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Green Beans

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Oregon Green Bean Zine



**Blue Lake: How a Bean with Roots
in California Conquered the
Willamette Valley**

by Margaret Waterbury





Somewhere between eighty and ninety percent of all the green beans grown in Oregon today are bush beans in a class called ‘Blue Lake’. There’s a lot to like about them. They make reliable, healthy bushes that produce huge volumes of long, bright green pods that mature all at once. They’re a true snap bean, with no fibrous strings to remove. They’re straight, plump, and almost perfectly round, which makes them a cinch to process. And they also taste great, with a rich and satisfying flavor.

The particular Blue Lake cultivar being grown in Oregon today – it’s called OR 5630, for the curious — was released in the 2000s by Oregon State University plant breeder Jim Myers, who’s been breeding beans in the west since the mid-1980s. It’s the latest step in the continued evolution of a variety that has a history on the West Coast stretching back nearly 150 years.

The Blue Lake bean gets its name from the Blue Lakes district of Lake County, California, not far from Ukiah. There, a small bean canning industry developed in the 1880s, taking advantage of the new railway lines for supplying urban markets in California and the East Coast. Beans from Blue Lake were marketed as “Asparagus-Style Blue Lakes Stringless Beans,” underscoring one of their key selling points: tenderness.

The main variety grown in the Blue Lakes region at the time was a pole bean called White Creaseback, so named for the distinctive crease along its spine. The provenance of this particular White Creaseback selection isn’t entirely

clear. Some said it descended from a variety called Scotia brought to North America via Germany, while others said it had been grown by Native Americans in the Missouri River Valley. It also went by several other names, including Earliest of All, Fat Horse, Ewing Prolific Pole, Transylvania Butter, Tall July Runner, and Missouri White Cornfield, adding to the confusion.

Around the same time, canneries were also springing up farther north, in Oregon. One which grew to prominence was The Eugene Fruit Growers Association, which launched in 1910. At first, its main products were canned Kentucky Wonder beans and pumpkins. But when company manager J.O. Holt visited Lake County in 1923, he brought home a sample of those ultra-tender beans from the Blue Lakes to try growing in Oregon.

It turned out the beans from Blue Lake also thrived in the rich soils and mild climate of the Willamette Valley. Oregon growers' transition from Kentucky Wonder to the cultivar they began to call "Blue Lake" was gradual, but by 1933, Blue Lake pole beans had become the number-one best-selling product of the Eugene Fruit Growers Association. As it became clear that farmers would have an eager buyer for all the Blue Lakes they could grow, the crop proliferated rapidly across the Willamette Valley in the 1940s and 1950s, buoyed by breeding work taking place at Oregon State University in Corvallis to improve the variety.

Blue Lake pole beans were a labor-intensive crop. They didn't ripen all at once, which meant each row needed to be skillfully



picked multiple times. They also required immense trellises built fresh every year. One year in the 1950s, a major farm near Salem used 25,000 miles of string and a million board feet of stakes to trellis 500 acres of bean field.

As the Blue Lake bean industry grew, demand for seasonal workers skyrocketed. At the height of Oregon's pole bean production in the 1950s and 1960s, tens of thousands of people were seasonally employed picking beans in Oregon. It was an eclectic, often rugged crew, including local high school and college students, housewives and retired people, migrant workers from as far away as Oklahoma and Missouri, homeless people, and others at the margins of society. Even Italian and German prisoners of war from World War II picked beans in Oregon. Pickers were paid by the pound, and skilled pickers could pick many hundreds of pounds of beans each day, which made it a reasonably lucrative temporary job.

In 1960, one of those pickers was Bill Luvaas, a Eugene high school student whose father had also picked beans as a young man. "It was kind of a family tradition," he laughs. Bill and his brother would ride their bicycles to the bean farms around 6:30 in the morning, then hitch a ride on a flatbed truck out to the field ready to be picked. They were paid two and a half cents per pound, which translated to about \$5 a day for a picker like Bill but more for some of the most skilled pickers, who could harvest up to 1,000 pounds of beans each day. "Their hands would just fly over the bushes," said Bill. "They would just be dropping beans down into the bucket like a thunderstorm." Those buckets were emptied into big burlap sacks. Once those were full, pickers would lug them down to the end of the rows, where a manager stationed with a scale would weigh

and record each picker's harvest before loading the beans onto a truck for processing.

Bill remembers his fellow pickers as the most interesting part of the job. "They interested me very much, because they were not like people I'd ever known," said Bill. "They were really migrant laborers, right out of the Grapes of Wrath or Dorothea Lange photographs of people in the dust bowl. Rugged faces, weather worn. They cursed a lot, which I wasn't used to as a kid. But they fascinated me, and they were friendly enough to us kids." He recalls that many discussed moving on to Yakima next to pick apples, and then down to California for the grape harvest.

Pickers worked hard, but the day typically ended in the mid-afternoon before it got too hot, which gave them time to rest and recreate. With so many people filling Oregon towns for the bean harvest, it's easy to see how a social atmosphere could spring up. Some workers stayed in Farm Security Administration-operated migrant labor camps, where lodging was offered in exchange for a couple of hours of work each week on camp upkeep, as well as a small charge for "recreational activities" in the evenings like sports, horseshoes, movies, dances, or amateur talent nights.

A sense of camaraderie was also evident at the annual barbecue at Alderman Farms in Dayton, which took place each year after the harvest was finished. It drew thousands of revelers, from migrant pickers to local politicians. It's hard to say whether its appeal stemmed from the lure of a free meal, or a chance to rub shoulders with founder Urie Alderman, a fast-living bean baron who famously loved

souped-up cars, ladies, and parties. More bean partying took place at the International Blue Lake Bean Picking Contest, which culminated in the crowning of a Bean Queen and her “Beanettes.” While a titular honor, the Bean Queen’s daily itinerary during the contest was no joke, including a “Chuckwagon Breakfast in Woodburn, the Salem River Days Parade, the Dallas Smileroo, and the Covered Wagon Cavalcade in Stayton.” (She undoubtedly also made an appearance at the annual Alderman Farms barbecue.)



In the middle of the 20th century, growing Blue Lake beans was lucrative enough that a family could be sustained by a 10- to 20-acre bean yard. But beginning in the late 1960s, the industry began to switch from pole beans to bush beans, which were bred to ripen all at once and could be harvested by machine. That increased pressure for farms to get big or get out of the business, which meant small-scale pole bean production in Oregon took a nosedive in the 1970s. In 1966, 54,139 people worked seasonal jobs picking beans in Oregon. By 1978, there was just a single field of pole beans being grown in Oregon.

Bush beans have a lot to recommend them. They don’t require laborious trellising each year, and machine harvesting is more efficient and less expensive than human labor. Still, the end of the pole bean industry was the end of an era for western Oregon agriculture — and for the people who worked here. Some bean growers say they continued to get hopeful phone calls from former seasonal bean pickers for years after they’d switched to mechanically harvested bush beans, nostalgic for their time in Oregon.

Today, Oregon still grows a lot of green beans — 1.3 million tons in 2020 — making it the fourth-largest state for green bean production. Virtually all of those beans are sold canned or, increasingly, frozen. Frozen beans aren't quite as obviously sexy as farmers market-fresh beans in the height of the summer, but they always taste better than out-of-season fresh green beans, which are sometimes weeks old by the time they make it to supermarket shelves. Frozen beans, on the other hand, are usually picked and processed on the same day, preserving as much of their flavor and nutrients as possible. And, just like in the early days, work on improving the variety continues. At Oregon State University, breeders are working on new varieties that resist common diseases like white mold, ensuring that Oregon farmers can successfully grow green beans for many years to come.

Curious to learn more about Oregon's bean history? Read [A Story of the Blue Lake Pole Bean Industry in Western Oregon](#) by James R. Baggett (Emeritus Professor of Horticulture at Oregon State University) and William Lucas (former production manager at Agripac Incorporated), published as a personal project by the authors in 2005.



**From South and Central America
to Midwest Canning Jars:
The Strange Story of the
Modern Green Bean**

by Margaret Waterbury



When you sit down to a holiday dinner and serve yourself a heaping helping of green bean casserole, you're participating in an activity that dates back to humanity's earliest origins. People have been eating pods filled with seeds in some capacity for a very, very long time — since *Homo sapiens* shared the planet with other members of our genus. Charred remains of prehistoric meals from the Shanidar Cave in northern Iraq reveal that Neanderthals were dining on vetch and peas as long as 75,000 years ago (the archeological record remains mum on whether they were served with a crispy onion topping).

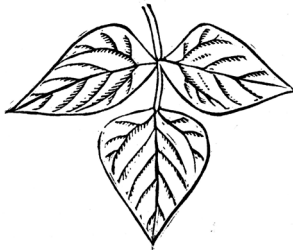


Beans are members of the Fabaceae family, one of the largest families of plants on the planet. Native to every continent except Antarctica, it contains more than 20,000 species ranging from diminutive poisonous vines to towering tropical trees. Its edible constituents are nutritious, dense in protein and calories, easy to grow and harvest, and suitable for long storage, which has made them a staple food for cultures in hot and temperate climates around the world. In addition to being good to eat, they're also good agricultural partners. Rather than deplete land, beans actually improve the places they grow by fixing nitrogen in soils for other crops to use later. Beyond food, legumes are also grown for animal forage, fertilizers and crop rotations, timber, and the production of fabric dyes, gums, and oils. One could wake up in a bed built from acacia, pull on a shirt dyed with indigo, then sit down to a breakfast of pinto beans flavored with a bit of bacon made from

pork raised on soybeans — four encounters with Fabaceae before you even leave the house.

The green beans in your casserole, however, are a relatively new version of an ancient plant: *Phaseolus vulgaris*, or the “common bean.” There’s nothing vulgar about it. *Phaseolus vulgaris* is native to Central and South America. It appears to have had two distinct primary centers of domestication: One in Central America, around what is now southern Mexico; and the other in the Andes in South America, near what is now Peru. Large-seeded beans, including kidney beans, trace their origins to the center of domestication in South America. Medium-seeded types like pintos and pink beans come from the arid highlands of Central Mexico, while the smaller beans like black beans are from the tropical regions of lowland coastal Mexico. From those epicenters, cultivars of *Phaseolus vulgaris* spread throughout the Americas, where they became a staple food crop for many Indigenous people, who grew them alongside squash and corn in a famous planting style known as the three sisters. Today, *Phaseolus vulgaris* is grown around the world, ranging from tiny ebony black beans to huge ivory nuggets larger than a human thumb.

Oregon’s Blue Lake snap beans are related to those mid-sized beans, which means its story begins in the highlands of Mexico. The beans Indigenous north and central Americans were eating before European contact probably didn’t resemble the modern snap bean very closely. While ancient Americans ate all portions of the bean, including the pod, those pods were



likely quite tough. There's some evidence from quids, which are wads of chewed vegetable matter like yucca, tobacco, agave, and other plants often found in human settlements in the Southwestern United States and northern Mexico, that people would even munch on the pods and then spit out the particularly stringy bits.

Breeding geared specifically towards developing a stringless, tender pod only began after colonialism introduced *Phaseolus vulgaris* to Europe around 1530. Europeans were already acquainted with a range of culinary beans, including cowpeas, broad beans, lentils, and garbanzo beans. Perhaps it was because of this familiar aspect that European farmers readily accepted this new variety of bean, unlike their cautious posture towards other unfamiliar American crops like potatoes and tomatoes, whose close European relatives are highly poisonous.



Over time, populations of *Phaseolus vulgaris* developed in Europe that were primarily consumed as an immature pod, rather than grown to maturity to harvest only the seed. What inspired European farmers to select for these characteristics? Could it have been their existing familiarity with the relatively tender-podded garden pea? Or might they have had trouble growing beans to maturity at all in the cooler climate of continental Europe, leading them to routinely harvest immature pods? It's difficult to say, although breeder Jim Myers suggests that there's a pattern of European farmers selecting for tender vegetable characteristics from field or storage crops introduced from the Americas. Zucchini and cocozelle squash, for instance, were selected from New World pumpkins,

favoring a smaller size, juicier flesh, and tender skin over the sturdy shell and long storage properties that had been selected by growers in more arid climates.

Still, early green beans retained some stringiness— hence their old-fashioned name, string beans. It wasn't until the 1880s that the truly stringless green bean was developed. Calvin Keeny, a plant breeder for the Burpee Company, introduced Burpee's Stringless Green Pod in 1889, marking the first commercial availability of stringless string beans ("snap" beans is a nod to the fact that stringless beans can be snapped cleanly in half). Today, virtually all commercial beans are stringless, although some older people likely still remember the pleasant task of de-stringing fresh green beans before dinner. The main attraction of the green bean today is its pod: crisp, juicy, and full of verdant flavor. The actual bean seeds are somewhere between an afterthought and an irritation. Seeds that get too big, starchy, or prominent are undesirable. (A green bean pod with one over-mature bean is called a polliwog, and breeders try to avoid them whenever possible.)

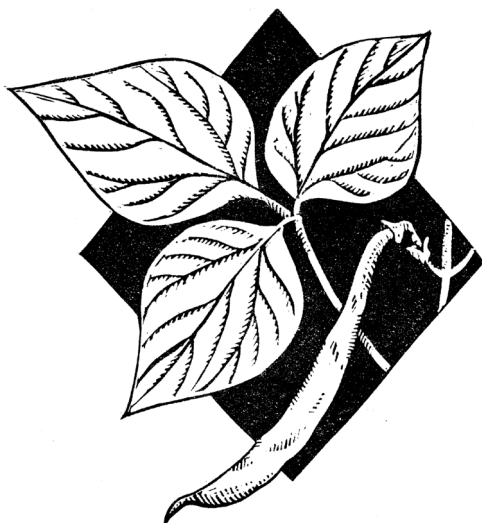
There are eight distinct genetic groups of modern snap beans, which means that those tender "snap" characteristics were selected for in multiple sites. Tendercrop, a variety of green beans grown widely in the Midwest, are genetic descendants of the South American line. Blue Lake, a variety prominent on the West Coast, descends from beans originally domesticated in Mexico. You can taste the difference. Tendercrops are high in linalool, an organic compound with a fruity, spicy, floral character (it's also found in lavender, citrus fruit, and hops). Bite into a Tendercrop and you'll taste its perfumed, slightly bitter flavor.

Blue Lakes are higher in 1-octanol , the other key compound responsible for green bean flavor. Also found in asparagus, mushrooms, and cabbage, 1-octanol gives Blue Lakes a savory, almost meaty flavor with a long, savory finish that tastes great with classic green bean accompaniments like bacon or toasted almonds. Both varieties are undoubtedly different than what those Neanderthals were dining on in the Zagros mountains of northern Iraq 75,000 years ago, but they'd certainly have recognized them as something good to eat.



Origins and Descriptions of Different Types of Green Beans

by Jim Myers, bean breeder,
Oregon State University



Snap beans differ from dry beans for three main pod traits: pod wall fiber, pod wall thickness and pod suture strings. Snap bean evolution was probably sequential with farmers first finding and preserving types with low pod fiber, then among these, identifying some with thick pod walls that changed pods from flat to rectangular or round in cross-section and finally finding stringless types. We use the name “snap bean” here to describe all groups, but other names are sometimes applied. “Green beans” generally refers to snap beans but only those with green pod color (thereby excluding “Wax beans” with their yellow pods). “String beans” refer to heritage types that had low fiber pods but retained pod suture strings which had to be removed by hand.

Using molecular markers to assess relatedness among a set of 295 snap and dry beans, we identified eight genetically distinct groups of snap beans (Table 1). Romano beans represent the most ancestral type of snap bean because they have low fiber pods, but thin pod walls. Heritage Romano varieties may have suture strings, but contemporary cultivars are stringless. The dry bean ancestor to this group was domesticated in South America and is most similar to Italian Borlotti or American Cranberry dry beans. Round podded types come from both centers of domestication. The Bush Blue Lake types along with many heritage pole beans from the NE US were derived from Middle American dry beans most similar to Pinto and Great Northern types. There is also a group that seems most closely related to Navy and Black dry beans, and this includes the one example (‘Cherokee Trail of Tears’) that I have been able to find of a Native American snap bean. Two groups of the Midwest ‘Tendercrop’ types show Andean origin (but from dry beans most similar to Kidney

beans). Some of the groups in Table 1 show mixing between centers of domestication. The European small-seeded types in particular show substantial mixtures between Middle American and Andean snap beans. This is also true of the Refugee types and to a lesser extent, the Bush Blue Lake types. This mixing happened in Europe but despite the movement of different types around the Americans, seems not to have been as extensive in the New World.

Table 1. Categories for snap bean types based on a molecular marker study of 295 bean accessions (Wallace et al., 2018)

-
1. Large, flat-podded (Romano) pole and bush beans.
 2. Small-seeded heirloom pole beans originally from the SE US.
 3. Medium seeded pole beans found in the eastern and southern US.
 4. Bush Blue Lake green beans.
 5. European small-seeded (whole bean or extra fine) snap beans.
 6. Historical American bush snap beans including ‘Tendercrop’ types.
 7. Contemporary American bush snap beans.
 8. Refugee type half-runner and pole beans.
-

Figure 1 shows five of the common types of snap bean that may be encountered in the US today. Blue Lake and Tendercrop types may appear very similar, but differ in amount of pod fiber, flavor and quality and productivity in the field. Romano pods with their thin walls have the largest pods of snap beans and are easy to distinguish from all others. Like Blue Lake beans, they are very low in fiber and tender and have good flavor. Wax beans have been found in beans from both centers of domestication

since this is a trait controlled by a single gene that has arisen repeatedly through spontaneous mutation in different backgrounds. The European small-podded beans are likely to have originated from crosses between small seeded Middle American and large seeded Andean beans. These generally have relative high pod fiber and distinctive flavors.

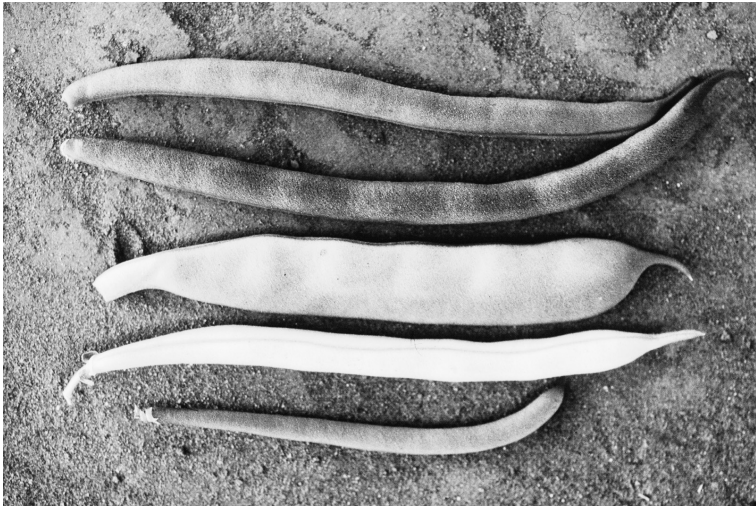


Figure 1. Examples of different types of snap beans grown in the US. From top to bottom: Bush Blue Lake, Midwest (Tendercrop) type, Romano, Wax podded Tendercrop type, and a European extra fine type.

Reference: Wallace, L., H. Arkwazee, K. Vining and J.R. Myers. 2018. Genetic diversity within snap beans and their relation to dry beans. *Genes*. 9:587. <https://doi.org/10.3390/genes9120587>.

A decorative border surrounds the central text, featuring stylized leaves and long, thin beans (possibly lima beans) on a dark background with small white dots.

**Culinary
Tips &
Recipes**

Chef and culinary director Timothy Wastell of Antica Terra winery in Dundee, Oregon describes ‘Blue Lake’ as a handsome and hearty bean that is a vibrant, versatile, and delicious workhorse among green bean varieties. With classic yet not overly intense flavor and firm, snappy texture the beans are very well suited to long cooked, short cooked and even raw/nearly raw preparations. Blue Lake beans are resilient and flavorful enough to endure long braises, such as with tomatoes and peppers, yet are tender and bright enough to quickly blanch and use in cold salads.



Tips for Cooking with Frozen Green Beans

When asked how to successfully cook with frozen beans, chef Timothy provides this advice.

Although it is completely possible and reasonable to use frozen beans directly from the freezer, it is preferred to thaw the beans by soaking them in cool water for about 10 minutes. From here they behave more like fresh produce (without sticking together or being frozen in a block) and can be cooked with more evenness and precision.

Alternatively, frozen green beans could be allowed to slowly thaw in the refrigerator with relative success. This method can produce a less optimal starting point with the beans sitting in their liquid until cooking, so make sure to rinse them before their final use.

Baked Pasta with Green Beans

by Jim Dixon, Wellspent Market

Oregon green beans add extra flavor to this classic baked pasta - al forno in Italian.

Ingredients:

- 1 10-oz or 12-oz bag frozen green beans
- 1 lb penne pasta, or any pasta that's roughly the same size and shape as the green beans
- 1 14-oz can crushed tomatoes
- 3 cloves garlic, chopped (or ¼ teaspoon garlic powder)
- ½ teaspoon dried oregano (or 2 teaspoons fresh, chopped oregano leaves)
- 8-oz mozzarella (or caciotta or provolone), grated
- 4 tablespoons extra virgin olive oil
- 3 tablespoons all-purpose flour
- 1½ cup whole milk
- 2 oz (about ½ cup) grated parmesan cheese

Method:

- 1) Quick thaw the frozen green beans by soaking them in cool water for 10 minutes and then drain.
- 2) Cook the pasta according to the package directions. Drain, saving about a ¼ cup of the pasta cooking liquid. Return the drained pasta to the pot, toss with about 1 tablespoon of olive oil and the reserved liquid.
- 2) Add the frozen beans, the tomatoes, the mozzarella (or caciotta or provolone) and oregano to the cooked pasta. Taste and add salt if needed. Transfer to a 9 x 13-inch baking dish or similarly sized skillet.

3) Make the besciamella (aka white sauce). Combine 3 tablespoons of olive oil and the flour in a small sauce pan over medium heat. Cook until the mixture begins to bubble, then add the milk and stir well to combine. Bring to a boil, cook for about 3 minutes, then remove from the heat and stir in the parmesan.

4) Spread the besciamella over the top. Bake uncovered at 350F until the top is nicely browned, about 45 minutes.



Tomato Braised Green Beans with Pepper Flakes

by Timothy Wastell, Antica Terra

Ingredients:

1 10-oz or 12-oz bag of frozen green beans
16 oz tomato puree
1 large shallot, thinly sliced
3 cloves garlic, thinly sliced
¼ cup good olive oil
1 tsp crushed Espelette pepper or dried chili flakes
Grated Pecorino cheese (optional)
Winter savory and thyme leaves to taste
Salt to taste

Method:

- 1) Quick thaw the frozen green beans by soaking them in cool water for 10 minutes and then drain.
- 2) In a medium saucepan heat the olive oil over medium heat until shimmering.
- 3) Add the sliced garlic and cook until softened and very lightly colored. Then add a big pinch of salt and the crushed Espelette pepper or dried chili flakes. Allow to toast for a few seconds before adding the sliced shallots.
- 4) Cook the shallots until softened but not colored, another minute or so then add the tomato puree and half of the herbs.
- 5) Reduce heat to low and add the thawed Blue Lake beans and simmer uncovered for 25-35 minutes.
- 6) The beans will be very tender and the tomato will have reduced by about half.
- 7) Finish the dish with the remaining herbs, a sprinkle of pepper flakes and grated Pecorino (optional).

Agrodolce Green Beans

by Jim Dixon, Wellspent Market

The Italian version of sweet and sour, called agrodolce, is perfect for Oregon green beans.

Ingredients:

- 1 10-oz or 12-oz bag frozen green beans
- 1 onion, quartered and sliced
- 3 tablespoons extra virgin olive oil
- 1 teaspoon kosher-style salt
- ½ cup water
- 2 tablespoons honey
- 2 tablespoons wine vinegar

Method:

- 1) Quick thaw the frozen green beans by soaking them in cool water for 10 minutes and then drain.
- 2) Cook sliced onion in the olive oil and salt until very soft and beginning to brown, about 15 minutes
- 3) Add frozen green beans and ½ cup water, then reduce heat to low, cover, and cook until beans are very soft, about 20 minutes
- 4) Stir in the honey and vinegar. Taste and add salt if needed, serve warm

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