UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

and

AGRICULTURAL RESEARCH SERVICE

and the

UNIVERSITY OF ARIZONA AGRICULTURAL EXPERIMENT STATION

NOTICE OF NAMING AND RELEASE OF 'SANTA RITA' FOURWING SALTBUSH (*ATRIPLEX CANESCENS*)

The U. S. Department of Agriculture, Soil Conservation Service and U.S.D.A. Agricultural Research Service and the University of Arizona Agricultural Experiment Station announce the naming and release of 'Santa Rita' fourwing saltbush [*Atriplex canescens* (Pursh) Nutt] for commercial production and marketing of seed and plants.

Origin: Fourwing saltbush is also commonly known as wingscale, cenizo, chamiso, chamisa and white greasewood. 'Santa Rita' fourwing saltbush originated from a seed collection made by S. Clark Martin from a native stand on the Santa Rita Experimental Range (SRER), Pima County, Arizona, in December of 1962. Santa Rita Experimental Range (USFS) is located 30 miles south of Tucson and six miles east of Green Valley, Arizona. The site is at 3100 feet (945 m) elevation. The average annual precipitation is 12 inches (30 cm) at Sec 3, T18S, R14E Gila-Baseline-Meridian on the SRER. The mean annual temperature is about 64 F (18 C). Winter temperatures regularly get as low as 23 F (-5 C). Summer temperatures may reach 105 F (40.5 C) or higher.

Other Identification Used: 'Santa Rita' has been tested under the following control numbers:

P-15644	USDA-SCS Western Regional Plant Materials Control Number
A-16805	Tucson, Arizona USDA-SCS Plant Materials Center
BN-15412-63	Beltsville, Maryland USDA-SCS National Plant Materials Center
9003553	USDA, SCS National Plant Materials Center

Description: 'Santa Rita' fourwing saltbush is an erect, evergreen shrub, diffusely-branched, variable in shape, 1.5-2.5 m tall and deep-rooted. The stems are stout, terete, smooth, gray-scurfy, with the older bark gray and exfoliating in thin layers. The leaves are numerous, evergreen, alternate, sessile or short-petioled, linear to elliptic or oblong to spatulate, apex usually obtuse, base narrowed, margin entire, 1-5 cm long, 0.3-1.3 cm wide, one-nerved, thick, and densely gray-scurfy. Plants are dioecious, rarely monoecious; staminate flowers are densely spicate from terminal panicles which are leafy toward the base; pistillate flowers occur in dense leafy and

bracted spikes and panicles; staminate perianth is 3-5 cleft (3-5 stamens); pistillate absent, 2 stigmas; fruit bracts are sessile or short peduncled, the body (4-12 mm long), united to bifid apex, developing 2 pairs of wings, margin of wings is usually entire. The seeds are 1.5-2.5 mm long, brown, radicle superior.

Development and Use: 'Santa Rita' fourwing saltbush was comparatively evaluated with eight accessions of fourwing saltbush in the 1966 Shrub Initial Evaluation Planting (IEP) and thirty-five accessions of saltbush in the 1969 Shrub IEP. 'Santa Rita' was selected as being the best overall performer in vigor and cover. In 1980, rooted cuttings from the original material was used to establish a breeder's block. A ratio of one (1) male to five (5) female plants were space planted with 5 feet within the rows and 15 feet between rows. Continued testing included both plants and direct seeding at about 25 sites in southern Arizona, California, New Mexico and Texas. This strain has shown superior performance to all accessions of fourwing saltbush, including the standard of comparison, 'Marana'.

It has estimated seed yields of 350 pounds of dewinged seed per acre (393 kg/ha) per year with specified orchard design. There are about 60,000 dewinged seeds per pound (132,000/kg).

'Santa Rita' was selected for use in critical area stabilization, shelterbelts, range improvement and improvement of the vegetative components of wildlife habitat. Its leaves, stems and fruit provide browse in all seasons for livestock and wildlife.

Area of Adaptation: Fourwing saltbush is one of the most widespread and adaptable of North American shrubs. It grows in a variety of soil types from the Great Plains to the Pacific coast ranges and from Canada to Mexico at elevations from below sea level to 8000 feet (2440 m). 'Santa Rita' fourwing saltbush is well adapted to a wide range of soil textures from sandy loams to clay loams. 'Santa Rita' fourwing saltbush is best adapted to the Sonoran desert zones but also does well in the Mohave and Chihuahuan deserts. It appears to have salt tolerance similar to other fourwing saltbush strains. Due to its hot desert origin, 'Santa Rita' has performed significantly better than 'Rincon', 'Wytana' and 'Marana' in the southwestern climatic zones. It is a taller, more vigorous grower than any other accession but is not as cold tolerant. 'Santa Rita' fourwing saltbush is adapted to 200 to 4000 feet (61-1220 m) elevation and to an average annual precipitation of 8 to 16 inches (20-41 cm).

Seed and Plant Source: The Tucson Plant Materials Center will be responsible for maintaining a supply of foundation and breeder seed. Foundation seed and plants will be available for establishing seed source nurseries for commercial production through the Arizona Crop Improvement Association. Standards for all classes of seed will be included in the Arizona Seed Certification Handbook.

Suggested release date of 'Santa Rita' fourwing saltbush is March, 1987. Limited quantities of foundation seed and plants will be available immediately for commercial nursery production.

Arizona State Conservationist
USDA - Soil Conservation Service

12/2/86
Date

Director, Ecological Sciences and
Technology Division
USDA - Soil Conservation Service

5/12/87
Date

for M. E. Carter

Administrator
Agricultural Research Service

JUN 5 1987
Date

L. W. Lewkuist

Director, Arizona Agricultural
Experiment Station
University of Arizona

4/20/87
Date