

Vegetative Reproduction of Fourwing Saltbush in New Mexico¹

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Highlight

Root sprouting was found to be an important method of reproduction in some stands of fourwing saltbush in New Mexico.

The importance of vegetative reproduction by root sprouts in the palatable and nutritious Southwestern shrub, fourwing saltbush (*Atriplex canescens* (Pursh) Nutt.), has not been reported previously in the literature. Hervey (1955) found plants in Colorado that had sprouted from adventitious buds on root crowns or from the underground portion of the stem, but he made no mention of other forms of vegetative reproduction. Nord, Christensen, and Plummer (1969) reported vegetative reproduction in *A. gardneri* and *A. nuttallii*.

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FIG. 1. Mature, 3 ft tall, fourwing saltbush (upper right) with attached, 2 ft tall, seed-bearing sprout (lower left).

In the summers of 1967 and 1968, we found root suckers from the extensive lateral roots just below the soil surface in three stands of fourwing saltbush in central New Mexico. In these stands the sprouts appeared to be an important means of reproduction.

At one site (SE $\frac{1}{4}$ Sec. 6, T.15N., R.17W.) near Fort Wingate, New Mexico, roots of 100 young-appearing plants of fourwing saltbush were examined to determine the nature of their origin in the alluvial soil of heavy clay loam to clay. Seventy-seven percent of the plants were determined to be of root sucker origin. The average distance of the young sprout from the parent plant was about 4 ft, and the greatest distance was 8 ft (Fig. 1).

Another site (SW $\frac{1}{4}$ Sec. 12, T.12N., R.4E.) was on the water diversion terraces of the steep west-facing slope in the Bernalillo Watershed near Bernalillo, New Mexico. The species at this site was introduced in the late 1950's as part of the revegetation efforts of the watershed project. Of 50 young plants examined, 96% were found to be of root sucker origin. The soil on this site was gravelly sandy loam. Again, the average distance of root sprouts from the parent plant was 4 ft and the maximum was 8 ft.

Root sprouts of fourwing saltbush were also located on a steep, rocky, limestone, northwest-facing slope in Lower Las Huertas Canyon, south of Placitas, New Mexico (SW $\frac{1}{4}$ Sec. 15, T.12N., R.5E.). Young plants of different origins were not counted, but it was apparent that vegetative reproduction was common.

Vegetative reproduction in fourwing saltbush appears to occur infrequently, but in areas such as Fort Wingate, reproduction by root sprouts as far as 8 ft from the parent bush is important. This method of reproduction is probably much more efficient and dependable than sexual reproduction. More investigations should be made to determine if root sprouting is due to genetic variation or edaphic conditions.

Literature Cited

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