CIDER MAKING

The starting point in cider making is the judgement and discrimination of the cider maker himself. By carefully selecting and blending the apples a reputation can be built for good cider at all times. This takes planning. One thing is certain a cider maker that uses only one type of apple for his juice will not make a very tasty juice.

Here are some catagories that the varieties fit in as an aid to blending. This is from a report done by Dr. Frank Emerson of Purdue University.

Classification of Apple Cultivars for Cider Blending

Group I (High Acid)	Group II (Medium Acid)	Group III (High Sugar)	Group IV (Aromatic)	Group V (Astringent)
Duchess	Baldwin	Golden Delicious	Red Delicious	Crabapples
Yellow Transparent	Ben Davis	Red Delicious	McIntosh	
Yeary Jonathan	Grimes	Winter Banana	Cortland	
Lodi	Jonathan		Winter Banana	
Blackjon	McIntosh			
Regeant	Northern Spy			
Winesap	N.W. Greening			
Turley	Stayman			
Rome Beaty	Twenty Ounce			
Macspur	Wealthy			
Ozark Gold	York Imperial			
Blushing Golden	Spartan			
	Cortland			
	Tydemans Red			
	Ceasapeake			
	Magnolia Gold			
	Pocomoke			
	Spuree Rome			

Optimum Blends:

50-60% Group II with at least 2 Varieties

30-40% Group III (if more than 40% then add 50-10% fo Group I)

10% Maximum of Groups I or IV

5% Maximum of Group V

Maturity is another factor when making cider. Firm ripe apples, those ripe enough to eat make the best cider and give optimum yield. Immature of overripe apples lower the quality and the yield. Early- Maturing varieties should be allowed to ripen sufficiently to yield a high-quality juice. The practice of storing the fruit properly (ie. walk in cooler) as harvested allows closer control of maturity and blending of the cider lots.

WASHING THE FRUIT

Always use sound clean apples. Washing the fruit prior to grinding is basically a must. The Apple Washer should be placed so that it feeds into the elevator that feeds the grinder. Several styles of washers can be used but the most common to small fresh pressed operations is the wet brush washer. This type is basically a brusher with nozzels at the top that spray down the apples. In larger operations it is best to finish the washing operation with a high pressure spray to help eliminate any left over foreign matter.

GRINDING THE FRUIT

There are basically four types of grinding devices for grinding the apples into pressable pomace: CENTRIFUGAL SHREDDER - This device has a rotor with two beveled arms that spin centrifugaly across a screen of varying hole size. This shreds the apple into pomace, it has an angled chute that feed it and discharges out the bottom. Pillowblock bearings hold the rotor in alignment with a seal to prevent the juice from getting to the bearings. This unit is quiet, has very little maintenance, can be repaired locally, and can be purchased in either stainless or mild steel. HAMMERMILL - This unit is primarily used for dry grain grinding, however it works nicely with apples. This unit has square plates of steel with rods running through each corner of the plates. These rods have rectangular pieces of steel with hole near the ends that the rods go through. These rectangular pieces are spaced across this horizontal rotor and act as flails to crush the fruit against a screen. The ground up apple is then discharged out the bottom. PULPER - A production unit for larger presses, the pulper has 8 or 11 long blades perpendicular to each other on a horizontal shaft. There are nylon or metal spacers between the blades. Nuts with reverse threads hold the blades together. These pulpers take 5 HP minimum and run at fairly high R.P.M.s GRATER OR GRINDER - This devise consists of a cylinder equipped with 3 or 4 serrated pieces of steel or teeth that project not more than one-fourth inch above the cylinder surface. The whole assembly revolves st high speed. The cylinder is adjusted for a clearence of 1/16" or less between concaves and cylinder teeth.

PRESSING

Equipment for grinding and pressing is usually combined into one machine the, cider press. Presses range in capacity from 100-1000 bushels a day. Day Equipment manufactures two types of cider presses, the hydraulic and the Schinko Continous press. The hydraulic press is much more common than the Schinko so that is the one we will describe here.

The hydraulic press uses a hydraulic ram to exert pressure against the apple pulp. Hardwood or plastic press racks and press cloths are used to hold the pulp for pressing. To load the press lay the press racks in the stainless car or on top of the press skid. Place the square cheese form on the press board and place the cloth over it. The corners of the cloth should be on the sides of the cheese form. This is important so when the corners are turned into the center there will be enough room for the proper amount of pumace. Remove the cheese form and repeat the process until you have the desired stack of cheeses. Push or roll the stack of under the pressure head and squeeze slowly. Leave in to desired dryness.

HANDLING JUICE SEDIMENTATION

After the pressing it is the usual practice to put the juice through a coarse screen (200-450 micron) to eliminate large particles. Then the juice is normally settled before bottling. Some cider makers who prefer a cloudy product go right to the jug at this point. Settling the juice is the easiest way to a clear product. Settling takes 12-36 hours and must be done in a refrigerated tank (40^0 F or below) to insure proper shelf life. With the exception of custom pressing there is usually no problem with incorperating settling as and integral part of the cider making process. Used Dairy tanks are generally available and work very well for this purpose. The Dairy tanks are very versatile in that they can be used for settling, storage and filling (for systems that do 100gph or Less)