REGISTRATION OF PENNCOMP 31 HULL-LESS OAT GERMPLASM

PENNCOMP 31 hull-less spring oat (Avena nuda L.) composite (Reg. no. GP-33) was released in 1985 by USDA-ARS and The Pennsylvania Agricultural Experiment Station to provide a population from which breeders can select genotypes having the hull-less trait combined with other desirable traits.

Penncomp 31 was constituted by compositing F₅ grown in 0.05 ha seed increase blocks in 1984. When next grown, component genotypes will range from F₈ grown in 0.05 ha seed increase blocks in 1984. When next grown, component genotypes will range from F₇ grown in 0.05 ha seed increase blocks in 1984.

Penncomp 31 was constituted by compositing F₇ to F₁, remnant seed of bulk populations from 40 crosses. Cultivars or germplasm lines used directly or indirectly as parents in the crosses were:

- Hull-less—'Nuprime', 'James', 'Phatex', 'Parker's Huskless', PI 401824, PI 401780, PI 258595, OT-02337-78, OA-503-1

Otee, Jaycee, and Preston have relatively high protein grain; Orbit, Ogle, and Lang are high yielding and widely adapted; Otee, Jaycee, Bates, Lang, Larry, MO 06204, and MO 06626 are early; Ogle, Larry, and Otee are resistant to barley yellow dwarf virus; and Ogle, Egdo1on 26, and CI 8447 are lodging resistant.

Selection pressure against hulled seeds was applied to Penncomp 31 with a specific gravity grader, and at release, it had less than 0.5% hulled seeds. The average groat weight was about 26 mg. Penncomp 31 has wide ranges of genetic variability for plant height, lodging resistance, maturity, groat size, grain protein content, and disease resistance, and it should be a useful gene pool for extracting improved hull-less germplasm and cultivars.

Penncomp 31 is available for research and breeding purposes from the Cereal Crops Research Unit, USDA-ARS, Department of Agronomy, The Pennsylvania State University, University Park, PA 16802.

H. G. MARSHALL AND F. L. KOLB (1)

References and Notes

REGISTRATION OF TWO SPRING OAT COMPOSITE GERMPLASMS WITH SEMIDWARF COMPONENTS

PENNCOMP 29 (Reg. no. GP-34) and Penncomp 30 (Reg no. GP-35) spring oat (Avena sativa L.) composites were released in 1985 by USDA-ARS and The Pennsylvania Agricultural Experiment Station. They provide two genetically diverse populations from which breeders can extract genotypes possessing short plant height and elite lodging resistance combined with other desirable traits. Both composites were last grown in 0.05 ha seed increase blocks in 1984. When next grown, component genotypes will range from F₇ through F₁.

Penncomp 29 was constituted by compositing seed from 31 crosses. 'Pennlo', an early maturing, lodging resistant, semidwarf derived from an Egdolon 26/Otee cross (1), was a common parent in all crosses. Genetic control of Pennlo's short height is complex, and therefore, Penncomp 29 includes a continuous range of variation for plant height from semidwarf to moderately tall. Based on Pennlo's performance, potential for selection of lodging resistant genotypes should be high.

Cultivars or lines crossed with Pennlo were: Otee, 'Larry', 'Jaycee', 'Dal', 'Noble', 'Clintford', 'Garry', 'Goodland', 'Mapua 70', 'Stout', 'Risto', 'Orbit', 'Maris Oberon', 'Maris Tabard', 'Margam', Egdolom 23, Egdo1on 26, Pennline 6571, PA 7836-61, IL 75-3389, CI 9361, and CI 8447 (dwarf carrying the Dw 7 gene (2)).

Penncomp 30 was constituted by compositing seed from 29 crosses. Pennline 6571, a semidwarf derived from an 'Astro'/Noble cross (1), was a common parent in all crosses. Pennline 6571, has a larger, more desirable kernel type than Pennlo and has been a superior parent for obtaining satisfactory kernel size combined with semidwarf plant height. Pennline 6571 was the shortest, most lodging resistant entry in the Uniform Midseason Oat Performance Nursery in 1981.

Cultivars or lines crossed with Pennline 6571 were: Otee, Larry, Jaycee, Dal, Noble, Clintford, Garry, Goodland, Mapua 70, Margam, Maris Tabard, James, 'Mariner', 'Marino', 'Heritage', 'Preston', Egdolom 23, Egdo1on 26, PA 7733-2204 and PA 7733-2112 (NY Composite Selections), PA 7836-61, and PA 7836-99 (PA Composite 24 Selections), MI 69-27-403, IL 75-3389, and CI 8447 (dwarf carrying the Dw 7 gene (2)).

Penncomp 29 and Penncomp 30 include wide ranges of genetic variability for plant height, lodging resistance, maturity, kernel size, grain protein content, and resistance to barley yellow dwarf virus. Seed of both composites is available for research and breeding purposes from the Cereal Crops Research Unit, USDA-ARS, Department of Agronomy, The Pennsylvania State University, University Park, PA 16802.

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References and Notes

REGISTRATION OF 75-786, 84-1638, AND 84-1930 PEA GERMPLASMS

THREE F₅ breeding lines of pea (Pisum sativum L.) (Reg. no. GP-34, GP-35, and GP-36) were released by USDA-ARS and the Washington State University Experiment Station in October 1985. These breeding lines are unique in combining the modified tendril (recessive of gene) with genes for resistance to races 1 and 2 of Fusarium oxysporum Schlecht f. sp. pisi (van Hall) Snyder & Hans and tolerance to common pea lines.