



Healthy Fruit, Vol. 30, No. 3, April 19, 2022

Prepared by the University of Massachusetts Amherst Fruit Team

Jon Clements, Editor

### Current degree day (DD) accumulations






UMass Cold Spring Orchard, Belchertown, MA (NEWA, since March 1)	18-April
Base 43 BE	188
Base 50 BE	74

### Upcoming pest events

Pest	DD's Base 50 F. BE	Recommendation
San Jose scale (adult)	36-129	Apply oil
European red mite (egg hatch)	51-129	Apply oil
Obliquebanded leafroller (larvae)	90-109	Monitor for larvae presence
Aphids (1st egg hatch)	109	Monitor, if rosy apple aphid present apply insecticide at open cluster through pink
Green fruitworm (1st egg hatch)	109	Post-bloom sprays recommended

## Current bud stages

Current bud stages. 18-April, 2022, UMass Cold Spring Orchard, Belchertown, MA (more current bud stages [here](#))

				
McIntosh apple <i>Very early tight cluster</i>	Honeycrisp apple <i>Half-inch green +</i>	Gala apple <i>Early tight cluster</i>	Crispie pear <i>Bud burst</i>	Redhaven peach <i>Bud swell ++</i>

## Upcoming meetings

**Every Tuesday at noon** - UMass Fruit Team Open Office Hour  
<https://umass-amherst.zoom.us/j/97190816203> Bring your own lunch.

**Tuesday, April 19, 2022, 4:30 PM** - UMass Fruit Team Twilight Meeting, UMass Cold Spring Orchard, 393 Sabin Street, Belchertown, MA. 1 pesticide recertification credit. (There will be a \$20 per person charge for those requesting pesticide credit. Donations gladly accepted.) A light supper will be served. *Note the 4:30 start time!* Agenda to include orchard walk and entomology (rosy apple aphid, scale, pear psylla), pathology (apple scab, brown rot) and horticulture (peach pruning, prohexadione-calcium application at pink) topics.

**Wednesday April 20, 2022, 12:00 PM** - UMass Fruit Team Grape Noon Zoom with Dr. Elsa Petit

Use this link to join:

<https://umass-amherst.zoom.us/j/99828717909?pwd=NUhWZkZnNlZ6Z3pMZUJRRFhqcE9MdzQ> (Note this will be a grape-centric meeting, we don't expect to discuss tree fruit topics.)

**Wednesday, May 4, 2022, 4:30 PM** - UMass Fruit Team Twilight Meeting, Mann Orchards Riverside Farm, 445 Merrimack Street, Methuen, MA. Details forthcoming. 1 pesticide recertification credit. A light supper (BBQ!) will be served. *Note the 4:30 start time!*

**Wednesday, May 18, 2022, 5:30 PM** - URI/UMass Twilight Meeting, Spencer Morris's Orchard, Warren, RI. Details forthcoming.

**Podcast reminder:** Don't forget to check out the [UMass IPM Fruit Loop](#), the audio version of Healthy Fruit. We are getting episodes out on a slight delay right now but should be up to speed next week.

# The way I see it

Jon Clements

You are no longer receiving Healthy Fruit – well maybe, depending on when the database gets updated – unless you go to the UMass Extension Bookstore (<http://umassextensionbookstore.com>) and purchase a new 2022 subscription to HF (\$65, e-mail delivery only). Alternatively, you can send me (Jon Clements, 393 Sabin St., Belchertown, MA 01007) a check for \$65 made out to 'University of Massachusetts.' Make sure you note it is for Healthy Fruit subscription, and include your email address. You can also use [this mail-in form](#) to order Healthy Fruit and other UMass fruit publications. (It says 2021, but go ahead and use it for 2022.) You can ignore this of course if you have already sent in your payment. And we very much appreciate your subscription, thanks for supporting the UMass Fruit Team.

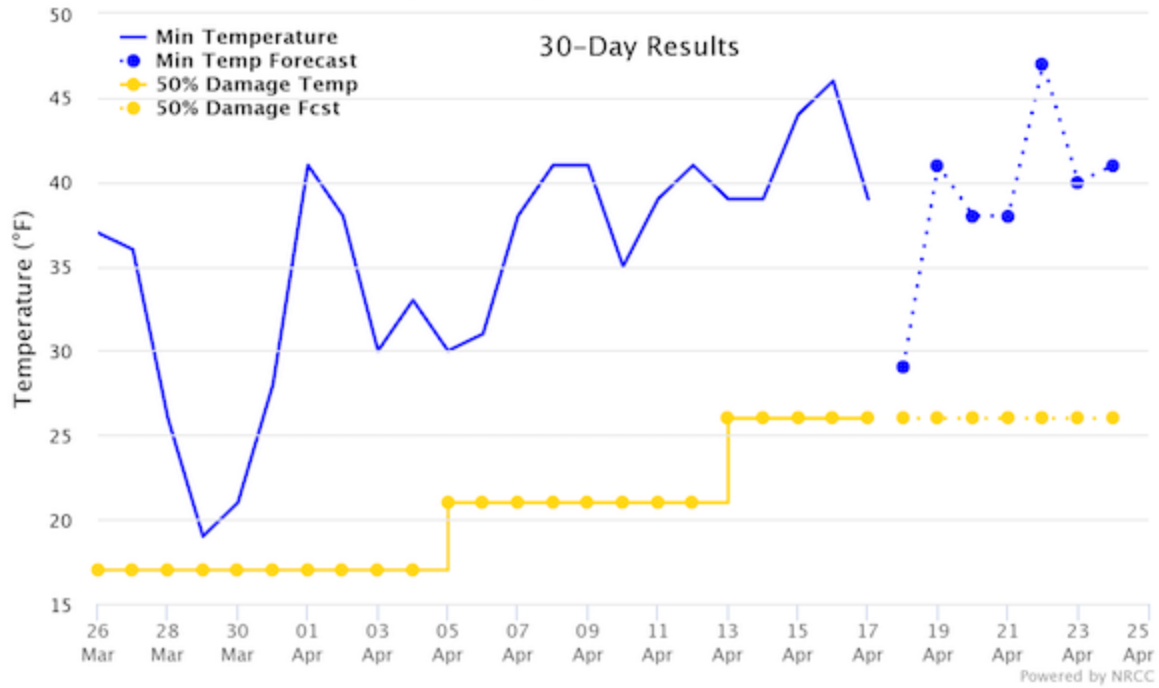
Beginning April 5, and then every week on Tuesdays at noon (12 PM), the UMass Fruit Team will host an informal Open Office hour via Zoom. We will generally have brief updates on entomology, pathology, and horticulture and leave time for questions and answers. We hope you can come in from the field 15 minutes early at 11:45, make a sandwich, and join us and be back out in the field no later than 1 PM. Sounds like fun, eh? Here's the Zoom link, it will be the same every week: <https://umass-amherst.zoom.us/j/97190816203>

Apples are slowly approaching tight cluster, so that now there is actually a target for your sprays to land on. Zinc and boron sprays can go on now, followed by calcium, urea, and prohexadione-calcium (Apogee, Kudos) at pink. Dr. Greene and myself have updated our fact sheet on prohexadione-calcium: [HRT-2022-Suggestions for the use of prohexadione-calcium on apples](#). Did anyone mention that tight cluster is a good time to control rosy apple aphids (RAA) if you had a problem with them last year. (Who didn't?) Sivanto Prime, Actara, Beleaf, and Assail are all rated EXCELLENT on RAA. Wait until it warms up a bit to apply insecticide, next week is looking to be good timing.

I know there were some sprinklers and wind machines running overnight April 17-18. Lows were forecast in the upper 20's, but of course your site-specific conditions may have been colder (or warmer). I heard 28 in one orchard. It was 29 in Belchertown. Below, from [Climate Smart Farming](#) is the CSF Apple Stage / Freeze Damage Probability for two locations that probably did not get much sleep. I will say CSF said both orchards were at the pink bud stage, which I doubt. This site has a tendency to overestimate the current bud stage, so that 50% damage should be a few degrees lower (if you know what you mean). Should not have hit the 50% damage threshold, but does not hurt to run the wind machines. I worry about overhead sprinkling, it can do more damage than good if not properly implemented, including plenty of water volume and running until the temperature has risen above freezing and the ice starts to melt. Be careful out there and let's hope we don't need it again so everyone can sleep tight!

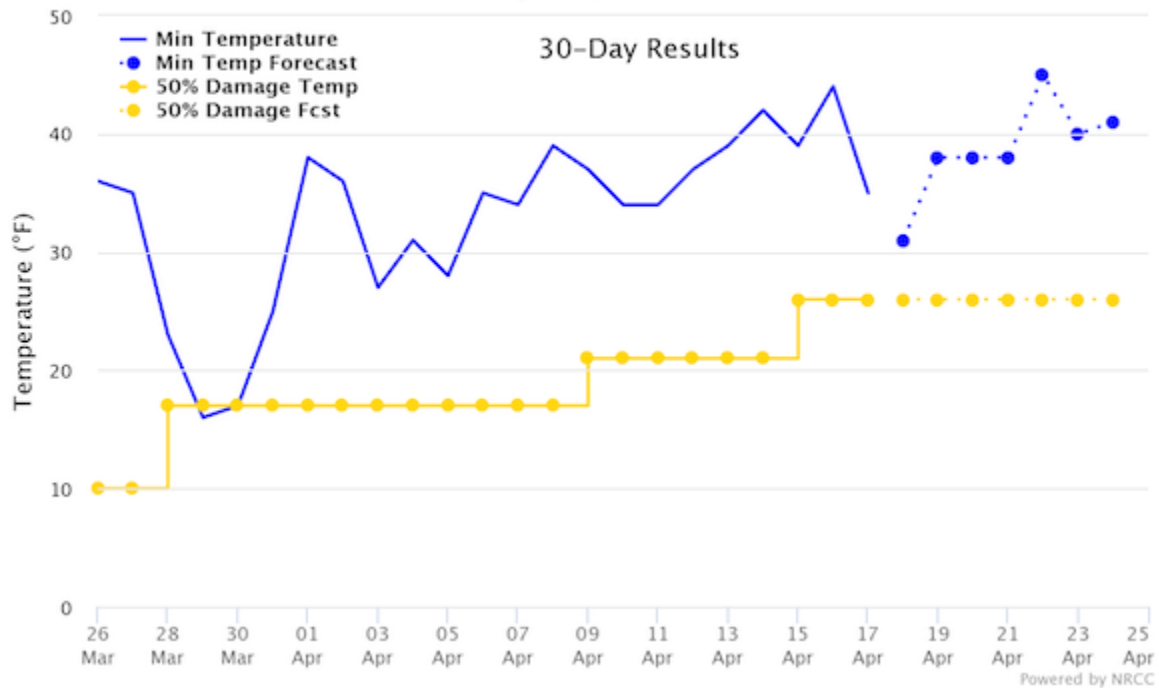
### McIntosh Apple Freeze Damage Potential

@ East Bridgewater, MA 02333



### McIntosh Apple Freeze Damage Potential

@ Stow, MA



I still have 24 (at last count) Crimson Crisp apple trees I don't have any more room for. They are not big, 1/4-3/8 inch, but they are nice little trees on G.11 rootstock. Ideal for super-spindle (2 feet) or tall-spindle (3 feet), taking up only 50 to 75 linear feet of orchard! (Or plant them 18 inches apart like I did!) I'll take \$200 for the lot, or \$10 per tree individually. I might even be coerced into delivering if you take them all? Cash or check (made out to UMass) only.

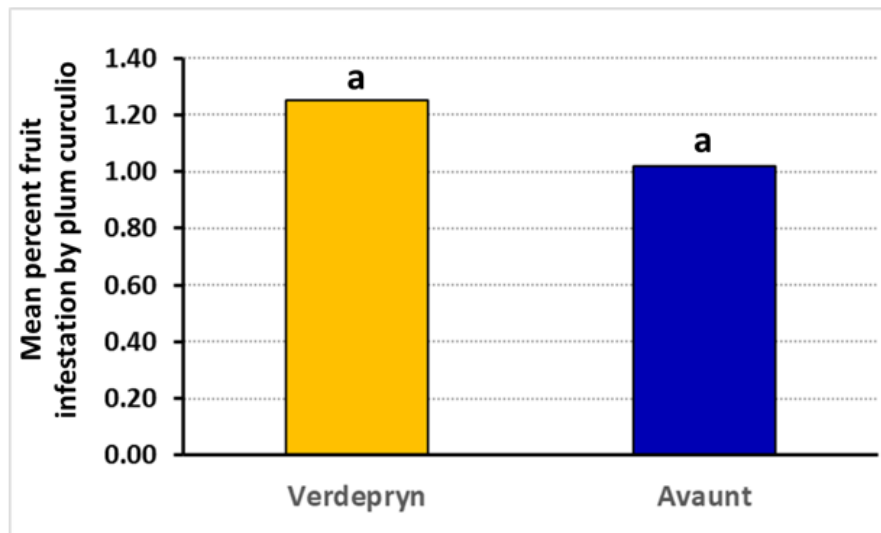
## Entomology

Jaime Pinero

**Validating the effectiveness of Verdepryn (a.i. Cyclaniliprole, IRAC group 28) at controlling plum curculio at petal fall in selected apple blocks.** Please let me know ([jpintero@umass.edu](mailto:jpintero@umass.edu)) if you would be willing to apply Verdepryn to one apple block (**full block spray**) at petal fall. You would get 1/2 gallon of Verdepryn for free. Click [HERE](#) to access the Verdepryn label.

Many newer compounds including diamides (Verdepryn is a diamide insecticide) readily penetrate plant cuticles and have translaminar movement in leaf tissue. Penetration into plant tissue is generally expected to enhance rainfastness of pesticides. Thus, Verdepryn is expected to have better rainfast properties than Imidan.

In 2021, we evaluated Verdepryn against PC in multiple blocks at the UMass Cold Spring Orchard, with excellent results (see chart below). One fruit grower in Rhode Island evaluated Verdepryn applied against PC at petal fall. The level of injury recorded in the RI orchard in the June 1<sup>st</sup> sampling was 0.26%.



Across six sampled blocks at the UMass CSO, average level of plum curculio injury to sampled fruit according to insecticide type. Same letters above bars denote lack of statistically significant differences between treatments at odds of 19:1.

If you are willing to spray one block, we would go about 10-14 days later (before the next spray) to assess the efficacy of the spray via a visual non-destructive sampling. The Verdepryn would be delivered next week. I only have enough Verdepryn for 3-4 evaluations.

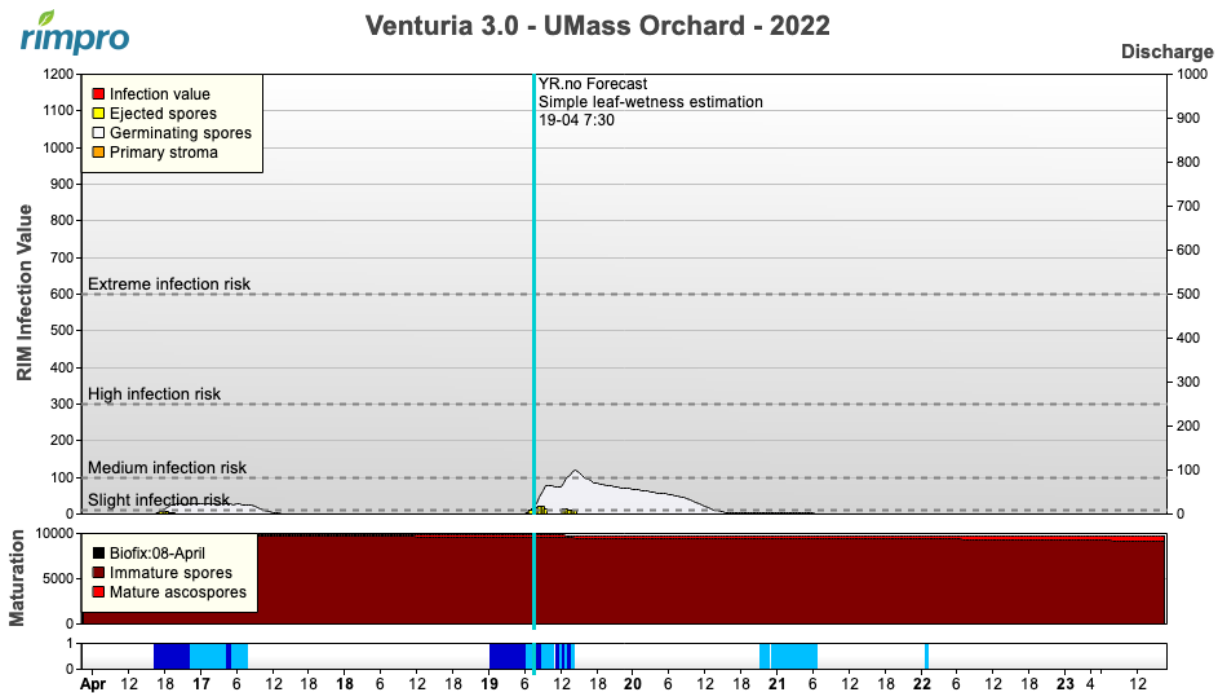
Other than reporting that tarnished plant bugs have become active in some orchards, I don't have any other entomological updates for this week.

## Pathology

Elizabeth Garofalo

Apple scab-

Lab counts show an increase in spore captures in the funnel trap and the first petri plate assay captures. NEWA currently estimates ascospore maturity to be at 8% as of April 19, 2022. NEWA has indicated that infection was potential for today, however, as I type, the NEWA output has shifted to reflect cooler temps which are indeed not conducive to infection. Real time updates! Additionally, RIMpro suggests that conditions are not adequate for infection even though (very few) spores have been released.



Bottom line: while in the past we have seen primary infections initiate as early in the season as tight cluster, temperatures combined with leaf wetness duration are not currently conducive to infection. However, if you are in a warmer (than Belchertown, MA) location and or have susceptible blocks with a history of high infection, CAUTION should be your signal word. Of course, the real "fun" this time of year is those muddy blocks which are hard to navigate.

-Brown rot

Conidia, which are typically the spore that cause infection, sexual reproduction is not often seen in the Northeast, form on fruit mummies and infected shoots in the Spring when temperatures reach ~41°F+. During bloom, when temperatures and wetness duration are conducive, blossom infection may occur. These can lead to twig infections which serve as inoculum for fruit infection later in the season as fruit begin to ripen (green fruit can also become infected but we seldom see this in MA). Right now the temperatures are too cool for infection, however, warmer locations with advanced bud stages in peach should keep an eye on the weather as temperatures are estimated to climb later in the week and over the weekend.

-Powdery mildew

As discussed at Tuesday's twilight meeting (for those of you who missed out on the fun), it is still a little early to worry about powdery mildew (PM), and climatic conditions are currently not favorable for infection. If you had hot spots last year, this is your reminder to keep this pathogen on your radar. As conditions warrant, more information will be forthcoming. One important thing to keep in mind with PM is that typically fungicides that are effective against apple scab are not effective against PM. With the exception of Cevya (FRAC 3) and Excalia (FRAC 7) which has been reported to have efficacy against both. Remember when planning your rotational schedule, that FRAC 7 is also in Luna Sensation, Merivon and Pristine and FRAC 3 is a component in Inspire Super. So, rotate with care.

## Horticulture

Jon Clements

No Horticulture per se, but a few things on my mind:

**Paraquat** – new regulations are fully in effect including: paraquat-specific training; application/handling only by licensed/certified applicators/handlers (*not* to be used by persons working under the supervision of a licensed/certified applicator); very specific respirator or enclosed tractor cab requirements; new packaging requirements for a fully closed handling and pouring system only allowing dispensing into properly modified sprayer. (No backpack application allowed.) Let's just figure out how to NOT use paraquat and use alternative(s) to paraquat? Glyphosate (Roundup and generics)? Glufosinate-ammonium (Rely and generics)? Pelargonic acid (Scythe)? Carfentrazone-ethy (Aim)? Among others?

**Lorsban** – banned on all food crops in 2022. Period. Yes, this includes trunks sprays. Don't take a chance, find a pesticide recycling event. (MDAR?) Need dogwood borer control? [This](#), from Peter Jentsch (PomaLab):

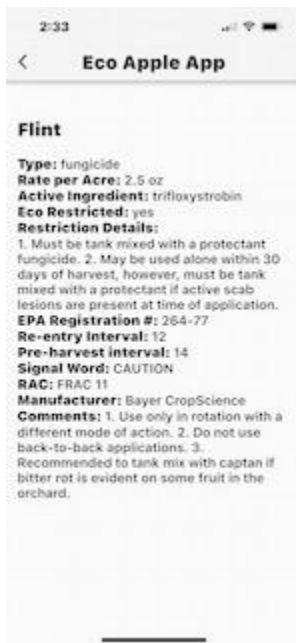
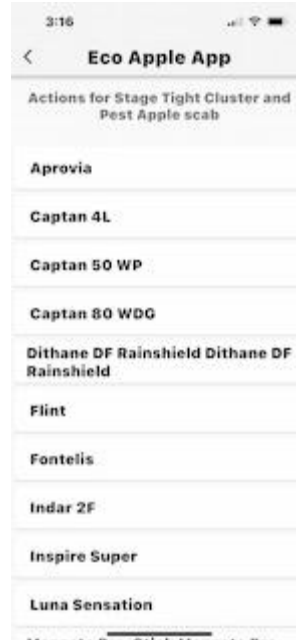
Dogwood borer (DWB) management should be well underway if directed applications using labeled materials are employed. The loss of Chlorpyrifos requires alternative pest management strategies that include multiple applications of contact insecticides such as pyrethroids (IRAC 3 – Warrior (Lambda-cyhalothrin) or a systemic / contact insecticide

neonicotinoid (IRAC 4A – Assail 30SG, 8 oz/acre) through the season targeting the overwintering larvae during pre-bloom or during post bloom in multiple directed trunk applications to align with adult flight and dogwood borer egg laying, followed by a subsequent spray 14 – 21 days later as larva hatch. If this is year 1 of mating disruption (MD) for your orchard, you should also consider employing a contact insecticide if 2021 DWB populations were high. MD should begin before the first adult flight of DWB.

**RIMpro** – I’m more impressed with RIMpro this year as it has undergone a user interface refresh. (Although I am still working through some usability issues.) More importantly, you can be up and running with it using site-specific virtual weather data in less than 5 minutes. RIMpro, from their website “is a decision support system (DSS) for the sustainable management of pests and diseases in fruit and grape production. Every day, the cloud service together with the weather data system help thousands of growers and consultants worldwide to make the best decisions to protect their crops.” RIMpro has apple scab, pear scab, apple powdery mildew, fire blight, brown rot, sooty blotch, fire blight, Marssonina, codling moth, apple sawfly, grape down mildew, grape black rot, Monilinia (brown rot), cherry leaf spot, rosy apple aphid, grape powdery mildew, and apple fruit thinning. RIMpro arguably is for more advanced users, but overall it is not much harder (or easier?) to use than NEWA for example. And no weather station required! (That comes with a caveat about the accuracy of virtual weather data of course.) Check out <https://rimpro.cloud/> to “Learn how” and sign up. Let us know if any questions or you need assistance with RIMpro.

**Eco Fruit/Apple App** – available on iOS store (search for Eco Fruit App) or Play store (search for EcoApple Fruit App) is a smartphone app commissioned by Red Tomato/Eco Apple to be used as a compliment to their [Quick Guide for Eco Apple](#) certified growers to remain within their allowed pesticide list, including restrictions to use. BUT, it can be downloaded and used by anyone while out in the field for a quick reference. (Just remember not all pesticide options are listed.) The app is organized by: 1.) choosing from a Bud Stage list, then 2.) a Pest list that would occur during that Bud Stage which you wish to manage/control, then 3.) a list of Eco-approved pesticides, which 4.) can then be selected (one at a time) followed by a screen with pesticide details. I invite you to download and install the app and provide us with any feedback. I see it as the future of our “spray tables” in our various tree fruit guides. Thanks to Northeast Sustainable Agriculture Research & Education, and USDA/NIFA AWARD Number: 2021-70006-35388 “Integrating development, implementation and awareness of effective strategies and technologies to promote Specialty Crop IPM in Massachusetts” for funding.





## Guest article

No Guest article this week...

## Useful links

UMass Fruit Advisor: <http://umassfruit.com>

Network for Environment and Weather Applications (NEWA): <http://newa.cornell.edu>

Follow me on Twitter (<http://twitter.com/jmcextman>) and Facebook (<http://www.facebook.com/jmcextman>)

[The Jentsch Lab](#) (Peter Jentsch, Poma Tech)

[Acimovic Lab](#) (Srdjan Acimovic at Virginia Tech)

[Tree Fruit Horticulture Updates](#) (Sherif Sherif at Virginia Tech)

The next Healthy Fruit will be published on or about April 26, 2022. (Time flies.) In the meantime, feel free to contact any of the UMass Fruit Team if you have any fruit-related production questions.

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