REGISTRATION OF N.Y. OAT COMPOSITE I
GERMPLASM
(Reg. No. GP 6)
Neal F. Jensen and George C. Kent

N.Y. OAT COMPOSITE I was developed by annual recycling of processed seeds of surviving genotypes of spring oats (Avena sativa L.). The oats were grown in an environment characterized by epiphytotic attack of the crown rust organism (Puccinia coronata Cda. var. avenae Fraser and Led.) from its alternate host, the buckthorn. Plants in the composite varied in reaction to crown rust from susceptible to resistant.

This broad germplasm composite was developed at Aurora, New York, where the alternate host of crown rust, buckthorn, is endemic (as indeed it is throughout much of New York) in hedges, woodlots, and forest. For perhaps 2 decades we have used this area for oat research and about 6 years ago we began serious formulation of a composite by recycling annually seeds grown at Aurora and processed at Ithaca. The present composite has gone through four formal cycles at Aurora and Ithaca, although much of the original material was derived from previous work at Aurora. Work on the composite ceased with the 1973 season; its final size is approximately 200 kg.

The composite is based upon the assumption of high probability that mature, plump, hard oat seeds could develop in an epiphytotic crown rust environment only if they had some form of resistance, whether general or specific. The composite derives from such varied inclusions as entries from the U.S. Department of Agriculture World Oat Collection, winter oats, and hundreds of hybrids in the early generations. Annual or periodic additions of hybrid seed and M2 seeds (by X-ray) were made. Annual processing of the seeds resulted in a discard of 85 to 90% of the crop. For example, 900 kg of the 1971 crop was reduced to 90 kg of plump hard seed. Processing procedures were many and varied and included initial screening and blowing, mixing for 8 hours in an augur soil-mixing wagon, further screening, gravity grading, and so forth.

We suggest space planting in wide rows for plant (panicle) selection. We use a seeding mixture of a ratio of 6 dead seeds:1 live seed from the composite and plant through the Nos. 2, 3 and 7, 8 holes of a 9-hole farm drill. This gives adequate random spacing within rows and walking space between rows.

We have sampled the composite for the past 3 years by selecting panicles. The 1972 head rows at Ithaca, for example, were predominantly characterized by high crown rust resistance in a wide range of plant types.

The composite's intended function is to serve as a source of crown rust resistant lines for testing and use either as parents or a released variety. We wish the widest public use of this material and retain no rights to the selections a breeder may make (but source credit would be appreciated). The germplasm stock, maintained by the Cornell University Experiment Station, will be increased periodically to assure viability. Seed in 500-g lots from the 1973 crop can be obtained from N. F. Jensen, Dept. of Plant Breeding, Cornell University, Ithaca, NY 14850.

REGISTRATION OF CERCO
FOOT ROT RESISTANT WHEAT
(Reg. No. GP 37)

C. J. Peterson, Jr., O. A. Vogel, G. W. Bruehl, and R. E. Allan

'CERCO,' CI 15922 (Triticum aestivum L.), is a semidwarf soft red winter wheat developed cooperatively by the Agricultural Research Service, U.S. Department of Agriculture, and the Washington State Agricultural Experiment Station. Its parentage is CI 15431, em. Thell.), is a Cercosporella foot rot resistant line obtained from C. J. peterson, Jr., O. A. Vogel, G. W. Bruehl, and R. E. Allan.

The post-harvest dormancy of Cerco is similar to that of 'Kharkof' under Pullman conditions.

Cerco is resistant to medium tillering, and large spikes that normally have been rained on. It has long awns.

Cerco is a line selected from the cross 'N98'/'WA 4765.' N98 is a Cerc osporella foot rot resistant line obtained from CI 13254/CI 13254.

The parentage of WA 4765 is CI 13254/CI 13431, L. em. Thell.), is a Cercosporella foot rot resistant line obtained from France.

Cerco is a high-yielding selection that has very stiff straw, is susceptible to dwarf bunt, powdery mildew, flag smut, and snow mold. Thewinterhardiness is adequate for eastern Washington. Cerco is inferior to 'Kharkof' under Pullman conditions.


1 Registered by the Crop Science Society of America. Co-operative investigations of the ARS, USDA, Agricultural Research Center, Pullman, WA 99163. Received March 29, 1974.

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3 Registered by the Crop Science Society of America. Co-operative investigations of the ARS, USDA, Agricultural Research Center, Pullman, WA 99163. Received March 29, 1974.

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