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Court OKs Hudson Valley Pot Shops

Reverses ban triggered by lawsuit over rules

By Leonard Sparks

New York State can now issue licenses to people approved for marijuana retail shops in the Mid-Hudson region after an appeals court reversed a months-old ban by a federal judge.

A federal appeals court ruled Tuesday (March 28) that the Office of Cannabis Management can license dispensaries in Brooklyn, central and western New York and the Mid-Hudson, where both Beacon and Cold Spring have opted to allow shops where people can buy marijuana for recreational use.

The state is now free to award the 34 licenses that will be granted by the Office of Cannabis Management in the Mid-Hudson, which is double what the agency had originally planned. (It increased its allotment from 150 to 300 licenses state-wide.) As of March 2, it had received 900 applications and approved 66 licenses.

Retail applications in the five regions have been in limbo since Nov. 10, when the federal judge issued a preliminary injunction in a lawsuit filed by a company called Variscite NY One. They remain so in the Finger Lakes, but elsewhere in the state, retail operations have been opening, including, most recently, Upstate Canna Co. in Schenectady and William Jane in Ithaca.

Variscite NY One, whose owners are residents of California and Michigan, accuses the state of discriminating against out-of-state applicants because the first licenses prioritize New Yorkers

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John Stowell gathers maple sap near Hubbard Lodge in Philipstown.

Photo by M. Turton

SPECIAL REPORT

Dire Warmings

Mild winter was a sign of trouble for Hudson Valley agriculture

By Brian PJ Cronin

It's the first day of spring at Fishkill Farms, with bluebird skies, sunshine and best of all for farmer Mark Doyle: Cold.

"Nothing to complain about there," he said as we walked toward the orchard. "We have to keep that temperature down."

It has not been a typical winter. The first significant snow did not occur until late February, and that month the highest temperature recorded each day in Poughkeepsie was six degrees warmer on average than usual. In January, it was 8 degrees warmer. More troublesome, the average low temperature in January

was 12 degrees higher than usual.

In this special report, we will look at the effect of mild winters — which scientists attribute to our warming planet — on three local crops. Maple farmers must tap earlier in the season, only to produce less syrup. Corn farmers will likely have to contend with multiple generations of pests who survive the winter with voracious appetites. And the flowering fruit trees tended by Doyle are tricked into setting up buds early, which are more likely to be killed by any late frost.

Asked what else is under threat by mild winters, Doyle replied: "Our sanity, probably."

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Is Lawsuit Next Stop for Rail Trail?

Landowners on former Beacon line seek payment

By Jeff Simms

A Missouri law firm says it represents nearly 200 landowners who are planning to sue the federal government once Metro-North gets the OK to convert the dormant Beacon railroad line into a rail trail.

Metro-North, which purchased the line in 1995, plans to close a 41-mile segment from Beacon to the Connecticut border. In Beacon, it begins near the train station, loops past Dennings Point and Madam Brett Park, and runs parallel with the east end of Main Street before heading toward Hopewell Junction.

Last year, the City Council asked Dutchess County to study creating a 13-mile rail trail from the waterfront to Hopewell. A county spokesperson said this week that the study has not begun; however, if the county were to construct the trail, it could connect with the Dutchess Rail Trail and the 750-mile Empire State Trail.

A freight company, the Housatonic Railroad Co., fought Metro-North's plans but in January filed notice with the federal Surface Transportation Board that it no longer claims a right to use the tracks. In turn, Metro-North has asked the STB to authorize a "notice of interim trail use," which would allow Metro-North to negotiate with agencies in Dutchess or Putnam

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A portion of the abandoned Beacon line snakes through the city.

File photo by J. Simms

Garrison Parents Lobby for Tax Increase

Express concern about school's long-term finances

By Joey Asher

The Garrison school district has proposed a 3.3 percent property tax increase for 2023-24, which matches the state cap, but some parents argue that it's fiscally irresponsible — because it's too low.

The district is proposing \$12.45 million

in spending. The budget must be approved by voters in May.

The draft calls for the district to spend nearly \$700,000 of its savings and make \$220,000 in cuts, including changing art teacher Coulter Young from a full-time to part-time employee; eliminating the part-time Committee on Special Education chair and assigning those duties to the school psychologist; and dropping a bus from its contract fleet and adjusting routes to allow for one less

driver, perhaps stopping service for any child who lives within 2 miles of the school.

Garrison's "fiscal stress" has grown over the past two years after falling to zero in 2020, according to the state comptroller, who tracks each district's finances to provide an "early warning" for problems. The formula considers savings, deficits and surpluses, cash and reliance on short-term debt for cash-flow.

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SPECIAL REPORT

MAPLE SYRUP: A Sweet or Sour Future?

By Michael Turton

Thankfully for maple-syrup lovers, global warming will not mean the demise of pancakes as we know them. At least not in the near future.

But variations in the climate are creating challenges for producers of liquid gold. They're being forced to adapt, particularly in the Northeast, where most American maple syrup is produced.

As with most crops, making maple syrup is all about the weather. Changeable, unpredictable, extreme weather is not good for syrup production, whether the temperature is too warm or too cold.

Forty gallons of sap taken from a sugar maple boil down to produce a gallon of maple syrup. John Stowell, director of the Taconic Outdoor Education Center, says a 30-inch-diameter tree produces about 30 gallons of sap per season.

In the past, the optimum conditions for collecting sap traditionally occurred from late winter to early spring, when nighttime temperatures are below freezing and daytime temperatures rose to about 40 degrees.

But that has changed.

Pat Cronin, who owns Cronin's Maple Farm in Hopewell Junction, taps about 4,500 sugar maples and produces up to 1,600 gallons of syrup each year. New York state as a whole produces 845,000 gallons annually.

"We used to tap from around the first week in February to about the first week in March," said Cronin, who has produced syrup for nearly 20 years. This year, he began tapping in January. He said that in Vermont some producers started as early as December.

Cronin said an early start usually signals an equally early finish, but that this season has been long and slow.

"We had three or four 60-degree days in February that slowed things down," he said. "We were still boiling sap on March 26."

Toni Lyn Morelli, a research ecologist with the U.S. Geological Survey who specializes in Northeast climate adaptation, noted that a recent study she contributed to, "Finding the Sweet Spot: Shifting Optimal Climate for Maple Syrup Production in North America," concluded that by the end of the century the sugar maple tapping season will have shifted earlier by a month.

The study also suggested we could see

a 50 percent drop in syrup production in New England, excepting northern Maine, in the same time period, and that the region of maximum sap flow will shift north by 400 miles. That could spell the end of commercial maple syrup operations in the Highlands.

The report also predicts large decreases in yields, a decrease in sugar content and an increase in poor production years in most syrup-producing areas.

Even in Quebec, which produces more than 70 percent of the world's maple syrup, only flat to moderate increases in yield are anticipated, the study found.

"Maple syrup production isn't going to go away in North America," Morelli said. "But it is shifting."

Mark Isselhardt, a maple specialist at the University of Vermont's Proctor Maple Research Center, said farmers will need to be "resilient, adaptable and good forest managers." He said one adaptive strategy is to tap more red maples, one of four North American varieties of maple that can be used to produce syrup. Sugar maple sap has the highest sugar content. Black maple has good sugar content but a considerably smaller range and silver maple has the lowest sugar content.

Red maples, however, can thrive under a wide variety of conditions, making the species more resilient to climate change. Its sugar content is slightly lower, but if vacuum tubing is used, red maples can produce higher volumes of sap than sugar maples.

It takes about 50 gallons of red maple sap to produce a gallon of syrup equal in quality and taste to that produced from sugar maples, said Isselhardt.

Farmers could also tap more trees, he said. "We know there is more sap to be harvested than is being taken." He noted that only five to 10 percent of Vermont's maples are tapped.

But adding trees means more maintenance, making it more difficult for a farmer to keep close tabs on the system and achieve the highest yields, he said. "If they're not able to get out there regularly to make repairs, it slows everything down," he said.

Better leak detection, use of vacuum tubes and reverse osmosis (a process that eliminates water from the sap before it goes into the evaporator for boiling) can also maximize efficiency, Isselhardt said.

CORN: Pests that Persist

By Brian PJ Cronin

Mild winters aren't a problem for everyone. If you're a corn earworm, they are *great*. You get to safely hibernate and dream of the havoc you'll wreak in the spring instead of your usual habit of freezing to death.

Jacob Dayton, a doctoral candidate at Tufts University who is studying the

effects of climate change on insects, said it's hard to predict how every species of bug will adapt to global warming, but "it's a safe bet that today's pest landscape is going to look completely different."

Take that corn earworm. Thirty years ago, when Abby Seaman started working in pest management, it didn't survive Hudson Valley winters. The bug would

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Underground tubes help regulate temperature in this greenhouse at Glynwood. Photo provided

Glynwood Tests Climate 'Battery'

New growing tech responds to changing weather

By Leonard Sparks

A new structure stretching 23 yards is one response to a changing climate at the Glynwood Center in Philipstown, where crop fields have faced threats from both flooding and drought just within the last 2½ years.

In July, the regional food and farming center's staff began digging 8 feet down, the first phase of creating an innovative greenhouse heated by underground tubes.

Completed last fall and measuring 70 feet long, 30 feet wide and 16 feet high, the structure uses the soil as a "battery." Even in the winter, temperatures can reach 90 degrees inside a greenhouse. That heat, instead of being vented, is pulled underground, where it is stored and used for reheating the greenhouse when temperatures drop overnight.

It's just the second climate-battery

greenhouse in the Hudson Valley, said Jarret Nelson, who manages vegetable operations. He expects it to boost the yields of winter crops like arugula and lettuce and summer crops such as peppers and tomatoes.

"We're getting much less predictable weather with climate change in general, with more extremes," he said. "Having a climate battery helps us mitigate the impact of those extremes in either direction."

When plants are threatened during hotter, drier summers, such as the drought-ridden one in 2022 that triggered water-conservation warnings in the Highlands, the greenhouse fans can draw coolness from the soil, whose temperature usually measures about 50 degrees, even in the summer.

Because fans power the heating and cooling, Glynwood does not need to use propane to keep indoor plants warm, reducing its carbon footprint. "Eventually we might be able to have a solar setup, so then it would be a really renewable system," said Nelson.



Sugar maple buckets near Hubbard Lodge in Philipstown

Photo by M. Turton

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arrive in the summer, swept north from warmer climates by storms from the south.

“We didn’t have to think about it until late in the season,” said Seaman, who works for the state’s Integrated Pest Management program at Cornell. But now there are some areas where the program’s network of observers are seeing the earworm earlier in the season, which means it survived the winter.

One member of the network is ecologist Teresa Dorado at the Hudson Valley Farm Hub, just west of Kingston. Throughout the growing season, Dorado checks pheromone traps for corn earworm, European corn borer and other unwelcome guests.

Meanwhile, Seaman spends the winter checking temperatures to see if corn flea beetles will be a problem in the spring. Warmer winters mean more survivors, and the beetles spread a pathogen known as Stewart’s wilt that can kill seedlings and cause stalks to rot.

Because of the warmer temperatures and longer growing seasons, the pests can breed through more generations, attacking the corn at every stage in their life cycle: burrowing into the kernels, through the stems, attacking the silky tassel and upsetting farm customers who see the caterpillars crawling on the ears.

When he visits the Farm Hub, Dayton takes genetic samples of the corn borers. He hopes to figure out how the milder winters, earlier springs and longer falls are affecting the generations as they hatch

through the season.

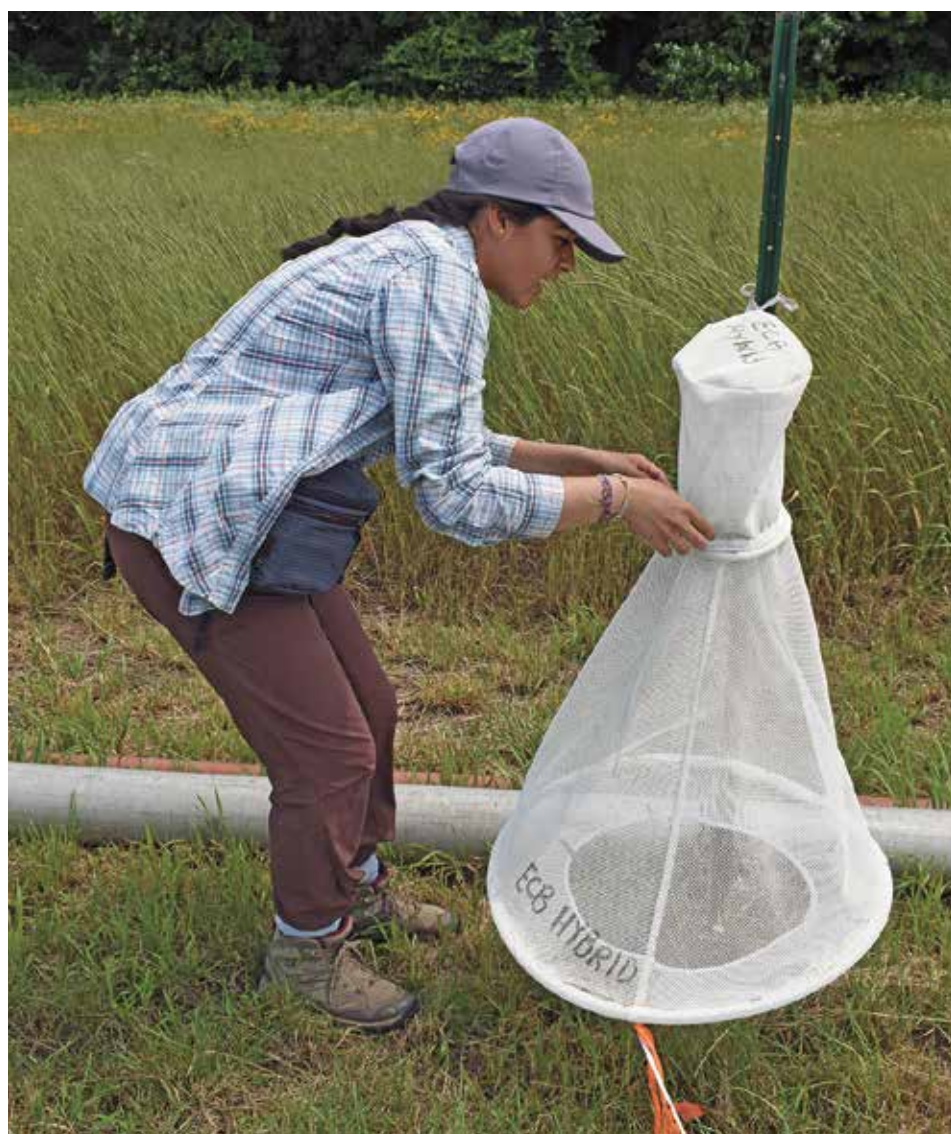
Corn borers and earworms survive cold weather by entering diapause, which is a form of hibernation. Bugs prepare by eating as much as they can in the fall. With the warmer, longer autumns, the bug’s metabolism goes into overdrive, and it requires even more energy on top of the amount it’s storing for the winter, Dayton said. This could lead to a compounding problem in which there are not only more pests throughout the year because of overwintering and multiple generations, but hungrier ones, as well.

One way to stop the corn borer without spraying is to call in air support: *Trichogrammas*, a species of parasitoid wasps. At the Farm Hub, Dorado deposits their eggs anytime she sees corn borer eggs. The wasps hatch first, then lay new eggs inside the corn borer eggs, which become the newborn’s food supply.

There are other control methods, but Dayton said that one of the most successful is probably too expensive for smaller farms: A genetically modified corn known as Bt produces a toxin that kills corn borers.

“The proteins shred the inner lining of their gut,” explained Dayton. “In humans it doesn’t have the same effect because our stomach acids degrade the proteins.”

It’s an option for larger farms that plant only corn but harder to afford for smaller farms that plant a variety of crops, he said. “If you can meet the economic thresholds at a small operation through other management practices, it might make sense,” he said.



Teresa Dorado conducting sweet corn pest monitoring in 2022 for the Hudson Valley Farm Hub near Kingston
Photo provided

FRUIT TREES: Waking Too Soon

By Brian PJ Cronin

It wasn’t the unusually warm days in the winter that worry fruit tree farmers. It’s the unusually warm nights.

Fruit trees enter dormancy in the early part of the winter, typically ending in January. After that, they respond to temperature changes. “It only takes a number of nights over 40 degrees to break dormancy,” said Mark Doyle of Fishkill Farms. “And then we’re off to the races.”

There are two dangers associated with fruit trees waking up prematurely. First, once they get used to breaking dormancy earlier, they lose some of their natural cold hardiness, said Daniel Donahue of the Cornell Cooperative Extension. For instance, apple trees can usually withstand temperatures as low as minus 25 degrees. “The real risk then is wild changes in temperature,” he said. “You get a week of 50-degree weather and then one night it drops to 10 degrees; that’s dangerous for the tree.”

Second, a mild winter can cause a tree to set up its buds and flowers — which ideally produce fruit — too soon. If the weather remains mild, it’s not too much of a problem. But the earlier the buds and flowers come, the more time there is for a cold snap that will kill them and cripple production for the year.

That’s what happened in 2020, when a mild winter followed by an early May frost destroyed some of Fishkill Farms’ peach crop, although Doyle said it could have been worse.

“The guys up around Red Hook had a dramatically decreased crop,” he said. “We seem to have our own little microclimate going on down here.”

In some cases, a touch of late frost can be helpful, Donahue said. Once the trees fully bloom, farmers will prune many of the flowers. If every bud flowered, and every flower fruited, the resulting fruits would be small. “You only need about 10 percent of those blossoms,” he said. “Sometimes Mother Nature takes care of that expense for you.”

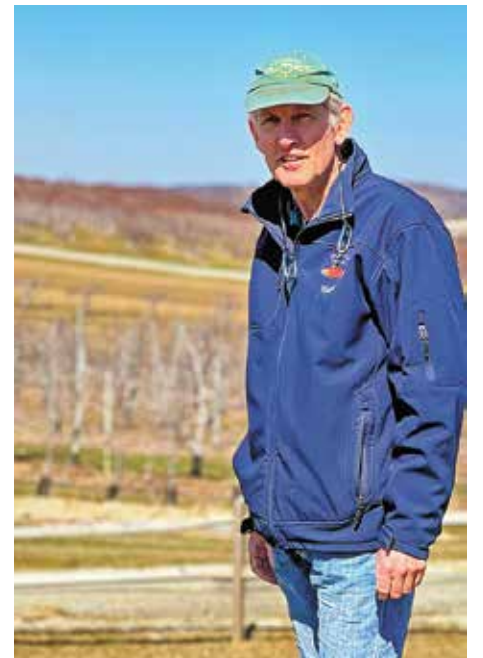
For apples in the Mid-Hudson Valley, the most important day of the year might just be today. When asked for the ideal timing for apples, Donahue said, “green tips on Macintosh in Highlands on March 31.” In the past two weeks, the silvertips should have started to emerge. These are silver, velvet tissue that pops out of the tops of the buds as they swell. They’re followed by green tips, the stage when just the tips change to a light green color. If the apple trees can hold out until March 31 to reach that stage, or even later, it’s a good sign.

Neither the silver nor the green tips were out in Fishkill on March 20, the chilly first day of spring, although the peach trees stuck out at a distance as being noticeably redder than the rest of the trees in the orchard.

“That’s fine,” said Doyle when asked about the peach trees. “They’ll just get progressively more colorful.” But the chill on March 20 was helping to keep the rest



Cherry trees at Fishkill Farms setting up buds



Mark Doyle at Fishkill Farms



Peach trees at Fishkill Farms transitioning for spring
Photos by B. Cronin

of the orchard from waking up, which is just how Doyle likes it.

The cold also helps to suppress the plum curculio, a beetle that emerges in early spring to feed on flowering fruit trees and developing fruit. “They overwinter in the soil but also in the surrounding forest,” Doyle said. “They’ll fly into the orchard and attack the fruit. It’s not something we can control particularly well.”

If the trees flower too early, and farmers see from the forecast that a 10-degree night is coming, Donahue said there’s not much they can do. “You’re at the mercy of the weather,” he said.