Pasteurization Calculator

This is an alpha version and subject to change.
Feedback will be appreciated; see contact info in the FAQ.

View: ○ data entry or ◉ printer/PDF friendly

Cider #19
15 November, 2025

Number of Batches:	5	Temperature model:	"smart"
Target temperature of warm-water bath:	130°F	*z* reference temperature:	60°C
Target temperature of hot-water bath:	185°F	*z* value:	6.94°C
Start prep work:	11:40 am	Minimum effective temperature:	131°F
Start heating water:	12:08 pm	*D* value, if known:	

Batch #1
bottles: 10 +1 (measure)
warm water temp:
when add: 126°F

transfer to warm: 12:15 pm
12:17 pm = 88°F
12:18 pm = 96°F
12:20 pm = 105°F
12:21 pm = 108°F
12:23 pm = 110°F
12:25 pm = 111°F
12:26 pm = 111°F
12:28 pm = 112°F
12:30 pm = 112°F

transfer to hot: 12:31 pm
12:32 pm = 113°F
12:34 pm = 132°F
12:36 pm = 152°F
12:38 pm = 157°F
12:40 pm = 160°F

transfer to cool: 12:40 pm
12:43 pm = 158°F
12:44 pm = 156°F
12:46 pm = 153°F
12:48 pm = 150°F
12:50 pm = 147°F
12:52 pm = 146°F
12:54 pm = 142°F

Total PU: 285

Batch #2
bottles: 10 +1 (measure)
warm water temp:
pre mix: 115°F
post mix: 131°F

transfer to warm: 12:37 pm
12:38 pm = 70°F
12:42 pm = 111°F
12:44 pm = 115°F
12:46 pm = 117°F
12:48 pm = 117°F
12:50 pm = 117°F
12:52 pm = 117°F

transfer to hot: 12:53 pm
12:54 pm = 119°F
12:56 pm = 150°F
12:59 pm = 160°F
1:00 pm = 162°F

transfer to cool: 1:00 pm
1:02 pm = 162°F
1:03 pm = 159°F
1:04 pm = 156°F
1:06 pm = 154°F
1:08 pm = 151°F
1:10 pm = 149°F
1:12 pm = 146°F
1:19 pm = 144°F

Total PU: 401

Batch #3
bottles: 10 +1 (measure)
warm water temp:
pre mix: 108°F
post mix: 135°F

transfer to warm: 12:59 pm
1:00 pm = 70°F
1:02 pm = 100°F
1:03 pm = 106°F
1:04 pm = 114°F
1:06 pm = 116°F
1:08 pm = 119°F
1:10 pm = 120°F
1:12 pm = 129°F

transfer to hot: 1:12 pm
1:14 pm = 136°F
1:16 pm = 141°F
1:18 pm = 154°F
1:20 pm = 160°F
1:21 pm = 161°F

transfer to cool: 1:21 pm
1:23 pm = 161°F
1:24 pm = 159°F
1:25 pm = 157°F
1:26 pm = 156°F
1:28 pm = 153°F
1:30 pm = 149°F
1:32 pm = 147°F
1:34 pm = 144°F
1:36 pm = 142°F
1:38 pm = 140°F

Total PU: 307

Batch #4
bottles: 10 +1 (measure)
warm water temp:
pre mix: 113°F
post mix: 138°F

transfer to warm: 1:18 pm
1:19 pm = 69°F
1:20 pm = 85°F
1:22 pm = 101°F
1:23 pm = 112°F
1:24 pm = 116°F
1:26 pm = 120°F
1:28 pm = 122°F
1:30 pm = 122°F
1:32 pm = 122°F

transfer to hot: 1:33 pm
1:34 pm = 122°F
1:36 pm = 149°F
1:39 pm = 160°F
1:41 pm = 161°F

transfer to cool: 1:41 pm
1:42 pm = 162°F
1:44 pm = 158°F
1:46 pm = 155°F
1:48 pm = 153°F
1:50 pm = 149°F
1:54 pm = 146°F
1:56 pm = 144°F

Total PU: 385

Batch #5
bottles: 9 +1 (measure)
warm water temp:
pre mix: 115°F
post mix: 138°F

transfer to warm: 1:40 pm
1:40 pm = 71°F
1:42 pm = 99°F
1:44 pm = 110°F
1:46 pm = 117°F
1:48 pm = 120°F
1:50 pm = 122°F
1:52 pm = 122°F

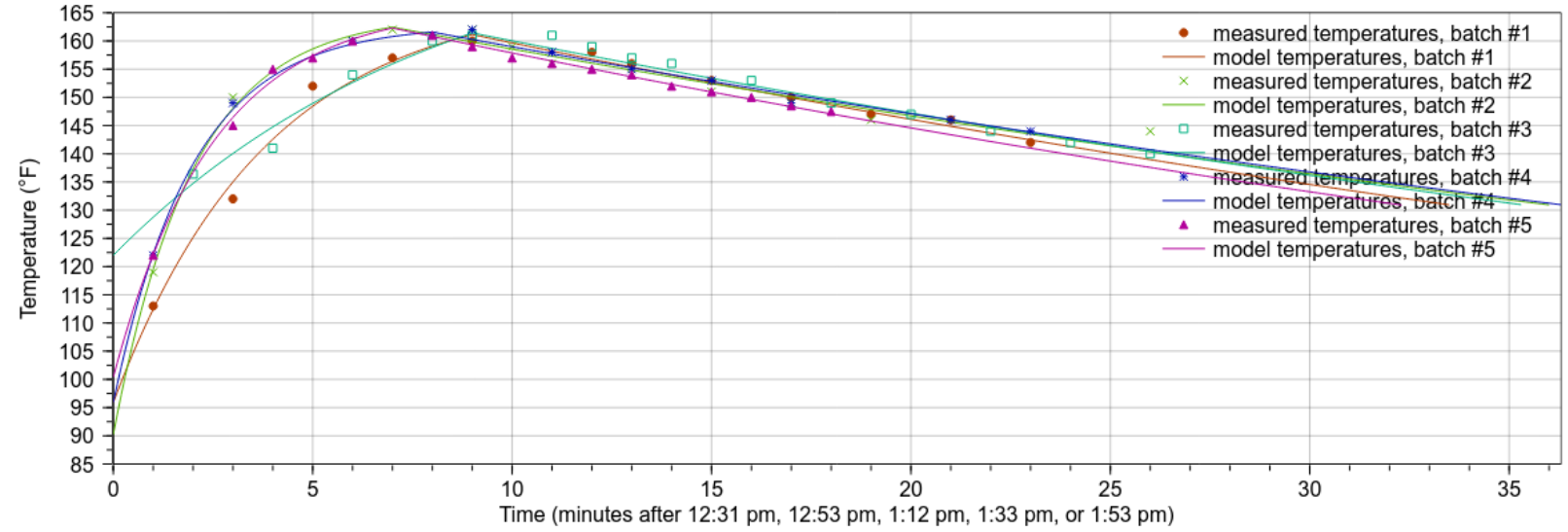
transfer to hot: 1:53 pm
1:54 pm = 122°F
1:56 pm = 145°F
1:57 pm = 155°F
1:58 pm = 157°F
1:59 pm = 160°F

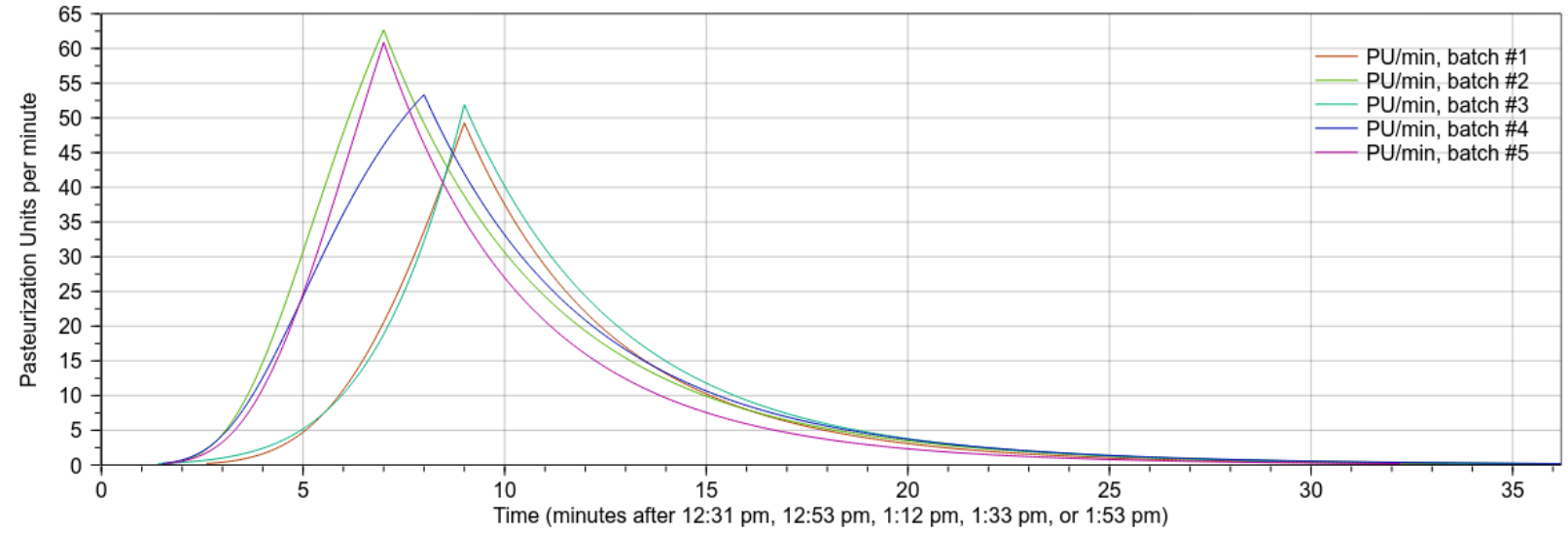
transfer to cool: 2:00 pm
2:01 pm = 161°F
2:02 pm = 159°F
2:03 pm = 157°F
2:04 pm = 156°F
2:05 pm = 155°F
2:06 pm = 154°F
2:07 pm = 152°F
2:08 pm = 151°F
2:09 pm = 150°F
2:10 pm = 148.5°F
2:11 pm = 147.5°F

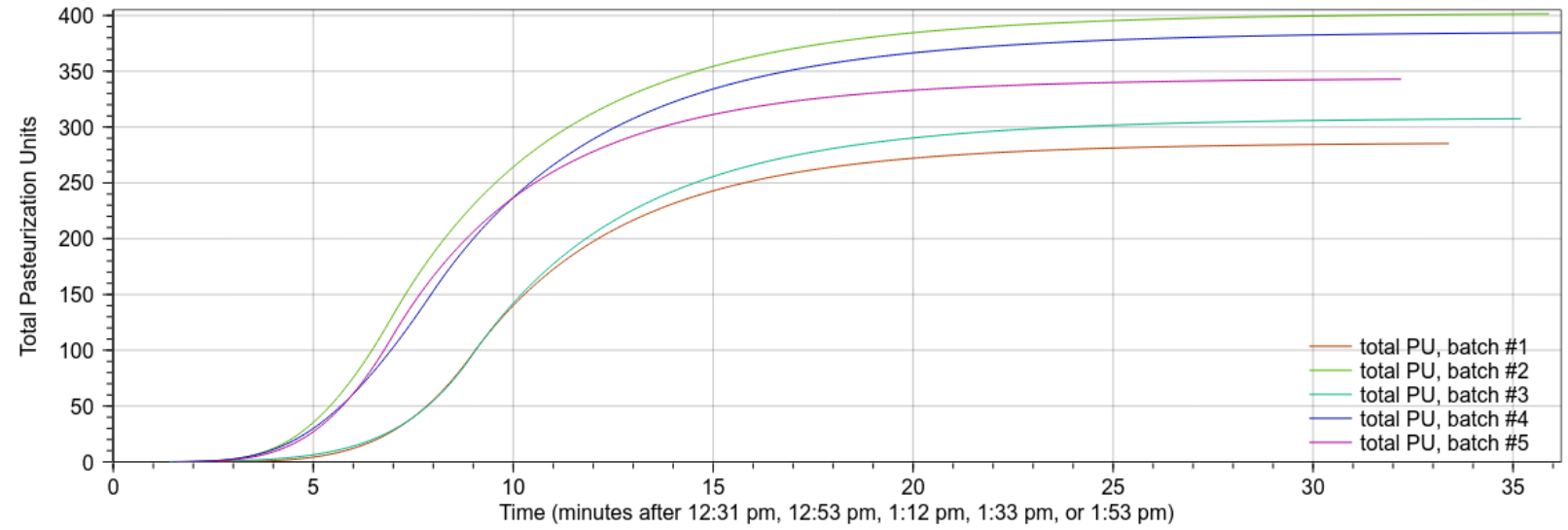
Total PU: 343

Finish cleanup: 2:25 pm
Total time: 2 hours and 45 minutes

Plots:







Versions:

0.0.0: (2024-Nov-10 to 2025-Mar-16) Initial version.

Important Disclaimer: I hope that you find this page useful, but I make no guarantees about the accuracy or suitability of the results. While I have pasteurized hundreds of bottles of carbonated and sweetened hard cider for years without incident, there are always risks when pasteurizing at home. There is the definite risk that during the pasteurization process an exploding bottle will send shards of sharp and burning-hot glass into your body, possibly even into your eye. Very hot glass bottles may cause burns even when they're intact. The hot water may scald or burn your flesh. The hot stove may burn your flesh or your clothing. Bottles full of hot cider may break due to a sudden change in temperature or a manufacturing defect. You might drop a bottle, sending burning hot liquid and sharp shards of hot glass all over your floor. The computed pasteurization units on this web page, while based on the best information available to me, are only an approximation. The computed values might also be incorrect due to temperature readings that are not taken at the coolest region within the bottle or possible bugs in the code. Bottles that have not been sufficiently pasteurized may explode at any time. This is by no means an exhaustive list of things that might go wrong, even under the assumption that you know what you're doing. Please prepare well, use great

caution, always assume that anything might go wrong at any time, and accept responsibility for the consequences of your actions. Nothing on this website absolves you of that responsibility or transfers any of that responsibility to me or this site. Use the information provided here at your own risk. With all of that said, I hope that you have the best of luck, many years of safe and incident-free pasteurization, and many delicious pasteurized beverages!