

Blackline Master 5-3

Bitterroot and Indigenous Knowledge



Bitterroot is a perennial plant that grows in dry habitats of the Interior Plateau region of BC. Through most of the year it is hard to see among the grasses and sagebrush that dominate the landscape.

But each April or May, it comes to life for a few short weeks. Bright pink flowers blanket the earth with colour. That is why some people call the plant “desert rose.” Soon, however, the plants dry out and are hidden from view once again.

For thousands of years, bitterroot has been one of the most important plants for First Peoples who live in the driest regions of the BC Interior, including the Ktunaxa, Nlaka’pmx, Okanagan, Secwepemc and Sinixt. They were also important to their neighbours who live in what is now the United States. Part of their Traditional Ecological Knowledge was the high nutritional value of the bitterroot.

The roots are harvested just before the flowering stage, so people have to be able to judge when the roots will be in their best condition. Traditionally it was the women’s role to dig them out of the ground using a digging stick, although in more recent times, all the family may participate.

In most communities, a special ceremony takes place at the beginning of the harvest, sometimes called the First Root ceremony. When the Elders determine that the plants are ready, the first roots of the season are dug, and shared with the community, often at a feast.

Protocols vary by community, but usually involve words and songs of respect and thanks given to the plant for sharing itself with people.

Soon after the roots are dug, the bitter outer skin is peeled off. Then the roots are steamed, pit-cooked or boiled. In the past, some were eaten freshly cooked, but most were dried.

The dried roots can be stored for a long time. Traditionally they were stored for winter supplies, and also for trade with their neighbours where the plant doesn’t grow.

When it comes time to eat them, the dried plants are soaked overnight. They might be added to soups. Bitterroot traditionally is often mixed with other foods such as:

- saskatoon berries and deer fat
- black tree lichen and fresh salmon eggs
- tiger lily bulbs and ripened salmon eggs
- dried gooseberries

In the past, bitterroot grew in tremendous quantities in its native habitat. One observer who visited the Fraser Canyon region 100 years ago estimated that there were millions of plants, at least 100 per square metre in places.

Women harvested large amounts of the roots in the short period that they were available. Sometimes they dug up hundreds or even thousands of roots. You can imagine the amount of work involved to peel and dry that quantity.

You might think that digging out thousands of roots would be harmful for the plants. After all, the whole plant had to be taken. However, the First Peoples always harvested the plants respectfully. If they did not, it could endanger their survival.

Today we would say that they have always followed **sustainable management practices**.

First, their traditional knowledge would tell them if there were enough plants to harvest in large quantities. Often, they would move

from one area to another from one year to the next, so a digging ground could recover.

As well, they dug the roots **selectively**. That means, they didn't clean out one area, but made sure they left enough to grow in the future.

Another method used in the past was to replant parts of the roots. This shows us that the ancient people understood that a piece of a root will grow into a new plant. Scientists call this **vegetative propagation**.

The act of digging the soil with their diggers helped to keep the soil loose so the plants could grow.

Transplanting was another sustainable practice applied to the bitterroot. First Peoples sometimes moved the plants from a productive area to a region where there were few plants growing. This demonstrates that part of their TEK was an understanding of habitats, and what a plant needs to survive. This is an example of how some First People's scientific practices brought about a change to the landscape.

These examples of sustainable practices were also used by First Peoples to manage other plant species.

Since colonization, the number of bitterroot plants has been seriously reduced. Many traditional sites have become cattle ranches. Overgrazing and trampling the earth by livestock have packed the soil and otherwise impacted their habitat. Also many sites have become farmland, where the natural plants have been replaced with commercial crops.

Some people still harvest and use bitterroot today. For many First Peoples in the region, it is a strong link to their culture, and helps give them a sense of belonging to the place where they live and where their ancestors once ate and traded the bitterroot in huge quantities.

- **Bitterroot, dried**

- **Nutritional Value**

- per 100 grams dry weight
- calories 387
- calcium (mg) 235
- protein (g) 10
- iron (mg) 33
- carbohydrate (g) 85
- magnesium (mg) 74
- lipid (g) 1
- zinc (mg) 5

Source: US Forest Service.

<http://bit.ly/2dDBjGc>

- **Carrot, raw**

- **Nutritional Value**

- per 100 grams
- calories 41
- calcium (mg) 33
- protein (g) 1
- iron (mg) 0.3
- carbohydrate (g) 10
- magnesium (mg) 74
- lipid (fat) (g) 2
- zinc (mg) 0.24

Source: <https://authoritynutrition.com/foods>

Compare the nutritional value of the bitterroot with that of another root vegetable, the carrot.

Sources:

BC Ministry of Forests, Lands and Natural Resource Operations www.for.gov.bc.ca/rsi/fnb/bitter-root.pdf

Bonneau, Nancy. Shuswap and Okanagan First Nation Root Food Protocols

Turner, Nancy J. *Ancient Pathways, Ancestral Knowledge*.

Turner, Nancy J. *The Earth's Blanket*.