ARS, PSR, Beltsville, Md. (Retired); and Research Plant Pathologist, USDA, ARS, PSR, formerly University of Missouri, Department of Plant Pathology, Delta Center, Portageville, Mo. (Now Department of Plant Pathology, North Dakota State University, Fargo, N.D.).

and fusarium wilt (*Fusarium oxysporum* f. sp. vasinfectum (Atk.) Synder and Hanson), early maturity, high fiber yield, large bolls, fiber length and fiber strength. Habit of growth varies between determinate and indeterminate. Storm resistance is adequate for spindle-type machine harvesting. Fiber length and strength are above average, fineness of fiber is optimum, and yarn strength is significantly higher than for varieties now grown in Missouri. Delcot 277 is sometimes sensitive to cercospora and alternaria leaf blight, (*Cercospora gossypii* and *Alternaria tenuis*), associated with potash deficient and moisture stressed soils. Light to moderate stalk curvature is sometimes noted with a heavy crop of bolls, but plants become erect as bolls mature.

Breeders seed will be maintained by the Foundation Seed Stocks, Department of Agronomy, University of Missouri, Columbia, Missouri, 65201.

[3] Sappenfield, W. P. Testing cotton varieties in Southeast Missouri, 1965-1968. Univ. of Mo. Agr. Exp. Sta. Spec. Rp. 111:1-122, 1969.

[4] Sappenfield, W. P. Estimates of performance of cotton varieties in Southeast Missouri, 1967-1969. Univ. of Mo. Agr. Exp. Sta. Spec. Rep. 121:1-63, 1970.

[5] Results of 1968 Regional Cotton Variety Tests by cooperating agricultural experiment stations. Agr. Res. Ser., USDA, ARS 34-113: pp 62-81, 1970.

[6] Results of 1967 Regional Cotton Variety Tests by cooperating agricultural experiment stations. Agr. Res. Ser., USDA, ARS 34-105: pp 60-77, 1969.

REGISTRATION OF ELAN OATS[1]

(Reg. No. 248)

Darrell D. Morey, Acton R. Brown, and Morris J. Bitzer[2]

'ELAN' oats (*Avena sativa* L.), C.I. 8443, Tifton 6161, was developed at the Georgia Coastal Plain Experiment Station and released by the Georgia Agricultural Experiment Stations in 1970. It is a short oat with strong straw. It has produced high yields of grain during 5 years of testing and has good disease resistance. Elan is medium-early in maturity which makes it suitable to precede soybeans or grain sorghums in double cropping systems. It is fall sown and has good winter hardiness for an early oat, and is adapted to the Coastal Plain and Piedmont areas of Georgia and contiguous states.

Elan was selected from the cross ('Suregrain'-LMHJA × 'Coker 57-11') × 'Florida 500.' The first cross of Suregrain × LMHJA was made at Tifton, Georgia in 1953. Suregrain was obtained from Coker's Pedigreed Seed Company, Hartsville, South Carolina. LMHJA was a rust resistant selection obtained from the Minnesota breeding program and is 'Landhafer'-'Mindo'-'Hajira'-'Joanette' × 'Andrew.' An F_6 selection from the first cross was hybridized with Coker 57-11 in 1958. Coker 57-11 is 'Arlington'-'Delair'-'Trispernia' × 'Woodgrain.' The best selection from the second cross was hybridized with Florida 500 in 1962 to complete the pedigree.

Elan is resistant to races 203, 216, 290, and 326 of crown rust. It is resistant to races 7AF and 8AF of stem rust, is resistant to Victoria blight and has not been seriously damaged by *Helminthosporium avenae*. It is susceptible to soil-borne mosaic virus which would tend to limit its use north of the Coastal Plain area. Elan is susceptible to barley yellow dwarf virus (BYDV), but no more so than other varieties commonly grown. Smut has not been reported in Elan.

Agronomic and disease characteristics as well as morphological description of Elan oats have been described previously[3].

Breeder seed of Elan oats will be maintained by the Agronomy Department, Coastal Plain Experiment Station, Tifton, Georgia.

[1] Registered by the Crop Science Society of America. University of Georgia, College of Agriculture Experiment Stations, Coastal Plain Experiment Station, Tifton, Georgia. Received Sept. 15, 1971.

[2] Professor, Coastal Plain Station, Tifton, Georgia, and Associate Professor and Assistant Professor, College Station, Athens, Georgia.

[3] Morey, Darrell D., Acton R. Brown, and Morris J. Bitzer. Elan oats. Univ. of Ga., College of Agriculture Experiment Stations Research Report 70, October 1970.

REGISTRATION OF FENN FIELD PEA[1]

(Reg. No. 7)

A. E. Slinkard and G. A. Murray[2]

'FENN' field pea (*Pisum sativum* subsp. *arvense* (L.) Poir) is a pure line selection from 'Austrian Winter' field pea. It has higher seed yield, larger seed and a higher protein content than Austrian Winter field pea. Fenn was developed by the University of Idaho and was released in August 1971.

Fenn field pea is characterized by yellow cotyledons, speckled seed coat, purple blossoms, an indeterminate flowering habit and a preponderance of triple-flowered, and hence, triple-podded peduncles. It is winterhardy and moderately resistant to the *Ascochyta* species found in northern Idaho. Cultural experiments[3] indicate that maximum seed yields are obtained in northern Idaho by planting 67 to 88 kilograms per hectare (60 to 75 lb. per acre) about September 15.

Fenn is widely adapted and is expected to replace Austrian Winter field peas as a winter green manure crop in the Cotton Belt. Seed production of Fenn will be limited to three generations of increase from breeder seed, namely, one each of foundation, registered and certified seed. A limited supply of breeder seed will be maintained by the Idaho Agricultural Experiment Station, Moscow, Idaho 83843.

[1] Registered by the Crop Science Society of America. Research supported cooperatively by the Idaho Pea and Lentil Commission and the Idaho Agricultural Experiment Station. Research paper no. 879 of the Idaho Agricultural Experiment Station. Received Nov. 4, 1971.

[2] Associate Agronomist and Assistant Agronomist, respectively, Department of Plant Sciences, University of Idaho, Moscow, Idaho 83843.

[3] Murray, G. A. and A. E. Slinkard. 1969. Austrian winter peas—planting dates and rates. Idaho Agric. Exp. Station Current Info. Series 112.

REGISTRATION OF VIRGINIA 72R PEANUTS[1]

(Reg. No. 13)

Morris W. Alexander and R. Walton Mozingo[2]

'VIRGINIA 72R' peanut (*Arachis hypogaea* L.) is a large-seeded cultivar of the Virginia botanical and market type, with about the same maturity as 'N.C. 5' (160 days). It was developed by the Virginia Agricultural Experiment Station from a cross between 'Virginia 61R' and 'Virginia A89-15,' a very large-seeded Virginia bunch line. Progeny of selected F_2 plants were grown in bulk to F_4, when the line 61-24 was selected and tested in bulk to F_8. Among the F_8 reselections from this line, 61-24-7 had high yield and market grade characteristics when grown on coarse textured soils and was released as Virginia 72R on July 1, 1971.

Virginia 72R plants are vigorous and prostrate in growth habit. Pods are usually two-seeded and slightly constricted between seeds and have a thick hull which prevents excessive kernel damage during harvesting and cleaning procedures. The seed are elongated with a pink-colored testa. The results of 2 years testing, at six locations in the Virginia-Carolina peanut production belt, show that when grown on coarse textured soils, such as Norfolk loamy fine sand, Virginia 72R produced 71% sound mature kernels (undamaged seed graded over a 5.95 × 25.4-mm screen) and 35% extra large kernels (seed held on a 8.53 × 25.4-mm screen) compared to 69% and 33%, respectively, for N.C. 5. The yield and value per acre have averaged approximately 11% higher than N.C. 5.

Crude protein of Virginia 72R at 30.1% is essentially equal to N.C. 5 and oil at 47% is about 1% less. Iodine number averages 100.

This cultivar was released to fill a need for a late maturing variety that produces well on coarse textured soils.

The Tidewater Research Station, Virginia Polytechnic Institute and State University, Holland, Virginia, 23391 will maintain breeder seed of Virginia 72R.

[1] Registered by the Crop Science Society of America. Received Oct. 30, 1971.

[2] Assistant Professor and Instructor of Agronomy, respectively, Tidewater Research Station, Virginia Polytechnic Institute and State University, Holland, Virginia 23391.