

Objekttyp: **TableOfContent**

Zeitschrift: **Acta Tropica**

Band (Jahr): **19 (1962)**

Heft (7): **Pests of crops in warm climates and their control**

PDF erstellt am: **22.05.2024**

Nutzungsbedingungen

Die ETH-Bibliothek ist Anbieterin der digitalisierten Zeitschriften. Sie besitzt keine Urheberrechte an den Inhalten der Zeitschriften. Die Rechte liegen in der Regel bei den Herausgebern. Die auf der Plattform e-periodica veröffentlichten Dokumente stehen für nicht-kommerzielle Zwecke in Lehre und Forschung sowie für die private Nutzung frei zur Verfügung. Einzelne Dateien oder Ausdrucke aus diesem Angebot können zusammen mit diesen Nutzungsbedingungen und den korrekten Herkunftsbezeichnungen weitergegeben werden. Das Veröffentlichen von Bildern in Print- und Online-Publikationen ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. Die systematische Speicherung von Teilen des elektronischen Angebots auf anderen Servern bedarf ebenfalls des schriftlichen Einverständnisses der Rechteinhaber.

Haftungsausschluss

Alle Angaben erfolgen ohne Gewähr für Vollständigkeit oder Richtigkeit. Es wird keine Haftung übernommen für Schäden durch die Verwendung von Informationen aus diesem Online-Angebot oder durch das Fehlen von Informationen. Dies gilt auch für Inhalte Dritter, die über dieses Angebot zugänglich sind.

Contents

<i>Foreword</i>	vii
<i>Preface</i>	xi
<i>Acknowledgments</i>	xii

I. INTRODUCTION

1. <i>Structure, general characteristics and development of insects</i>	1
External morphology of insects	1
Anatomy and physiological functions of inner organs	5
Forms of development	6
1. Ametabolous development	7
2. Hemimetabolous development or incomplete metamorphosis	7
3. Holometabolous development or complete metamorphosis	7
a) acephalous-apode larvae	8
b) eucephalous-apode larvae	8
c) eucephalous-oligopode larvae	8
d) eucephalous-polypode larvae	8
a) exarate pupae = pupa libera	9
b) obtected pupae = pupa obtecta	9
c) coarctate pupae = pupa coarctata	9
2. <i>Synopsis of the classification of the most important plant pests</i>	10
INSECTA	10
ORDER ORTHOPTERA	10
Family Blattidae	10
Family Gryllidae	11
Family Gryllotalpidae	11
Family Forficulidae	11
Family Tettigoniidae	12
Family Acridiidae	12
ORDER ISOPTERA	12
ORDER THYSANOPTERA	12

ORDER HETEROPTERA	13
Family Pentatomidae	14
Family Coreidae	14
Family Lygaeidae	14
Family Pyrrhocoridae	14
Family Tingidae	15
Family Miridae	15
 ORDER HOMOPTERA	 15
Suborder Cicadina	15
Family Fulgoridae	15
Family Cicadidae	15
Family Cercopidae	15
Family Jassidae	15
Family Membracidae	15
Suborder Psyllina	16
Family Psyllidae	16
Suborder Aleyrodina	16
Family Aleyrodidae	16
Suborder Aphidina	16
Family Aphididae	16
Suborder Coccina	17
Family Margarodidae	17
Family Pseudococcidae	17
Family Lecaniidae	17
Family Diaspididae	18
 ORDER COLEOPTERA	 18
Family Carabidae	19
Family Elateridae	19
Family Buprestidae	19
Family Bostrychidae	20
Family Coccinellidae	20
Family Chrysomelidae	21
Family Cerambycidae	21
Family Curculionidae	21
Family Ipidae	22
Family Scarabaeidae	22
 ORDER HYMENOPTERA	 22
Family Tenthredinidae	23
Family Siricidae	23
Family Cynipidae	24
Family Ichneumonidae	24
Family Vespidae	24
Family Apidae	25
Family Formicidae	25

ORDER LEPIDOPTERA	25
A. Microlepidoptera	26
Family Tineidae	26
Family Pyralididae	26
Family Tortricidae	27
Family Lyonetiidae	27
Family Hyponomeutidae	28
Family Coleophoridae	28
B. Macrolepidoptera	28
Family Geometridae	28
Family Noctuidae	29
Family Lasiocampidae	29
Family Lymantriidae	30
Family Arctiidae	30
Family Limacodidae	31
Family Sphingidae	31
Family Papilionidae	31
 ORDER DIPTERA	 32
Suborder Orthorrhapha	32
Family Cecidomyiidae	32
Family Tipulidae	32
Suborder Cyclorrhapha	33
Family Chloropidae	33
Family Trypetidae	33
Family Agromyzidae	33
 ARACHNIDA	 34
ORDER ACARINA	34
Suborder Trombidiformes	34
Family Tetranychidae	34
Family Eriophyidae	35
 MYRIAPODA	 35
 NEMATHELMINTHES	 36
ORDER NEMATODA	36
Family Anguillulidae	36
Leaf nematodes	37
Stem nematodes	37
Root knot nematodes	37
Root cyst nematodes	38
Ectoparasitic root nematodes	38

II. IDENTIFICATION OF PLANT PESTS

1. <i>How pests cause damage</i>	41
2. <i>How pests are identified in the field</i>	42
a) Isolating attacked plant material	42
b) Odour attractants	43
c) Optical attractants	44
d) Traps	46
e) Other equipment for capturing insects	46
f) Insecticidal sprays	47
3. <i>Evidence of plant parasitic nematodes</i>	47
a) Leaf and stem nematodes	47
b) Root knot nematodes	48
c) Cyst-forming nematodes	48
d) Free living root nematodes	49
4. <i>Killing, preserving and packing insects</i>	49
a) Equipment for killing insects	49
b) Preserving	51
1. Method for insects with a strongly chitinized body wall	51
2. Method for soft, fragile insects, mites and nematodes	52
3. Methods for green plants	53
c) Packing and dispatching	53
5. <i>How to make simple microscope slide mounts</i>	54
a) Mounting media	55
b) Mounting for quick identification	55
c) Mounting for permanent preservation	56

III. PESTS OF CROPS IN WARM CLIMATES

BEVERAGES	61
Coffee	63
Cocoa	87
Tea	105
Kola-nut	123
FOOD CROPS	129
Maize	131
Sorghum	145
Rice	151
Sugar cane	167
Beans	187
Cassava (Manioc)	199
Sweet Potato	205

FRUITS	217
Pineapple	219
Date-palm	225
Banana	229
Papaw	237
Mango	241
Citrus	257
OIL PLANTS	295
Olive	297
Coco-nut and Oil-palm	305
Sesame	325
Castor	333
Ground-nuts	341
TOBACCO, PYRETHRUM, SPICES AND DRUGS	353
Tobacco	355
Pyrethrum	375
Pepper	377
Chillies	383
Quinine	387
RUBBER AND FIBRES	393
Rubber	395
Cotton	403
Sisal	428
Roselle Hibiscus	431
Ramie	435
Jute	437
Kapok	441
LOCUSTS	447
Locusts and their role as plant pests	447
Locust life history	449
Control	452
A. Baiting	453
B. Dusting	453
C. Ground spraying	453
D. Aircraft spraying	454
TERMITES	457
Termites and their role as plant pests	457
Termite castes	457
Differences between termites and ants	459
Termite nests	460
Economic importance of termites	461
Causes of termite attacks on plants	462
Control	462
A. Preventive measures	462
B. Curative measures	463

ANTS	465
Ants and their role as plant pests	465
Nests and castes	466
Ants of economic importance	467
Control of leaf-cutting ants	469
Ants causing direct damage to roots, trunks, shoots, and flowers	470
Control	471
Ants indirectly injurious	472
Control	473
Driver ants	473

IV. METHODS AND EQUIPMENT FOR PEST CONTROL

<i>Direct method</i>	475
1. <i>Mechanical control</i>	475
2. <i>Chemical control</i>	475
a) Feeding or stomach poisons	476
b) Systemics	476
c) Direct or contact poisons	476
d) Contact poisons with local penetration properties	476
e) Fumigants	477
Synergists	477
Attractants	477
Repellents	477
3. <i>Product formulation</i>	478
a) Dusts	478
b) Granulate	478
c) Wettable powders	479
d) Pastes	479
e) Emulsifiable solutions	479
f) Aerosols	480
g) Fog solutions	480
h) Fumigants	480
i) Glues	481
4. <i>Method of Application</i>	481
a) Application of dusts with dusting machines	481
b) Application of liquid insecticides with spraying equipment	482
High volume method	482
Low volume method	484
c) Application of insecticides by aircraft	486

5. <i>Action of pesticides on the plant</i>	487
6. <i>Organization of phytosanitary campaigns</i>	488
7. <i>Biological control</i>	490
8. <i>Timing of phytosanitary campaigns</i>	490
1. <i>Preventive control</i>	491
2. <i>Curative control</i>	491
9. <i>Examination of insecticides and field trials</i>	492
10. <i>Assessment of insecticidal residues on plants and stored products</i>	495
Method of assessing insecticide residues	496
11. <i>Development and causes of resistance to insecticides</i>	499
12. <i>Glossary</i>	501
13. <i>Conversion tables for weights, measures and temperatures</i>	505
<i>References</i>	512
<i>Index</i>	537

V. CONTROL-MEASURES

(Appendix)

1. *Table of active ingredients*
2. *Precautions*
3. *First-aid measures*
4. *Mixing tables*
5. *Recommendations for control measures against the described pests*

