Americans are about to boil, mash, bake, and butter a whole lot of potatoes. In fact, thanks to meat-avoiding vegetarians and everyone else who just doesn’t like turkey,
potatoes are the most commonly eaten Thanksgiving food, according to research group NPD.

All those holiday dishes send sales of potatoes skyrocketing during the holidays — last year, sales were up 64% in Thanksgiving compared to the week prior.

“During the holidays, potatoes are our biggest seller in fresh produce,” said Molly Blakeman, a spokesperson at Walmart, the country’s largest grocer. In November and December, the discount retailer sells more than 210 million pounds of bagged potatoes and over 1,000 truckloads of sweet potatoes.

It’s the type of starchy gorgefest that hits a soft spot for potato nerds like David Holm, a researcher at Colorado State University who has been breeding all manner of spuds since 1978, including colorful potatoes like Purple Majesty and the pink-fleshed Mountain Rose.

Another variety dubbed Masquerade bears a trademark purple and gold tie-dye pattern on the skin. “It’s always pleasing to know we have a variety that helps someone, a consumer or a producer,” he said in an interview with BuzzFeed News.

The lumpy tuber may have a moment in the spotlight on this food-centric holiday, but potatoes are a central part of American cuisine year-round. They’re America’s leading vegetable crop according to the US Department of Agriculture, thanks in large part to our love of French fries and chips. Processed food businesses purchase more than half of all potatoes sold in the US, meaning most potatoes are not eaten fresh.

As the crop plays such a pivotal role in our diets, researchers like Holm have been working to breed or engineer a better potato.
I asked Holm what the iPhone of potatoes would be — the innovation that would change potato farming forever. He laughed, and gave an answer that's a lot less exciting to regular folk than touchscreens and mobile internet. "A lot of research has been on more efficient use of fertilizer," he said — using less nitrogen can save money and is better environmentally.

There are other pressing concerns too, like disease resistance. The US Department of Agriculture last month approved the commercial planting of two kinds of genetically engineered potatoes — named Ranger Russet and Atlantic — that heroically resist the disease that caused the Irish potato famine, and (slightly less heroically) are also less vulnerable to bruising and black spots. Ranger Russet and Atlantic must now be approved by the Food and Drug Administration and the Environmental Protection Agency. They could soon join the more than 600 varieties of potatoes sold throughout the country.

While potato breeders have historically focused on changes like this that improve the crop for farmers, Holm said in the last 20 years, there’s been a greater emphasis on consumers.

Potatoes USA, a potato marketing organization, will readily tell consumers that the standard potato is already an excellent nutritional source — but there’s work to be done yet.

The bright colored flesh of the Purple Majesty doesn’t only have aesthetic appeal, Holm said — colored tubers are more nutritionally packed. He pointed to research showing that per serving, the purple potatoes contain more antioxidants than pomegranate juice and dried blueberries. He also said that potato extracts have been shown to fight cancer cells in lab tests. Meanwhile, researchers are using potato extracts that boost satiety — the sense of feeling “full” after eating — in dieting products, under the brand name Slendesta.

Of course, most home cooks will just be preparing standard, low-cost russet
potatoes this week; the kind that can feed a large party for about $0.29 per pound. But Holm still prefers his Purple Majesties. “You can mash them with evaporated milk and they turn this lovely lavender color," he said. “And it tastes good.”

Venessa Wong is a business reporter for BuzzFeed News and is based in New York. Wong covers the food industry. Contact Venessa Wong at venessa.wong@buzzfeed.com.