Section A  Organisation Type

1. Organisation Name ____________________________________________

2. Contact Name in Organisation ______________________________________

3. Type of organisation [please tick]
   - [ ] Private commercial company
   - [ ] Government Agency or Research Institute
   - [ ] Subsidiary or joint venture of Multinational company
   - [ ] Non-Governmental Organisation
   - [ ] Other [please specify] ____________________________________________

4. What is the size of your organisation? Number of staff / employees [Please tick]
   - [ ] 1 - 10
   - [ ] 11 – 20
   - [ ] 21 - 50
   - [ ] 51 – 100
   - [ ] 101 - 200
   - [ ] 201 – 300
   - [ ] 301 - 500
   - [ ] More than 500

5. What are the main products sold or produced by the organisation? Please circle a score for each type of product between 1 (most important / valuable) to 5 (not sold).

<table>
<thead>
<tr>
<th>Level of importance (turnover)</th>
<th>Most important 1</th>
<th>Very important 2</th>
<th>Important 3</th>
<th>Minor importance 4</th>
<th>Not sold 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biopesticides (Pesticides based on viruses, fungi, bacteria, nematodes and protozoa)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Botanical products (e.g. Neem products)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Parasites and predators</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Pheromone products</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Agrochemicals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Seeds and planting material</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Other products [please specify]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

6. In which year did the organisation start operating? _____
Section B: General Information on Biopesticide Production

1. What types of biopesticides does the organisation produce?

☐ Viral pesticides  ☐ Fungal pesticides

☐ Bacterial pesticides  ☐ Fungal or bacterial Antagonists

☐ Nematode entopathogens  ☐ Do not produce biopesticides

2. Why did your organisation decide to produce biopesticides?

____________________________________________________________________

3. What are your main sources of information on biopesticides production and use?
   [please circle a score between 1 (very important) and 5 (never used)]

<table>
<thead>
<tr>
<th>Source</th>
<th>Very Important (1)</th>
<th>Important (2)</th>
<th>Occasional (3)</th>
<th>Rarely used (4)</th>
<th>Never used (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own scientific staff</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>University professors</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Department of Agricultural Extension</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Parent Company (for Multinationals)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>National and international journals and books</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Conferences and seminars</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Other [please specify]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. How many scientific graduates are involved in biopesticide production? ____

5. How many other staff are involved in biopesticide production? ____

6. What equipment is available in the production laboratories? [please tick]

☐ Airflow cabinet  ☐ Autoclave

☐ Controlled environment cabinet  ☐ Light microscope

☐ Moisture analyser  ☐ Electron microscope
SURVEY OF SUPPLY, PRODUCTION AND DISTRIBUTION OF BIOPESTICIDES

Section C: Information on each biopesticide product [Please complete a separate Section C for each biopesticide product]

1. Product Name ________________________
2. Biological agent(s) ________________________
3. What is the formulation type of the product? [please tick]:
   - Liquid
   - Powder
   - Granular
   - Other [please specify] ____________________________
4. What is the size of units (bottles, packages etc.) sold? _______
5. What is the concentration of biological agent(s) in one unit? ________________
6. What is the retail price per unit? _______
7. What pests is the biopesticide targeted at?___________________________________
8. What crops is the biopesticide targeted at?_________________________________
9. What are the recommended dosages per hectare? _______________________
10. Who are the main customers for this biopesticide? __________________________
11. How many units of the biopesticide did you sell last year (1998/9)?___________
12. What is the source of the biological agents? [please tick]
   - Own production
   - Obtained from another commercial company
   - Obtained from a government / public organisation
   - Other source [please specify] ____________________________

[Please complete questions 13-16 if the organisation produces its own biopesticide]
13. Where do you obtain inoculum? ______________________________________
14a) Complete for Virus biopesticides
   - What is the source of insects? [please tick]
     - Collected from the field
     - Reared in the laboratory
   - What is the source of feed for the insects?
     - Leaves
     - Agar-based diet
     - Other [please specify] ____________________________
14b) Complete for **Fungal, bacterial and antagonists biopesticides**

What fermentation method is used?

☐ Liquid  ☐ Semi-solid

☐ Solid

☐ Other method [please specify] ___________________________________________

15. How is the concentration of the biopesticide agent measured as? [please tick]:

☐ PIB Count  ☐ Larval Equivalents (LEs) [for viral pesticides]

☐ Other [please specify] ___________________________________________

16. What is the maximum quantity that can be produced in one batch? _________

17. What is the cost of production per unit? ___________

18. What checks are undertaken to ensure biopesticide quality and efficacy?

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

19. What are the major production constraints (if any)?

____________________________________________________________________

____________________________________________________________________
## Marketing, Distribution and Promotion

1. Who do you sell biopesticides to? [please circle a score between 1 (almost all sales) and 5 (no sales)]

<table>
<thead>
<tr>
<th>Sales to:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government agencies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Governmental Organisations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialised biocontrol or organic farming</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dealers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General agrochemical dealers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Seed Producers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugar factories</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct to farmers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other [please specify]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Do you have your own distribution outlets? How many? __________

3. In how many locations are your products available for sale?

- [ ] One only
- [ ] Less than 5
- [ ] National network of outlets
- [ ] Network of outlets in the State or Province
- [ ] Mail Order
- [ ] Other [please specify] ______________________

4. Do you have your own extension agents? How many? __________

5. What extension methods do you use to promote biopesticides? [please tick]

- [ ] Advice to dealers
- [ ] Information leaflets on ......biopesticides
- [ ] Farmer Demonstration days
- [ ] Extension visits to farmers
- [ ] Farmer Field Trials
- [ ] Other [please specify] ______________________

6. Do you advertise your products? If so, how and where?
7. Do you carry out market research for your biopesticide products? Please describe.

8. Approximately how many farmers buy your products? ___________

9. In your opinion, what description(s) best fit the type of farms and farmers who use your biopesticides? [please tick]

**Size of farm**
- [ ] Very small, marginal
- [ ] Small
- [ ] Medium
- [ ] Large

**Crops grown**
- [ ] Staple foods
- [ ] Vegetables
- [ ] Legumes & oil seeds
- [ ] Sugarcane
- [ ] Cotton
- [ ] Tree crops
- [ ] High value export crops

**Farmer’s education**
- [ ] Little education
- [ ] Some education
- [ ] Medium education
- [ ] Highly educated

**Farmer’s attitude to environmental issues**
- [ ] Interested in organic farming
- [ ] Interested in IPM
- [ ] Concerned about the environment
- [ ] Concerned about health and safety
- [ ] No major concerns
- [ ] More concerned about farm profits than the environment

10. What are the main constraints in marketing and promoting uptake of biopesticides? [please specify] ________________

<table>
<thead>
<tr>
<th>Constraints</th>
<th>Very important</th>
<th>Important</th>
<th>Some importance</th>
<th>Minor importance</th>
<th>Not important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of demand by farmers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Lack of knowledge by farmers of how to use biopesticides correctly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Lack of extension support by Government agencies</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Cost of biopesticides</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Technical, production problems</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Competition from agrochemical dealers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Lack of widespread availability of biopesticides</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Registration costs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Other [please specify]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Trends in biopesticides

1. How have your sales of biopesticides changed over the last 3 years?

<table>
<thead>
<tr>
<th>Change in Sales</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large increase</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(&gt;100%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>About the same</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decrease</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large decrease</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Change in sales of biopesticide over 3 years: 1 2 3 4 5

2. What was your total annual turnover for biopesticides in 1998/99? ________

3. Have you discontinued the sale of any biopesticides? ______
   If yes, which biopesticide: _____________________________
   Why did you stop selling it? _____________________________

4. Have you plans to sell new biopesticides?
   If so, what? ____________________________________________

5. Do you plan to change your product range, methods of production or marketing in the future? If so, how?
   ______________________________________________________
   ______________________________________________________

6. How do you think the market for biopesticides will change over the next 10 years in your country?

<table>
<thead>
<tr>
<th>Change in market for biopesticides</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large increase (&gt;100%)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>About the same</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decrease</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large decrease</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Change in market for biopesticide over the next 10 years: 1 2 3 4 5

7. In your opinion, which type of biopesticide will be the most successful in the future?

- [ ] Viral pesticides
- [ ] Fungal pesticides
- [ ] Bacterial pesticides
- [ ] Fungal or bacterial Antagonists
- [ ] Nematode entopathogens
- [ ] No difference between them

Please explain why: __________________________________________________________

8. What recommendations would you suggest to promote uptake of biopesticides?
   ______________________________________________________
   ______________________________________________________

Thank You