REGISTRATION OF CROP CULTIVARS

REGISTRATION OF EUREKA WHEAT

(Reg. No. 617)

D. L. Keim and G. W. Buchenau

'EUREKA', CI 17738, SD 2185, is a hard red spring wheat (*Triticum aestivum* L. em. Thell) developed at the Agricultural Experimental Station, South Dakota State University, Brookings, in cooperation with AR-SEA-USDA. It is an *F₂*-derived head selection, from the cross ERA/3/CORRE CAMINO//CIANO 67/SONORA 64, CM 10656, made in 1970 by the International Maize and Wheat Improvement Center (CIMMYT), Mexico. *F₂* heads were selected in Mexico and grown as head rows at Brookings in 1973. *F₄* and *F₆* head selections were made in the greenhouse and field, respectively. An *F₆* head row grown in Mexico was bulked and designated SD 2185. Eureka was evaluated in state trials from 1975 to 1977 in the Uniform Regional Spring Wheat Yield Nursery (URSWYN) and the Crop Quality Council Tests in 1977.

Eureka has a spring growth habit, mid-season maturity, and a tall, white, hollow stem. Spikes are awnletted, fusiform, mid-dense, and erect. Glumes are glabrous, yellowish-white, short, and mid-wide with a well-defined keel. Shoulders are mid-wide and oblique or rounded; and the beak is obtuse, narrow, and 1 mm long. The kernels are red, hard, mid-long and ovate with angular cheeks and a mid-wide, mid-deep crease. Plants at the booting stage are blue-green with no waxy bloom.

Eureka has yielded slightly better than 'Waldron' when grown in areas producing more than 13 quintals/ha. The ergot problem occasionally found in Waldron is not anticipated because Eureka does not exhibit the sterility sometimes observed in Waldron. Test weight is similar to Waldron. In the 1977 URSWYN, Eureka exhibited higher resistance to leaf rust (incited by *Puccinia recondita* Rob. ex Desm. f. sp. *tritici* Eriks.) than Waldron and was resistant to prevalent races of stem rust caused by *Puccinia graminis* f. sp. *tritici* Eriks. and E. Henn. Grain protein is similar to Waldron. Milling and baking characteristics are similar to Waldron, except Eureka has a longer mixing time.

Eureka was named and released by the South Dakota Agricultural Experiment Station on 1 Jan. 1978. Breeder seed will be maintained by the Foundation Seedstocks Project, South Dakota State University, Brookings, SD 57007. Plant Variety Protection Certificate No. 7800105 with the seed certification option has been granted.

REGISTRATION OF HOUSER WHEAT

(Reg. No. 618)

Neal F. Jensen

'Houser' wheat (*Triticum aestivum* L. em. Thell) is a soft white winter wheat developed by the Cornell University Agricultural Experiment Station. Houser is a head selection (formerly NY 5954-36) from the following hybrid: 'Brevor'/'Norin 10'/NY wheat-rye selection Hussar' C.I. 11682/'Yorkwin'/4/'Genesee'/C.I. 9844/8/'Avon'.

The first awned wheat cultivar introduced by the Cornell University Agricultural Experiment Station (awnless cultivars have long dominated the soft white wheat production), Houser's outstanding characteristics include yield in a medium-short, lodging resistant plant and quick recovery after a hard winter. It has a winter habit of growth and is midseason in maturity. Houser is 8 to 10 cm taller than 'Yorkstar' and 'Arrow' and about 2 cm taller than 'Ticonderoga'; it has shown excellent field standability beyond its maturity dates. The head is medium-long and white chaff. The nodding aspect of the head at maturity, plus the presence of awns, may provide some resistance to molds sprouting. The kernels of Houser are mid-long, plump, and ovate to oval; the crease is mid-wide and rounded to angular cheeks. Houser has excellent plant disease resistance to moderate field resistance to powdery mildew [caused by *Ustilago tritici* (Pers.) Rob. ex. Desm. f. sp. *tritici* (Pers.) Rob. ex. Desm. f. sp. *tritici*], and to current races of several races of leaf rust [caused by *Puccinia recondita* Rob. ex. Desm. f. sp. *tritici*], and to current races of leaf rust [caused by *Puccinia recondita* Rob. ex. Desm. f. sp. *tritici*]. Test weight is moderately low but comparable to that of Yorkstar and Ticonderoga. Milling and baking characteristics are excellent and comparable to other soft white cultivars as determined by quality tests conducted by AR-SEA-USDA, Soft Wheat Quality Laboratory, OARDC, Wooster, Ohio.

Yield performance of Houser in 18 tests over the 1977-1978 growing season at Ithaca show that Houser exceeded the average yields of 'Yorkstar', 'Arrow', and Ticonderoga by 7%.

The generation sequence of seed production will be Breeder, Foundation, and Certified. Cultivar protection is sought for under the Plant Variety Protection Act, Public Law 91-577. If granted, Houser may be sold only as a class of certified seed and must be labeled as a protected cultivar. It is proposed for release in 1977 and approximately 20 acres were sown for 1978 harvest. Breeder seed will be maintained by the Cornell University Agricultural Experiment Station.

Houser is named in honor of the late Prof. Harry Homer Love, the breeder of Yorkwin, Cornell 595 and Genesee, and also a mentor to many other small grain cultivars at the Ithaca station.