TOOLS DESIGNED FOR WOMEN FARMERS

Liz Brensinger demonstrates a wheel hoe manufactured by Valley Oak Tool Co. in California and available through Green Heron Tools. The hoe is lightweight, with replaceable parts and a handle that can be adjusted to the optimum waist height. She is also wearing safety sunglasses sold on the website.

“We had lousy tools and equipment,” Adams recalled with a laugh. They realized the problems they had were shared by other women, as well. For one, the length and weight of many tools requires upper body strength that most women simply don’t have. “Even the tallest, strongest woman, her physiology and anatomy are different than a man’s,” Brensinger said. “Women have 40 to 70 percent less upper body strength.”

Women do adapt to the equipment they have, but when they do, they put themselves at risk. Musculoskeletal disorders are near epidemic in farming,” Brensinger said, in particular among women.

With their first USDA Small Business Innovation Research grant, a phase 1 grant worth $80,000, Brensinger and Adams held focus groups, conducted an online survey and interviewed women farmers in more than 32 states.

What they learned was eye-opening. One woman had to prop her chin saw between the branches of a tree in order to pull-start it. A goat farmer from Vermont had to wait for a hired handyman to come and attach equipment to her tractor. “That puts these women at a real disadvantage,” Adams said. What struck Brensinger and Adams the most, however, was that many of the women farmers they interviewed thought the problem was with them and not the equipment. Rather than viewing themselves as different from men, they viewed themselves as inferior.

Brensinger recalled a woman farmer in her 30s, who spoke to them during a focus group in Oregon. “She was so happy. She had felt there was something wrong with her, that she should be building bigger muscles.”

In that respect, Brensinger and Adams feel their mission is as much about education as finding the right tools for women. The two will hold a roundtable discussion with women farmers next week as part of the Women in Sustainable Agriculture Conference Nov. 1-3 in Fairlee, Vt. They plan to share their research and help women learn what to look for in tools.

Through their website, www.greenherontools.com, Brensinger and Adams already sell a handful of cutting tools, weeders and cultivators manufactured by other companies. Although not made specifically for women, the tools were chosen through their own research and the recommendations of women farmers.

And soon the site will include Green Heron’s very own shovel: the first tool designed by Brensinger, Adams and their team, which includes two Penn State agricultural engineers, a mechanical engineer and an inventor.

They’d also plan to add a University of Oregon ergonomist to the team to measure stress on the back created by any of the tools they develop.

Their surveys of women farmers across the country indicated that the shovel was among the top tools that required redesigning. And we’re talking about more than size and weight here.

The prototype takes into account that most women, unlike men, dig in at an angle, rather than straight down. The Green Heron shovel also will come in three different shaft lengths, to accommodate the height of different women. And the size of the blade was determined after vigorous testing in which oxygen intake and carbon dioxide output were measured as women shoveled to calculate which blade required the least amount of energy.

Brensinger and Adams are negotiating with U.S. manufacturers and expect to offer the shovel by early next year.

Their next project will be a hoe, and they’ve received a second, two-year USDA grant totaling $400,000 to develop a rototiller suitable for women. Their goal is to design something safer and more effective than the traditional walk-behind rototiller, particularly since women are more prone to injury from the vibration.

Although the USDA grants have been generous, Brensinger and Adams note that the money doesn’t go far. So far, any additional expenses have been self-funded from their savings.

“We’re not independently wealthy,” Brensinger said, noting that neither one of them wants the business to grow too big. “They’d be happy staying small — and having a big impact.”

“It’s not just about business,” Adams said. “It’s about using the business to do a greater good.”