

## Fourwing Saltbush: Useful Pioneer

by Daniel Howell

Fourwing saltbush (*Atriplex canescens*), also known as 'wingscale', 'chico', and 'chamiza' is a native American woody shrub found in nearly every biome east of the Sierra Nevada axis. It is a halophyte (salt-tolerant plant) often found growing in alkaline soils. A member of the Goosefoot family (*Chenopodiaceae*), whose cultivated members include beets and spinach, it grows from sea level to 8000 feet, withstands both heat and cold, and is a perennial drought-resistant evergreen. Plants are dioecious—male and female; the males produce large amounts of pollen (which have been known to cause hay fever). The females bear prodigious yields of conspicuous four-bracted seed, light green drying to pale brown or nearly white. Mature plants have a roundish appearance and reach a height to 6 feet.

Fourwing saltbush is the most widely distributed of the genus *Atriplex* in North America. Joel Glanzberg, of Flowering Tree Permaculture, lists it as a desirable pioneer. It is a protein-rich and important browse species for deer, goats, cattle, and sheep, especially in winter. Its deep roots (often 20-30 feet) allow it to produce succulent forage even in dry years when grasses are dormant. It holds up to grazing and represents a prime fedge (food hedge) candidate. Its dense growth makes it an excellent cover for small wildlife, and its seeds are eaten by many birds and small mammals. Experiments with a

related species (*Atriplex halimus*) in the Negev Desert resulted in a fifty-fold increase over the original carrying capacity of the desert. These experiments were conducted in microcatchments (see Issue #5 for microcatchment design and formula) but may well be carried out in swales as a fedge creating a windbreak and edge effect.

Young shoots can be used for greens. The small, grey-green leaves may be added to stews, soups, fish, and poultry for their salty oregano-like taste. Bainbridge includes fourwing saltbush in his recommended plants for seeds and grains. Native and Spanish Americans grind the parched seeds and mix with sugar and water for a drink called pinole. Yellow dye is made from an infusion of leaves and twigs by Navajo weavers.

Seeds germinate best between 15 to 18 degrees C; highest percentage of germination is 46 percent. Woody chenopods will evolve new ecotypes adapted to harsh site conditions, making Saltbush useful for reclamation of disturbed alkaline land in hot arid and cold montane desert sites. The wide genetic variability makes it advisable to obtain local seed/plant material.

Clearly, fourwing saltbush should be utilized as part of the intrinsic yield of a well-designed permaculture for drylands.

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