



How to Make Apple Cider in the Modern and Classic Styles A Practical Guide

By Joe Hanson-Hirt
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Hard cider has been a staple beverage of the Western world since at least 77 A.D., when Pliny the Elder mentioned a drink made from the natural juice of apples. Wherever the climate is cool enough for apples to grow, hard cider traditions have emerged. Modern European and American ciders differ greatly from their traditional, heritage counterparts. In this article we will be focusing on **how to make apple cider** in both the modern and heritage European and US traditions. The discussion also includes step-by-step instructions to follow for your own **homemade apple cider**, so you can recreate either New World, New England style, or heritage **European style cider** for yourself!

A True Cider Apple

We cannot start a discussion about making **homemade apple cider** without first talking about the apples themselves. From a cider maker's perspective there are two different categories of apples, culinary apples and crab apples.

In the US, most of what we think of as apples are actually culinary apples. Culinary apples are the apple varieties that are best for eating. Think of a crunchy, sweet, red apple in your lunch or aromatic pies common in the fall. Chances are if it's an apple you eat, it's probably a culinary apple. Common varieties include Granny Smith, Golden Delicious, Gala, and Fuji. In Sonoma county, one of the most common culinary apple varieties even gave rise to the common name for a local highway, the Gravenstein. Culinary apple varieties are good for eating because they have relatively high sugar (making them sweet), high acidity (making them sharp and crisp), and low tannin content (making them have little to no bitterness or astringency). Unfortunately, the characteristics that make an apple good for eating are not the characteristics that make an apple good for fermentation.

The best apples for making hard cider are commonly referred to as crab apples. Crab apples are the traditional apple varieties of the past that are often referred to as heritage or wild apples today. Crab apples are not as common because they do not taste as good as culinary apples. They are lower in sugar, lower in acidity, and higher in their tannin content than culinary apples. Since they are less desirable for cooking, they are not as widely planted today. Most orchards contain culinary apples and probably little to no crab apples.



Key Components of Cider

Before we get into what distinguishes one cider tradition from another, I'd like you to be sure you understand about the main components of a hard cider. [Please review here my discussion of sugar, acidity, and tannins in my article entitled Key Components in Cider – Sugar, Acidity, and Tannins.](#) These are the three main elements that are important for making quality cider.

Hard Cider Varieties - New World and Heritage

Hard ciders are classified first by the types of apples that are used to make them. Hard ciders made with culinary apples with low tannins are called New World Cider. New World Ciders have nothing to do with a region, only with the varieties of apples used to make them.

Hard ciders made with crab apples or apples with high tannins are Heritage Ciders. Heritage Ciders are further divided into style by country of origin, such as English, French, New England, or Spanish. These are traditional styles of cider making that evolved before modern times. They differ greatly from country to country, and even from region to region within a country. Heritage ciders are traditionally made with one hundred percent crab apples local to the area.

Each of the major traditions use different fermentation techniques, as well as storage methods, and also tend to use certain bottle types for packaging. To get an idea of the differences, consider this comparison of New World and European style cider including English, French, and New England style ciders.

New World Cider

Pick up any commercial cider at any local grocery store and you most likely bought what is known as New World cider. In fact, New World ciders are probably what you think of when you think of cider. They are generally carbonated, sometimes almost champagne-like. They are fruity and aromatic. They have noticeable acidity and are moderately alcoholic between 5 and 8% ABV. Often, New World ciders are sweet to taste.

New World ciders are made with culinary apples that have low tannin levels. The lack of tannins results in ciders that are lighter in body and mouthfeel. Low tannins also mean they lack bitterness. The practice of controlled and clean yeast fermentations, and avoidance of bacterial or wild fermentations, leads to retaining more of their fruit character. Sometimes small amounts of crab apples are added for some acid and tannin contribution. Higher levels of acidity make the ciders refreshing without being puckering.

To make New World-style ciders, first start with culinary apples. Common varieties in our area of Sonoma County include Gravenstein, Macintosh, Golden Delicious, and Jonathan, but almost any sweet culinary apple will work. Most store-bought juice should be fine for



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making New World-style ciders. Your juice should start between 11 and 16 Brix. Make sure your TA is between 0.55 and 0.7 to create perceptible acidity. Neutral yeasts like *Prise de Mousse* and DV10 champagne yeasts will produce ciders with no fruity, estery aromas and will allow the natural aromatics of the apple to dominate. White wine yeasts such as M2, QA23, or Fresco can be used to produce fruity aromas to enhance the aromatic quality the cider.

To add moderate to high carbonation to your New World-style cider (between 2.6 and 4.6 volumes of dissolved CO₂) add 1-2 oz of corn sugar per gallon at bottling time as food for the yeast. Be sure to use strong Champagne bottles if you go above 1.4 oz per gallon---beer bottles may explode! For reference, beer is typically carbonated to around 2.6 volumes. To make your cider sweet on the finish, add potassium sorbate at a rate of 0.25 oz per 5 gal. to prevent the yeast from re-fermenting any sugar added. Then add sugar to taste. *Remember that if you also want to carbonate your sweetened cider you will need to force carbonate in a keg because you have added sorbate to inhibit fermentation.* I would recommend using fresh juice or making a simple syrup with cane sugar and water. Perform small tests by using bench trials to try and compare different mixtures of sugar and cider. Try varying levels of sweetness until you find the right level for you. Then scale up how much you need for your entire batch. When back sweetening, don't use more than ½ lb of cane sugar per gallon. Noticeable but moderate sweetness can be achieved with 1-2 oz cane sugar per gallon.

English Style Cider

English ciders are made with crab apples with medium to high tannin content. They are usually dry to medium-sweet and full-bodied. They tend to have a long mouth finish because of the high astringency due to high tannin levels. The acidity will be lower than New World style due to malolactic fermentation which reduces the dominant malic acid into less acidic lactic acid. English ciders often have no appreciable apple character to them due to the dryness of the cider and the use of malolactic fermentation. Carbonation levels range from still (not carbonated at all) to champagne-like. Common apple varieties include Kingston Black, Stoke Red, Porter's Perfection, and Nehou. Alcohol content tends to be between 6 and 9%, with starting sugars between 12-18 Brix.

English ciders commonly go through malo-lactic fermentation (MLF). MLF is the process by which bacteria convert malic acid, which is sharp and tart, into lactic acid, which is relatively soft and mild. MLF tends to soften the perceived acidity of ciders and wines by removing much of the sharp acid bite of malic acid. It also tends to reduce the perceived fruitiness.

In the presence of tannic apples, MLF commonly produces ethylphenols which are evident as other flavors: spicy/smoky including smoked meat, phenolic, and farmyard/old-horse. These flavors are common and desirable in English styles, but are not required to be English-style. The tannin MLF character should not dominate the cider's flavor and aroma. If the farmhouse character is too strong in English-style ciders, it is considered a fault and may indicate contamination by *Brettanomyces*. Sometimes the farmhouse character of English



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ciders is mistakenly attributed to the addition of *Brettanomyces*. However that character should come purely from MLF in the presence of high tannins.

To make English-style ciders it is best to start with high tannin crab apples. Kingston Blacks can occasionally be found here in Sonoma County. If you do not have access to high tannin crab apples, use whatever varieties you have available and add tannins to the juice in the form of Stellartan G Grape Tannin. For more information on adding tannins [refer to our Key Components in Cider discussion](#). If you want that smoked ham accent that is characteristic of English-style ciders, MLF must occur in the presence of tannins, so tannins should be added to the juice before MLF. [The Beverage People carries malo-lactic bacteria cultures from three different companies from 5 gallon packets to 66 gallon.](#)

English ciders are also traditionally fermented in wooden barrels. However, English ciders should not have strong wood character because the barrels were traditionally old, neutral wine barrels. [WineStix](#) makes small toasted oak staves that come in either American or French oak and in a variety of darknesses of toast. Since oak shouldn't be a strong character in the cider, I recommend using the light toast WineStix. WineStix recommends starting with 1 stave of oak per 5 gallons. I would recommend cutting a stave in half and starting with that. It is easy to add more oak. When the desired amount of wood character is achieved in the cider, rack the cider off of the oak to prevent continued extraction.

French Style Ciders (cidre)

French ciders are similar to English ciders. They are made from medium to high tannin crab apples. They tend to be noticeably sweet to balance the tannic astringency, from 2% residual sugar to above 4%, and tend to have an appreciable fruit character to them. This can be the result of backsweeting the ciders with fresh juice. Traditionally, this is the result of the French technique of *défécation* or *keeving*. Enzymes are added to the juice to minimize its nutrient content, and no nutrient additions are made. This slows the fermentation and makes it easier to stop the fermentation before all the sugars have been fermented. Less vigorous fermentation means that less aroma is driven away by the production of CO₂. This results in greater retention of the fruit's native character. Carbonation is commonly between beer carbonation to champagne-like, ranging between 2.6 and about 6 volumes of CO₂, respectively.

They tend to be rather sweet, full-bodied and rich. The acidity will be lower than New World style due to malolactic fermentation which reduces the dominant malic acid into less acidic lactic acid. The spicy, smokey, farmhouse character of MLF in the presence of tannins is most common, but is not required. Just as with English ciders, MLF character should not be pronounced and actually should be milder than most English ciders. The tannic character should be moderate, but mostly as astringency providing mouthfeel, not as bitterness. Common apple varieties include Nehou, Muscadet de Dieppe, Reine des Pommes, and Michelin. Alcohol content tends to be low due to the practice of stalling the fermentation and leaving some sugars unfermented. ABV is usually between 3 to 6%, with starting sugars between 12 and 16 Brix, and ending sugars between 2 and 5 Brix.



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To make French-style ciders, use high tannin crab apples. French style-ciders should have a noticeable astringency to them. If you don't have access to high tannin crab apples or are using store-bought juice, use what you have and make up for the tannins by adding them back in the form of Stellartan G Grape Tannin. Residual sweetness as well as astringency from tannins are key. To reduce the nutrient content before fermentation, consider treating the juice with ClarilSP, a mixed fining agent which will settle out an assortment of solids and allow you start the ferment with very clean, nutrient reduced juice. Ferment with yeasts that don't have a high vigor and will ferment slower, such as Epernay II. Also, keep fermentations cooler if you can, fermenting your cider at the low end of the yeast's temperature rating. Yeasts that produce estery aromas should be used to help enhance the fruity character. The best choice at The Beverage People would be Epernay II wine yeast, a common choice for rosé wines which has a reputation for being relatively easy to stop before it ferments dry. To stop the fermentation early, a notoriously tricky practice, bring the temperature of the fermentation down below the range of the yeast. This should be as cold as possible, preferably refrigeration temperatures. After a couple days of "cold crashing", transfer the cider off of the yeast sediment carefully and cleanly, leaving the stalled yeast behind. You should do this once the brix have reduced to about 5 brix or less.

To get the spicy, smokey, farmhouse character of MLF add malo-lactic bacteria cultures to your cider after primary fermentation is complete. MLF must occur in the presence of tannins, so tannins should be added to the juice before MLF. For more information on adding tannins [refer to our Key Components in Cider discussion](#). [The Beverage People carries malo-lactic bacteria cultures from three different companies from 5 gallon packets to 66 gallon](#). MLF character should be less pronounced in French-style ciders. Allow MLF to proceed until desired amount of MLF character is in the cider. Then attempt to arrest MLF with a combination of cold temperatures, sulfite, and [Bactiless fining agent](#)---again, cold crashing will be useful since MLF bacteria prefer temperature between 65 and 80 degrees F. If you put the cider in the fridge for two weeks, the MLF bacteria should go dormant. Adding sulfite should help inhibit or kill the MLF bacterial. [Bactiless](#) is a product used to prevent or stop bacterial fermentation. The combination of those three factors should halt MLF.

French ciders were traditionally sometimes aged in neutral, used wine barrels. Compared to English-style, however, the French ciders would not be aged as long and would not show as much character development from the wood.

For carbonation, we recommend kegging this type of cider. Due to the presence of high residual sugar, you should add potassium sorbate at a rate of 0.25 oz per 5 gal. to prevent the yeast from re-fermenting. Sulfite the cider to prevent continued bacterial fermentation. Then keg, chill, and carbonate the cider. Carbonate to between 2.6 and 6 volumes. If you want it bottled, you can transfer from keg to bottle with a [counter pressure bottle filler](#), and you will have a shelf stable French-style cidre!



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New England Style Cider

New England ciders are made with characteristically high acid New England apple varieties such as Northern Spy, Roxbury Russet, Golden Russet, and Baldwin. New England ciders are also known for being relatively alcoholic because of different kinds of sugars being added including corn, cane, brown, molasses, honey and even raisins. Alcohol levels are usually between 7 and 13%, making them noticeably stronger than their European counterparts. These sugar additions also contribute flavors to the cider. These ciders are traditionally rather dry, but can be sweeter when balancing higher alcohol levels. They should have some tannin character and should have moderate acidity. Traditionally, these ciders were often aged for some time in oak barrels. The barrels often came from local distilleries when they were done with them. Therefore, many New England ciders will have some spirit character to them in addition to the sugar additions' character. Original brix should be between 14 and 24 Brix. New England ciders do not commonly go through MLF.

To make New England-style ciders, ideally you want to start with New England apple varieties. If you don't have access to those, high acid, moderate tannin apple varieties should work. If using culinary apples or store-bought juice, you will need to add acidity and tannin. Tannin can be added in the form of [Stellartan G Grape Tannin](#). Add just enough to have some astringency. For usage recommendations, [refer to our Key Components in Cider discussion](#). If you are new to testing titratable acidity, a simple starter kit, [Country Acid Wine Test Kit](#), is available to measure the TA of the juice or finished cider. Our staff can help you understand this kit. You probably want a TA between 0.6 and 0.75%. Add enough sugar of your choice to bring the original brix to between 14 and 24 Brix. Choose a yeast that can handle your desired alcohol content. Champagne yeasts can handle high alcohol fermentations but produce no fruity esters on their own. [DV10 champagne yeasts](#) is a great choice for this type of cider---it will produce ciders with no fruity, estery aromas and will allow the natural aromatic of the apple to dominate.

If you can, age stronger ciders in barrels previously used for aging spirits. The Beverage People often gets shipments of [used whiskey barrels](#). Get some friends in on the project and age your cider in one of them for a more authentic character. If barrels are not an option, try soaking staves of oak like [WineStix](#). WineStix are toasted oak that can be soaked in a jar of your favorite spirit until saturated. Then take the stave and add it to the cider until the cider reaches a desirable amount of spirit character.

When it comes to bottling, dry and carbonated is good choice, though backsweetening may be desirable if the cider has higher ABV with noticeable alcohols that need to be hidden behind sweetness. Carbonation can range from still (no carbonation) to high carbonation.



Spanish Style Cider (sidra)

Spanish cider has a long history and is much different than any of the other cider styles, both New World and Heritage. Spanish cider covers a large range of ciders, but there are no current style guidelines for Spanish ciders as of now. To quote the BJCP Cider Style Guidelines, “Spanish cider does not yet have a style definition because there is presently insufficient appreciation and understanding, as well as a lack of commercial examples of known quality for reference.” We don’t really know what Spanish ciders are. Spanish ciders are a unique category, with two main traditions. Asturian Spanish ciders tend to be less tannic, less acidic and more fruity and floral in character. Alternatively, Basque Spanish ciders tend to have an earthy, yeasty, smokey notes. They are not fruity like Asturian ciders.

Something unique to Spanish ciders is that they often contain relatively high levels of volatile acidity (VA). This VA is acetic acid, or vinegar, which gives them a notably sharp, tart character. Acetic acid usually come from exposure to air and vinegar bacteria. Some commercial examples exhibit the characteristic smoky, spicy, farmhouse aromas that come from MLF in the presence of tannin.

We have not yet developed recommendations for making Spanish-style cider. Imported commercial examples that I found ranged between 6 and 8% alcohol. They all had VA, were carbonated, and were slightly farmhousy in aroma. If you pursue this style, be sure to let us know how it goes! Experiment and play around. Perhaps, in time, this style will become better understood and we may benefit from the Spanish traditions here.



How to Make Apple Cider - Heritage English Style

English ciders are made with crab apples with medium to high tannin content. They are usually dry to medium-sweet and full-bodied. They tend to have a long mouth finish because of the high astringency due to high tannin levels. The acidity will be lower than New World style due to malolactic fermentation which reduces the dominant malic acid into less acidic lactic acid. English ciders often have no appreciable apple character to them due to the dryness of the cider and the use of malolactic fermentation. Carbonation levels range from still (not carbonated at all) to champagne-like. Common apple varieties include Kingston Black, Stoke Red, Porter's Perfection, and Nehou. Alcohol content tends to be between 6 and 9%, with starting sugars between 12-18 Brix.

English ciders commonly go through malo-lactic fermentation (MLF). MLF is the process by which bacteria convert malic acid, which is sharp and tart, into lactic acid, which is relatively soft and mild. MLF tends to soften the perceived acidity of ciders and wines by removing much of the sharp acid bite of malic acid. It also tends to reduce the perceived fruitiness. In the presence of tannic apples, MLF commonly produces ethylphenols which are evident as other flavors: spicy/smoky including smoked meat, phenolic, and farmyard/old-horse. These flavors are common and desirable in English styles, but are not required to be English-style. The tannin MLF character should not dominate the cider's flavor and aroma. If the farmhouse character is too strong in English-style ciders, it is considered a fault and may indicate contamination by *Brettanomyces*. Sometimes the farmhouse character of English ciders is mistakenly attributed to the addition of *Brettanomyces*. However that character should come purely from MLF in the presence of high tannins.

To make English-style ciders it is best to start with high tannin crab apples. Kingston Blacks can occasionally be found here in Sonoma County. If you do not have access to high tannin crab apples, use whatever varieties you have available and add tannins to the juice in the form of Stellartan G Grape Tannin. For more information on adding tannins refer to our [Key Components in Cider discussion](#). If you want that smoked ham accent that is characteristic of English-style ciders, MLF must occur in the presence of tannins, so tannins should be added to the juice before MLF. [The Beverage People carries malo-lactic bacteria cultures from three different companies from 5 gallon packets to 66 gallon.](#)

English ciders are also traditionally fermented in wooden barrels. However, English ciders should not have strong wood character because the barrels were traditionally old, neutral wine barrels. **WineStix** makes small toasted oak staves that come in either American or French oak and in a variety of darknesses of toast. Since oak shouldn't be a strong character in the cider, I recommend using the light toast WineStix. WineStix recommends starting with 1 stave of oak per 5 gallons. I would recommend cutting a stave in half and starting with that. It is easy to add more oak. When the desired amount of wood character is achieved in the cider, rack the cider off of the oak to prevent continued extraction.

Instructions

1. Crush the apples. Use tannic crab apples if you can. Sort out spoiled fruit.
2. The crushed pulp should be sulfited right away. If your fruit is in good condition, add no more than 1/2 **Campden Tablet** per gallon of crushed fruit (32 parts per million SO₂). Higher sulfite levels will inhibit a successful malolactic fermentation later in the process.
3. Stir in **Pectinase** powder. Use 1/2 ounce for every 5 gallons. Wait 2-4 hours before pressing for the pectinase to break down the pulp which increases the amount of juice that can be extracted. It will also aid in clarifying the cider to achieve a clear, bright cider.
4. Press the pulp to separate the juice from the skins and other solids. Funnel the collected juice into narrow-neck containers that can accept an airlock. Only fill them three-quarters full.
5. Remove a sample of the juice to test for total acidity (TA). Follow the instructions in your acid testing kit. If the acidity is less than .55%, add enough **tartaric acid** to bring it to this level. If you cannot do the test right away, refrigerate the juice and run the test later.
6. Now test the sugar content of the juice with your hydrometer. Correct any deficiencies by adding enough sugar to bring the reading up to 12-18% sugar (12-18° brix).
7. *If your apples are culinary apples rather than English varieties, add tannin such as StellarTan G Grape tannin to increase the tannin content of the juice. For instructions, refer to our **Key Components in Cider discussion**.
8. Wait a total of 8-12 hours after crushing and adding the Campden Tablets for the sulfite to dissipate. Then add your Yeast by sprinkling on the surface. A good choice of yeast would be a English Ale Yeast. It will result in a softer mouthfeel than a wine yeast. **Our staff has enjoyed the #1968 London Special Yeast from Wyeast**, but feel free to experiment with other English ale yeasts. Attach an airlock or breather bung, and allow fermentation to proceed. After a day or two of fermentation, sprinkle in 1 tsp. of **Yeast Food** per 5 gallons. Agitate to disperse. If you can, maintain fermentation temperatures that are on the lower end of the temperature range for the yeast you are using. For example, if the fermentation temperature range of the yeast is 60° - 75°F, using fermentation temperatures around 60° - 62°F will ensure that less aromatics are driven off with the CO₂ production.
9. When visible signs of fermentation end - the foam flattens and the hazy appearance begins to clarify - the cider must be removed from the sediment. Use a siphon to transfer the cider to a sanitized glass, PET plastic or stainless steel storage containers that accept an airlock. Fill your container all the way into the narrow part of the neck without touching the stopper. Close the top with a stopper and airlock.
10. Add a malolactic bacteria culture and maintain temperatures at 65-80 degrees F for 3-6 weeks for a successful conversion of malic to lactic acid. We sell **different cultures for different size batches and conditions**. Review our discussion of the **"Mysteries of Malolactic"** for help in determining whether you have successfully completed the conversion.
11. When you have determined that MLF (malolactic fermentation) has completed, rack your cider to a new vessel. This is a good time to add some neutral or lightly toasted oak if you desire. English ciders are also traditionally fermented in wooden barrels. However, English ciders should not have strong wood character

because the barrels were traditionally old, neutral wine barrels. WineStix makes small toasted oak staves that comes in either American or French oak and in a variety of darknesses of toast. Since oak shouldn't be a strong character in the cider, we recommend using the light toast WineStix at a rate of about 1/2 stick per 5 gallons. Ensure it is topped up and again add 1/2 Campden Tablet per gallon (32 parts per million SO₂).

12. Store for two or three months.

13. Carefully rack away from the sediment. If your cider is going into extended bottle storage, add another half Campden Tablet per gallon (32 parts per million SO₂). Beverages such as this may often be enjoyed within two months of bottling. If you plan to drink some that soon, don't add additional sulfite to that portion at bottling time.

14. Siphon into bottles, cork or cap them, and set them aside for whatever bottle aging is needed. You may make a sparkling cider by adding 5-8 oz. of sugar to 5 gallons of cider and bottling in crown-cappable beer or up to 10 oz in strong champagne bottles. Store at room temperature for at least 2 weeks before refrigerating and opening a bottle. This will allow time for the yeast to consume the added sugar and carbonate the cider. If not fully carbonated after 2 weeks, wait a week and test again. Note: Do not use Potassium Sorbate if making sparkling cider or it won't sparkle! If you wish to sweeten, add to taste, a syrup made by boiling two parts sugar with one part water, and add 1/2 tsp. Potassium Sorbate per gallon to prevent re-fermentation in the bottles. To carbonate sweetened cider, you will need to force carbonate in a keg system.



MAKING HERITAGE APPLE CIDER IN THE FRENCH STYLE



How to Make Apple Cider - Heritage French Style

French ciders are similar to English ciders. They are made from medium to high tannin crab apples. They tend to be noticeably sweet to balance the tannic astringency, from 2% residual sugar to above 4%, and tend to have an appreciable fruit character to them. This can be the result of backsweeting the ciders with fresh juice. Traditionally, this is the result of the French technique of *defécation* or *keiving*. Enzymes are added to the juice to minimize its nutrient content, and no nutrient additions are made. This slows the fermentation and makes it easier to stop the fermentation before all the sugars have been fermented. Less vigorous fermentation means that less aroma is driven away by the production of CO₂. This results in greater retention of the fruit's native character. Carbonation is commonly between beer carbonation to champagne-like, ranging between 2.6 and about 6 volumes of CO₂, respectively.

They tend to be rather sweet, full-bodied and rich. The acidity will be lower than New World style due to malolactic fermentation which reduces the dominant malic acid into less acidic lactic acid. The spicy, smokey, farmhouse character of MLF in the presence of tannins is most common, but is not required. Just as with English ciders, MLF character should not be pronounced and actually should be milder than most English ciders. The tannic character should be moderate, but mostly as astringency providing mouthfeel, not as bitterness. Common apple varieties include Nehou, Muscadet de Dieppe, Reine des Pommes, and Michelin. Alcohol content tends to be low due to the practice of stalling the fermentation and leaving some sugars unfermented. ABV is usually between 3 to 6%, with starting sugars between 12 and 16 Brix, and ending sugars between 2 and 5 Brix.

To make French-style ciders, use high tannin crab apples. French style-ciders should have a noticeable astringency to them. If you don't have access to high tannin crab apples or are using store-bought juice, use what you have and make up for the tannins by adding them back in the form of Stellartan G Grape Tannin. Residual sweetness as well

as astringency from tannins are key. To reduce the nutrient content before fermentation, consider treating the juice with ClarilSP, a mixed fining agent which will settle out an assortment of solids and allow you start the ferment with very clean, nutrient reduced juice. Ferment with yeasts that don't have a high vigor and will ferment slower, such as Epernay II. Also, keep fermentations cooler if you can, fermenting your cider at the low end of the yeast's temperature rating. Yeasts that produce estery aromas should be used to help enhance the fruity character. The best choice at The Beverage People would be Epernay II wine yeast, a common choice for rosé wines which has a reputation for being relatively easy to stop before it ferments dry. To stop the fermentation early, a notoriously tricky practice, bring the temperature of the fermentation down below the range of the yeast. This should be as cold as possible, preferably refrigeration temperatures. After a couple days of "cold crashing", transfer the cider off of the yeast sediment carefully and cleanly, leaving the stalled yeast behind. You should do this once the brix have reduced to about 5 brix or less.

To get the spicy, smokey, farmhouse character of MLF add malo-lactic bacteria cultures to your cider after primary fermentation is complete. MLF must occur in the presence of tannins, so tannins should be added to the juice before MLF. For more information on adding tannins refer to our [Key Components in Cider discussion](#). [The Beverage People carries malo-lactic bacteria cultures from three different companies from 5 gallon packets to 66 gallon.](#) MLF character should be less pronounced in French-style ciders. Allow MLF to proceed until desired amount of MLF character is in the cider. Then attempt to arrest MLF with a combination of cold temperatures, sulfite, and [Bactiless fining agent](#)---again, cold crashing will be useful since MLF bacteria prefer temperature between 65 and 80 degrees F. If you put the cider in the fridge for two weeks, the MLF bacteria should go dormant. Adding sulfite should help inhibit or kill the MLF bacterial. [Bactiless](#) is a product used to prevent or stop bacterial fermentation. The combination of those three factors should halt MLF.

French ciders were traditionally sometimes aged in neutral, used wine barrels. Compared to English-style, however, the French ciders would not be aged as long and would not show as much character development from the wood.

For carbonation, we recommend kegging this type of cider. Due to the presence of high residual sugar, you should add potassium sorbate at a rate of 0.25 oz per 5 gal. to prevent the yeast from re-fermenting. Sulfite the cider to prevent continued bacterial fermentation. Then keg, chill, and carbonate the cider. Carbonate to between 2.6 and 6 volumes. If you want it bottled, you can transfer from keg to bottle with a [counter pressure bottle filler](#), and you will have a shelf stable French-style cidre!

Instructions

1. Crush the apples. Use tannic crab apples if you can. Sort out spoiled fruit.
2. The crushed pulp should be sulfited right away. If your fruit is in good condition, add no more than 1/2 [Campden Tablet](#) per gallon of crushed fruit (32 parts per million SO₂). Higher sulfite levels will inhibit a successful malolactic fermentation later in the process.
3. Stir in [Pectinase](#) powder. to help increase the juice yield. Use 1/2 ounce for every 5 gallons. Wait 2-4 hours before pressing for the pectinase to break down the pulp which increases the amount of juice that can be extracted. It will also aid in clarifying the cider to achieve a clear, bright cider.
4. Press the pulp to separate the juice from the skins and other solids. Funnel the collected juice into narrow-neck containers that can accept an airlock. Stir in [Claril SP](#) powder to facilitate clarification. Use 15 grams per 5 gallons. Top up the storage vessels to reduce air space. Put the juice under refrigeration and wait 24-48 hours.

- 5.*If your apples are culinary apples rather than French varieties, add tannin such as StellarTan G Grape tannin to increase the tannin content of the juice. For instructions, refer to our [Key Components in Cider discussion](#).
- 6.Remove a sample of the juice to test for total acidity (TA). Follow the instructions in your acid testing kit. If the acidity is less than .65%, add enough [tartaric acid](#) to bring it to this level. If you cannot do the test right away, refrigerate the juice and run the test later.
- 7.Now test the sugar content of the juice with your hydrometer. Correct any deficiencies by adding enough sugar to bring the reading up to 12-16% sugar (12-16° brix).
- 8.After the 24-48 hour settling period, transfer the clear juice into narrow-neck containers that can accept an airlock, leaving the sediment behind. Only fill them three-quarters full.
- 9.Add your Yeast by sprinkling on the surface. A good choice of yeast would be [Epernay II wine yeast](#) for it's fruity ester profile and slow vigor. Attach an airlock or breather bung, and allow fermentation to proceed. Do not use nutrients to feed the yeast because you will need to stop the fermentation before completion. If you can, maintain fermentation temperatures that are on the lower end of the temperature range for the yeast you are using. For example, if the fermentation temperature range of the yeast is 60° - 75°F, using fermentation temperatures around 60° - 62°F will ensure that less aromatics are driven off with the CO2 production.
- 10.When visible signs of fermentation end - the foam flattens and the hazy appearance begins to clarify - the cider must be removed from the sediment. Use a siphon to transfer the cider to a sanitized glass, PET plastic or stainless steel storage containers that accept an airlock. Fill your container all the way into the narrow part of the neck without touching the stopper. Close the top with a stopper and airlock.
- 11.Add a malolactic bacteria culture and maintain temperatures at 65-80 degrees F. Usually it takes 3-6 weeks for a successful conversion of malic to lactic acid. We sell [different cultures for different size batches and conditions](#). Review our discussion of the "[Mysteries of Malolactic](#)" for help in determining whether you have successfully completed the conversion. Note, however, that in French-style cider, the MLF (malolactic fermentation) character is generally less than in an English style. Taste the cider as it develops. If you choose to stop the MLF early, proceed as follows. Put the cider in the fridge for two weeks, the MLF bacteria should go dormant. Add sulfites up to 50 ppm (Camben tablets up to 4 in 5 gallons) should help inhibit or kill the MLF bacterial. [Bactiless fining agent](#) can be added to help stop bacterial fermentation, but remember you will need to transfer off of the Bactiless after 10 days. The combination of those three factors should halt MLF.
- 12.When you have determined that MLF (malolactic fermentation) has completed, rack your cider to a new vessel. Ensure it is topped up and, if you have not already done so in step 11, again add 1/2 [Campden Tablet](#) per gallon (32 parts per million SO2).
- 13.Store for two or three months.
- 14.Carefully rack away from the sediment. If your cider is going into extended bottle storage, add another half [Campden Tablet](#) per gallon (32 parts per million SO2). Beverages such as this may often be enjoyed within two months of bottling. If you plan to drink some that soon, don't add additional sulfite to that portion at bottling time.
- 15.For carbonation, we recommend kegging this type of cider. Due to the presence of high residual sugar, you should add [Potassium Sorbate](#) at a rate of 0.25 oz per 5 gal. to prevent the yeast from re-fermenting. Sulfite the cider to prevent continued bacterial fermentation. Then keg, chill, and carbonate the cider. Carbonate to between 2.6 and 6 volumes. If you want it bottled, you can transfer from keg to bottle with a counter pressure bottle filler, and you will have a shelf stable French-style cidre!



How to Make Apple Cider - Heritage New England Style

New England ciders are made with characteristically high acid New England apple varieties such as Northern Spy, Roxbury Russet, Golden Russet, and Baldwin. New England ciders are also known for being relatively alcoholic because of different kinds of sugars being added including corn, cane, brown, molasses, honey and even raisins. Alcohol levels are usually between 7 and 13%, making them noticeably stronger than their European counterparts. These sugar additions also contribute flavors to the cider. These ciders are traditionally rather dry, but can be sweeter when balancing higher alcohol levels. They should have some tannin character and should have moderate acidity. Traditionally, these ciders were often aged for some time in oak barrels. The barrels often came from local distilleries when they were done with them. Therefore, many New England ciders will have some spirit character to them in addition to the sugar additions' character. Original brix should be between 14 and 24 Brix. New England ciders do not commonly go through MLF.

To make New England-style ciders, ideally you want to start with New England apple varieties. If you don't have access to those, high acid, moderate tannin apple varieties should work. If using culinary apples or store-bought juice, you will need to add acidity and tannin. Tannin can be added in the form of Stellartan G Grape Tannin. Add just enough to have some astringency. For usage recommendations, refer to our [Key Components in Cider discussion](#). If you are new to testing titratable acidity, a simple starter kit, [Country Acid Wine Test Kit](#), is available to measure the TA of the juice or finished cider. Our staff can help you understand this kit. You probably want a TA between 0.6 and 0.75%. Add enough sugar of your choice to bring the original brix to between 14 and 24 Brix. Choose a yeast that can handle your desired alcohol content. Champagne yeasts can handle high alcohol fermentations but produce no fruity esters on their own. [DV10 champagne yeasts](#) is a great choice for this type of cider--it will produce ciders with no fruity, estery aromas and will allow the natural aromatic of the apple to dominate.

If you can, age stronger ciders in barrels previously used for aging spirits. The Beverage People often gets shipments of [used whiskey barrels](#). Get some friends in on the project and age your cider in one of them for a more authentic character. If barrels are not an option, try soaking staves of oak like [WineStix](#). WineStix are toasted oak that can be soaked in a jar of your favorite spirit until saturated. Then take the stave and add it to the cider until the cider reaches a desirable amount of spirit character.

When it comes to bottling, dry and carbonated is good choice, though backsweetening may be desirable if the cider has higher ABV with noticeable alcohols that need to be hidden behind sweetness. Carbonation can range from still (no carbonation) to high carbonation.

Instructions

1. Crush the apples. Use tannic crab apples if you can. Sort out spoiled fruit.
2. The crushed pulp should be sulfited right away. If your fruit is in good condition, add one [Campden Tablet](#) per gallon of crushed fruit (65 parts per million SO₂).
3. Stir in [Pectinase](#) powder. Use 1/2 ounce for every 5 gallons. Wait 2-4 hours before pressing for the pectinase to break down the pulp which increases the amount of juice that can be extracted. It will also aid in clarifying the cider to achieve a clear, bright cider.
4. Press the pulp to separate the juice from the skins and other solids. Funnel the collected juice into narrow-neck containers that can accept an airlock. Only fill them three-quarters full.
5. Remove a sample of the juice to test for total acidity (TA). Follow the instructions in your acid testing kit. If the acidity is less than .6%, add enough [tartaric acid](#) to bring it to this level. If you cannot do the test right away, refrigerate the juice and run the test later.
6. Now test the sugar content of the juice with your hydrometer. Note this number as you will be adding more sugar soon to bring the sugar level up to 14-28% sugar (14-28° brix).
7. *If your apples are culinary apples rather than New England varieties, add tannin such as StellarTan G Grape tannin to increase the tannin content of the juice. For instructions, refer to our [Key Components in Cider discussion](#).
8. You will now prepare your adjunct sugars to increase the sugar content of the juice. You may choose corn, cane, brown, molasses, honey and even raisins, to bring the sugar level up to 14-28% sugar (14-28° brix). For dry sugars such as corn, cane or brown, you can expect 1 lb of sugar added to 1 gallon of juice to increase brix by about 11 (for example, a juice starting at 10% brix would become about 21% brix juice after the sugars are added). For liquid sugars such as honey or molasses, you can expect 1 lb of sugar added to 1 gallon of juice to increase brix by about 9 (for example, a juice starting at 10% brix would become about 19% brix juice after the sugars are added). Whichever sugar you choose, and whichever amount you add, you will need to sterilize it first by boiling. Make a simple syrup of your chosen sugar adjunct by boiling for at least 2 minutes and cooling. Remember that added water will impact the brix as well. Cool and add to the juice, leaving at least 1/4 of the fermentor space open for foaming during fermentation.
9. Wait a total of 8-12 hours after crushing and adding the Campden Tablets for the sulfite to dissipate. Then add your Yeast by sprinkling on the surface. A good choice of yeast would be [DV10 Champagne Yeast](#). It can handle high levels of alcohol and will produce ciders with no fruity, estery aromas which will allow the natural aromatic of the apple to dominate. Attach an airlock or breather bung, and allow fermentation to proceed. After a day or two of fermentation, sprinkle in 1 tsp. of [Yeast Food](#) per 5 gallons. Agitate to disperse. If you can, maintain fermentation temperatures that are on the lower end of the temperature range for the yeast you are

using. For example, if the fermentation temperature range of the yeast is 60° - 75°F, using fermentation temperatures around 60° - 62°F will ensure that less aromatics are driven off with the CO2 production.

10. When visible signs of fermentation end - the foam flattens and the hazy appearance begins to clarify - the cider must be removed from the sediment. Use a siphon to transfer the cider to a sanitized glass, PET plastic or stainless steel storage containers that accept an airlock. Fill your container all the way into the narrow part of the neck without touching the stopper. Close the top with a stopper and airlock.

11. During the racking at the end of fermentation, add 1/2 **Campden Tablet** per gallon (32 parts per million SO2).

12. Store for two or three months. Traditionally, these ciders were often aged for some time in oak barrels. The barrels often came from local distilleries when they were done with them. The Beverage People often gets shipments of **used whiskey barrels**. Get some friends in on the project and age your cider in one of them for a more authentic character. If barrels are not an option, try soaking staves of oak like **WineStix**. WineStix are toasted oak that can be soaked in a jar of your favorite spirit until saturated. Then take the stave and add it to the cider until the cider reaches a desirable amount of spirit character.

13. After a minimum of two months, carefully rack away from the sediment. If your cider is going into extended bottle storage, add another half **Campden Tablet** per gallon (32 parts per million SO2). Beverages such as this may often be enjoyed within two months of bottling. If you plan to drink some that soon, don't add additional sulfite to that portion at bottling time.

14. Siphon into bottles, cork or cap them, and set them aside for whatever bottle aging is needed. You may make a sparkling cider by adding 5-8 oz. of sugar to 5 gallons of cider and bottling in crown-cappable beer or up to 10 oz in strong champagne bottles. Store at room temperature for at least 2 weeks before refrigerating and opening a bottle. This will allow time for the yeast to consume the added sugar and carbonate the cider. If not fully carbonated after 2 weeks, wait a week and test again. Note: Do not use Potassium Sorbate if making sparkling cider or it won't sparkle! If you can taste alcohol in your cider and you wish to sweeten, add to taste. A syrup can be made by boiling two parts sugar with one part water, and add 1/2 tsp. **Potassium Sorbate** per gallon to prevent re-fermentation in the bottles. To carbonate sweetened cider, you will need to **force carbonate in a keg system**.