

MaluSim Carbohydrate Model*

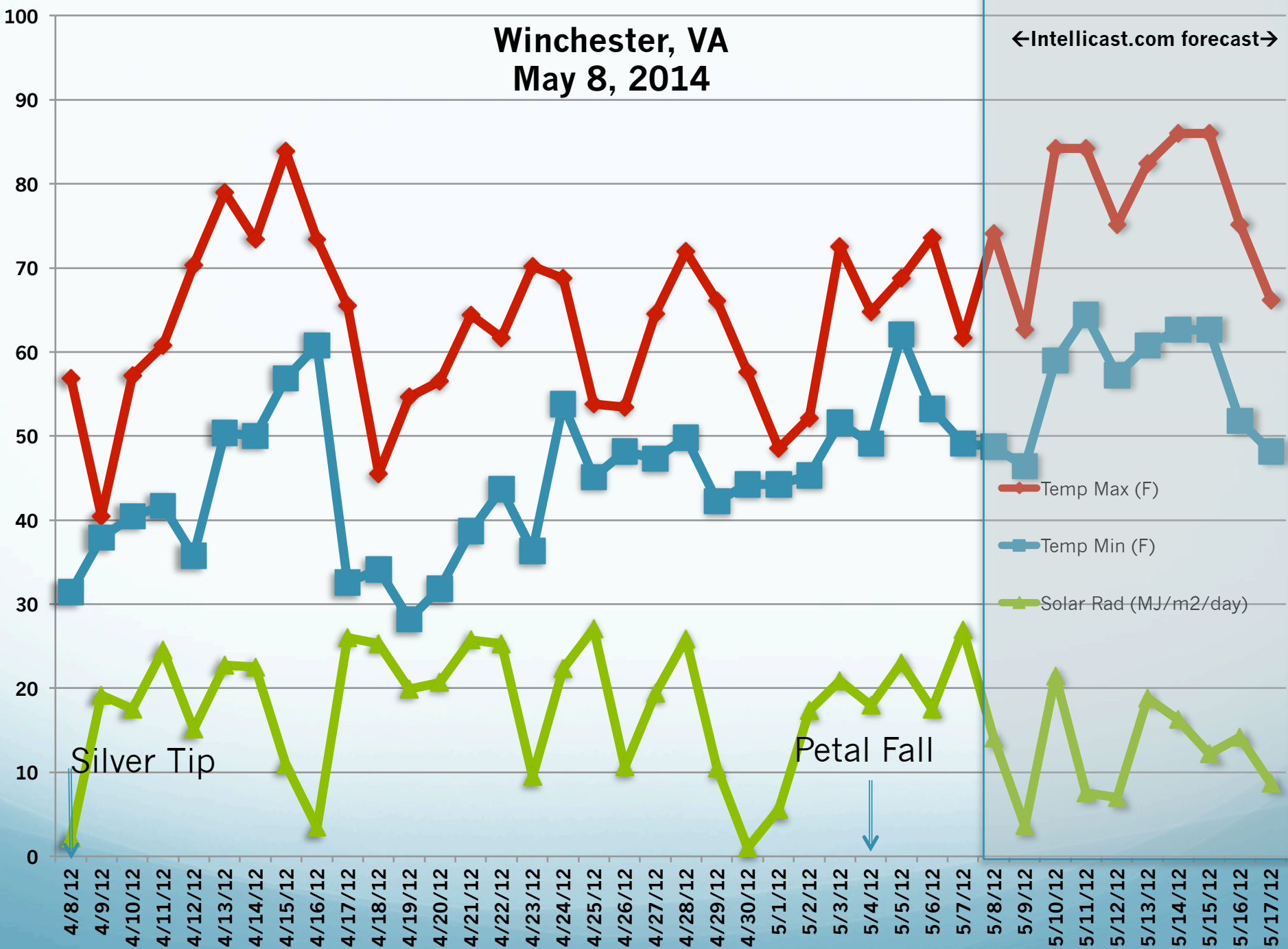
Simulation location: Winchester, VA
Simulation date: May 8, 2014 2:15PM

Greg Peck

*Developed by Drs. Alan Lakso and
Terence Robinson, Cornell University

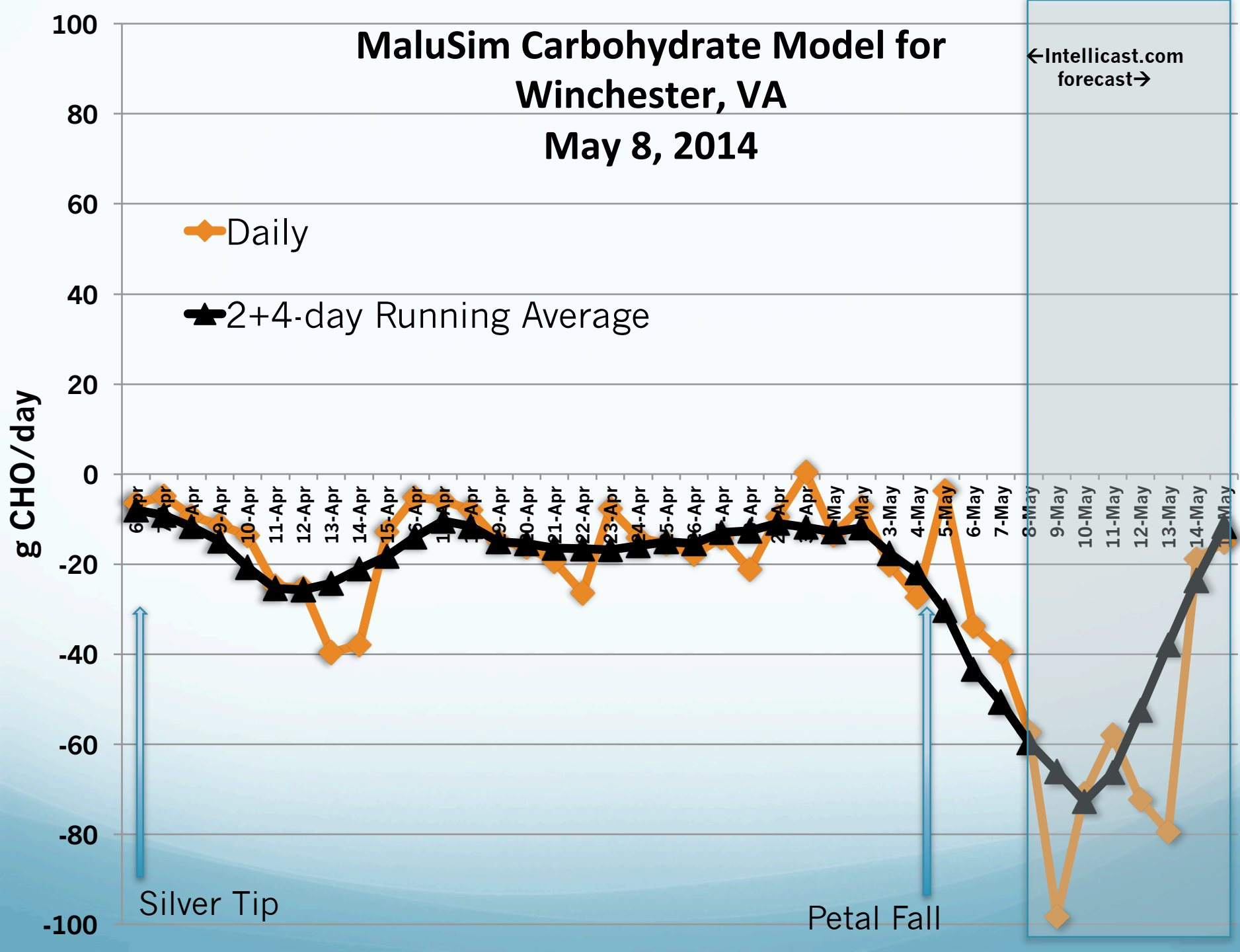
Winchester, VA May 8, 2014

←Intellicast.com forecast→



MaluSim Carbohydrate Model for Winchester, VA May 8, 2014

←Intellicast.com
forecast→



Interpreting the MaluSim Model: look for three-to four-day trends

Thinning Index	Recommendation
>20 g/day	Expect little or no response to normal rates of chemical thinners. You will need to thin more aggressively than normal
+ 20 to -20 g/day	Expect normal thinning responses to standard rates of chemical thinners
-20 to -40 g/day	Expect normal to slightly aggressive responses to standard rates of chemical thinners
-40 to -60 g/day	Expect aggressive responses to standard rates of chemical thinners. Consider reducing rates to avoid over thinning
-60 to -80 g/day	Expect very aggressive responses to standard rates of chemical thinners. Reduce rates to avoid over thinning
< -80 g/day	Standard rates of thinners will result in severe over-thinning. Reduce rates by at least 50 percent.

(Table developed by Dr. Steve McArtney (NCSU). Additional input from Drs. Alan Lakso and Greg Peck)

Calcium Recommendations

- Season long, want 20-50 lbs CaCl_2
 - 2-8 lbs CaCl_2 spray
 - For calcium disorder prone cultivars, need higher range
- With greater heat and water stress, increase chance of disorders, as well as phytotoxicity
- Calcium moves into the soil by mass flow
 - Dry soil conditions reduce calcium uptake

Magnesium Recommendation

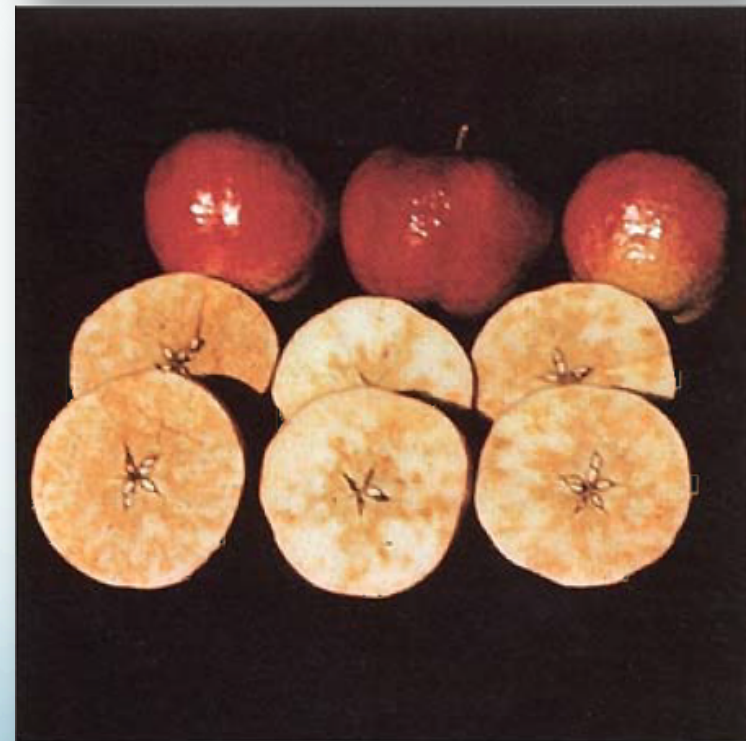
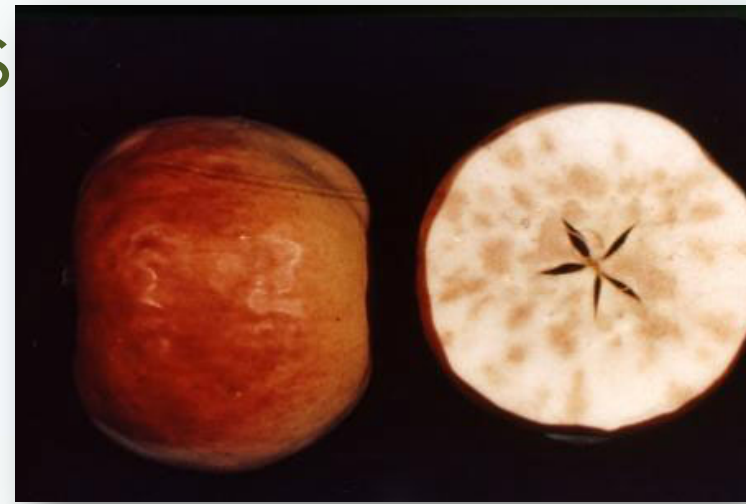
- 1-3 applications of Epsom Salts at 15 lbs/100 gal at petal fall, 1st and 3rd cover
- Epsom salts can be tank mixed with Solubor but not with calcium chloride



Boron Recommendations

Foliar Applications

- Many Virginia orchard soils are low in boron
- Foliar application of 3-4 lbs of Solubor at petal fall or first cover usually helps to correct low boron levels
- You can also split the Solubor applications into two sprays, e.g., petal fall and 2nd cover or 1st and 3rd cover
- Boron may precipitate out of solution when mixed with calcium chloride



Boron deficiency—apple

Tree fruit extension and outreach



We are a collaborative team of Extension specialists and agents who deliver year-round programming for the Commonwealth's tree fruit producers. We provide our stakeholders with the latest research-based information for making sustainable management decisions on their farms. We also develop resources for beginning farmers and home fruit enthusiasts.

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<http://extension.psu.edu/plants/tree-fruit/news/2014/cherry-flower-damage-observations>

Cherry Flower Bud Damage Observations — Tree Fruit Production (Penn State Extension)

Past updates: disease | pest management | horticulture

Commercial tree fruit production updates

04/23/2014

Fire blight update

From: Tree Fruit Disease Update

CAUTION: The observations, conditions, and recommendations reported for Winchester, VA are provided as a guide to fire blight risk assessment only for the immediate area of the Virginia Tech AREC located six miles southwest...

04/21/2014

Fire blight caution

From: Tree Fruit Disease Update

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2014 Spray Bulletin for Commercial Tree Fruit Growers



Risk of Frosts this Week

Posted on April 13, 2014 by gmpeck

The weather forecasts for the coming week show three days with potential frosts. For Wednesday morning, the National Weather Service is forecasting a low of 29F in Winchester and a low of 30F in Tyro. I'm sure other locations in VA are also at risk of frost.

In the Winchester area, apples are 1/4" green tip with some cultivars showing pink. Peaches are at first pick to some early blooming cultivars having a few open flowers. The phenology in Central VA is a bit more advanced, with peaches having been in bloom for nearly two weeks. According to the critical temperature charts, we can expect a small amount of damage from these temperatures but not a complete crop failure. So, fingers crossed that it doesn't get any colder than predicted. However, even if flowers are not killed by the frosts, there is also the risk of russets and frost rings. Temperatures are forecasted to warm up towards the end of the week.

Below are links for the Washington State University fact sheets (as pdfs) on the critical temperatures for flower buds:

- Apples
- Peaches
- Cherries
- Pear

Michigan State University has adapted the WSU critical temperature fact sheets into this easy-to-read fact sheet.

MSU has also put together an excellent set of resources about freezes and frosts in fruit crops.

Additionally, work done by Dr. Steve McCartney (NCNU) and others has shown that applications of Promalin (gibberellin 4+7 plus the cytokinin 6-BA) at 25 ppm immediately following a frost event may help increase fruit set and cropping. In essence, the Promalin sends signals to the developing fruit that the seeds are still intact and growing, even though the frost has killed the embryo. The result is a crop of parthenocarpic (seedless) fruit. This "rescue treatment" is not a full proof way of setting a crop, and it is still unclear under what environmental conditions and for which cultivars it works best. If the temperatures drop much below 28F, each grower will have to make a decision as to whether or not it is worth trying to rescue the crop with Promalin.

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- Rappahannock-Madison Winter Fruit School Rescheduled for March 6
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