BAY JOURNAL

New de-icer for roads is a sweet deal for the Chesapeake

Forum / By Sara Kaplaniak

Life's great pleasures include waking up to the quiet of a recent snowfall. After savoring the silence, further joy comes from peeking out the window into a world blanketed in white.

Unfortunately after a few days, the white world fades to gray as salt, exhaust and an occasional doggy pit stop coats the roads. That's when I transform from winter worshipper to everyday environmentalist and ask myself, "Where will that pollution go after the snow melts?" In my mind, the answer is always the same: into the ground, toward the creek, then to the riverâ€¦and ultimately, the Bay.

There's hope, though, that my answer will soon change. That's because in central Pennsylvania-where I live-local municipalities are thinking about how their actions on the landscape affect waterways. In two instances, these actions have been inspired by an unlikely candidate-the sugar beet.

Take Derry Township, home to Hershey, PA, where the municipality is testing a molasses-like byproduct derived from sugar beets on icy, winter roads. The byproduct-a de-sugared liquid typically fed to animals or flushed down the drain-will not freeze until temperatures get down to -30 degrees Fahrenheit, which exceeds the anti-freezing point reached by salt alone.

Over the last decade, this knowledge has been put to practice in Maryland, Virginia, New Jersey, Illinois, Ohio, Iowa, the District of Columbia and recently, Pennsylvania.

Pre-treating road salt with beet juice increases the salt's stickiness, helping it adhere to roads and bridges longer. This reduces the number of applications needed to keep drivers safe during inclement weather-meaning, less salt is used. This benefits local streams and rivers that may one day be unable to support the annual doses of salt.

A 2005 study published in the Proceedings of the National Academy of Sciences predicts that concentrations of chloride levels from road salt throughout the Northeast will make water in rural streams undrinkable and toxic to freshwater life by the next century. In fact, some local waterways have already reached their thresholds.

The road salt-beet juice mixture is also less corrosive, which extends the life of snow-clearing equipment used by municipalities and other vehicles. And the mixture comes cheap, costing around 25 percent less than the cost of treating a truck's load of rock salt with calcium, a more common companion. Produced around the world, sugar beets and their byproducts serve as a highly renewable, affordable resource that should be attractive to cash-strapped municipalities.

Just down the road from Derry Township, farmers in Lancaster County are considering growing sugar beets in response to government mandates for alternatives to corn in the production of ethanol. This would have environmental benefits for local waterways as sugar beets require less fertilizer than corn and other traditional crops, and extract nitrogen from deep in the soil, reducing nutrients that eventually flow into the Bay. Additionally, sugar beet production represents less of a threat to the Bay's health than manure-producing agricultural practices such as raising dairy cows, chickens and other livestock.

No doubt, paying closer attention to how actions taken on the landscape affect local waterways in central Pennsylvania have the potential to benefit the bottom line for local municipalities and provide farmers with a viable new crop. But it's emotion that leads me to support the examination of sugar beets as an alternative to land-based practices harming the Bay.

It conjures up a scene in the film, *"Willy Wonka and the Chocolate Factory,"* when the children enter a

room containing a river of chocolate, flowers filled with whipped cream and gummy bears hanging from trees. While everyone stands in wonderment, Wonka says, "Inside this room, all of my dreams become realities, and some of my realities become dreams. And, almost everything you'll see is eatable, edible, I mean, you can eat almost everything."

Perhaps that's why I scatter birdseed along my sidewalk after a snow, rather than a chemical-based de-icer. Sugar beets represent another natural (even edible!) and less toxic, alternative to everyday practices having a detrimental affect on local streams and the Chesapeake Bay watershed. They also represent a sign that decision makers have begun considering products and practices that benefit, even nourish, wildlife and people rather than threaten their health.

It begs the question: Would blue crabs, oysters, egrets and other Chesapeake Bay wildlife downstream rather ingest the remnants of sugar beets...or more salt and manure? I know what Willy Wonka would choose.

Sara Kaplaniak lives and writes in Pennsylvania, where she reduces, reuses and recycles along with her husband and two kids.