

Can you talk a little bit about why blackberries will sometimes turn red in the cooler after harvest? It's a bit of a downer to collect a nice crop, only to have it rejected later on because it's turned red.

What you are seeing with the post harvest reddening of blackberry fruit is the well-known phenomenon in blackberries called reversion.

This is most often reported when blackberry harvest is taking place on hot days. Studies have shown that generally temperatures in the fruit over 72.5 degrees Fahrenheit prior to cooling are those that show the reddening symptoms most often. Mind you, this is the internal temperature of the fruit, and fruit exposed to the sun heat up fairly rapidly, especially on warm days.

While we know that the blackberry fruit in reversion is losing anthocyanin pigment (the pigment which makes the fruit dark) in the affected drupelets, we do not know exactly why this is happening.

Some work shows that drupelets which have been bruised show the reddening disorder the most, while other work shows that the sudden cooling a warm fruit experiences in forced air refrigeration first swells and then shrinks the cells resulting in the loss of pigment.

There are ways to mitigate this issue, the biggest one being sure to pick fruit and get it to the cooler during the cool of the day. As with all berries, fruit once harvested should not be allowed to sit in the sun for long, again especially on warm days. Such treatment raises internal temperatures quickly and can lead to other quality issues beyond just reversion.

Going forward, experimental work overseas is looking into a graduated cooling of freshly harvested fruit; in other words letting the fruit cool slowly by exposing it to gradually colder temperatures. There has been some work done on the role of nitrogen fertilizer levels and blackberry color reversion, but no conclusive results have been yet made here.

The preceding article has been written by Mark Bolda, UCCE Farm Advisor in strawberries and caneberries. For questions about fruit color reversion in blackberries and other questions on berries, please feel free to contact him at 831-763-8025 or mpbolda@ucanr.edu.