

Insect Pests of Arid Fruit Crops

(Practical Manual for Field Identification and Damage Symptoms)



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INSECT-PESTS OF ARID FRUIT CROPS

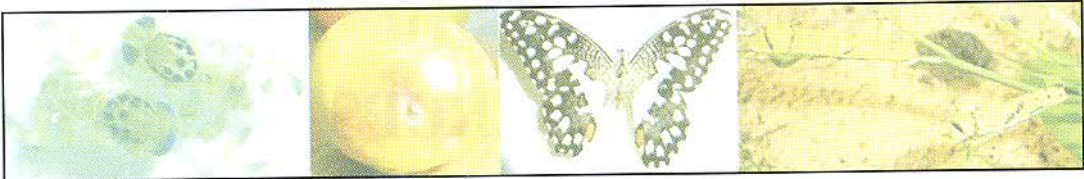
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PREFACE

Arid fruits are becoming popular for nutritional and health security point of view as they are excellent sources of minerals, vitamins, protein, antioxidants and photochemical. Among the arid fruit crops ber (*Ziziphus mauritiana*), date palm (*Phoenix dactylifera*), lasora (*Cordia myxa*), aonla (*Embllica officinalis*) and bael (*Aegle marmelos*) are the major crops which can be grown easily in hot arid ecosystem of the country. Date palm provides a wide range of essential nutrients, very good source of dietary potassium and energy. There are many reasons for low productivity of the arid fruits. Hot arid region are marked by abiotic limitations such as high temperature, high potential evapo-transpiration, low erratic rainfall, low soil fertility, poor quality of ground water, etc., which lead to poor crop growth and yield. Apart from the climatic limitations, the biotic factors like pest and diseases are also one of the limiting factor for crop production in hot arid ecosystem.

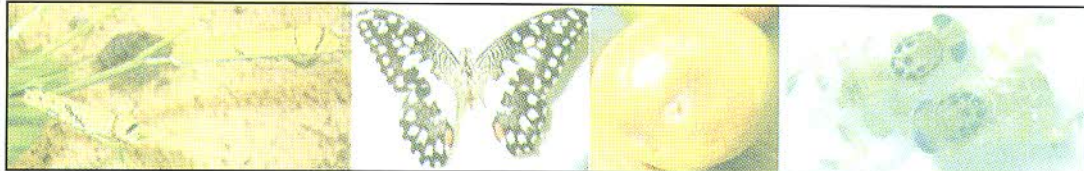
A central problem is to identify and understand patterns of distribution and abundance of species of the insect pests. In this endeavour, useful information has been generated on identification, host and damage symptoms of the pest in different fruit crops at various research institutions and SAUs of the country. Earnest efforts have therefore, been made to compile information on identification, host and damage symptoms of pest in a systematic manner, grouped in different chapters and presented in the form of a bulletin entitled "**Insect-Pests of Arid Fruit Crops (Practical Manual for Field Identification and Damage Symptoms)**". Correct identification of the insect, their damage and host preference is the prerequisites for effective pest control. This publication contains excellent colored photographs depicting salient identification characteristics of insect and their damage on plants under natural condition so as to update the knowledge of extension agencies and farmers with to the pests in the field.

The authors are grateful to Dr. S. Ayyappan, D. G., ICAR and Secretary, DARE and Dr. N. K. Krishna Kumar, D. D. G. (Hort.), ICAR, New Delhi for their constant inspiration, encouragement and valuable suggestion to bring out this publication. We are highly thankful to Dr. S. K. Sharma, Director, CIAH, Bikaner, who encouraged and provided valuable suggestions and ideas to improve the authenticity and quality of this bulletin.

It is hoped that this publication will be useful for research workers, extension personnel, teachers, students, planners and NGOs.

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Shraavan M Haldhar



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