

Pear Maturity Indices

Pear maturity indices are not as reliable or consistent as those used for apples. The indices that are similar to those used on apples historically have not been as consistent for different years or orchards. The exception to this is firmness and possibly days after full bloom.



In pears, fruit firmness is probably the most reliable indicator of maturity.

Days After Full Bloom (DAFB)

Days After Full Bloom (DAFB) can give an approximate harvest date or "ball park guess." The major problem with this type of measurement is little consistency from year to year and the wide spread in days. For example, for AnJou the range can be 120-150 days, for Bartlett 110-133, for Bosc 130-145, and for some of the new Asian pears 112-150 days.

Firmness

In pears, fruit firmness is probably the most reliable indicator of maturity. Fruit to be sold immediately or held only for a short period of time can be harvested at a much softer stage than fruit to be held longer in storage. Firmness is not a good indicator of maturity for Asian pears. These types are best when ripened on the tree where fruit pressures will run 8 to 12 pounds. Color and taste are better indices for the Asian types. The recommended ranges for firmness measured by a pressure tested are as follows AnJou 13-15 lbs, Bartlett 15-17 lbs Bosc 14-16 lbs.

Fruit Appearance

Although it is a subjective evaluation, fruit color and finish can be a valuable maturity indicator. In Bartlett look for a change from green to a white-green, blotchy appearance at the fruit neck and finally a light yellow. Any pink coloration at the calyx end probably indicates a premature ripening problem in Bartlett. For Anjou look for a change in ground color. Russeted Asian pears change from green to brown to orange or gold. Yellow fruited varieties change from grass green to light green to yellow green.

Fruit finish is another means of judging maturity. For Anjou and Bartlett, look for smooth, waxy skin. As the fruit matures corking of the lenticels is related to fruit maturity. Immature fruit have white lenticels that become brown and shallow. The brown color in lenticels is a good indicator that the fruit will ripen without shriveling.

Other Methods

Amount of soluble solids frequently does not have a good relation to maturity on the traditional varieties because of the need to harvest the fruit before it is ripe. A minimum of 11% for Bartlett and 10% for all other varieties except the Asian pears is recommended. On Asian pears, a starting point would be 12%.

Measuring the amount of starch in fruit is a technique that has worked very well in apples but only with limited success on pears. As the fruit matures starch is converted to sugars. The application of an iodine solution to the cut surface of the fruit stains the starch a blue-black. The iodine solution can be made by dissolving 10 grams of iodine crystals and 25 grams of



potassium iodide in one liter of water. Reports from the Pacific Northwest indicate that where this may be a reliable indicator, the fruit should be harvested when 60% of the cut fruit surface still contains starch.

A combination of two or more of the above indices will give a better indication of fruit maturity. As with any measurement used to predict fruit maturity, expect variations from year to year, block to block and by tree and growing conditions. The best method is to select several tests and repeat these every year to develop a track record for your orchard.

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Penn State College of Agricultural Sciences research and extension programs are funded in part by Pennsylvania counties, the Commonwealth of Pennsylvania, and the U.S. Department of Agriculture.

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