REGISTRATION OF USB SAFFLOWER GERMLASM
(Reg. No. GP 10)

C. A. Thomas and D. E. Zimmer

"USB" safflower (Carthamus tinctorius L.) is a composite of lines selected at the Plant Industry Station, Beltsville, Md., in 1961, from P.I. 250724 and P.I. 253538. P.I. 250724, introduced from Portugal, and P.I. 253538, introduced from Iran, had been reported as resistant to phytophthora root rot in a field nursery at Biggs, Calif. Greenhouse tests at Beltsville revealed that both plant introductions were either mixed or segregating for resistance. Only those genotypes with a high level of resistance to Phytophthora drechsleri Tucker were selected in the greenhouse. Seed from homozygous-resistant plants from both introductions were bulked. USB was released in 1969 by the U.S. Department of Agriculture and the Utah Agricultural Experiment Station as a source of germplasm with a high level of resistance to P. drechsleri.

The resistance of USB is effective when wind-inoculated against all known pathogenic races of P. drechsleri. Resistance is conditioned by a single recessive factor pair. It is late in maturity and the seed has a low oil content.

In field tests at Logan, Utah, on artificially infested soil, and at woodland, California, on naturally infested soil, the root rot resistance of USB was much greater than that of the cultivars 'Gila,' 'Pacific 7,' 'Ute,' and 'Frio.'

Seed can be obtained from the Oiseed and Industrial Crops Research Branch, Plant Science Research Division, ARS, U.S. Department of Agriculture, Beltsville, Md. 20705.

REGISTRATION OF PD 121 SAFFLOWER GERMLASM
(Reg. No. GP 11)

C. A. Thomas

"VFR 1" safflower (Carthamus tinctorius L.) was derived from selections made in the greenhouse at the Plant Industry Station, Beltsville, Md., in 1967, from the breeding line Nebraska 4051. Selection was practiced for a high level of resistance to verticillium wilt, incited by Verticillium albo-atrum Reinke & Berth. Seed from homozygous-resistant plants were bulked.

The unselected Nebraska 4051 breeding line is resistant to all known pathogenic races of Fusarium oxysporum Schlecht. f. sp. carthami Klis. & Hous. and to rhizoctonia blight, incited by Tharaneutphorus cucumeris (Frank) Donk (= Rhizoctonia solani Kuhn, Pelticularia filamentosa Pat. Rogers). Repeated greenhouse tests at Beltsville show that the VFR 1 selection retains the resistance of the parent line to these pathogens and that it incorporates a high level of resistance to P. albo-atrum. VFR 1 was released in 1970 by the U.S. Department of Agriculture as a source of germplasm with a high level of resistance to three pathogens.

Seed of VFR 1 can be obtained from the Oiseed and Industrial Crops Research Branch, Plant Science Research Division, ARS, U.S. Department of Agriculture, Beltsville, Md. 20705.

REGISTRATION OF PD 121 TOBACCO GERMLASM
(Reg. No. GP 11)

James F. Chaplin

"PD 121" tobacco (Nicotiana tabacum L.) is a brown spot resistant, flue-cured tobacco breeding line with the pedigree F6 ('White Stem Orinoco' × 'Beinhart 1000-1') × 'Hicks.' It was registered in 1970 by the South Carolina Agricultural Experiment Station and the Plant Science Research Division, Agricultural Research Service, U.S. Department of Agriculture.

Brown spot (Alternaria alternata (Fr.) Keissl) is a serious disease of flue-cured tobacco in southeastern United States. The resistance to brown spot in PD 121 was obtained from Beinhart 1000-1, a cigar type. After eight years of testing, the line has consistently had brown spot resistance equal to Beinhart 1000-1 which is higher than any N. tabacum material tested. The line also has high resistance to black shank (Phytophthora parasitica var. nicotianae (Breda de Hann) Tucker).

The new breeding line has been compared for agronomic characteristics, chemical constituents, and smoke flavor with Hicks and Beinhart 1000-1 under flue-cured conditions. PD 121 has some flue-cured characteristics equal to Hicks, such as number of leaves, number of suckers, and yield. However, the quality is below that of Hicks, and the smoke from cigarettes made from the cured leaf of PD 121 has the cigar flavor of Beinhart 1000-1. The cigar flavor makes the line unacceptable for cigarette manufacturing. The nicotine is somewhat lower than Hicks. The new line offers a definite advantage in a flue-cured breeding program for brown spot resistance over Beinhart 1000-1.

Seed of PD 121 can be obtained by tobacco breeders from the Tobacco Breeding and Disease Investigations, Plant Science Research Division, U.S. Department of Agriculture, Tobacco Research Laboratory, Oxford, N. C. 27565.

REGISTRATION OF L8 BURLEY TOBACCO GERMLASM
(Reg. No. GP 12)

G. B. Collins, Paul D. Legg, C. C. Litton, and J. H. Smiley

"L8" burley tobacco (Nicotiana tabacum L.) was developed and released cooperatively by the University of Kentucky Agricultural Experiment Station and the Agricultural Research Service, U.S. Department of Agriculture. L8 was made available to tobacco breeders from the Tobacco Breeding and Disease Investigations, Plant Science Research Division, U.S. Department of Agriculture.

Brown spot, Phytophthora parasitica var. nicotianae, has been a problem in the production of burley tobacco. L8 was released in 1970 and is resistant to this disease.

Seed of L8 burley tobacco can be obtained by tobacco breeders from the Tobacco Breeding and Disease Investigations, Tobacco Science Research Division, Plant Industry Station, U.S. Department of Agriculture, Agricultural Research Service, Oxford, N. C. 27565.

1 Registered by the Crop Science Society of America. Received Feb. 27, 1971. Cooperative investigation of the Utah Agricultural Experiment Station and the Plant Science Research Division, Agricultural Research Service, U.S. Department of Agriculture. Approved for publication as Journal Paper No. 1100, Project 474, by the Director of the Utah Agricultural Experiment Station, Logan, Utah 84321.


3 Seed of PD 121 can be obtained by tobacco breeders from the Tobacco Breeding and Disease Investigations, Tobacco Science Research Division, U. S. Department of Agriculture, Tobacco Research Laboratory, Oxford, N. C. 27565.

4 Associate Professor, Department of Agronomy, University of Kentucky, Lexington, Ky. 40506; respectively.

5 Registered by the Crop Science Society of America. Received March 24, 1971.
