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The Scoop on Sugar in Jams & Jellies

By Sue Mosbacher, UCCE Master Food Preserver

Blackberry jam has three ingredients: blackberries, pectin and sugar. A typical recipe calls for 6 cups of blackberries, 1 box of powdered pectin and 8 ½ cups of sugar. Yes, 8 ½ cups of sugar! It's always fun to watch the expression on people's faces when they learn how much sugar is in a jam!

Why so much sugar? When I ask kids at the local Farm Day events, their answer is, "to make it taste sweet!"

That's one reason, but the real job of sugar in a jam (and jelly) is to be a preservative. At Farm Day, I explain it to the kids this way.

I pick a kid in a blue shirt, a white shirt, and one wearing a hat. Blue shirt kid is water, white shirt kid is sugar, and the kid in the hat is the bad guy, a foodborne pathogen, aka a bad bacteria.

All foods contain water. (Think about the juice that dribbles down your chin when you bite into a fresh peach.) Foodborne pathogens need water to survive and grow. (I link the arms of the water kid and bad bacteria kid.) If we let the pathogen and water bind, the pathogen grows and creates mold.

To prevent mold, we need to break the bond between the pathogen and water. (I separate the water and bad bacteria kid.) That's where sugar comes in. (I link the arms of the water kid and the sugar kid.) The sugar molecules bond with the water molecules to make the water unavailable to pathogens; mold can't grow. (I shoo away the bad bacteria kid.) Sugar is the hero, fighting off the evil, bad bacteria!

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This preservative property of sugar is related to the amount of sugar in the final jam. In a full-sugar jam, pathogens don't have a chance to grow in a sealed jar and rarely grow in an open jar. But in a low-sugar or no-sugar jam (which is technically a fruit spread since it doesn't have enough sugar to meet the industry standard defined for a jam), the sugar isn't available to fully preserve the food. Low- and no-sugar fruit spreads will lose quality (color and texture) quicker than a full sugar product and will mold faster once opened, even when refrigerated, because pathogens have access to water molecules.

Do your kids want to learn to make their own delicious jam or jelly? Register them for the 5th annual Jr's Jams & Jellies on April 22 at the El Dorado County Fairgrounds. Kids under 18 are invited to make their own jam or jelly, guided by an experienced UCCE Master Food Preserver volunteer. They'll enter two jars in the fair that day and take home the rest to enjoy. All they need to bring is the fruit they want to use (apple, grape, peach, or strawberry); everything else is provided. Pre-registration is required. Sign up for one 30-minute session between 10am - 3pm at <http://ucanr.edu/mfp-jr-jams-jellies>; limit 5 kids per session.

UCCE Master Food Preservers are available to answer home food preservation questions; leave a message at (530) 621-5506 or email us at edmp@ucanr.edu. For more information about our program and events, visit our website at <http://ucanr.edu/edmp>. Sign up to receive our E-Newsletter at <http://ucanr.org/mfpnews/>. Find us on Facebook too (UCCE Master Food Preservers of El Dorado County)!