**Alternative and irregular bearing**

**Alternate bearing** (biennial or uneven bearing):

 Is a term used in [**pomology**](http://en.wikipedia.org/wiki/Pomology) refers to trees that have an irregular crop load from year to year. In the "on" year too much fruit is set, leading to small fruit size. Excess weight in the main branches can be too much for their mechanical resistance, causing them to break.

 **On-crop trees:**

 Trees produce a large number of small fruit of little commercial value. Excess weight in the main branches can be too much for their mechanical resistance, causing them to break.

**off-crop** trees:

Trees produce a small number of large fruit. The phenomenon is widespread and can occur in an entire region, in individual trees, part of a tree, or even on one branch.

The behavior could be due to [plant hormones](http://en.wikipedia.org/wiki/Plant_hormones), particularly [gibberellins](http://en.wikipedia.org/wiki/Gibberellins) produced in excess in the "on" years in the [embryos](http://en.wikipedia.org/wiki/Embryo) of the young fruit. It could also be caused by depletion of [carbohydrate](http://en.wikipedia.org/wiki/Carbohydrate) reserves in the tree. Or by Climactic events - freezes, low or high temperatures. Water-deficit stress during bloom or fruit set (causes low flower numbers or excessive flower and/or fruit drop).

**Factors affecting tree bearings:**

Some points must be checked in the for trees in the arched:

**\*Size and Age:**

 Peaches and apricots are some of the earliest bearers. A standard size peach or apricot can start producing fruit when it is 3-5years old. Standard size apple, pear, cherry, apricot and plum trees take a little longer, from 3-5 years. Dwarf varieties of fruit trees should start producing earlier, many within the 2nd or 3rd growing season after transplanting. But all of these numbers are averages.

**\*Sun Exposure: \***

Other factors that affect when the tree starts to bear. A tree in full to partial shade is fighting an uphill, battle. Fruit trees can survive in partial shade, but they will take longer to begin bearing fruit.

**\*Soil Fertility**: \* Fruit trees, like all plants, require some nutrients to survive. But excessively rich soil or heavy fertilization may encourage branch and leaf growth at the expense of fruit production.

\***Pruning**: \* All fruit trees benefit from annual pruning, if done in moderation. Pruning rejuvenates (renewed) fruit trees and encourages the growth of fruiting spurs

**\*Frosts & Cold Spells: \*** If buds have been forming and not opening, it is probably the weather that’s at fault. A particularly cold, windy winter can damage susceptible flower buds. More likely it would be the result of a late spring frost, especially if the buds have already begun to swell.

**\*Too Much Fruit Set: \*** Too much fruit doesn’t seem like it should be a problem, but there are two drawbacks to over abundance. First, a large fruit set means that the trees resources are stressed. You usually have to choose between large harvests of small fruits secondly, some fruit tree varieties deal with the stress of a large crop by taking a rest the year after a heavy harvest. They seem to become biennial in fruiting; producing a large crop one year and little to nothing the next’s a small harvest of good sized fruits.

**Storing horticulture products:**

**Post-harvest:**

Many horticultural products such as vegetables are perishable and should be used soon after harvesting or as appropriate while some crops don’t continue ripening after harvest others do.

Product s tend to lose moisture from bruises which results in weight loss, wrinkling and shriveling

Products that are destined for the market may be:

1. Washed

2. The grower often has to sort and grade them into quality classes

3. During transportation or holding before sale, it can store under cold temperature conditions using mechanical refrigerators or air coolers.

4. Marketing is complex, involving packaging, storage, transportation and distribution.

**Storing unprocessed products**

1**. Low moisture methods:**

Many crops including grape, plum, date, fig and apple may be preserved for long periods by drying (solar dehydration)) is a relatively in expensive method for drying in areas where along, dry and reliable sunny period occurs.

This method removes water by dehydration.

**2.** **Storing unprocessed products:**

**a.** **Dry products**:

 Such as nuts and grain store for long periods in dry environments. The general goals of storage are to slow the rate of respiration occurring in living tissue .as a general rule, cool – season crops are stored at low temperature 0-10 º c while warm- season crops are stored at warmer temperature 10-20 º c, Fresh produce may also be injured by exposure to high temperature.

**b. Fresh products and vegetables:**

 Should be stored at high relative humidity to retain their succulence and general quality. Lower temperature slowing all biochemical and enzymatic reactions. Whether at home or in a commercial setting, the mechanical refrigerator is the mechanism for cooling. Products are stored at a low temperature to slow down deterioration after harvesting, Some products are tolerant of chilling temperature (but not freezing), there are many symptoms of chilling injury such as discoloration , pitting , abnormal ripening of fruits ,thus storing products be like these examples ripe tomatoes 7-10 º c , potatoes at 4 º c

**3. Freezing**

Quick freezing is the quickest and most commonly used methods of crop product preservation. the main disadvantage of this method is the damage it causes to the physical or structural integrity of some product. Stored product by these methods may lose some color, flavor and nutrients. Freezing is usually not tolerated by fresh produce it often becomes soft and soggy after thawing

**4. Canning**

A common household processing methods the preservation of products in sterilized water. Canning is another method used in processing, after placing the products in airtight or hermitically sealed containers; they are sterilized in a pressure cooker. Canned products can stay in good condition for several years.

**5. Fermentation**

Fermentation involves bacteria that decompose carbohydrates anaerobically and may produce alcohol and lactic acid, products that affect the flavor of fermented foods. Picking is Fermentation process of produce in high concentration of salt such onion, tomato, cucumber.

**6. Processing with sugar:**

High concentration of sugar may be used to process certain fruit products. different fruit products may be preserved in this way, when fruit juice is used the product called jelly. Marmalade is sugar –processed citrus fruit and rind when whole fruits are used.