



The Story of Wild Blueberries – 10,000 Years in the Making

The origin story

- Wild Blueberries emerged on the desolate plain, aptly called The Barrens of Maine, Eastern Canada, and Quebec, following the retreat of the glaciers more than 10,000 years ago.
- Unlike regular blueberries, Wild Blueberries are not planted. Instead, they are indigenous and spread naturally where Mother Nature put them, with thousands of genetically different varieties in every field.
- The Wabanaki tribes of Maine and Canada were among the first humans to use Wild Blueberries, both fresh and dried, for their flavor, nutrition, and healing qualities.
- Wild Blueberries have never been hybridized or genetically modified to enhance or alter their naturally-occurring characteristics.
- This diversity is what gives Wild Blueberries their intense, delicious, sweet-tart taste and their spectacular blend of complex flavors.

How Wild Blueberries grow

- Wild Blueberries have an extensive underground rhizome system. As much as 70% of the plant actually lives underground, spreading horizontally in the few inches of organic matter atop the sand and gravel of glacial soil below.
- When pruned, new stems sprout from the rhizome, grow, and form flower buds the first year.
- Wild Blueberries are grown on a two-year cycle. Each year, half of a grower's land is pruned to encourage vegetative growth while the other half is prepared for the Wild Blueberry harvest from July through August.
- Wild Blueberries are diversity superstars. In fact, because the plants establish themselves naturally, any given Wild Blueberry field can support thousands of different plant varieties, compared with regular blueberries, which might only host a half-dozen varieties in one growing area. This diversity is what gives Wild Blueberries their complex flavor.
- Wild Blueberries survive in thin, acidic, glacial soils and thrive in cold, harsh climates. This has a benefit of naturally reducing crop insects and pests.

FACT SHEET 2

Health Benefits of Wild Blueberries vs. Regular Blueberries

- Most people don't know that there are two kinds of blueberries – Wild Blueberries and regular cultivated blueberries – and that they are vastly different.
- The millions of plants on the Wild Blueberry Barrens provide a unique genetic diversity and complex flavor profile that cannot be duplicated by cultivated blueberries, which have only a few varieties per acre.
- Maine's leading expert on Wild Blueberry plants, David Yarborough, Ph.D., professor of horticulture at the University of Maine, notes that Wild Blueberries have adapted to their native environment over thousands of years and have more plant diversity than their regular cultivated counterparts.
- They also contain a more intense concentration of bioactive plant compounds that provide taste and health benefits.

Health advantages of Wild Blueberries

- Wild Blueberries have **twice the antioxidant** capacity per serving as compared to regular cultivated blueberries.
- Wild Blueberries have a **higher skin-to-pulp ratio** than their larger cultivated counterparts. More skin and less water equals more antioxidant-rich pigment and more intense blueberry flavor.
- Wild Blueberries have **30% less sugar** than cultivated varieties, with just 10 grams of sugar per cup. Wild Blueberries are a low-glycemic food, scoring 53 on the 100-point Glycemic Index. They also have just 80 calories per one-cup serving.
- One cup of Wild Blueberries provides 4 mg or 200% of the recommended daily allowance of **manganese**, which the body needs to regulate blood sugar, heal skin problems, and maintain strong bone health. One serving (1 cup) of Wild Blueberries contains 8x the manganese as compared to regular cultivated blueberries.
- With 0.8 mg of **iron** per cup, Wild Blueberries are ideal for anyone not eating other iron-rich foods, like meat.
- With 6.2 grams of **fiber** per cup—25% of the recommended daily allowance—Wild Blueberries provide a delicious way to boost fiber intake. One serving of Wild Blueberries has 72% more fiber than regular blueberries.
- Wild Blueberries have a higher concentration per serving of the flavonoid **anthocyanin**, a phytochemical found in blue-pigmented fruit, that is recognized for its anti-inflammatory and antioxidant properties. So when you eat Wild Blueberries, you get more of what it takes to combat chronic diseases and promote

healthy aging.

- Extensive research is revealing just how much Wild Blueberries can improve human health. Findings suggest that the antioxidant and anti-inflammatory properties of Wild Blueberries may contribute to better brain health, gut health, heart health, cancer prevention, reduced risk of diabetes, and increased urinary tract health.

Wild Blueberry health research

To read about the dozens of health studies that have been conducted and to view a range of videos and consumer information, please visit www.wildblueberries.com. Health Research-Related Links:

<http://www.wildblueberries.com/health-research/research/>
<http://www.wildblueberries.com/health-research/antioxidants/>
<http://www.wildblueberries.com/health-research/nutrition/>
<http://www.wildblueberries.com/the-better-blueberry/>

FACT SHEET 3

Frozen Locks in Freshness – An Emerging Awareness

- 99% percent of the annual Wild Blueberry harvest is individually quick frozen (IQF) within hours of being harvested. The remaining 1% is sold fresh, mostly in New England during the month of August.
- Freezing Wild Blueberries within 24 hours of harvest helps ensure that their health benefits are locked in.
- Research conducted by the University of California - Davis found that [frozen fruits and vegetables](#) have the same or *greater* nutritional value as their fresh counterparts.
- Imported fresh berries and even berries grown in the United States are often picked prematurely, before they fully ripen, in order to endure long journeys and transportation delays before ultimately being sold as fresh fruit. It's well documented that the moment a fruit is picked, its taste, antioxidant and nutritional values begin to deteriorate.
- Frozen Wild Blueberries often are less expensive than imported fresh berries.
- When consumers choose frozen Wild Blueberries, they are directly supporting rural farmers and their families in Eastern Maine and Canada. Because many farms are multi-generational, the purchases are helping preserve a rural way of life that has been enjoyed for hundreds of years.

FACT SHEET 4

Harvest, Crop Management, Pollination, Organic, and Economic Impact

Harvest changes over time

- Wild Blueberries were originally handpicked and packed in small wooden boxes, canned, and taken by schooner and then by rail to urban markets.
- In the 1800's, a hand rake was developed (and since improved upon) and is still in use on Wild Blueberry fields.
- A mechanical harvester was developed in the 1970's at the University of Maine and a version of this tractor now harvests more the 80% of the Wild Blueberry crop.

Survival strategy and irrigation

- Wild Blueberries are a stress tolerant plant that is able to survive and thrive in low pH sandy, loam soils that do not hold much water.
- Maine has ample rainfall – about 45 inches a year – but the summers can be dry and precipitation uneven.
- Wild Blueberries need about one inch of rain each week; therefore some growers have invested in irrigation systems to insure the plants have the water they need for optimal productivity.

Two-year cropping cycle

- Native Americans discovered that Wild Blueberry fields increase their yield when pruned or burned. Originally they used a practice of burning the fields every 5 years.
- Research from the 1960's indicated 2-year burn cycles to be the most productive and this practice was quickly adopted by growers.
- After the oil crisis of the 1970's, research done by the University of Maine indicated that mechanical mowing to within one inch of the ground was an effective alternative to burning and much lower in cost.
- Today, most fields are mowed. Over time, fields have also been leveled and cleared of large rocks, streamlining the mowing process.

Low-input crop

- Wild Blueberries are often referred to as a “low-input” crop because they are native to Maine, Eastern Canada and Quebec; they have adapted to a unique growing environment; and they are naturally resistant to many native pests.
- Over the past 6 decades, Wild Blueberry growers have partnered with the University of Maine to develop state-of-the-art methods for controlling insects and plant disease, while also minimizing the use of pesticides.
- Just like all farmers, Wild Blueberry growers are challenged to minimize crop damage caused by environmental stressors such as disease, drought, insect damage, and inclement weather.
- Throughout the crop cycle, growers monitor disease and insect levels to help minimize fruit destruction without harming the environment.

- If critical levels are reached, growers consider a full range of control methods, from cultural techniques to the selective application of pesticides.
- Major limiting factors for production, such as shading and competition for nutrients from weeds, can reduce yield by as much as 80%.
- Growers use elemental sulfur to reduce soil pH to 4.0, reducing nutrients for weeds while still allowing acid-adapted Wild Blueberries to grow.

Use of pollinators

- Wild Blueberries must be insect-pollinated to produce fruit. Good pollination produces more and larger berries and a more consistent ripening.
- Although there are hundreds of different native pollinators in Wild Blueberry fields, their numbers and occurrence vary so additional pollinators are needed to produce a larger crop.
- Maine imports thousands of honeybee hives (60,000 in 2016), making it the second largest user of bees, after California almonds.

Seasonal farmworkers

- Historically, Wild Blueberry crops were harvested predominantly by Maine families. However, today the industry relies on seasonal farmworkers, many of whom travel to Maine each summer for work.
- During the peak of the harvest season, Wild Blueberry growers may employ dozens of seasonal farmworkers to harvest and flash freeze the berries to ensure a high-quality product.
- The Maine Department of Labor coordinates services for seasonal workers in Maine, and Wild Blueberry growers follow detailed state and federal labor laws as they apply to seasonal and migrant workers.

Organic production

- In Maine, there are approximately 40 growers who are certified organic, but because Wild Blueberries are a low-input crop, the vast majority of our growers employ the knowledge-based crop management system known as Integrated Crop Management (ICM).
- ICM techniques are based on University of Maine research, which allows growers to sustainably manage the crop with the least possible impact on people and the environment.
- Organic fields tend to be less than 10 acres and yields are much lower per acre than conventional fields (2,000 lbs. versus 8-12,000 lbs.)
- Organic is a small, but growing percentage of the total crop, and demand for organic Wild Blueberries is increasing.

Economic impact

- Wild Blueberries are harvested commercially *only* in Maine, Eastern Canada, and Quebec; and Maine is the largest producer of Wild Blueberries in the world.
- The economic impact of the Wild Blueberry harvest in Maine provides \$173 million in direct sales, 2,500 jobs, and a \$63 million annual payroll, according to a 2009 study conducted by Planning Decisions, Inc.
- The Wild Blueberry is Maine's official state berry.

- Through careful management of the land, the indigenous Wild Blueberry crop of Maine, Quebec and the Canadian Maritime Provinces now produces a total crop of roughly 300 million pounds every year.