NOTICE OF THE NAMING AND RELEASE OF 'BIGHORN' SKUNKBUSH SUMAC FOR USE IN RESOURCE CONSERVATION PLANTINGS

The USDA-Soil Conservation Service, the New Mexico State Highway Department, and the Agricultural Experiment Stations of New Mexico and Colorado announce the naming and release of 'Bighorn' skunkbush sumac (Rhus trilobata Nutt.) for commercial production and sale of seed and plants.

Origin: This variety was tested as WY-843. The original seed was collected in 1957 south of Basin, Wyoming, in the Bighorn Basin. Plants were initially evaluated at plant materials centers near Los Lunas, New Mexico; Bismarck, North Dakota; and Bridger, Montana. Plants for field testing have been produced from seed. Artificial selection pressures were not applied to this variety.

Description: 'Bighorn' skunkbush sumac is a deciduous shrub which may attain a mature height of over 12 feet. Height and growth-form vary with location. It tends to be a branching, compact shrub in New Mexico, while at more northerly locations it tends to be taller and more open.

The leaves are shiny green and smooth on the upper surface. The lower surfaces often have minute hairs. The soft, waxy leaves turn to varying shades of orange and red during late summer or fall.

Flowers are nonshowy and may be unisexual or perfect. Plants bloom in late April or during May at Los Lunas. The first seed is ripe during July. Fruits are reddish-orange to reddish-purple when mature and occasionally have minute hairs. Seed of 'Bighorn' occurs in clusters, but this is not as pronounced as in some other accessions of the species. Mature seed does not adhere as tightly to the plants as is the case on some other accessions.

Performance: At least 10 different accessions of skunkbush sumac have been evaluated under irrigation at the Los Lunas PMC. 'Bighorn' has consistently been among the best in emergence and stands obtained. Plants originating at southern locations tend to grow more rapidly and become taller than 'Bighorn' plants at Los Lunas,

In comparison plantings by the Bismarck PMC, WY-843 showed better growth and had slightly better survival. The overall performance rating was higher than for M-398. Vigor averaged excellent for WY-843 compared to good to excellent for M-398.

In comparing 11 accessions at the Bridger PMC, plants of this variety were as tall (7.7 feet) as any others and at least a foot taller than any plants of 5 accessions after 12 to 14 years of growth with supplemental water. Their spread (13.4 feet) was greater than that of 6 of the accessions evaluated. The vigor of the 'Bighorn' plants was

equaled by only 3 other accessions. Accessions from Arizona, New Mexico, Texas, Colorado, Wyoming, and Montana were included in the trials at Bridger.

'Bighorn' has been field tested in New Mexico, Colorado, Wyoming, Montana, North Dakota, South Dakota, Nebraska, and Minnesota. It was included in at least 70 plantings in Colorado and New Mexico between 1968 and 1976. Bare-root plants, mostly 2-0 stock, were used in 32 of these. Potted plants were used in the others. Half or more of the 'Bighorn' plants survived in 37 percent of the plantings. Many plants which did not survive were in plantings that were trampled out or that received no maintenance.

The survival, vigor, height, and spread were identical for 'Bighorn' and M-398 after 3 and 4 years at two locations in Wyoming. This was also the case in a two-year-old planting comparing these two near Kalispel, Montana. However, after 3 years in a shelterbelt planting near Circle, Montana, 'Bighorn' surpassed M-398 in all four categories.

Ten plantings containing 'Bighorn' and M-398 were made in western Nebraska in the spring of 1973. After two years, both accessions received identical ratings for survival, vigor, production, effectiveness, and maintenance in five plantings. 'Bighorn' was rated superior to M-398 in three plantings for survival, two plantings for effectiveness, and in one planting for vigor, production, and maintenance. M-398 was superior to 'Bighorn' for survival, vigor, and effectiveness in two plantings. All five characteristics were not evaluated in every planting.

Twenty-seven field plantings were made in South Dakota, North Dakota and Minnesota. Plantings receiving good care were rated good to excellent while others ranged from fair to poor. In plantings, M-398 did not establish or grow as well as WY-843. Competition and shading were the principle causes of failure, The growth-form branching did show susceptibility to some damage in windbreaks.

Area of Adaptation: The range of adaptation of this variety is large. Generally, this plant has performed well from central New Mexico north to Colorado and Wyoming and east to Minnesota. It is adapted where the species grows natively including all the states listed in the section on performance. 'Bighorn' is adapted to a wide variety of sites and soils. Its range can be extended by use of supplemental water on the drier sites.

Uses: This variety is suitable for use in many types of resource conservation plantings, It requires little maintenance and will tolerate prolonged dry periods. It is useful for windbreaks, for screening unsightly areas, and for cover and protection on critical areas including mine spoils and tailings. 'Bighorn' is adapted for use in landscaping along highways, in roadside rest areas, on recreation sites,

and on homesites. It provides good quality cover and some food for various species of wildlife. The fruits are eaten by many species of birds and small mammals. It is browsed by cattle and big game animals, but is generally considered to be relatively low in palatability. It is an excellent snow entrapment plant.

Propagation: 'Bighorn' skunkbush sumac is a seed-propagated variety. Seed is seldom produced until plants are at least five years old.

Seed is cleaned by using a special washing machine and then drying or by hammermilling and then running it through an air-screen cleaner.

The cleaned seed needs to be soaked for about 20 minutes in concentrated sulfuric acid and then washed to scarify the seed coats. The processed seed is planted in mid-May in moist soils. Good stands of seedlings can then be expected by early June. Stratification of the seed at Los Lunas has not been a satisfactory method of obtaining good stands.

Either bare-root or potted plants can be used in making plantings. Small potted plants tend to survive better than others on the drier sites.

Source of Seed and Plants: Breeder seed will be maintained by the Los Lunas Plant Materials Center. Limited numbers of live plants will be available for establishing seed source nurseries. Seed and plants for these uses will be available from the Los Lunas PMC through resource conservation districts. Seed will be on hand for the initial commercial production of plants.

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