Putting Okra to the Test

Jon Klingenberg, Butler, Illinois

Okra Test Trial of 16 Varieties in an Organic Farming Operation

Coodinator: Jon Klingenberg

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When Jon Klingenberg tested 16 varieties of okra, he found that Cajun Jewel outperformed them all, with almost double the productivity. He sees both potential and drawbacks to okra as a large-scale grain crop.

It is only fitting that a variety with a name like "Cajun Jewel" would emerge as the most productive okra variety on Jon Klingenberg's farm. After all, okra is a critical ingredient in that Cajun-cooking classic—gumbo.

The question is: Can okra ever become an important ingredient in Illinois agriculture?

Klingenberg, an organic farmer from Butler, Illinois, aimed to find some answers, testing 16 varieties of okra in 2004. He says all but one germinated nicely; and of those that germinated, all 15 were about the same in productivity, with one significant exception.

"The Cajun Jewel produced almost double anything else," says Klingenberg, a retired electrical engineer who conducted the varieties test with a SARE grant and assistance from Western Illinois University. The runners-up in productivity were two Clemson varieties, which are commonly recommended in Illinois—Clemson Spineless and the newer Clemson Spineless 80.

Klingenberg was attracted to okra because it is a highly nutritious vegetable. The seed or grain has similar protein and high-quality oil levels to soybeans. It has about 19 percent protein and an oil with qualities comparable to olive oil.

...it contains as much oil as soybeans...

He also found that with a little cultivation, the 15 varieties did not face any weed pressures on his 40-acre farm, which is located about 45 minutes southeast of Springfield. Weed control is important in row crops for organic farmers. In addition, none of the varieties had insect problems or suffered shattering, which is when the grain falls out of the pods.

That's the good news. But there is another side to the okra picture.

Okra was once considered as a potential large-scale grain crop in the 1940s, Klingenberg says, but it was bumped aside during the soybean revolution. One of the greatest obstacles to okra as a large-scale crop continues to be the harvesting process.

Okra is a non-determinant, which means it just keeps growing until it is killed by the first frost, Klingenberg explains. Because you cannot run something green and growing through a combine, okra cannot be harvested until after the first frost and after it has been given time to dry. The problem, he says, is that while producers wait for okra to dry after the frost, this is the time when many parts of Illinois see cold, autumn rains. Those rains can create serious mold problems in okra before you can get in there to combine the seed.

One solution, Klingenberg says, is to wait until you have enough pods and then cut them off and windrow the okra—before the first frost. Then let the windrowed okra dry and pick it up using a combine with a special head.

Although okra needs help on the harvesting side if it is ever to be grown as a large-scale grain crop, Klingenberg says that in most other ways, "It has one advantage after another." For instance, it contains as much oil as soybeans; and if you remove the oil for use as a cooking oil, it can be made into a highly nutritious livestock feed. It doesn't even have to be heated or extruded, as is necessary with soybeans.

Klingenberg had hoped to produce flour from the okra because it is a non-gluten and would be in high demand from those with gluten sensitivity.

"I've had a lot of calls from people interested in a non-gluten okra flour," he says, but it requires a special machine to crack off its hard seed coat. He wasn't in a position to purchase the equipment.

According to Klingenberg, okra should be planted when the soil temperatures are around 70 F. Most people, who handpick the okra, space the plants about a foot apart. But Klingenberg opted for a closer, 6-inch spacing—"a much higher rate, more or less like corn," he says. "The proper planting rate is a study in itself."

Klingenberg still grows some okra on his farm, where he primarily raises grass-fed beef and has begun growing produce. As a former president of the Illinois chapter of the Organic Crop Improvement Association, he is committed to organic crops. And he remains upbeat about the potential for okra, despite its current limitations. For instance, he says genetic work might be able to someday produce a determinant variety of okra, a plant that would stop growing before the first frost. That could open the door to wider uses.

"So I'm still motivated," he says.

By Doug Peterson