and the germ is large and oval in shape. The phenol reaction of the kernel is black.

AC Certa is resistant to the prevalent races of stem rust (caused by *Puccinia graminis* Pers.:Pers. f. sp. *tritici* Eriks. & E. Henn.) and leaf rust (caused by *P. recondita* Roberge ex Desmaz. f. sp. *tritici*) and is resistant to common bunt [caused by *Tilletia laevis* Kühn in Rabenh. and *T. caries* (DC.) Tul. & C. Tul.] and to common root rot [caused primarily by *Bipolaris sorokiniana* (Sacc.) Shoemaker]. AC Certa is susceptible to ergot [caused by *Claviceps purpurea* (Fr.:Fr.) Tul.].

The Hagberg falling numbers of AC Certa (103 s) averaged 20 s greater than those of Banjo, the best check cultivar. AC Certa is the first spring triticale registered in Canada that combines high grain yield and high test weight with improved Hagberg falling number. (It may therefore be less prone to field sprouting.) AC Certa averaged 5 g kg⁻¹ greater protein concentration than the check cultivars and 3 g kg⁻¹ less than the CPS wheat, Biggar. AC Certa is eligible for the grades of Canada Triticale as established by the Inspection Division of the Canadian Grain Commission.

**Registration of ‘Aquila’ Hop**

‘Aquila’ (Reg. no. CV-22, PI 559179), an intermediate-quality aroma hop (*Humulus lupulus* L.), was developed cooperatively by the Idaho, Washington, and Oregon Agricultural Experiment Stations and was jointly released by the stations in 1994 after large-scale commercial production and brewing evaluations. Beyond its aromatic characteristics, the major advantages of Aquila are high yield potential, resistance to leaf infection by the hop downy mildew fungus [*Pseudoperonospora humuli* (Miyabe & Takah.) G.W. Wilson] and resistance to crown die-out associated with hop downy mildew.

Aquila was derived from seed of open-pollinated ‘Brewer’s Gold’, and it is a half-sister of ‘Banner’ (3), ‘Eroica’ (2), and ‘Galena’ (1). The open-pollinated seed was germinated in 1969 and was repeatedly inoculated with spore suspensions of *P. humuli*. Surviving seedlings were planted in agronomic and quality observation trials in the Boise Valley in Idaho where Aquila was tested as Idaho Selection 1-33-6. During a 10-yr evaluation period, Aquila showed generally pleasant aroma characteristics, good growth, and exceptional yield potential. In a 2-yr trial to determine its tolerance to *Verticillium dahliae* Kleb. in soils with residues of heptachlor (1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene), Aquila showed varying degrees of damage in the first year, but very little damage thereafter.

In 1980, a 0.8-ha commercial plot was established in the Yakima Valley in Washington to provide hops for commercial production-scale brewing trials. From 1981 through 1986, this plot produced an average seedless hop yield of 2100 kg ha⁻¹, with an average α- and β-acid content of 7.0 and 4.6%, respectively. Brewing trials suggested that Aquila might be interchangeable with the high-alpha-concentration, nonseedless varieties. Production was expanded to 16 ha in 1989, and the plot maintained seed production at about 140 ha in the Yakima Valley and 43 ha in the Boise Valley.

Aquila produces long, open cones with everted bracts. Seedless Aquila from 1989 through 1992 was 1780 kg ha⁻¹, with an average a- and P-acid content of 7.6 and 5.1%, respectively. Hop yields were obtained from this plot for a period of 6 yr from 1983 to 1988. Aquila performed well with an average yield of 7% less than the average south-west Idaho commercial hop yield.

Breeder seed of AC Certa will be maintained by the Plant Breeding Unit of the Research Farm, Agriculture Research and Extension Center, Washington State University, Prosser, WA 99350, and in the Hop Cultivar World Collection as USDA Accession no. 21222 at the U.S. west Clonal Germplasm Repository, Corvallis, OR 97333.

**References and Notes**


Published in Crop Sci. 36:1415-1416 (1996).