

PAPALO Science Page

DID YOU KNOW?

In Mexico, papalo branches are kept in water on café tables, so diners can tear up fresh leaves and add them to beans or tortillas.

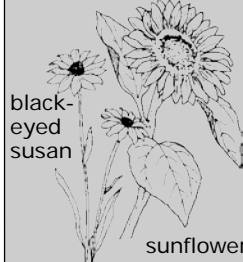


Because cooking destroys the flavor, papalo leaves are only used fresh or added to meals at the last moment.

CLASSIFYING PAPALO

Papalo is a member of the Asteraceae, or Compositae, family. The composites make up the largest family of flowering plants, with about 20,000 species, including sunflowers and daisies.

FAMILY
Asteraceae
(or Compositae)



black-eyed susan

sunflower

The flower head of a plant in this family is commonly mistaken for a single flower, but it really is many flowers grouped together.

GENUS

Porophyllum

In Latin, this means "leaves with pores."

Pores are tiny openings. You can see the pores on papalo leaves without a microscope. Oil comes out of the pores, which gives papalo leaves a strong scent and flavor.



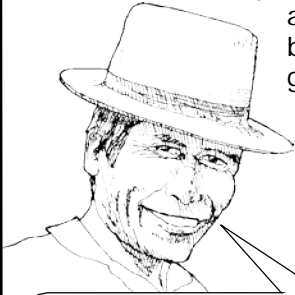
SPECIES ruderale means "growing in rubble or waste places."



Papalo grows well on dry slopes, ravines, and roadsides. It has even been known to grow on nearly bare rock.

ORIGINS

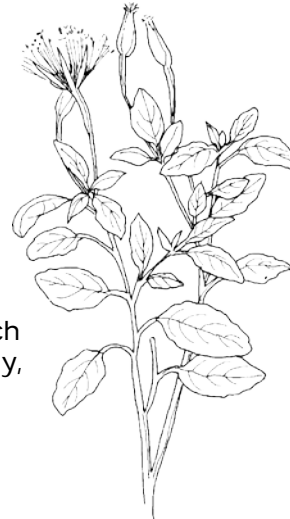
Papalo is native to Mexico, Central and South America, growing as far north as Texas. Papalo is being introduced to gardeners in the U.S. as "a great new herb from Mexico."



In places where temperatures are always warm, papalo grows year-round for many years. But because papalo cannot cope with frost, in the U.S., you may have to grow the plant from seed every year.

THE PAPALO PLANT

Papalo has egg-shaped leaves, which have a lovely, spicy, sharp scent and flavor.



The flower looks like an unopened marigold bloom, and then it opens into a ball that looks like a dandelion flower.

In the U.S., the plant grows up to 1 meter tall during one growing season. In warmer climates, the plant can grow over 2 meters high.

GROWING AND HARVESTING PAPALO

Papalo is easy to grow in sunny places where the soil is well-drained.

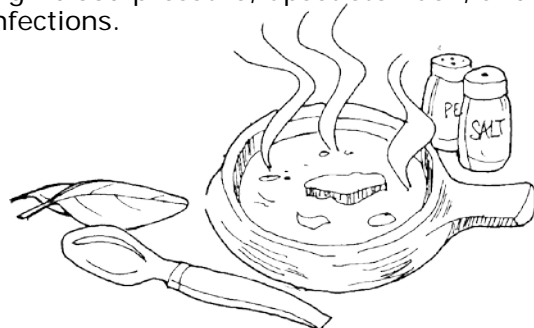
You can use papalo instead of cilantro in cooking. Papalo has the advantage that it does not go to seed in the early summer, like cilantro does.



Pick papalo leaves when young for a milder flavor. The flavor gets stronger the older the leaves are.

USES

Papalo leaves are used to flavor soups and stews, grilled meats, beans, salsa, and salads. The leaves also are used as a medicinal herb for many ailments, such as high blood pressure, upset stomach, and infections.





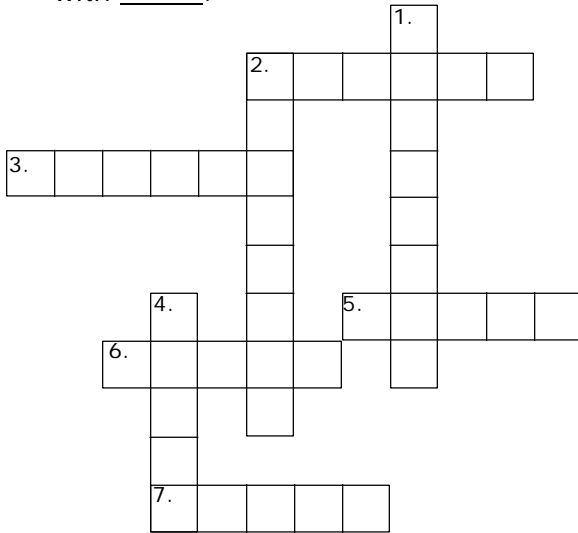
CROSSWORD

Across

- Papalo is a member of the Asteraceae _____.
- The species name for papalo, *rudérale*, means "growing in _____."
- Because cooking destroys the flavor, use only _____ leaves.
- Pick papalo leaves when they are _____ for a milder flavor.
- Papalo leaves are used to flavor _____.

Down

- You can use papalo from cooking instead of this herb.
- Papalo cannot survive _____ temperatures.
- The genus name *Porophyllum* means "leaves with _____."



SPOTLIGHT ON RESEARCH

Papalo chemicals may help ward off insect attacks

The oils secreted from glands in papalo leaves give the plant its spicy scent. Scientists at the University of Ottawa in Canada wanted to find out if these oils play a role in defending the plant against insect attack. The glands that secrete the oils have openings, or pores, that are very large. The scientists were able to insert a micropipette through the pores and into the glands to extract the oil. They put these oils on the larvae of European corn borers and measured their growth rate. They discovered that the oils from the glands alone did not affect growth rate of the larvae. However, when the oils were combined with other compounds also found in papalo leaves, the larvae did grow slower. This suggests that perhaps someday scientists can use the compounds in papalo to make pesticides.

Source: Guillet, G., Bélanger, A., and Arnason, J.T. (1998). Volatile monoterpenes in *Porophyllum gracile* and *P. rudérale*: identification, localization and insecticidal synergism. *Phytochemistry* 49, 423-429.



JOKE



SALSA CRUDA (RAW SALSA)

Here is a tasty salsa to serve with tacos or tortilla chips.

Mix the following ingredients together:

- * 6 medium-sized tomatoes, finely chopped
- * 1/2 cup (more or less to taste) finely chopped whole chilies
- * 1/3 cup finely chopped onions
- * handful of papalo leaves, finely chopped
- * 1 teaspoon salt



GUACAMOLE

You can add papalo to guacamole. Serve guacamole with tortilla chips and tacos, or as a vegetable dip.

Ingredients

- * 1/2 onion, finely chopped
- * a handful of papalo leaves, finely chopped
- * 1/2 teaspoon chili powder
- * 1 avocado
- * 1 tablespoon lemon juice

Instructions

- Cut the avocado in half lengthwise. Use a spoon to remove the pit and scoop out the flesh of the avocado. Throw the skin away.
- Add lemon juice, which keeps the avocado from turning brown.
- Mash all the ingredients together with a fork.