

On Aug. 1, Japan Tobacco cut its domestic sales target for paper cigarettes by 1 billion sticks, to 107 billion for 2016, to reflect competition from the vaped alternatives, after suffering a 7.9 percent slide in the volume of individual cigarettes sold in July. It plans to invest “several tens of billions of yen” in tobacco-vaping products over the next four years, with the aim of making Japan Tobacco the nation’s vaping market leader, Miyazaki said in August.

“A lot of our customers are still waiting for Ploom TECH, so we will boost production as soon as possible,” says Masanao Takahashi, director of the emerging-products marketing division. “They just continue to sell out.”
—*Monami Yui, with Kiyotaka Matsuda*

The bottom line Sales of vaping products grew fivefold in Japan in 2015. Big tobacco companies began selling e-cigarettes there last year.

Agriculture

Creating a Problem— And a Lucrative Solution

- ▶ Farmers feel forced to buy new Monsanto seeds or risk crop harm
- ▶ “It’s a good marketing strategy, I guess. It kind of sucks for us”

For decades many farmers steered clear of the weed-zapping herbicide dicamba because it also cripples soybean and cotton plants—two of agriculture’s biggest crops. Then **Monsanto** hatched a two-point plan to turn the 1950s chemical into a modern farming staple: The agricultural-product giant would genetically engineer soybean and cotton to make them resistant to dicamba, then create a special variant of the venerable pesticide that wouldn’t waft off to neighboring fields on windy or steamy days.

The first part of the plan is done. The seeds are on the market. The second part is not—and that’s a big problem. Some farmers growing the new Monsanto plants are ignoring state and federal prohibitions and spraying dicamba, and the stuff is drifting all over the U.S. heartland.

That has set up a vicious cycle, says

Landon Hayes, who owns a farm in Campbell, Mo., where his 500 acres of soybeans and some watermelons were damaged this summer by stray wisps of dicamba. Now he feels compelled to buy Monsanto’s dicamba-resistant seeds to avoid injury next season.

“They knew that people would buy it just to protect themselves,” Hayes says. “You’re pretty well going to have to. It’s a good marketing strategy, I guess. It kind of sucks for us.”

Christi Dixon, a Monsanto spokeswoman, calls suggestions the company orchestrated the situation “absolutely false.” It took “extensive steps,” she says, to remind growers that applying dicamba to its new Xtend-brand plant lines would be illegal until regulators give a final go-ahead. Monsanto projects this acreage will eventually grow to 250 million

Dicamba is approved by the U.S. Environmental Protection Agency for use on 12 crops—but in cotton and soybean fields only before planting, and on soybeans only at the very end of the growing season. Monsanto is waiting for EPA approval of the herbicide’s new formulation, which is less likely to vaporize off a plant’s leaves and drift in the wind on hot days. That may come before the end of the year, along with new regulations permitting farmers to use it.

In the meantime, Missouri has received 117 complaints alleging dicamba misuse afflicting more than 42,000 acres, according to an EPA compliance advisory. Missouri farmers who don’t comply can face fines of \$1,000. Nine other states from Illinois to Texas are investigating dicamba complaints.

In Arkansas, dicamba drift has been such a pest that a proposal is in the works to boost maximum fines from \$1,000 to \$25,000 and to bar farmers from using almost all dicamba products near row crops. “There’s a lot of public outcry, even though there’s not a lot of formal complaints,” says Susie Nichols, a manager in the pesticide division of the Arkansas State Plant Board. “People don’t want to turn on their neighbors, but they still want something done.”

Monsanto aims to increase sales of Xtend soybeans fiftyfold in the next few years. “If the EPA doesn’t do something,” says Jonas Oxgaard, an analyst at Sanford C. Bernstein, “that means every farmer needs to buy Xtend to protect

themselves from their neighbor.”

Monsanto created Xtend to prolong the usefulness of its Roundup Ready system. For two decades, farmers were able to spray Roundup—which contains the herbicide glyphosate—to kill weeds without affecting crops that have been specially engineered to withstand the chemical. But Roundup has been so widely used for so long that some weeds have evolved to survive it, so the company decided to tweak the system with dicamba. Xtend cotton seeds hit the market in 2015, and soybean seeds debuted this planting season.

The company sold enough Xtend soybean seeds to plant about 1 million acres this year, and it expects that to rise to 15 million in 2017 and 55 million by 2019. Xtend cotton seeds covered 3 million acres this year. As dicamba resistance is added to other crops, such seeds may eventually sprout on

Planted acres of Monsanto-modified crops

4m
Xtend 

350m
Roundup Ready

250 million acres, Monsanto told investors Aug. 17.

The new dicamba formulation will include something called VaporGrip, which is supposed to make the product stay put on plants. Chemical maker **BASF** is manufacturing a similar version. The EPA is expected to decide whether to approve them this fall.

Jason Birdsong says he noticed dicamba trauma in July at his farm in Giles County, Tenn., in the form of twisted, seedless soybean pods spread across 70 acres. He suspects it came from a neighbor growing Xtend cotton. Birdsong hadn’t planned on paying a premium of as much as \$10 an acre for Xtend seeds, but now he’s reconsidering. “It don’t take but one goof like we had this year, and then I think it’ll pay to have that protection,” he says. “If this dicamba thing catches on, I’m sure we’re just going to ride that wagon.”

—*Jack Kaskey and Lydia Mulvany*

The bottom line Monsanto sold 4 million acres’ worth of seeds resistant to the herbicide dicamba this year. It aims to sell 250 million acres’ worth.

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