

Post-Harvest Management Protocols

PEAS

Pea is the third most important pulse crop at global level, after dry bean and chickpea and third most popular rabi pulse of India after chick pea and lentil. India occupy fourth position in area (10.53 %) and 5th position in production (6.96 %) (FAO Stat., 2014). **Total production for the year 2019-20 was 5791 ('000 MT)** and major producing states are Uttar Pradesh, Madhya Pradesh, Punjab, Jharkhand and Himachal Pradesh.



Major varieties are:

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|---------------------------|---------------------------|
| ■ Asauji | ■ Jawahar Matar 3 |
| ■ Early Superb | ■ Jawahar Matar 4 |
| ■ Meteor | ■ Harbhajan (EC 33866) |
| ■ Arkel | ■ Pant Matar 2 |
| ■ Early Badger | ■ Matter Ageta 6 |
| ■ Little Marvel | ■ Hisar Harit (PH1) |
| ■ Alaska | ■ Jawahar Peas-4 |
| ■ VL-Ageti Matar-7 (VL-7) | ■ Jawahar Peas 54 (JP 54) |

MATURITY INDICES OF PEAS

Harvesting time depends on the variety of peas sowed. For early variety may be harvested in 40 to 60 days, mid-season crop can be harvested in 75 days and Late season crop can be harvested in 100 days.

The time of the harvest is determined largely by the appearance of the pods and when the colour changes from dark to light green. The pods are harvested when they are well filled, but still young, tender and sweet. The quality of peas is associated with tenderness and high sugar content and over mature pods are starchy, harder and less tender.

Peas are harvested by hand as they mature, on a 5- 10 days interval. Older and yellowing pods are avoided by careful hand-harvesting.

SORTING AND GRADING

Peas are sorted to remove the over mature, yellow, flat, diseased and insect damaged (pod borer) pods and any trash from the harvested pods. Peas should be uniformly bright green (light to deep green but not yellow-green), fully turgid, clean, and free from damage.

PACKING AND STORAGE

Fresh peas are highly perishable and subjected to wilting, yellowing, loss of tenderness, development of starchiness and decay problem during storage. At room temperature garden peas store better for only 1- 2 days. At optimum low temperature of 0°C and 90-95% humidity the peas can not be stored in saleable condition for more than 2 weeks.

Flexible film packaging and storage at low temperature results in better maintenance of pod appearance, colour, chlorophyll, ascorbic acid and sugar contents compared to those stored without any wrapping. Peas are sensitive to freezing injury when stored below minus 0.5°C resulting in water soaking followed by rapid decay by soft-rot bacteria. At higher temperatures premature senescence (yellowing of pod, loss of tenderness) will develop rapidly at temperatures due to the high rate of respiration.



STORAGE PROTOCOLS

Recommended Temperature
(degree Celcius)

0



Recommended Relative
Humidity (%)

95-98



Shelf Life

1 to 2 weeks



Product Loading Density (in Pound/cu.ft)	-
Initial Freezing Point (in degree Celsius)	-0.6
Specific Heat Above Freezing Point in (kJ/Kg.K)	3.31
Specific Heat Below Freezing Point (in kJ/Kg.K)	1.76
Latent Heat of Fusion (in kJ/Kg)	247

Thermal properties of Peas

Initial Freezing Point (in degree celcius)	-1.1
Specific Heat Above Freezing Point in (kJ/Kg.K)	3.65
Specific Heat Below Freezing Point (in kJ/Kg.K)	1.89
Latent Heat of Fusion (in kJ/Kg)	278