

VOICES of the



APPLEGATE

Voices of the Applegate begins a new session

Voices of the Applegate will begin another session of four-part harmony music directed by Blake Weller on Wednesday, September 3, in the Ruch Library at 6:30 pm. Rehearsals will be held from 7 to 8:30 pm every Wednesday evening at the Ruch Library from September 3 until November 19.

Two concerts will be presented this season: the first one on November 21 at 7:30 pm in the Old Presbyterian Church on California Street in Jacksonville, and the second one on November 23 at 2 pm at the Applegate River Lodge.

Tuition this year is \$55, which covers all of our costs, including our music.

Come to the first rehearsal and fill out your registration form. Everyone is welcome, even if you have never sung in a choir before. If you can sing in tune, you're in!

For more information, call Joan Peterson at 541-846-6988.

The Tuxana corn story

BY JONATHAN SPERO

You may have read "The Top Hat corn story" a couple of issues back. It described how I selected Top Hat corn from a single hybrid parent (Tuxedo) and selected for sweetness by picking the last kernels to commence to wrinkle. Top Hat corn is growing at Oshala Farm in the Applegate Valley this summer and seed should be available next year for sale.



To create corn with new or different attributes, I needed to introduce something more variable, with some genes that more modern corn lacks. In 2003, I again grew Tuxedo. This time I planted 16 rows, every other row across a field. In each of the 15 alternate rows, I planted a different multicolored corn. Most were old or ancient varieties, and all had red or blue as well as yellow or white kernels. I de-tasseled all of this multicolored corn so that all of the corn was pollinated by the Tuxedo.

The next year I grew a row of each of these 15 crossed lines. With Tuxedo providing the pollen, an Anasazi corn tended to produce vigorous plants with large ears and large kernels. This Anasazi x Tuxedo cross led to the white corn Tuxana as well as to the Ana Lee (yellow) and Festivity (multicolor) varieties you will see in future years.

With the more variable Anasazi corn as the seed parent, picking out the last-to-dry kernels did not lead to gains in sweetness as it had in the Top Hat corn. I suspect that variation in some other trait in the Anasazi corn has a larger impact on kernel wrinkling than does sugar content. I got big, robust kernels, but not sweet ones. Time for a new plan. I switched from kernel selection to ear-to-row selection.

Ear-to-row selection (also called mother-daughter or half-sibling evaluation) is a classic method for improving open-pollinated crops. It improves on mass selection (saving the best plants) in that it allows evaluation of a plant by the qualities of that plant's progeny, and it allows the elimination of pollen from inferior plants.

In 2012 I grew about 2,000 plants of Tuxana f5 (5th generation) selected for white kernels. We taste-tested the

secondary ears on the two-eared plants and flagged about 500 as sweeter than average. The primary ear from the chosen plants was left to mature on the stalk. When the corn was dry, I chose the 300 nicest looking of the 500 ears and shelled these individually into paper bags.

What I wanted to find out is which of these 300 ears makes the best-looking and best-tasting corn. So I planted a sample of the seed from each ear and kept track of which parent ear it came from. I saved back the rest of the seed from each ear, now with a number on the bag, so that I can plant seeds from only the best ones next year for the improved crop.

I made a grid of 300, 10-foot rows and planted 20 seeds from one parent ear in each row. I rated the rows for germination and seedling vigor at about 21 days. Later, when the corn was ripe, a crew of three came through and rated each row for general stand quality, productivity, appearance of shucked ear, sweetness and flavor. We looked at, tasted and rated ears from each mini-row and made rating decisions as a group of three. We used a tablet computer to field-enter data into a spreadsheet and chose the 100 best overall.

I then separated the 100 numbered bags of seed from the rows we liked best. Seed from only those 100 chosen parents was combined and is being grown in 2014. Once again, we will be comparing about 2,000 plants with the goal of picking the 300 best to repeat the ear-to-row selection process in 2015. Ear-to-row selection in Ana Lee corn is ongoing in 2014 here at Lupine Knoll Farm, 1225 Messinger Road, Grants Pass.

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