

Vidhan Sabha Question

Name of Department	Horticulture
Assembly Question Starred	4785
Date of Reply	03/03/2022
Subject	“Russeting disease in Apple”
Asked by	Sh. Rakesh Singha (Theog)
Concerned Minister	Jal Shakti Minister

Question	Answer
(a) what is the Russeting diseases in apples, is it viral, fungal or any other epidemic form of attack on the apple; is it more prominent at higher altitudes or lower elevations, North or South facing aspects, clay or sand soil, alkaline or acidic soil conditions; winter frost or sprays or wrong practices of spraying or lack of sunlight on the fruit, attack of some pest or insect, virus or fungus; has any research been done in the world or in our university at Nauri or Palampur or by the research centers of Agriculture or Horticulture or by any other scientists; provide all details in this respect;	(a), (b) & (c) Information has been laid on the table.
(b) what is the recommendation of the Horticulture department to control it and what are the success rate; and	
(c) how much quality of the fruit is reduced by Russeting; how much price of the fruit falls by it; does the Government proposes to declare it an epidemic; if yes, by when; if not, the reasons for the same?	

Answer of Starred Assembly Question No. 4785 asked by Sh. Rakesh Singha (Theog) regarding “Russeting disease in Apple”

- a) The apple russeting is a complex disorder. This disorder is caused due to several causes which includes environmental factors, varietal susceptibility, improper use of pesticides and occasionally due to severe infection of powdery mildew. Hence, the major causes are listed below:
- 1.) Sudden temperature and humidity variations during the fruit development.
 - 2.) Varietal variation, e.g. green fruit cultivars are more susceptible to the russeting.
 - 3.) When pesticides and their adjuvants if not mixed properly can also cause russeting.
 - 4.) Severe infection of powdery mildew disease caused by the fungus *Podosphaera leucotricha* can also cause russet like symptoms on the fruits.

As far as variation in russeting disorder due to higher altitudes/ lower elevations, North or South facing aspects, clay or sand soil, alkaline or acidic soil conditions, lack of sunlight on fruit, winter frost are concerned, no such studies have been carried out so far in the Dr. Y. S. Parmar University of Horticulture. However, incompatible pesticides mixture or wrong practices of spraying fungicides do contribute to this disorder. Further, the research trials are in progress on apple russeting at Dr. Y.S Parmar University of Horticulture and Forestry, Nauni, Solan H.P.

- b) To manage this disorder, use only the recommended pesticides as per the latest spray schedule. The pesticides should be mixed properly in water at recommended dosages. Mixing of fungicides, insecticides and micronutrients should be avoided. Follow the recommended fungicides (spray schedule) for the management of powdery mildew disease in apple.

Further, the research trials are in progress on apple russeting at Dr. Y.S Parmar University of Horticulture and Forestry, Nauni, Solan H.P., the preliminary observations have revealed that:

1. Application of 60 per cent of recommended dose of NPK fertilizers during dormancy +75g of water soluble customized nutrient (K₂O:S:Mg:Ca:Zn:B) in the ratio (6.0:11.0:5.0:0.3:0.3:0.4) + 25g urea /tree at 15 days after petal fall +75g of water soluble customized nutrient

at 30 and 45 days after petal fall has been found very effective in controlling apple russeting under dry temperate conditions of Sharbo (Kinnaur).

2. A spray of GA₄₊₇ +BA (Plant Growth Regulators) @ 5ppm at petal fall and 2 sprays at 10 days interval after were found most effective plant growth regulators combination for the control of apple russeting under wet temperate conditions of Mashobra. Likewise, single spray of CPPU (Plant Growth Regulators) @ 5ppm at petal fall stage was also found effective to reduce the incidence of russeting.

c) The quality of fruit reduced by russeting can vary from place to place and depends upon the location of the orchard, varieties grown, mixing of pesticides, or severity of powdery mildew during the cropping season. For assessment of fall in fruit price due to russeting, no such study has been conducted in the state however the price of russeted fruit varies as per the extent of russeting on the fruit. As such there is no proposal to declare russeting as an epidemic as it is a complex disorder and is non-spreadable, its outbreak is also not sudden and is sporadically present.