REGISTRATION OF CROP CULTIVARS

REGISTRATION OF MISSOURI-96 TALL FESCUE
(Reg. No. 15)

K. H. Asay and D. A. Slepet

'Missouri-96' tall fescue (Festuca arundinacea Schreb.) was developed by the Univ. of Missouri Agric. Exp. Stn. and released in 1978. During the development and testing stages, this forage grass was tested as experimental I-96.

The original seed from which Missouri-96 was derived came to the Univ. of Missouri from the Station d'Amerlioration des Plantes Fourragères, Lusignan, France in 1966. This germplasm was established in a space-planted source nursery at the Agronomy Research Center, Columbia, Mo. Thirty-six clones were selected in 1968 for vegetative vigor, seed yield potential, leaf texture, and resistance to foliar diseases. The selected clones were vegetatively propagated in replicated sward plots at Columbia and evaluated for forage yield, in vitro digestibility, and characters previously studied in the source nursery. Thirteen clones were selected in 1971 and isolated in a crossing block to produce the synthetic-1 generation of the experimental cultivar.

Missouri-96 consistently produced over 50% more average daily gain than 'Kentucky-31' tall fescue in grazing trials with cattle at the Southwest Research Center, Univ. of Missouri, Mount Vernon, Mo. Herbage dry matter yield, in vitro digestibility and maturity are similar to Kentucky-31. However, in feeding trials, voluntary intake of Missouri-96 was significantly greater than that of Kentucky 31. This was apparently responsible for the improved animal performance.

In trials at Columbia and the Southwest Missouri Research Center, Missouri-96 was more resistant to crown rust caused by Puccinia coronata than other cultivars, especially Kentucky-31, 'Kenhy', 'Fawn', and 'Goat'.

Breeder and foundation seed classes will be maintained by the Agronomy Dep., Univ. of Missouri, Columbia, MO 65211.


REGISTRATION OF GALENA HOP
(Reg. No. 7)

R. R. Romanko, Joy Jaeger, Gail B. Nickerson, and C. E. Zimmermann

'Galena' is a new hop cultivar (Humulus lupulus L.) released for commercial production in Idaho in 1978. It was obtained from a seed set by open pollination of 'Brewer's Gold' in 1968. The seeds were germinated in 1969, and the resultant seedlings exposed to heavy inoculations of Pseudoperonospora humuli (Miy. and Tak.) G. Wils. in order to eliminate individuals susceptible to Hop Downy Mildew. Agronomic and quality observations began in 1971 and trial production blocks were planted in 1976 (0.405 ha) and 1977 (0.810 ha). Within this group, during this period Galena was identified as Idaho-experimental 'GALENA'.

In the Boise Valley, Galena is an early maturing hop whose flowers are sticky and abundant. Galena seems likely to produce 1.75 to 2.25 metric tons/ha of hops or 200 to 275 kg/m². Hops grown under a 5.5 m trellis at a 2.1 by 2.1 m spacing of its rather light bine growth, three strings, can be utilized in order to maximize cone production.

Galena has a characteristically high content of a-lupulonic acids. Analyses of 10 different lots of cones during the period, 1972 through 1978, give an average of 12.3% alpha and 7.5% beta acids. In 1978, the alpha:beta ratio on a dry weight basis for three mature plantings were: 14.2, 11.4, and 15.0%. Tests of storage stability over 5 years indicate an alpha stability comparable to the commercially available 'Clusters'. This alpha content combined with good storability create a ready demand for Galena as an extract hop. Congener analysis of mature hop cones by NMR indicates the following lupulonic acids: humulone, 55%; colupulone, 33%; lupulone, 12%; lupulone, 36%; colupulone, 54%; and adlupulone, 10%.

Galena has exhibited an ability to withstand soil residues of heptachlor, and a tolerance to a Fusarium strain of Verticillium dahliae Kleb. It displays virus-like symptoms and has an intermediately high resistance to Downy Mildew. Galena is susceptible to the potato mosaic virus-like symptoms and has an intermediate degree of resistance to this disease.

Galena has a characteristically high content of a-lupulonic acids. Analyses of 10 different lots of mature plant material indicated the following composition: a-humulone, 55.5%; a-lupulone, 36.5%; colupulone, 54.5%; and adlupulone, 10.5%.

Galena has exhibited an ability to withstand soil residues of heptachlor, and a tolerance to a Fusarium strain of Verticillium dahliae Kleb. It displays virus-like symptoms and has an intermediately high resistance to Downy Mildew. Galena is susceptible to the potato mosaic virus-like symptoms and has an intermediate degree of resistance to this disease.

Galena has a characteristically high content of stable a-lupulonic acids. Analyses of 10 different lots of mature plant material indicated the following composition: a-humulone, 55.5%; a-lupulone, 36.5%; colupulone, 54.5%; and adlupulone, 10.5%.

Galena has exhibited an ability to withstand soil residues of heptachlor, and a tolerance to a Fusarium strain of Verticillium dahliae Kleb. It displays virus-like symptoms and has an intermediately high resistance to Downy Mildew. Galena is susceptible to the potato mosaic virus-like symptoms and has an intermediate degree of resistance to this disease.

Galena has a characteristically high content of stable a-lupulonic acids. Analyses of 10 different lots of mature plant material indicated the following composition: a-humulone, 55.5%; a-lupulone, 36.5%; colupulone, 54.5%; and adlupulone, 10.5%.