I Wonder…

By Jennie Lawrence, USA

Chokecherries (*Prunus virginiana)* are a common deciduous shrub or small tree that grows in both wild and cultivated environments in Wyoming. They are very hardy, and easily tolerate the weather extremes found in that state.

There are three different varieties, and all grow in Wyoming. The Eastern chokecherry, *Prunus virginiana* var. *virginiana* sports a yellow or crimson colored fruit. It was most likely introduced as a result of gardeners and landscapers, and in my opinion, is the least common. *P. virginiana* var. *demissa* has a fuzzy under leaf, with a dark red fruit. The third variety, *P. virginiana* var. *melanocarpa* has black fruit.

This is most likely *melanocarpa.* It grows wild in the alley behind my house.

The fruit of chokecherries has a very astringent taste, hence the name. While the stones and foliage are poisonous, the fruit itself makes delicious jelly and preserves. I set out to do just that with this year's crop harvested from a friend's property. I boiled down the fruit, and strained off the juice. As the juice cooled, some interesting patterns showed up on the surface.


The left photo shows the cooling juice, with the patterns appearing. The right photo is a close up.

Ever curious, I wondered what was causing this. Internet research showed it could be due to any number of impurities. These could be from minerals and other contaminants from the soil. Environmental air pollution was another possibility. This was a maybe, as we have been surrounded by forest and range fires for some time. Contact pesticides was another suggestion, however the chance of pesticides being used in that area were quite small.

I then considered the silvery-white substance that occurs on the surface of the cherries. Called “bloom,” it also occurs on apples, grapes, plums, and other fruits. It consists of minute scales of wax excreted by epidermal cells. It serves a variety of purposes, including preservation of the fruit, reducing evaporation, and acts as a barrier against insects and bacteria. I decided this was the most likely cause of the patterns on the surface of the juice.

A good hour spent trying to photograph the waxy substance at any enlargement proved fruitless (pun intended!). All I could come up with was a white field, with various small specks of unidentifiable matter. I will not waste space on the poor quality photos I did take. I blame this on a few things. First, I think trying to view and photograph the bloom with a binocular scope would have been better. I have been researching these, with the intent of acquiring one very soon. Secondly, I use a cell phone as my primary camera. While my cell phone camera does an adequate job, it is not the best. I am about to upgrade my phone, and one of my primary considerations will be the camera capabilities. Finally, along the same lines, I have to handhold my cell phone to take the photographs. A few months ago I ordered a “universal” adaptor for the purpose of taking pictures of microscopic interests. My idea of universal, and an Amazon seller’s idea of universal are apparently two different things. This adaptor does not fit either of my current microscopes. I will be purchasing one or more that will do the job.

Such are the adventures of science. Sometimes everything goes right, sometimes everything goes wrong. Either way, we learn something. I like to think we don't make mistakes as much as we create learning opportunities. By this time next year, maybe I will be able to update this article with photos of the bloom.

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