

For the Munching of Aromatic Leaves

Inventions



Shana Hanson feeds autumn olive boughs into a prototype leaf-separating machine. PHOTOS BY ETHAN ANDREWS

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by Ethan Andrews

On a recent 90-degree day, Shana Hanson was feeding tree boughs into a gas-powered machine in the full sun at the edge of a Thorndike hayfield where cars park during the Common Ground Country Fair. The contraption, which she dreamed up and convinced a fellow maker in New

York to build in exchange for \$500 in homemade cheese and a chunk of a \$30,000 Northeast Sustainable Agriculture Research and Education grant, was designed to beat the leaves off tree limbs. It is the only one she knows to exist, and for the most part it was working. The branches emerged from between two rollers and fell to the ground, bare and beaten free of most of their leaves, which had fallen into a hopper below a pair of chain flails. The leaves would be stuffed into barrels to ferment into a nutritious feed for cattle, sheep and goats.

“It smells heavenly,” Hanson said. “It’s not like grass silage.” To emphasize the point, she held a handful of leaves down near the ground of the recently mown hayfield and scooped up some quickly browning grass in the other hand. “Which would you rather eat,” she said.

The other part of the equation is that trees are better for temperature regulation of the land than open fields. As Hanson puts it, the leaf separator is for “farmers who want to maximize the temperature-regulating evapo-transpirational climate contributions of their land.”

Hanson is a committed homesteader who has foregone the modern work-for-pay paradigm to pursue the highwire act of staying alive through a mix of resourcefulness, cooperation and austerity. She’d had milk for breakfast and milk for lunch and was looking forward to some strawberries.

She described the incoming climate crisis as major motivation in her life and believes the value of forested areas is underrepresented in the rush to clear land for solar farms, and that the year-round abundance of food available in grocery stores has shielded most of us from the reality of our dying planet.

“It’s my driving force,” she said, then smiled conspiratorially.

“And I get vicarious pleasure from the pleasure of the animals. I get vicarious pleasure from the munching of aromatic leaves.”

The leaf separator went through three major redesigns before arriving at the current configuration. On this day, it rendered a pile of autumn olive boughs mostly free of leaves, but Hanson found some wood in the hopper and adjusted a pair of dials that control the speed at which the limb is drawn through the machine and the rotational speed of the two flails — posts hung with short lengths of heavy chain — inside. “So it’s not so

violent,” she said.

Leaves come off easier in the fall when they’re almost ready to do it on their own, she notes. And the shapes and tenacity of branches vary from one species to another. She has tested 17 species at several local farms.

In tests last year at Y Knot farm in Belmont, the leaf separating machine produced 100 pounds of leaves in an hour, or enough to fill a tightly packed 30-gallon barrel.

Hanson expects to submit a final report, a condition of the grant, in about a year. The finished product and possibility of mass production, either of leaf separators or the final product, might be years off, but she isn’t discouraged.

“It took them 50 years to make efficient hay machines,” she said, pointing to the field where the de-leafed branches had piled behind the leaf separator. “So, you have to start somewhere with leaves.”