



## Press yields

Posted by [Claude Jolicoeur](#)

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[Claude Jolicoeur](#)

[Press yields](#)

February 23, 2022 07:33PM

Registered: 11 years ago

Posts: 226

In another thread, Todd and Craig started to discuss press yields, and this probably is worth a new thread.

First thing I'd like to say - please - don't use gallons per bushel for yield measure! These are extremely awkward units as a bushel may contain anything between 15 and 20 kg of apples, and a gallon - what is that again? You still use these in the US?

So, if we express yield as a percentage weight of juice/weight of apples, we know exactly what we are talking about. This yield may range between 40% for small dry apples in a non-performing press system to 80% with very juicy (watery) commercially grown apples in a performant press. Also as Todd mentioned, longer pressing time increases yield. Sometimes, I go to bed at night leaving the cake under the press, to find a few more liters next morning...

For my part, I use the homemade equipment described in my book, grinder and rack-and-cloth press with 2 8-ton bottle jacks. For most of my apples the initial press might give a 60 to 65% yield, leaving the cake about 20 to 30 minutes under the press. This might go up to 70% with some very juicy apples.

What I do however, for my precious apples when I don't have much of them, I will pass the dry pomace in the grinder and press a second time. I can combine the pomace from 2 to 3 pressings into one pressing that will give me an additional 25 to 30% juice. Usually, this "second pressing" is the one I'd leave overnight under the press.

For example, from 100 kg of apples (or if you wish replace kg by lb in the following), I'd get 60 kg of juice (that would be about 57 liters if the SG of juice is at 1.050). Then I have 40 kg of pomace, that I regrind and press to get 25% of 60kg - that is 15 additional kgs. The combined yield then becomes 75%.

Naturally, this second pressing routine is quite time-consuming, and you'd want to do that only if you value the additional yield more than your time. When there is plenty of apples, it is hard to justify. However, this second pressing I find it is much more efficient than leaving the cake under pressure for extended periods (like a few hours), because the cake becomes clogged after a while. Regrinding it and starting over improves things a lot.

Claude

[Jolicoeur Orchard](#)

Zone 4 in Quebec

Author, [The New Cider Maker's Handbook](#)

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[Craig Bickle](#)

[Re: Press yields](#)

February 23, 2022 08:16PM

Registered: 2 years ago

Posts: 82

Alas, it must be by trying having to talk cider with Americans and our simplistic bushels and (U.S.) gallons, Claude! Unfortunately, it is how apples in middle-America are sold by volume. And I still build using inches and feet thanks to the notions of our pig-headed forebears. Certainly not as precise as I could be, but my buildings remain standing nonetheless.

I suppose my only defense for the imprecision of my trials is that in this phase of my cider education, I'm just trying to learn which apples are worth attempting again. I've pressed a few batches of Cortland, for instance, that were an entirely unpleasant experience. So I would suggest not to use Cortland if I were asked by a local grower. However, I know this variety is often suggested in the literature as worth a try. So someone SOMEwhere has found it worthy, and maybe if I grew my own, I'd come away with a different opinion. Which is to say, I realize my personal notes may never be as useful to far-flung farmers as the more rigorous trials you and others have undertaken. But it seems to me that "real-world, on-the-ground" experiences have their value too.

As for your thoughts on lengthier pressing techniques, I defer to your expertise. Time is always a big factor when it comes to expending it on this much attention to detail, though. So again, my (decidedly unscientific) experiments may reflect the more common experience. Hence, I'll continue to add them to the mix as I go forward, because it's the kind of thing I'd have been happy to stumble across on the websites and books I've scoured for information.

Yours!

Craig Bickle  
Hap Woods  
Zone 6a  
East-Central Ohio  
[Reply Quote](#)  
[Brittany Kordick](#)  
[Re: Press yields](#)

Registered: 4 years ago  
Posts: 211

February 24, 2022 03:50AM

That is neat to hear about your pomace re-pressing, Claude! I played around with this some this past fall, and now wish I had tried your method of re-grinding before re-pressing. I was playing around with this, actually, hoping to increase efficiency on long press days. For everyday pressing we use a Lancman bladder press, and while it's very efficient, sometimes when I know I have a lot of pressing that has to get done in one day, it's frustrating to watch the minute hand on the clock go by much faster than the accumulation of those drips that do add up, though. Also, it takes a bit of time to empty out the press, reset the cloth, etc. I was curious if I could sort of pair long pressing of pomace to moving on to the next batch by "piggybacking" batches.

I started by pressing one batch (about 6 bushels\* worth) not quite as long as normal, then I would hand-press the mostly dry pomace to the bottom of the bladder press. I would then grind a smaller batch (would have to look at my notes, but maybe more in the neighborhood of 4 bushels) and add the fresh pomace to the old, and press again. I would piggyback a third pressing on, by again hand-pressing down the relatively dry pomace, grinding more apples (now more like 2 or 3 bushels). At the end of the third batch, I emptied the press entirely and started anew.

In the end, I found it hard to draw much in the way of scientific conclusions, as to any increased/decreased efficiency and yield, since all your data piggybacks, as well. My gut feeling is that it ended up a wash, but it made me "feel" like I was doing good by re-pressing pomace multiple times, and it definitely made me feel more efficient by not sitting still much in between batches, and not having to clean out the pomace as often.

\*Sorry for my lack of kilogram translation from bushels! We also use pounds, if that helps, (fwah-pah, that's the sound of an American self-flagellating her back with a whip for her lack of metric fluency) but don't weigh before pressing; our bushels average about 40 lbs, with crabapples obviously adding a few more pounds, large apples a little less.

[Kordick Family Farm](#)  
Westfield, NC  
Zone 7a

Edited 2 time(s). Last edit at 02/24/2022 03:59AM by Brittany Kordick.

[Reply Quote](#)  
[Claude Jolicoeur](#)  
[Re: Press yields](#)

Registered: 11 years ago  
Posts: 226

February 24, 2022 04:45AM

Brittany Kordick Wrote:

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> That is neat to hear about your pomace  
> re-pressing, Claude! I played around with this  
> some this past fall, and now wish I had tried your  
> method of re-grinding before re-pressing.

Yes it works quite well, and I was surprised when I tried this the first time. So next fall, you may try it - press 3 batches and leave the pomace aside after each press. Once you are done, regrind the pomace - this makes a great job in breaking the cake. Then fill the press (I am not sure if you will be able to load all the pomace from 3 loads, but maybe that of 2 -1/2). You'll probably be pleased with the quantity of juice you'll get. Note it takes more time to express the juice on the second pressing, and a good hour under press would normally be required. That is why I often leave it overnight.

> \*Sorry for my lack of kilogram translation from  
> bushels! We also use pounds, if that helps,  
> (fwah-pah, that's the sound of an American  
> self-flagellating her back with a whip for her  
> lack of metric fluency) but don't weigh before  
> pressing; our bushels average about 40 lbs, with  
> crabapples obviously adding a few more pounds,  
> large apples a little less.

Getting my equivalence tables out, I see that a US gallon is 3.8 liters, and at a SG of 1.050, this makes 4 kg of juice. And a well filled bushel is around 18 kg (40 lbs). But as you say this is fairly variable with the size of the apples, and how full the bushel is. Hence may be anywhere between 15 and 20 kgs. So, 3 gals/bu makes approximately 12 kg of juice from 18 kg of apples, so approximately 67% yield, which is quite good; and 2.5 gal/bu would be a yield of about 55%, which is just fair.  
Claude

[Jolicoeur Orchard](#)

Zone 4 in Quebec

Author, [The New Cider Maker's Handbook](#)

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[Todd Parlo](#)

[Re: Press yields](#)

February 26, 2022 08:52PM

Registered: 10 years ago

Posts: 301

The logic surrounding repressing or slow pressing is always going to come down to the time value for each operation. My advice is to first start with slow pressing if the cidemaker has a cool location to do so. This is especially wise if your setup is a hassle to refit after each pressing. Repressing is great too, but simply takes more fussing as mentioned above. There is clear value in getting the most out of your apples. Example: in 2021 we pressed for wholesale approximately 1500 gallons of "hard cider" mix. Most of this was normal pressing since we did not have our larger cooler setup done yet. This meant around 2.5 gallon average/bushel (sorry Claude). When I slow press for at least 8 hours I can get at least 3 gal/bu. Is it worth it? It winds up being roughly 300 gallons more. Figure after a 10% racking loss you could conceivably wind up with 1,363 bottles of 750ml for your trouble. If you have 2 small presses (for example 4bu. bladder press) and did 2 pressings a day/night for 12 hours each it would take about a month to produce that 1500-1800 gallon target. Keep in mind you do not have to stand there, but you would need to keep it at a non-fermenting temperature. Or you could go the spanish sidra 3 day method route and let fermentation rip. I have done the repressing method similar to what Claude mentions with good results. What I don't remember doing a long press and then try to repress, imagining the diminishing returns would be negligible. Another option (that may induce scorn here) is to add water to spent pomace, let sit and repress. This I have done. The water will loosen the mush and solubilize the constituents (the sugars and polyphenols are water soluble as are many other flavor components). The result is what is traditionally called "short" cider. It is watered down, but this I have remedied by freeze concentrating, which led to good ciders. I only do this for my own home cider, not for sales. Some of you out there may think the ideas in this thread are not worth the hassle, but for those skeptics, pencil out how much money and effort goes into planting, growing, harvesting and grinding. Those considerations along with the fact that we have a dramatic bottleneck in cider fruit production make this a smart option.

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[Claude Jolicoeur](#)

[Re: Press yields](#)

February 26, 2022 10:12PM

Registered: 11 years ago

Posts: 226

Todd Parlo Wrote:

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> Another option (that  
> may induce scorn here) is to add water to spent  
> pomace, let sit and repress. This I have done. The  
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> cider. It is watered down, but this I have  
> remedied by freeze concentrating, which led to  
> good ciders. I only do this for my own home cider,  
> not for sales.

Todd,

I also have tried (in my early years of cider making) to add water to the spent pomace before repressing, as this is the traditional way to do in France and England - they thus make a "petit cidre" or "ciderkin" that is for serving to children and farm employees.

My conclusion was that it is not worth it. For example, let's say I can express 10 liters of juice from repressing a certain amount of spent pomace. If I add 2 liters of water to that pomace, I would then simply get 12 liters of diluted juice. Actually, you might just as well take the 10 liters pressed from the non-watered pomace and add 2 liters of water to the juice and you'd obtain exactly the same end-result...

[Jolicoeur Orchard](#)

Zone 4 in Quebec

Author, [The New Cider Maker's Handbook](#)

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[Todd Parlo](#)

[Re: Press yields](#)

February 27, 2022 01:06AM

Registered: 10 years ago

Posts: 301

Claude, I 94% agree with you. Watering down pomace is for the moment when you need to get every bit of worth out of your apples and so probably won't apply to most situations. The times it made a difference to me was when the pomace was extremely dry (even after sitting or regrinding) as can be the case with certain true crabs, and the juice wouldn't budge. The water sitting on the pomace a bit does liberate some of the constituents- it acts as a vehicle. I am sure the juice in your example would yield an intensified cider after the added 2

liters was iced out. I do however concede your point that it is added work for a pretty small gain. I would never do this on a large scale or with general cultivars but with something like a batch of 1 cm crabs and their associated harvesting hassle I would make great strides in getting every last drop.

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[Steve Dagger](#)

[Re: Press yields](#)

February 27, 2022 10:01PM

Registered: 9 years ago

Posts: 28

I'm finding this thread really helpful. Thanks Claude for your engineering background and ability to clarify the numbers game.

I want to re-emphasize on this thread the point Todd made about pressing equipment in the parent thread. Many, myself included, use less efficient old style grinders and screw presses. I estimate that I get about 40 lbs. of juice for 100 lbs of apples which means I am in the 40% yield range. As Claude's experience with his home made set-up shows, the techniques mentioned above can help many of us up our yield significantly. In the future I am going to do some weighing of selected presses before and after and experiment more with pressing time and regrinding to help inform how much time I want to invest to optimize juice yield from my more desirable cider apples.

[Pommes de Terre Acres](#)

USDA Zone 5 - Dixon, Montana

Intermountain West Region

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[Claude Jolicoeur](#)

[Re: Press yields](#)

February 27, 2022 10:43PM

Registered: 11 years ago

Posts: 226

Just thinking about this...

I built my current press after having written the New Cider Maker's Handbook. It is based on the design shown in the book, but I had to build one after publishing the book... So, even if you have the book, it doesn't show my current setup.

So photos are here: [[goo.gl](#)]

Note the 3 last photos of the album, as this is the most recent iteration of the design - I added some smaller rods to improve the stability of the press and prevent the uprights from bending when the cheese is not well aligned. You'll also see that in the first series of photos I was using a 12-ton bottle jack, which I had to reset in the middle of the run as it was reaching its maximum extension.

Now I rather use a screw to start the run and 2 bottle jacks of 8 tons each to finish the run. I think this is a bit faster, and I don't have to reset the jacks anymore. Plus it makes a better distribution of the load and I get 16 tons instead of 12.

If I had to do it again, I would rather use 2 rods at each end of the cross beams - as per drawing on page 142 of the book. This would even work better than what I have done to my current press.

[Jolicoeur Orchard](#)

Zone 4 in Quebec

Author, [The New Cider Maker's Handbook](#)

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