PRODIPLOSIS LONGIFILA IN PERU

JORGE CASTILLO - VALIENTE

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CROSS SECTION

COAST

MOUNTAIN

JUNGLE
The diagram above represents the mean relative humidity percentages from January to December for the years 2007 to 2010. The x-axis denotes the months of the year, while the y-axis indicates the percentage of relative humidity. The data points for each year are represented by different markers, allowing for a comparison of humidity trends across the years.
Prodiptosis longifila
Biology

- Eggs: Transparent, protected, exophilic
- Larva: Three stages, small, protected, transparent, white and yellow color.
- Larva III – Prepupa. Does not feed, drop to the ground and they penetrate the soil. They incorporate sand grains
- Pupa: Wet conditions
- Adult: They are active at dawn or dusk.
**Prodiptosis longifilila** biology under Asparagus field conditions (September 2001.APTCH) La Libertad. Perú

<table>
<thead>
<tr>
<th>Life cycle stage</th>
<th>Time (Days)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mín.</td>
</tr>
<tr>
<td>Egg.</td>
<td>1.5</td>
</tr>
<tr>
<td>Larvae</td>
<td>4.3</td>
</tr>
<tr>
<td>Pre pupae - pupa</td>
<td>9.2</td>
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<tr>
<td>Development cycle</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>15.1</td>
</tr>
<tr>
<td>Female</td>
<td>15.4</td>
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<table>
<thead>
<tr>
<th>Stage</th>
<th>Days</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>Min.</td>
<td>Max.</td>
</tr>
<tr>
<td>Egg</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Larvae I</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Larvae II</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Larvae III</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Pupae</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Male adult.</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Female adult</td>
<td>4</td>
<td>6</td>
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<tr>
<td>Cycle Male</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Cycle Female</td>
<td>13</td>
<td>16</td>
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</table>

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PRODIPOLOSIS ECOLOGY AND BEHAVIOR


• Weeds: Hierba del gallinazo *Chenopodium murale*, Yuyo *Amaranthus spp*, Capulí cimarron *Nicandria phisaloides*, Ricinus *communis*, etc.

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• The insect has many cycles
• The insect is favored by warm temperatures.
• Temperatures below 11ºC., the insect population is reduced.
• Temperatures above 28 ºC is detrimental.
• High relative humidity is better for the insect development.
• It does not have efficient biological control agents.
• Larva protected on the plant.
• Adult attracted by light. During the day they hide in the bottom of the plants, weeds or soil
• The adult prefers shaded places, unventilated areas and physical and biological barriers
• The adults move with the wind.
DAMAGE

• Growing tissues such as buds, flowers, bracts and little fruits
• The larva feeds on the epidermal tissue and favors the development of plant pathogens such as *Botrytis* spp
• Organs deformation, depending on the associated crops.
TOMATOS

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PEPPERS

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CUCURBITS
BEANS

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AVOCADO (ZUTANO) (Rootstock)

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SPARAGUS

Second fern cycle
IPM COMPONENTS DEVELOPMENT
CHAVIMOCHEC IRIGATION
AGROECOSYSTEM

Asparagus
Sugar cane
Avocado
Others

Others crop in the old valley
BIOLOGICAL SHELTER
WEED MANAGEMENT

Amaranthus spp

Chenopodium album

Solanum nigrum
LAND PREPARATION
PLANT DENSITY
LARGE SCALE HARVESTING
NEIGHBORING PLANTS
MANAGEMENT OF BIOLOGICAL BARRIERS
ADULT PEST POPULATION ASSESSMENT
STICKY TRAPS
MOBILE STICKY TRAPS
STICKY LIGHT TRAPS
41 million adults per square meter in 22 days
SPARAGUS SPEARS WASHING AT HARVEST
BIOLOGICAL CONTROL

*Tyopeas sp:*
*Hygyasteridae: Hymenoptera*
Parasitism of 16.55 to 20%
*Chrysopas.
Others*
<table>
<thead>
<tr>
<th>Entomopathogens</th>
<th>Nº prepupae falls</th>
<th>Adultos emerged</th>
<th>% of emergency</th>
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<tbody>
<tr>
<td><em>Beauveria bassiana</em></td>
<td>23.66</td>
<td>5.92</td>
<td>25</td>
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<tr>
<td><em>Metarrhizium anisopliae</em></td>
<td>33.32</td>
<td>8.33</td>
<td>25</td>
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<tr>
<td><em>Verticillium lecanii</em></td>
<td>79.32</td>
<td>19.83</td>
<td>25</td>
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<tr>
<td>Control</td>
<td>113.99</td>
<td>28.5</td>
<td>25</td>
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Coenosia spp
Heterorhabditis spp
ASPARAGUS FLOWERS INFESTATION (DROPPING)
PORCENTAGE OF FLOWER DROPPING

![Bar chart showing percentage of flower dropping for different treatments.](Image)
IRIP IRRIGATION- PRODIPLOSION
CHEMICAL CONTROL

Larva: Neonicotinoides

Adults: Sulfur
    Capsaicin extract.
    Garlic extract
    Toxic baits
EXTENTION WORK: FIELD DAYS