

Barista Manual 1.0

“Textured Milk Preparation”

Free Excerpt

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Why the 1.0?

Barista Manual 1.0 isn't our final word on the vast subject of specialty coffee preparation. We're always learning from fellow professionals and enthusiasts, and we're already looking forward to future versions. Please send your feedback:

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into larger ones, the milk and foam will separate out, and the bubbles will pop and disintegrate quickly once you take the milk off the heat. At this point, not only the texture but the flavor begins to suffer. As the whey gets cooked, it starts to develop scalded flavors and aromas which overwhelm the sweetness of the milk. This is especially a danger with milk that has been steamed before, since the whey proteins have already been partially broken down. For best results, heat milk only once. If you must use a small amount twice, chill it completely first and then combine it with fresh milk.

There are many other factors which can affect the milk's flavor and foaming ability, including time of year, homogenization, fortification, and health of the cows who produced it. Good baristas pay attention to the nuances of their milk and learn how to work with it. Milkfat content is one important factor in the texture of the finished drink. Fat molecules disrupt foam formation, so the thinner a milk is, the more dramatically it will foam up. Half and half and whole milk need a little more air to compensate—and skim milk needs to be treated with great care so that it doesn't foam up. Soy and rice milk lack whey, so they don't foam as well as cow's milk, though some soy milks contain additives to improve foaming ability. Freshness also impacts milk taste and texture, since milkfats break down over time into fatty acids that can disrupt foam formation and add off-flavors to the drink. Keep milk in the fridge whenever it isn't being used to keep it fresh.

The general formula for excellent taste and texture is this:

1. Start with cold, fresh milk for best results.
2. Aerate the milk only until 100°F, and aim for small bubbles.
3. Whirl the milk to texture it and break down bubbles into microfoam.
4. Stop heating the milk at 150-160°F for maximum sweetness.

3.4.2 Milk Preparation Sequence

These are the steps that lead up to a perfect milk pour.

1. Fill cold pitcher half-way with cold milk and set away from grinders.
2. Prepare shot (milk is to be prepared while shot is pulling).
3. Purge steamwand into drip tray or wet rag (to remove condensed water).
4. Lift steamwand up towards you until it is one inch away from drip tray (generally, about a 35 degree angle from the machine).
5. Hold the pitcher so that the bottom is parallel to the counter. Keeping the bottom parallel, put the steamwand into the pitcher, resting it in the groove of the pour spout.
6. Angle the pitcher 15 degrees right or left, but not forward or backwards.

7. Lift pitcher straight up until the tip of the wand is just buried in the milk and is a little bit off-center.
8. Resting the steamwand on the lip of the pitcher gives greater stability.
9. Activate steam pressure by fully turning the knob or fully depressing foot pedal.
10. Once you activate steamwand, keep the pitcher as still as possible. Movements should be smooth and small.
11. Lower steam pitcher until you hear hissing and spitting sounds, faintly and consistently and see an even, swirling vortex.
12. Use your free hand to gently tap the pitcher to feel for temperature.
13. When you feel the pitcher is no longer cool to the touch (no more than 8 seconds in, or when a thin film of milk forms on the steamwand), lift pitcher very slightly so that the steamwand is submerged in the milk and you do not hear the aeration.
14. Use free hand to continue to check temperature.
15. When it is too hot to touch for one second, turn off steam.
16. Set pitcher down. Wipe and purge steamwand.
17. Tap the pitcher on a hard surface to stamp out any bubbles and swirl pitcher on the counter to polish it and keep it from binding and clumping up.
18. Milk should have a chrome-like finish, without any graininess or visible bubbles.
19. Pour into freshly extracted espresso.

3.4.3 Aerating and Texturing

You should fill your pitcher with the right amount of cold milk before you begin to prepare your shot. Start with a clean, cold pitcher, filled with the appropriate amount of milk. Since we try not to reuse milk once it has been textured, it's important not to pour too much milk into the pitcher. The volume of the milk will increase as it is aerated and textured, so filling a pitcher any higher than the lowest end of the pour spout will probably result in a fair amount of milk on your shoes.

Before you begin texturing milk, purge the steamwand by running steam through it for a brief second. This clears out any water that may have condensed inside the wand, along with any milk that may have crept up at the end of the last drink. Once the steamwand has been purged, find your position. Start with the steamwand in the groove of the pour spout and the bottom parallel to the floor. Now tilt the pitcher to the right or left about 15 degrees, but do not tilt the pitcher forward or backwards. The object is to position the steamwand so that the milk is forming a vortex at the center of the pitcher, folding in on itself. This vortex is where the microbubbles are created.

Once you've got your position, hold the pitcher steady and turn the steamwand on full blast. At this point, you should be aerating the milk. Lower the milk pitcher so that the tip of the steamwand just breaks the surface of the milk. You should hear a sound like paper being torn. You should only aerate the milk for a few seconds before dipping the tip of the steamwand back under the surface. The thinner the milk, the more receptive it will be to aeration, so, for example, skim milk should not be aerated for as long as whole milk or half and half. Try not to create large bubbles or big gulps of air; keep the pitcher very steady and make only tiny movements. Aerate only until the milk reaches about 100°F—no more than 8 seconds, or until it stops feeling cool to the touch. A film of milk will begin to form on the steamwand to indicate enough air has been introduced.



Fig. 22. Position for aeration and texturing.

Now, lower the tip of the steamwand below the surface of the milk so no more air is being introduced. Keep the milk rolling and spinning in a vortex, and move the pitcher around so that any larger bubbles are folded into the vortex and broken up. You should continue to spin the milk this way until the side of the pitcher is hot to the touch, not immediately burning, but uncomfortably hot if you hold your hand against it for too long. The perfect temperature for textured milk is 155°F. This is the temperature at which milk reaches the best balance of sweetness and creamy texture. This can be measured with a thermometer, but remember that most thermometers have about a 10 degree lag, meaning that when the thermometer reads 150°F, the milk will actually be closer to 160°F. Perfectly heated milk will have a sweet smell, while overheated milk has a slightly scalded, baby's burp smell.

When the milk reaches the correct temperature, shut off the steam and set the milk down to settle for a few seconds. This will allow any of the larger bubbles in the milk to float to the surface. Once the milk has settled, any larger bubbles on the surface can be removed by rapping the pitcher on the counter two or three times, or by swirling the milk pitcher in a circular motion, recreating a smaller version of the vortex and keeping the milk "live," preventing it from separating. When swirling, it helps to keep the bottom of the pitcher square with your work surface.

Since the thick, tasty part of the milk is now full of air, it will naturally begin to rise to the top, so it is important that the milk is poured within a few seconds of being textured. Otherwise the milk will become separated and too thick to pour properly. Skim milk in particular will separate and become unusable quickly. Swirling the milk can keep it live a little longer, but the sooner it is poured, the better the resulting drink.