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Pointers on Harvesting Pears (*Pyruscommunis* L. and *Pyruspyrifolia*) in Moderate to Cold Climates

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Abstract
Pyruscommunis is a fruit that has its origins in China and Asia. It is a plant that is characterised by delicious, soft, fruits that are edible throughout the world. It is a known fact that this fruit grows well in temperate regions. In the USA, *Pyruspyrifolia* is another variety that's grown successfully. Some Asian pear varieties include Chinese Sand pear, Apple pear, Patharnakh and Gola pear, and these differ from each other in shape and colour. The purpose of this paper is to address pointers on harvesting *Pyruscommunis L* and *P. pyrifolia* in moderate to cold climates.

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INTRODUCTION

Moderate to cold climatic conditions pose many challenges to cultivating pear plants, however, it can be a rewarding venture (Singh, 2023). Since pears are delicate fruits, a lot of care is required, particularly during the harvesting phase (Brummell, 2006). In this paper, I will address some pointers on harvesting pears optimally, or as best as possible, in climatic conditions that range from moderate to cold conditions. This paper will also consider the harvesting of pears in colder regions, timing of harvesting, the techniques used to harvest them, as well as, post-harvest care.

THE TIMING FACTOR

Timing is a key factor to successfully harvest pears in moderate to colder regions (Srivastava and Dwivedi, 2000). Although in some plant species harvesting occurs when the fruit is completely ripened, in pears, on the other hand, harvesting occurs when the fruit is slightly unripe (Mondal, 2000; Srivastava and Dwivedi, 2000; Singh, 2023). The month during which pear harvesting is most favoured is late summer

to early autumn, however this varies and depends on the changing weather conditions and the type of pear species cultivated (Singh, 2023).

When it is cold, the harvesting window period is delayed, whereas, in warm places, the harvesting window period is quicker (read Goncalves *et al*., 2000). In order to determine the harvesting optimal time, it's essential that pear plants are monitored regularly. In order to check whether harvesting can occur, one can press the stem of the pear to determine if it would yield a little. This can be performed using the thumb finger (Singh, 2023). The stem should not be overly soft to be suitable for harvesting. Another successful method to determine optimum harvesting would be to observe the colour of the pear for particular pear varieties (read, Park, 1999).

THE CHANGING WEATHER CONDITIONS

As can be envisaged from the title of this paper, weather conditions are an important consideration for the harvesting of pear plants, especially in weather conditions that range from moderate to cold (Singh, 2023). When it is cold, the fruit quality may be compromised, and, therefore, it's essential to determine the correct days for harvesting the fruit (read Mondal, 2000; Hetong and Yufang, 2003). The essential period to harvest pears is when the days are dry and there is little or no rainfall (Singh, 2023).

When the weather is wet, the fruit may be waterlogged. This is not a good thing, because the fruit become prone to diseases and infections (Ahmed and Labavitch, 1980; Blaszczyk and Lysiak, 2001). This makes it difficult to handle the pears as they become more susceptible to damage (Singh, 2023). Frosty climates, on the other hand, causes damage to the fruits and, thus, it is not an essential time to harvest pears. As a result, it's essential to plan when to harvest the pears so as to negate these issues (Singh, 2023).

SUCCESSFULLY PRUNING PEARS

In order to prune pears successfully, it must be noted that this is a year-long procedure. It's also worthwhile noting that this factor becomes crucial in colder climates. The question that arises here is Why Pruning?

Pruning ensures that the fruit maintains a good shape and structure from the tree that produces them (Singh, 2023). This procedure ensures that the plant has good air circulation and sunlight penetration (read, Mondal, 2000). During colder climates, air circulation is imperative in order to prevent damage to the fruit as a result of frost accumulation (read Eccher-Zerbini, 2002).

When the pear tree is dormant, pruning should only occur during the winter months. The dead and diseased branches should be removed. In addition, branches that cross and rub each other should also be removed (Singh, 2023). This would ensure that the pears grow properly in a healthy environment (Singh, 2023).

STORAGE PREPARATION

Harvesting should not take place if there is no proper storage place for the pears. Therefore, one should decide on a proper storage place and then begin harvesting pears. This is a crucial step so that the pears have preserved quality and flavour (read Eccher-Zerbini 2002). Pears prefer to be stored in a cool environment with controlled humidity (Goncalves *et al*., 2000). Below are 3 pointers to preparing a proper storage place for pears (Singh, 2023)-

a. To prevent disease spreading and infestation, clean and disinfect the storage space.
b. Prevent the build-up of moisture by ensuring good ventilation and airflow.
c. Ensure the storage area has a temperature of around 32-35°F (0-2°C) with humidity from 90-95%.

THE TECHNIQUES TO HARVESTING

Pears require proper handing and caring to prevent fruit damage (Mondal, 2000; Kaur and Arya, 2012; Mazumdar and Majumder, 2003). Below, I have listed 3 pointers that come to mind when considering the techniques to harvesting pear fruits-

a. Use a pair of scissors to cut the stems during pruning. This will minimise damage to the fruit and tree.

b. Place the pears in padded containers that are shallow during transport so as to prevent them from getting bruised.
c. Pears require post-harvesting handling and storage and therefore sort them out according to size and ripeness to that this procedure is made more cumbersome.

POST-HARVESTING PEARS

The procedure of post-harvesting is most crucial as it is required to be able to extend the shelf-life of the pear fruits (read Hetong and Yufand, 2003; read Dhall, 2013). This is particularly important in order to manufacture and distribute the pears properly (Singh, 2023). Below I have given 4 pointers to perform this step successful-
a. Remove the damaged and overripe fruit.
b. Store the pears in a cool and dark place that has good ventilation to keep them fresh.
c. Remove fruits that show signed of ripening and decaying so that the rot doesn't spread.
d. In order to speed up the ripening process, ethylene-producing fruits, viz. apples and bananas, can be used.

CONCLUSION

As can be seen from the pointers I've provided, pear harvesting requires a lot of attention to detail, as well as, planning, in order to obtain good fruits in climates that range from moderate to cold. Timing, weather conditions, pruning, and proper storage containers are all essential elements/factors that are required to ensure a successful pear harvest. By following these points, one can enjoy delicious pear fruits, and even home-grown varieties, in regions that have a colder climate.

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REFERENCES

1. Ahmed AE, Labavitch JM. (1980). Cell wall metabolism in ripening fruit II. Changes in carbohydrate-degrading enzymes in ripening 'Bartlett' pears. *Plant Physiology* 65, 1014-1016.
2. Blaszczyk J, Lysiak G. (2001). Storage properties of Czech pear cultivars 'Erica' and 'Dicolor'. *Journal of Fruit Ornam Plant Res.* 9, 71-76.
3. Brummell DA. (2006). Cell wall disassembly in ripening fruit. *Funct Plant Biol.* 33, 103-119.
4. Dhall RK. (2013). Advances in edible coatings for fresh fruits and vegetables: a review. *Crit Rev Food Sci Nutr.* 53, 435-450.
5. Eccher-Zerbini P. (2002). The quality of pear fruits. In: VIII international symposium on pear. Vol 596, pp. 805-810.
6. Goncalves ED, Antunes PL, Brackmann A. (2000). A controlled atmosphere storage of Asian pears cv. Nijisseiki. Rev Bras Frutic. 22, 226-231.
7. Hetong L, Yufang. (2003). Postharvest softening physiological mechanism of Huanghua pear fruit. *Sci Agric Sinica*. 36, 349-352.
8. Kaur R, Arya A. (2012). Ethnomedicinal and phytochemical prospectives of *Pyruscommunis Linn*. *J Pharmacogn Phytochem*. 1, 15-20.
9. Mazumdar BC, Majumder K. (2003). Methods on physico-chemical analysis of fruit. Delhi: Daya Publishing House.
10. Mondal MF. (2000). Production and storage of fruits (in Bangla) Mymsningh: Mrs Afia Mondal, p. 312.
11. Park HJ. (1999). Development of advanced edible coatings for fruits. *Trends Food Sci Technol.* 10, 254-260.
12. Singh, R. (2023). pers comm.
13. Srivastava MK, Dwivedi UN. (2000). Delayed ripening of banana fruit by salicyclic acid. *Plant Sci.* 158, 87-96.