lated under cage and interpollinated by honeybees (Apis mellifera L.) to produce breeder seed.

WL 312 is similar in fall dormancy to WL 311 and Kanza. WL 312 combines high levels of resistance to spotted alfalfa aphid [Therioaphis maculata (Buckton)] biotypes occurring in Kern County, California, pea aphid [Acyrthosiphon pisum (Harris)] biotypes occurring in Maryland, and bacterial wilt, with moderate levels of resistance to anthracnose, Fusarium wilt [caused by Fusarium oxysporum Schlecht f. sp. medicaginis (Weimer) Snid. and Hans.], and Phytophthora root rot. WL 312 has been tested for forage yield potential from New York and Maryland west to Nebraska and Missouri and is recommended in this general area for hay and haylage production.

Flower colors of a representative sample of plants will approximate 1% dark purple, 85% purple, 12% blue variegated, and 2% blue.

Only breeder, foundation and certified seed classes will be recognized. Breeder seed is to be planted in the northern region of adaptation to produce foundation seed. Certified seed will be produced from foundation seed. Foundation seed fields will be limited to 3 years of production.

WL 312 was favorably reviewed in 1978 by the National Certified Alfalfa Variety Review Board. Application was not made for plant variety protection.

\[1\] Registered by the Crop Sci. Soc. of Am. Accepted 12 Jan. 1981.
\[2\] Vice president-director of research emeritus, and senior research agronomist, respectively, W-L Research, Inc., 7625 Brown Bridge Road, Highland, MD 20777.

**REGISTRATION OF DOWNY WHEAT**

(Reg. No. 641)


‘Downy’ (CI17421) is a soft red winter wheat (Triticum aestivum L. em Thell.) developed cooperatively by the Purdue University Agricultural Experiment Station and the AR-SEA-USDA, and released in 1976. Its parentage is: 'Abe' sib/3/Arthur 71' sib/2/CI9321/'Beau' sib. It is the first commercial soft red winter wheat cultivar with a high level of resistance to the cereal leaf beetle. Downy is of acceptable soft wheat milling and baking quality. Downy possesses the H- gene for resistance to Hessian fly. (Mayetiola destructor Say) and the oat bird cherry aphid (Rhopalosiphum padi L.) (1, 2).

Downy was selected in the F2 generation for leaf pubescence and in the F3 generation for freedom from cereal leaf beetle damage. It was tested again in the F4, F5, and F6 generations under severe beetle infestation. A series of selections was made from the F5 generation for eventual compositing to form breeder seed which was in the F7 generation.

Downy most nearly resembles Arthur 71 in plant productivity. It averages 95 cm tall and has erect flag leaves. The spikes are lax, strap shaped, apically awned, and of moderate maturity. Downy's seed is red, ovate in shape, and contains a high level of test weight. Average weight per 1,000 kernels is 90 g. All leaves are densely pubescent.

Downy possesses the H gene for resistance to Hessian fly and resistant to all field biotypes of the insect now present in Indiana. It is similar to Arthur in resistance to leaf rust [Puccinia recondita Rob. ex. Desm. f. sp. tritici], stem rust [Puccinia graminis Pers. f. sp. tritici], powdery mildew [caused by Erysiphe graminis (DC.) Merat f. sp. tritici], Rust [caused by Ustilago tritici (Pers.) Rostr.], and loose smut [caused by Ustilago tritici (Pers.) Rostr.]. With moderate levels of resistance to all these pathogens, Downy is adapted to the eastern soft red winter wheat area and particularly suitable for those areas having cereal leaf beetle pressure.

Breeder seed will be maintained by Purdue University Agricultural Experiment Station, West Lafayette, IN 47907. Downy is of acceptable soft wheat milling and baking quality.

**ACKNOWLEDGMENT**

We gratefully acknowledge the expert technical assistance of Leslie T. Hendricks, especially in the multiplication and purification phases in developing Downy.