

# Straw berry cultivation in charsadda a district of Cmpii in Nwfp by Allah dad khan agriculture extension and ghulam nabi agriculture research Tarnab Peshawar

## News

### Origin

The word strawberry comes from the Old English *strewberige*, most likely because the plant sends out runners which could be likened to pieces of straw. Although they have been around for thousands of years, strawberries were not actively cultivated until the Renaissance period in Europe. The strawberry is a member of the rose family, with the most common varieties being a hybrid of the wild Virginia strawberry (native to North America) and a Chilean variety. The plant produces succulent, red, conical fruit from tiny white flowers, and sends out runners to propagate.

### History

Strawberries that were originally grown in northern parts of Europe were also found in different parts of Russia, Chile and United States. Strawberries are also thought to have been cultivated in ancient Rome in large scale for medicinal purposes. During the 13th century, France also cultivated strawberries for its medicinal purpose. The roots, fruits and leaves of Alpine strawberry were widely used in these countries to make medicine that were used to cure digestive problems and skin diseases. Berry was used internally to cure diarrhea. Its leaves and roots were used for gout. Over the years strawberries were used for treating skin rashes, sun burn, discoloration of teeth and digestive disorders. In 13th century, strawberry was widely used as an aphrodisiac (Figure 1).

### Wild Straw berry in Pakistan

Wild straw berry are growing in the hills of Gilgit, Chitral, Kaghan, Kohitan, Mansehra, Battagram, Shangla, Dir Malakand, Abbott bad, Murree and Kashmir.

### Pakistan and strawberry

In Pakistan now the straw is growing in Swat, Abbott bad, Mansehra, Hariipur, Mardan, Peshawar, Charsadda, Gujarat, Sialkot, Jhelum, Chakwal, and Karachi.

### Importance of strawberry

The berries are non-fat and low in calories, rich in vitamin C, potassium, folic acid, fiber, and vitamin B6. Over history the strawberries have been used in medicines. They have been used for sunburn, discolored teeth, digestion, and gout. As far back as the 13th century, the Strawberry was used as anaphrodisiac. Strawberry, *Fragaria ananasa* is known as the most delicious and refreshing fruit. Strawberry, which has great dietetic value, is one of the potential sources of vitamin C, protein, fates and carbohydrates; according to agriculture experts. Strawberry culture is quite profitable for small

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land owners. The strawberry fruit is soft and perishable and its quality is affected when it touches the soil. The fruit is commercially consumed both in fresh form and can be preserved for making Jam, Jellies and squashes that can be used in off-season.



**Figure 1** A plant grown in Charsadda 22-2-2010 photograph of variety chandler.

### Basic considerations when locating a strawberry patch include:

- i. Full sun
- ii. Well drained, sandy loam with a pH from 5.8 to 6.2 is ideal
- iii. Don't plant where tomatoes, potatoes, peppers or eggplant have been grown recently (Verticillium Rot) (Figure 2).



Figure 2 Straw berry crop in early stage 22-2-2010 Charsadda.



Figure 3 A view of crop on 22-2-2010 Charsadda Sarki Tetara village



Figure 4 Hoeing and weeding process in field 22-2-2010 Charsadda district NWFP.

### Land selection

The land with high organic matter having pH 5.5 to 6.0. Silty Loam land would be the best land for strawberry cultivation

### Varieties

Noor, Duglus, Chandler, Tuftus, Karoz, Pajaro, commander, corona

### Planting

Ordinarily, strawberries are propagated from runner plants grown by large commercial growers. The sale of runner plants is frequently a sideline business which supplements the main income from the fruit. The best strawberry transplants are less than a year old. A good transplant should have an extensive fibrous root system, seven or eight inches in length. This type of root system usually develops best in rather loose sandy soil. Such soil also facilitates digging the plants and cleaning the roots for packaging.

### Timings

Sowing was undertaken during the first week of November. The roots of the runner should be dipped in fungicides solution

### Method

Strawberries in the ground should be planted in double rows with soil mounded into raised beds the cultivation was taken on a ridge. The distance between rows was two feet to two and half feet and plant to plant it was 4-6 inches. Total plant population maintained was 35,000 per acre.

### Flowering

Flowering starts depending upon the season and time of sowing in the month of February and March it has been observed the bee hives are increasing the cross pollination and increase production .It takes 30 to 30 days from flowering to fruiting depending on variety and season (Figure 3).

### Inter-cropping

Fruit growers often find it economically beneficial to grow strawberries between the rows of young fruit trees until they become of bearing age. Such intercropping is well justified so long as the strawberries do not interfere with the culture of the tree fruits, which represent a much greater investment. Usually it is not wise to plant strawberries closer than six to eight feet to tree fruits. Otherwise they are likely to interfere with cultural operations for the trees and may compete for water and nutrient materials in the soil. Often the trees suffer more than the strawberries

### Fertilizers

Nitrogen, phosphorus, potassium, and other soil nutrients are required for vigorous crown and runner development. Soil tests will identify the nutrient needs. Generally phosphorus, potassium, and part of the nitrogen should be applied at or before planting. On most soils and under most conditions strawberry plants will be benefited by the application of commercial fertilizers, particularly by nitrogen, during the first growing season. Well rotted Farm Yard 15 to 20Small trollys per acre should be used one month before sowing. At the time of last preparation of land four bags SSP with half bag urea and one bag

potash per acre is recommended. Half dose of urea i.e. half bag urea before flowering is to be applied.

### **Hoeing and Weeding**

Two to three hoeing with khurpa are required for getting good production (Figure 4).

### **Mulching**

Mulching is necessary in June bearing varieties to protect flower buds from temperatures below 15° F and to protect crowns from heaving damage. A three- to five-inch layer of straw mulch be applied after a few hard frosts, usually in late October or early November.

### **Frost protection**

Keep in mind, however, that strawberry growers tend to over emphasize the importance of fertilizers and underestimate the importance of water. Yields are more frequently reduced from lack of water, poor soil drainage, and poor soil physical properties than from a lack of fertilizer.

### **Irrigation**

During early stage of crop seven to ten days interval to be observed while as the season warm up three to five days interval is to be carried out, during irrigation please consider the rainfall and other climatic conditions.

### **Weed control**

A weed eradication programme one year prior to planting is recommended if perennial weeds are a problem. Herbicides, mechanical control methods, and a green manure smother crop can be used effectively. Consult herbicide labels to avoid potential carry-over problems for the new strawberry planting. Preplan harrowing of a prepared field will reduce weed populations.

### **Insect control**

Not all insects found in a strawberry patch injure the plants and many of those that do can be controlled by preventive measures more easily than by chemicals. Rotation of strawberries with other cultivated crops is useful in controlling insects. Please contact extension agent for insecticides spray, it would be better if IPM measures adapted.

### **Diseases**

Strawberries are affected by several diseases that vary widely in their occurrence and severity; it is necessary to recognize common

strawberry insect and disease problems in order to treat them quickly and effectively. Prevention is the best way to hold disease and insect problems in check. The use of good cultural practices, varieties adapted to the area, and disease-free stock will help reduce insect and disease problems.

### **Birds**

Birds will inevitably get some of your berries. Plant more than you'll need and cover the area with close bird netting.

### **Harvesting/marketing**

It gives fruits in April till late May, adding that fruit maturity period was short and ranges from 30-40days. Proper picking, grading, and packing are as essential as good cultural practices to success. The harvest frequency and duration depend on weather conditions, varieties, soil factors, and cultural practices. Strawberries are almost entirely handpicked. As a general rule for wholesale operations, six to nine pickers are needed for one acre.

### **Propagating Strawberries**

Strawberry propagation occurs quite naturally at the end of the plant's lifecycle. The parent plant will begin to send out runners. If the juvenile plants touch the soil, roots will form. Pegging the plants to the soil can be helpful, or introducing the juvenile plants into peat pots for transplanting. When the plants have successfully rooted, they can be detached from the parent plant.

### **Future of Strawberry in Pakistan**

The wholesale price of the fruit comes down to Rs 50per kg during the second fortnight of March when the crop production touches its peak. The per acre income from strawberry crop is estimated to Rs100, 000 per season per acre. The crop is being increased in acres year by year in places mentioned earlier in Charsadda the area is increased from 170 acres last year to 200 acres in 2010. The marketing problems are their which are to be resolved by CMPH project and the VO, s would be linked with District, Provincial and National and International Markets.

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None.

### **Conflict of interest**

The author declares no conflict of interest.