

was also not encouraging during the lockdown period and it is still hovering around Rs. 75-80 per kilogram of raw cashewnuts. This is not only due to reduced exports, but also due to decreased consumption levels in the country as the disease spread coincided with the season of marriages and other festivals across the country. Importantly, the cashew processing units were shut down during the period. However, All India Cashew Growers Association (AICGA) negotiated to some extent with the processors and through cooperatives, farmers could sell their produce at a reasonably good price. The price of raw cashew nuts is expected to increase in the days to come and many cashew growers have stored their produce in anticipation of better returns.

During the lockdown period, the Directorate functioned with limited workforce as per the guidelines of Government of India and local administration. However, the institute has taken proactive steps to extend help to the needy persons in and around the directorate. It has distributed

food kits along with masks and sanitizers in addition to creating awareness among the poor about the disease. COVID advisories for cashew farmers were issued during May and June both in English and the local language of the state i.e. Kannada. Information about seasonal works to be carried out in cashew plantations was also provided in the institute's website and social media.

The Directorate is committed to serve the cashew farmers of the country by means of development of improved technologies, distribution of quality planting material, giving out benefits to SC/ST communities and technology transfer amidst COVID crisis. It is fervently hoped that cashew cultivation, marketing and trade will be re-energized in the post corona period and unabated development continues in the frontiers of cashew.



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FOCUS ON RESEARCH

Inflorescence pests of cashew, their damage and seasonality

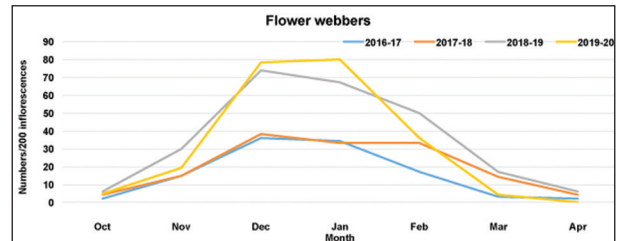
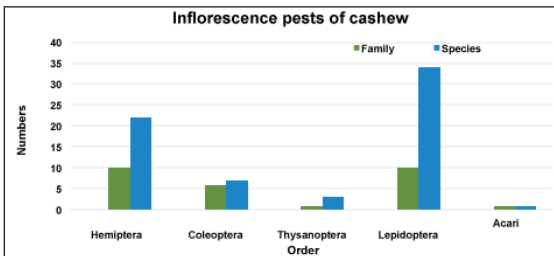
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During the flowering season of cashew, besides tea mosquito bug (TMB), several insects damage the flowers causing substantial yield loss. Information on the pest species complex occurring on cashew flowers, their relative abundance and damage potential is important in the changing pest scenario. Surveys conducted in the cashew plantations of ICAR-Directorate of Cashew Research

(DCR), Puttur during the flowering period from 2016-2020, led to documentation of 66 insect pests belonging to different groups viz., Hemipterans (22), Coleopterans (7), Lepidopterans (34), Thysanopterans (3) and Acari (1) (Fig.1). Among these, Lepidopterans were dominant followed by Coleopterans.

The important and abundant inflorescence pests recorded include, TMB (*Helopeltis antonii* Signoret.), thrips (*Scirtothrips dorsalis* Hood), mirids (*Campylomma livida* Reuter), webbers (*Lamida moncusalis* W., *Archips* sp., *Nanaguna* sp., *Dudua aprobola* M.), Geometrids (*Perixera* sp., *Hyposidra* spp.), shoot tip caterpillar (*Hypatima haligramma* M.), hairy caterpillar (*Euproctis* sp.), apple and nut borer (*Thylacoptila paurosema*

M.) and Silvanid flower beetles. Besides, mealy bugs, aphids and several other defoliators also cause damage to cashew flowers. In some years, leaf feeding insects like *Bombotelia jocosatrix* Guen., *Oenospila flavifusata* W., *Pingasa ruginaria* Guen., *Aetholix flavibasalis* Guen., *Orthaga* sp. and *Hyposidra* sp. also fed on the developing inflorescences.



The occurrence of TMB, shoot tip caterpillars, leaf and blossom webbers and geometrids can be noticed on the new flushes of cashew after the monsoon *i.e.*, October-November. With the initiation of flowering, these pests start damaging the flowers as well. Higher incidence of inflorescence pests especially caterpillars can be noticed from second week of December to January end or up to first fortnight of February, which decreases drastically during March. While, high incidence of thrips, flower mirids and silvanids occur during February and March. The apple and nut borers damage the flowers, developing nuts, apples and ripe apples from January to May.

The damage by the flower webbers can be easily identified by the drying of flowers in clumps with webbings. The cut portions on the inflorescences and the feeding damage on buds and petals indicate the damage by Geometrids. Severe feeding by thrips may result in drying of inflorescences, corky growth on developing nuts and apples leading to malformation. The nature of damage by flower mirids and silvanids is not clearly understood in the present investigation, but there is a possibility of pollen damage by the flower beetles, but to confirm this further studies are required.



A. flavibasalis



E. scintillans



B. jocosatrix



Nanaguna sp.

Natural enemies play a major role in managing the population of several minor pests. General predators recorded in the inflorescences include, several species of spiders, ants, mantids, reduviids, lace wing bugs, coccinellids, geocorid bugs, anthocorid bugs, pentatomid bug, wasps, syrphids, mantispids and pentatomid bug (*Eocanthecona furcellata*). Among them, spiders are the predominant predators found in more numbers. Besides, there are several parasitoids

managing these pests to the tune of 5-30 %. In general, insecticidal sprays taken up against TMB during flowering season, aid in effectively managing most of these inflorescence pests. However, when the damage by inflorescence pests especially caterpillars is prominent, timely spraying is essential. Because significant yield loss of 30-40 % has been recorded in unsprayed plants compared to insecticide sprayed ones.

PROGRAMMES ORGANIZED

Celebration of Constitution Day – Activities

As per the directives of ICAR, New Delhi, ICAR-DCR, Puttur has taken up different activities to honour the 70th year of the adoption of Constitution of India from 26th November, 2019 to 14th April, 2020. Initially, the brochures, standees and banners of Constitution Day were uploaded in ICAR-DCR website along with the reports on monthly activities taken up under this programme. During the period of report, singing competition on patriotic songs was organized on 10th January, 2020 for the ICAR-DCR staff. On 31st January, 2020, a meeting was organized at ICAR-DCR along with the youth club, Shantigodu. During the meeting, constitution day brochure was distributed to the members of youth club and a talk on 'Indian constitution and Fundamental Duties' was delivered by Sri. Rajesh, Head Master, Priyadharshini English Medium School, Bettampady.

A detailed talk on 'Land Legislations and Reforms' by Dr. M. Dattathreya Rao, Former

Head, Department of Sociology, St. Philomena College, Puttur was arranged on 4th March, 2020 at ICAR-DCR, Puttur. Later on 13th March, 2020, a meeting was convened with farmers and Dr. R. Selvamani, IAS, Chief Executive Officer (CEO), Dakshina Kannada Zilla Panchayat was the chief guest. The CEO explained the fundamental duties of Indian citizens and emphasized on Article 3 of the Constitution. He gave information on different Government schemes for the benefit of farmers and interacted with the farmers. A total of 177 participants including farmers, President and members of All India Cashew Growers Association (AICGA), staff of DCR and public were present during the programme. On 14th April, 2020, as there was lockdown due to COVID-19, 'Reading of Preamble of Indian Constitution and fundamental duties of Indian Citizens was taken up by the staff at home with their family members as per the directives of the Council.