Ayurved Darpan - Journal of Indian Medicine

A Peer Reviewed Journal

Review Article

USEFUL MEDICINAL PLANTS IN BLOSSOM DROP W.S.R. TO *AGNI PURANA*

S. L. Dasari[1], Preeti S. Dasari[2], Girija Marathe[3]
Professor and HOD[1, 2], P. G. Scholar[3],
Department of Dravyaguna Vigyan,
1. Ayurved Seva Sangh, Ganesh Wadi, Panchavati, Nashik, Maharashtra 422003
2. 3. Shree Saptshrungi Ayurved Mahavidyalay and Hospital, Hirawadi, Nashik, Maharashtra 422003
*Corresponding Author: Dr. S. L. Dasari, email: drsldasari@gmail.com

Article Received on: 23/06/2017 Accepted on: 29/06/2017

ABSTRACT:

Blossom drop is the loss of flowers. Blossom Drop is a condition suffered by tomatoes, peppers, snap beans, and some other fruiting vegetables where the plant blooms but fails to set fruit, the blooms die and fall off. In some cases, blossom drop in plants is normal. For instance, male flowers naturally drop from vegetable plants after a few days.

The flower drop as well as the fruit drop is primarily due to the formation of an abscission layer at the point of attachment of the fruit with the twig. There are several reasons usually related to some kind of stress. The stress may be either nutritional, environmental or some combination of the two. Anything which interferes with the pollination fertilization process may result in Blossom drop. Ancient Indian literature is full of various remedies for the cure of such agricultural depicts. Vrukshayurveda is a branch of Ayurveda, devoted to study all aspects related to plants, farming and agricultural remedies. Vedic literature and Puranas also have references about plant pathology. Agni Purana has suggested decoction spray to prevent flower drop.

In this research paper an attempt has been made to study the medicinal plants quoted in ancient literature, in context of agricultural benefits. A conceptual study is done for the cure of blossom drop according to Agni Purana.

KEY WORDS: Blossom drop, *Dolichos Biflorus, Ayurveda,* Flower Drop, *Vrukshayurveda.*

INTRODUCTION:

Blossom drop is the loss of flowers. Blossom Drop is a condition suffered by tomatoes, peppers, snap beans, and some other fruiting vegetables where the plant blooms but fails to set fruit, the blooms die and fall off.[1]

In some cases, blossom drop in plants is normal. For instance, male flowers naturally drop from vegetable plants after a few days. It is a frustrating situation which negatively affects the yield and quality of products. It is a serious issue experienced by farmers which affect the yield of crops, vegetables, fruits and other agricultural produce.

Ancient literature has many indications about the plants their morphology, properties, pathology, plant diseases and their cure. Vedic literature at many places has mentioned different parts and properties of plants. The Upanishada, Samhitagrantha, Puranas, Aranyakas have also elaborately explained about plant kingdom.

Even Rugveda mentions that Vedic Indians had some knowledge about the food manufacture, the action of light on the process and storage of energy in the body of plants. In the post-Vedic Indian literature there is enough evidence to show that botany developed as an independent science on which was based the science of medicine (as

embodied in the Charaka and Susruta Samhitas), Agriculture (as embodied in the Krsi-Parasara) and Arbori-Horticulture (as illustrated in the Upavana-vinoda as a branch of Botany). This science was known as the Vriksayurveda, also compiled by Parasara.[2]

In this research paper an attempt has been made to study the scientific basis of medicinal plants used for blossom drop in the light of references from Agni Purana.

MATERIALS AND METHODS:

A conceptual study is done on account of the references from Agni Purana, Vedic and Ayurvedic literature along with modern science of botany and agriculture.

Review of Literature:

Review on flower/blossom drop:

Blossom drop is the loss of flowers. This is usually preceded by the yellowing of the pedicel. Fruit drop is serious problem and cause great loss to the growers. A tree producing several thousand panicles yields only a few hundred fruits. In some cases, blossom drop in plants is normal. For instance, male flowers naturally drop from vegetable plants after a few days. Many vegetables, like squash, begin producing male flowers as much as two weeks before the first female flower bloom.[3]

The flower drop as well as the fruit drop is primarily due to the formation of an abscission layer at the point of attachment of the fruit with the twig. Several factors have been considered responsible for the formation of abscission layer.

The causes can be divided in to two:

External causes:

· Unfavorable climatic conditions.

· High incidence of serious diseases like powery mildew and anthracnose and pests like hoppers and mealy bugs.

Internal causes:

· Poor soil

· Lack of pollination

· Low stigmatic receptivity

· Defective perfect flowers

· Poor pollen transference

· Occurrence and extent of self incompatibility.

· Abortion of embryo

· Degeneration of ovules.

· Competition between developing fruit lets.

· Drought / lack of irrigation.[4]

Most commonly, healthy blossoms can suddenly drop from plants due to - inadequate pollination, environmental factors, low soil fertility and thrips.

Pollination –

When healthy blooms fall off vegetables and other flowering plants a few days after they open, the flowers probably weren't pollinated. Following are some of the reasons flowers don't get pollinated- High daytime temperatures or low night temperatures prevent pollination. The range of acceptable temperatures varies from plant to plant, but you can expect to lose some flowers when daytime temperatures are above 85 F. (29 C.) or night temperatures drop below 55 F. (12 C.). Decline in honeybee populations –

The lack of insect pollinators has become a major problem in some areas. Honeybees and several other insect pollinators don't fly on cold or rainy days.

Environmental Factors –

Temperature fluctuations, such as those above, greatly affect plant blooms. In addition to flower drop during high temps, cooler temperatures following blossom set can also lead to healthy blossoms falling off. Insufficient light, be it too much or too little, can also contribute to healthy flowers dropping off plants.

Soil Fertility –

Low soil fertility can inhibit the continuance of healthy blooming.

Thrips –

Thrips can also cause buds and flowers to fall off of plants. These tiny pests get inside buds and feed on the petals. Although thrips are difficult to see without magnification, you can see the blotching and streaking on the petals. And it is difficult to bring insecticides in contact with thrips because they are enclosed inside the buds.[3]

The common remedies which are applied to prevent flower drop are –

- Maintaining sufficient soil moisture also prevents fruit drop and helps in increasing the size of the fruit.
- Spraying with Alpha Napthleneacetic acid (ANA) 4.5 % SL
- Plant flowers and vegetables in a location where they will get the right amount of sunlight. Both too little and too much sun can stress a plant and cause the flowers to drop.

Review on Agni Purana -

The Agni Purana is a Sanskrit text and one of the eighteen major Puranas of Hinduism.The range of topics covered by this text include cosmology, mythology, genealogy, politics, education system, iconography, taxation theories, organization of army, theories on proper causes for war, martial arts, diplomacy, local laws, building public projects, water distribution methods, trees and plants, medicine, design and architecture, gemology, grammar, metrics, poetry, food and agriculture, rituals, geography and travel guide to Mithila, cultural history, and numerous other topics.[4] (4.https://en.wikipedia.org/wiki/Agni_Purana)

In the 282 adhyaya of Agnipurana there is description of Vrukshayurved.

In the beginning of this chapter there is guideline about trees and proper place and direction for planting, proper time and Nakshatra for sowing seeds, the prayers for worship during plantation, frequency and need of irrigation and ideal distance to be kept between plants during plantation.

It is followed by remedies to prevent fruit and flower drop and also to enhance the quality of the produce.

फलनाशे कुलत्थैश्च मासैर्मुद्गैर्यवैस्तिलै:
घृतशीतपय:सेक: फलपुष्पाय सर्वदा ॥

Agni Purana chap. 282

To prevent the fruit and flower drop it is advised to use the hot decoction prepared of Kulattha (horse gram, Dolichosbiflorus), Masha (black gram, Phaseolusmungo), Mudga (green gram Phaseolusradiatus), Tila (Sesamumindicum) and Yava (barley), ghee in milk. Cool the mixture and sprinkle it on trees.

This decoction is also helpful when the tree is not producing fruits and flowers.

Then to enhance quality and quantity of fruits a mixture of sheep and goat dung, yava (barley) tila and water should be kept for seven days and then sprinkled over trees.

For growth of tress water which is inhabited with fishes should be used for irrigation. This water when sprinkled along with mixture of Vidanga with rice, fish and flesh is said to cure all plant diseases.

DISCUSSION -

This is era of fertilizers and harmful pesticides. Agrochemicals are responsible for environmental pollution along with harmful effects on health. Unintentional poisonings kill an estimated 355 000 people globally each year.[5]

Long-term exposure to pesticides can increase the risk of developmental and reproductive disorders, immune-system disruption, endocrine disruption, impaired nervous-system function, and development of certain cancers. Children are at higher risk from exposure than are adults.[6]

These chemicals are sprayed during the flowering of plants and they remain in the flower buds who get converted in fruits. Thus the harmful chemicals remains inside the fruit and cannot be wiped off just by washing. Even the ozone purifies cannot kills these harmful agrochemicals.

Considering the risk associated with agrochemicals it is highly beneficial to adopt the traditional and ancient science of Vrukshayurveda. Plant pathology and cure have been descriptively explained in classical Indian texts. Those principles have to be revised in modern context blending together the science and technology.

Many references to plant diseases and their treatment are also available in the Vedic literature. According to S. SundaraRajan, the Atharva Veda explains the destruction of corn due to insect pests. Vinaya, the famous Buddhist text, describes the blight and mildew diseases. A much later text, Sukraniti, gives a detailed account of danger to grains from various agents such as fire, snow, worm, insect, etc. Gunaratna, in his Saddarsanasamuccaya, observes that plants are afflicted by diseases, displacement or dislocation of flowers, fruits, leaves and barks in the same way as the human body suffers from jaundice, dropsy, emaciation, stunted growth of finger, nose, etc., and respond to treatment like human bodies. According to Varahamihira, plant diseases are caused by cold climate (low temperature), wind (dryness) and sun (heat) and indicated by the yellowness of the leaves, non-or under-development of buds, dryness of the branches and the exudation of the sap. He also described the treatment: the paste of ghee, Vidanga (Embeliaribes) and mud kneaded in the infected parts and then diluted milk should be sprinkled over the area.[2]

For example in this research paper a scientific study of the remedy for flower drop as per agnipuran has been done. The spray contains –

1. Kulattha Dolichos biflorus Linn.
2. Maash Vigna mungo Linn
3. Mudga Vigna radiata Linn
4. Yava
5. Tila

As the chief ingredients along with ghee and decoction is made in milk.

The anti flower and fruit drop property may be attributed to its antimicrobial activity along with the ability to provide proper nutrition to the plant.

CONCLUSION:

Various herbal formulations can be successfully utilized in the agro farming for the prevention of pests, diseases in plants and as a source of nutrition and as growth enhancers.

The efficacy of these herbal formulations should be evaluated with sound experimental trails.

There is urgent need to satisfy the economic and safe substitute for the harmful pesticides and the fertilizers.

REFERENCES:

1.http://www.michiganheirlooms.com/PDF/BlossomDropTomatoes.pdf
2.Ancient Indian Botany and Taxonomy- Lalit Tiwari
3.https://www.gardeningknowhow.com/plant-problems/environmental/why-healthy-blooms-fall.htm
4.http://www.agricultureinformation.com/forums/general-questions-answers/141455-premature-flower-drop-mango.html
5.The world health report 2003 – shaping the future. Geneva, World Health Organization, 2003.
6.http://www.who.int/heli/risks/toxics/chemicals/en/

Cite this article as:

S. L. Dasari, Preeti S. Dasari, Girija Marathe, Useful medicinal plants in blossom drop w.s.r. to *Agni purana*, Ayurved Darpan - Journal of Indian Medicine, April - June 2017, Vol. 2 Issue 2, p. 75 - 78.