

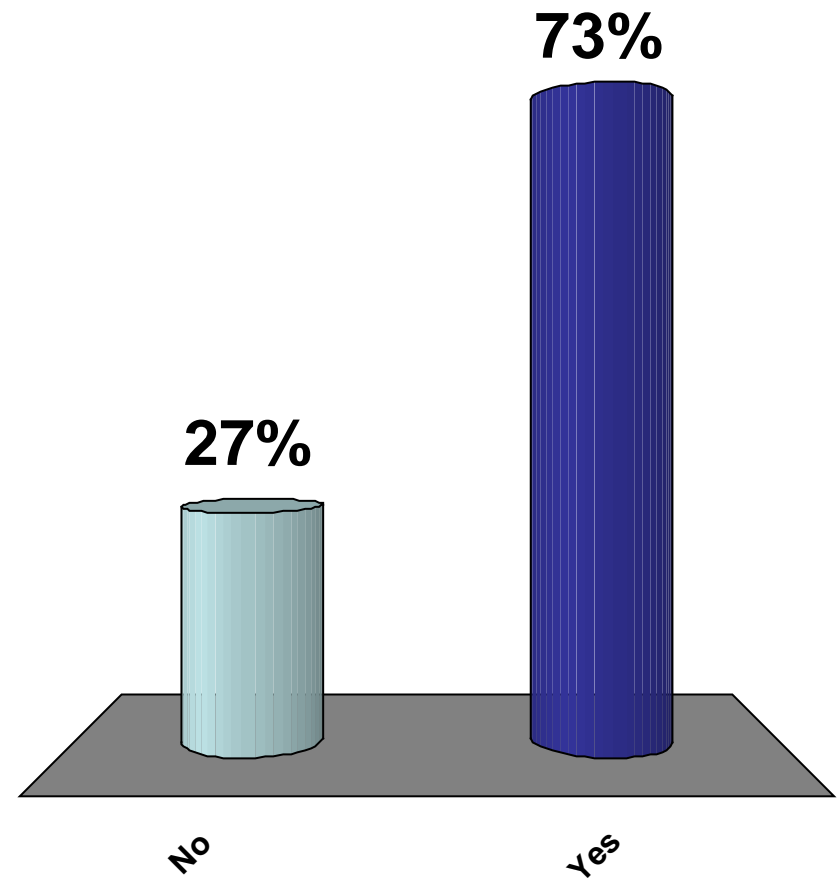


*What research do
we need for organic
orchards ?*

David Granatstein, *WSU CSANR*
Nadine Lehrer, *WSU TFREC*
Nick Stephens, *Columiba IPM*

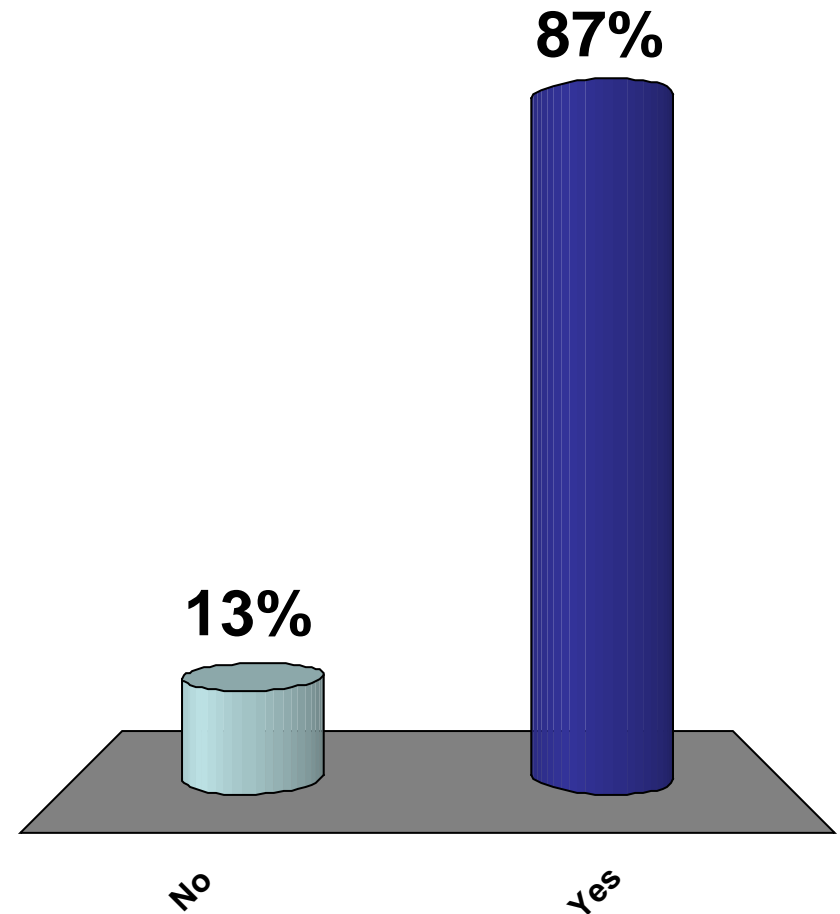
Are you in Yakima?

1. No
2. Yes



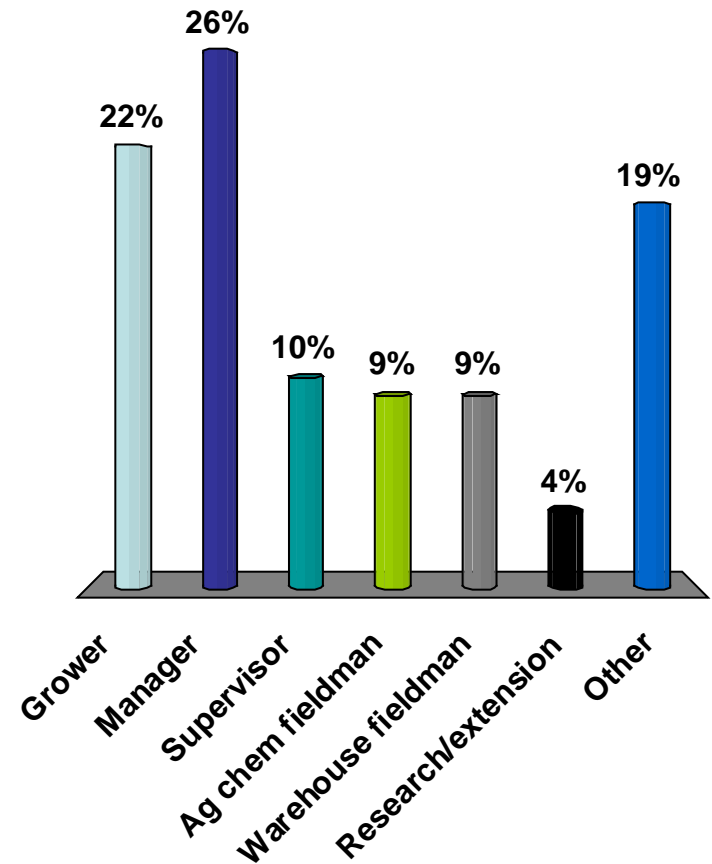
Do you work with organic orchards?

1. No
2. Yes



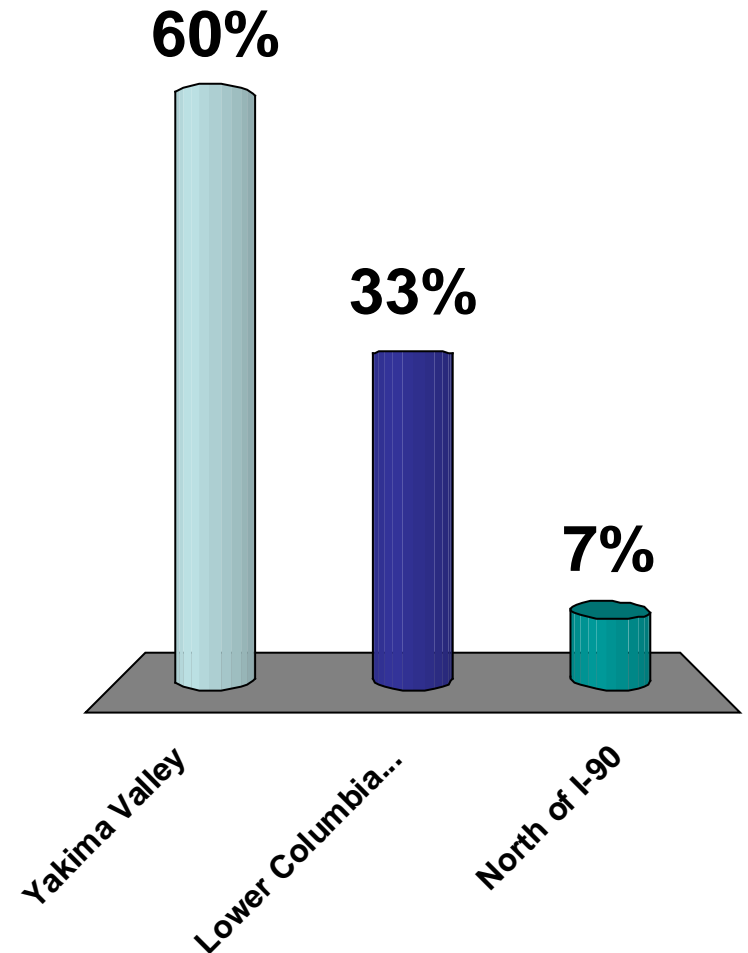
What is your role?

1. Grower
2. Manager
3. Supervisor
4. Ag chem fieldman
5. Warehouse fieldman
6. Research/extension
7. Other



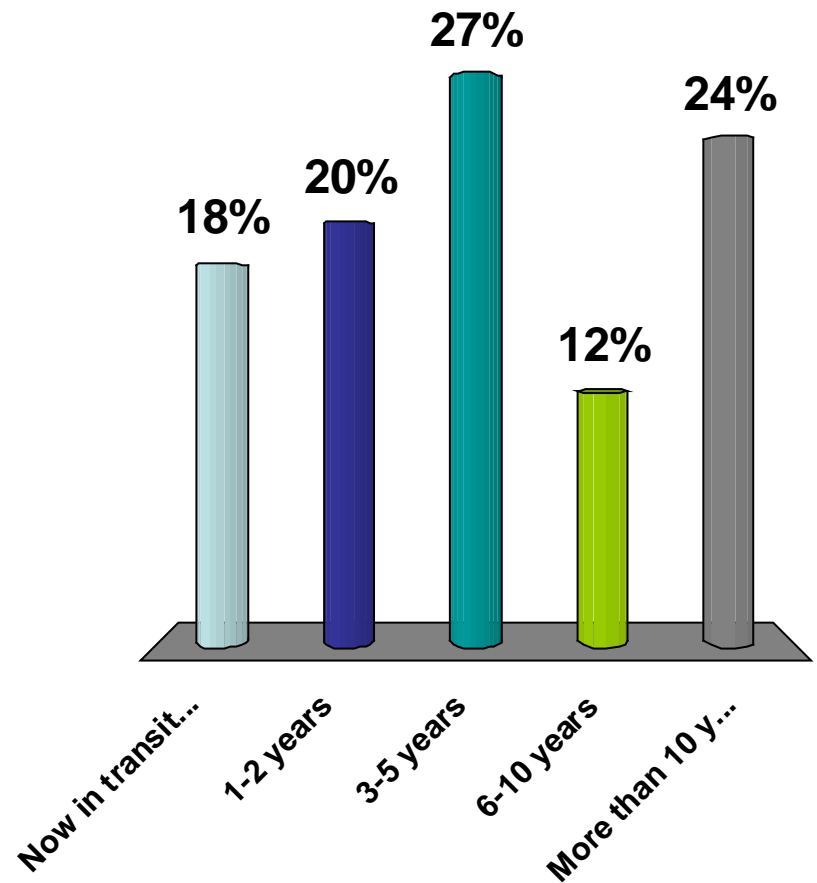
Where is most of your organic orcharding?

1. Yakima Valley
2. Lower Columbia Basin
3. North of I-90



How long have you been in organic orcharding?

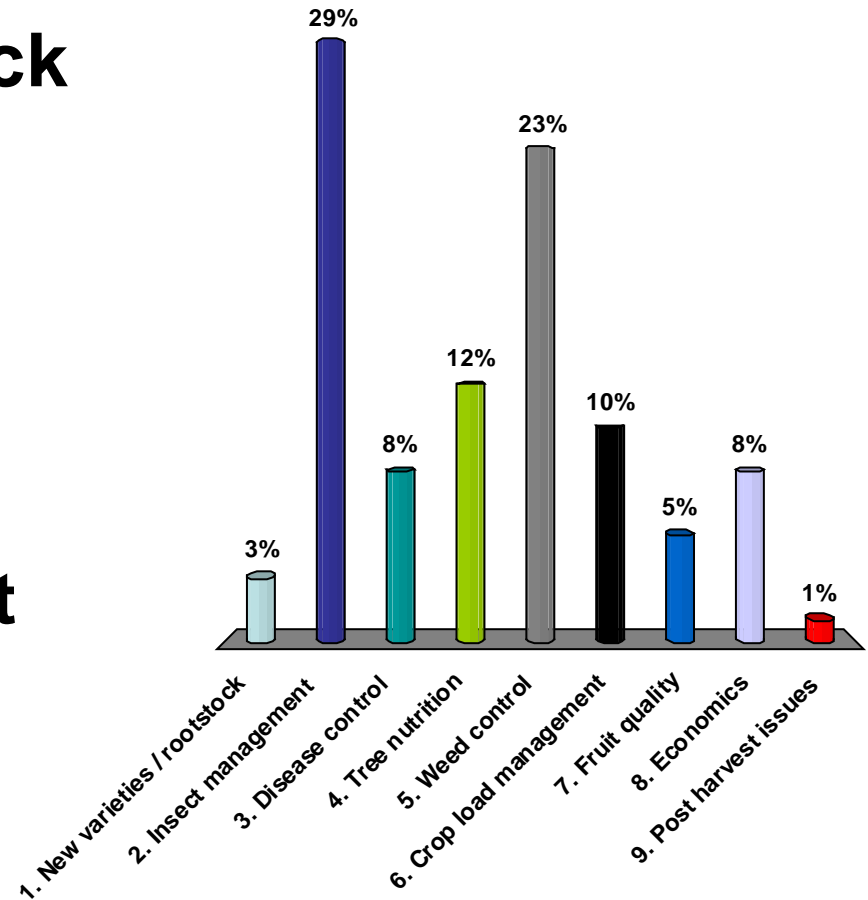
1. Now in transition
2. 1-2 years
3. 3-5 years
4. 6-10 years
5. More than 10 years



Question 1a.

What is the **most serious problem** you face in organic tree fruit production?

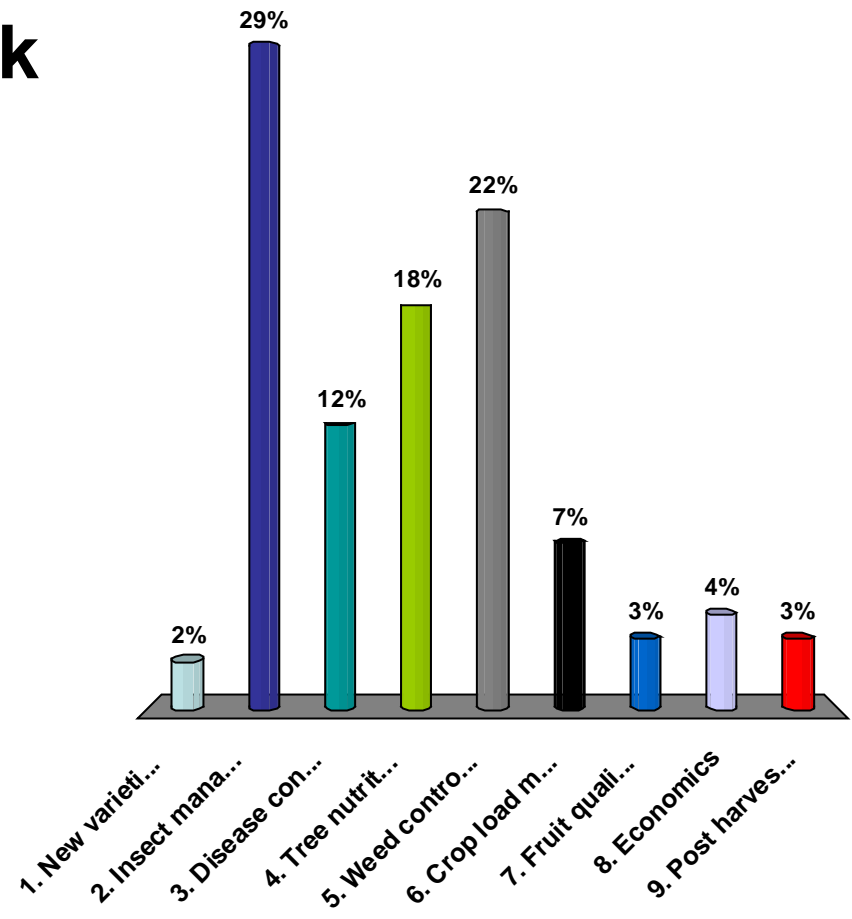
1. New varieties / rootstock
2. Insect management
3. Disease control
4. Tree nutrition
5. Weed control
6. Crop load management
7. Fruit quality
8. Economics
9. Post harvest issues



Question 1b.

What is the **2nd** most serious problem you face in organic tree fruit production?

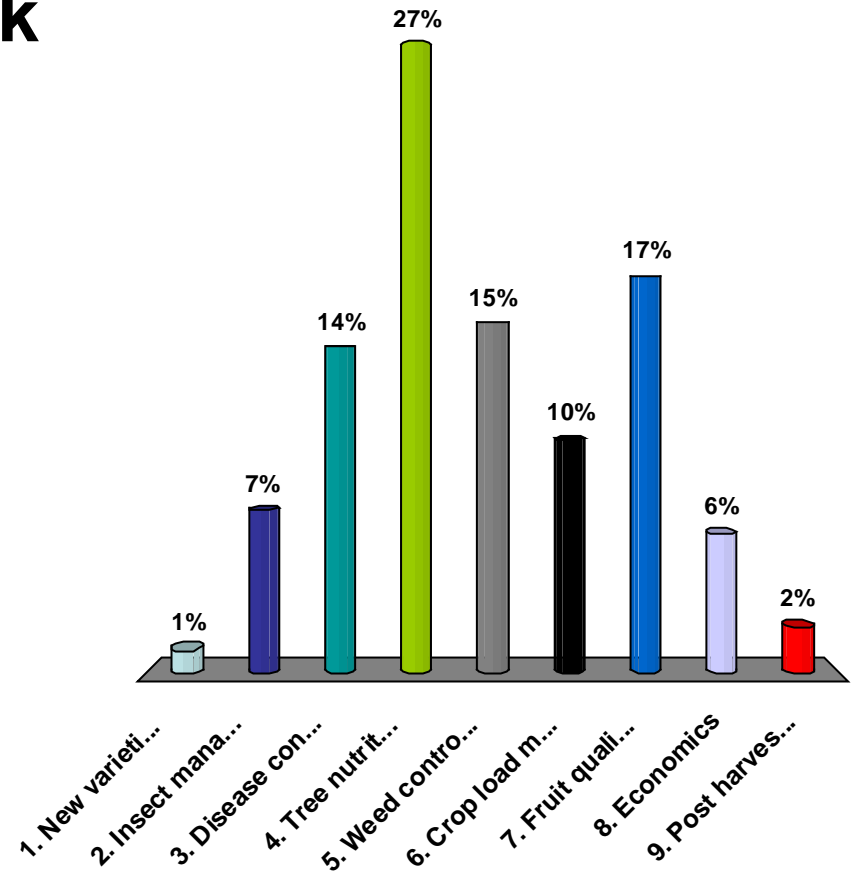
1. New varieties / rootstock
2. Insect management
3. Disease control
4. Tree nutrition
5. Weed control
6. Crop load management
7. Fruit quality
8. Economics
9. Post harvest issues



Question 1c.

What is the **3rd** most serious problem you face in organic tree fruit production?

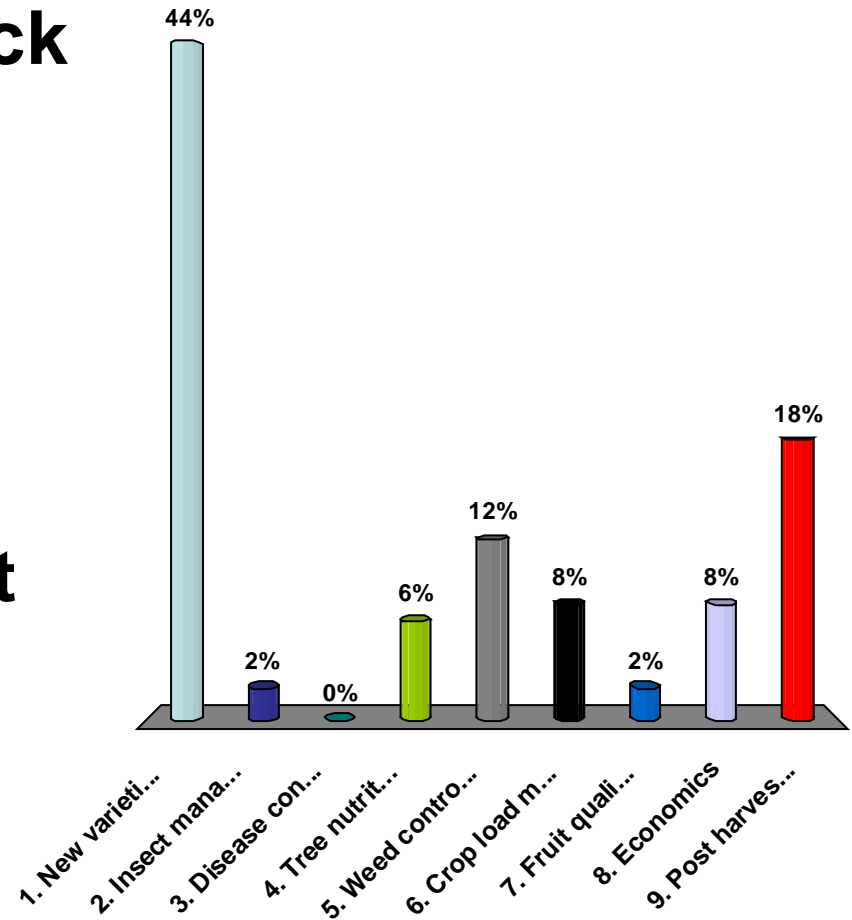
1. New varieties / rootstock
2. Insect management
3. Disease control
4. Tree nutrition
5. Weed control
6. Crop load management
7. Fruit quality
8. Economics
9. Post harvest issues



Question 1d.

Which is the **least** serious problem you face in organic tree fruit production?

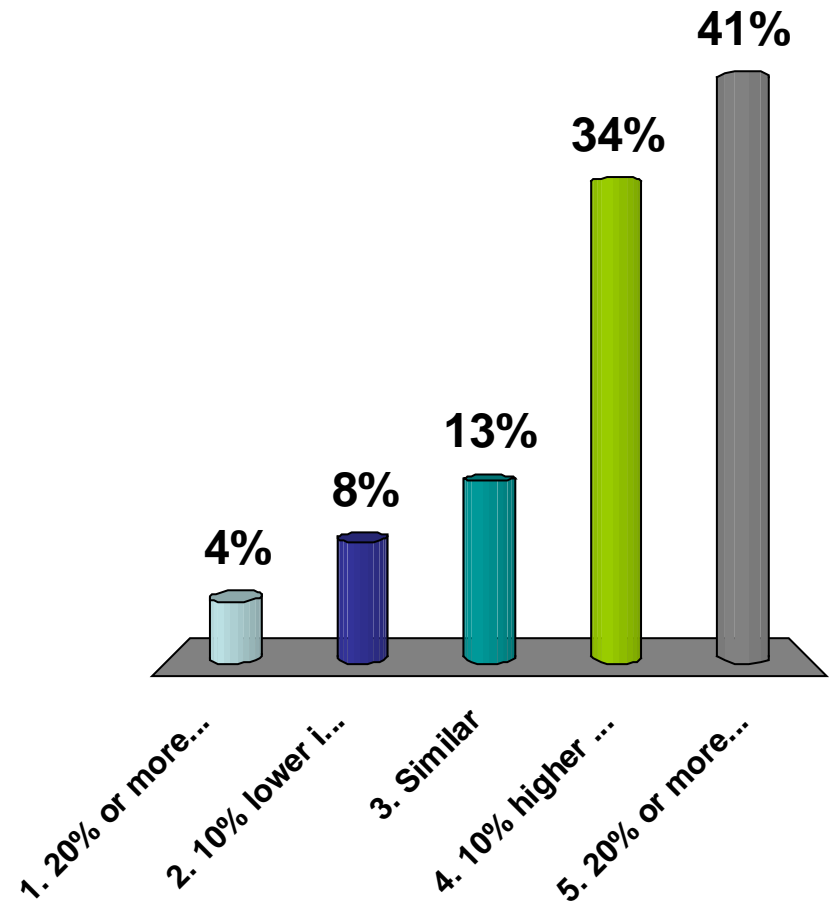
1. New varieties / rootstock
2. Insect management
3. Disease control
4. Tree nutrition
5. Weed control
6. Crop load management
7. Fruit quality
8. Economics
9. Post harvest issues



Question 2.

How would you compare the cost of production for organic tree fruit to similar conventional production?

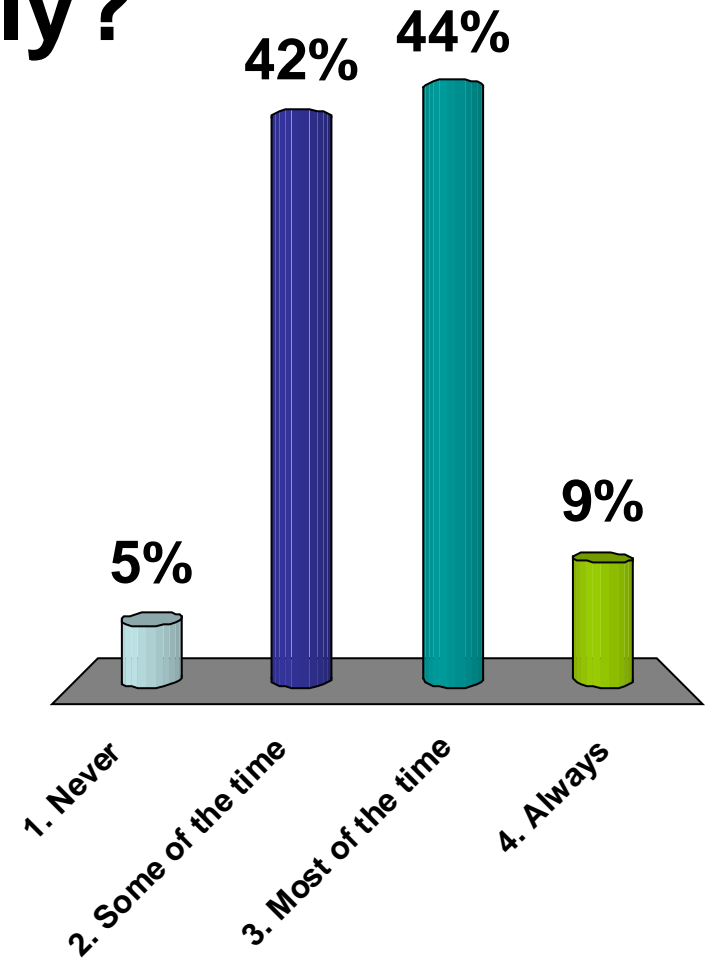
1. 20% or more lower in organic
2. 10% lower in organic
3. Similar
4. 10% higher in organic
5. 20% or more higher in organic



Question 3.

Do the returns from organic production offset the added costs of growing fruit organically?

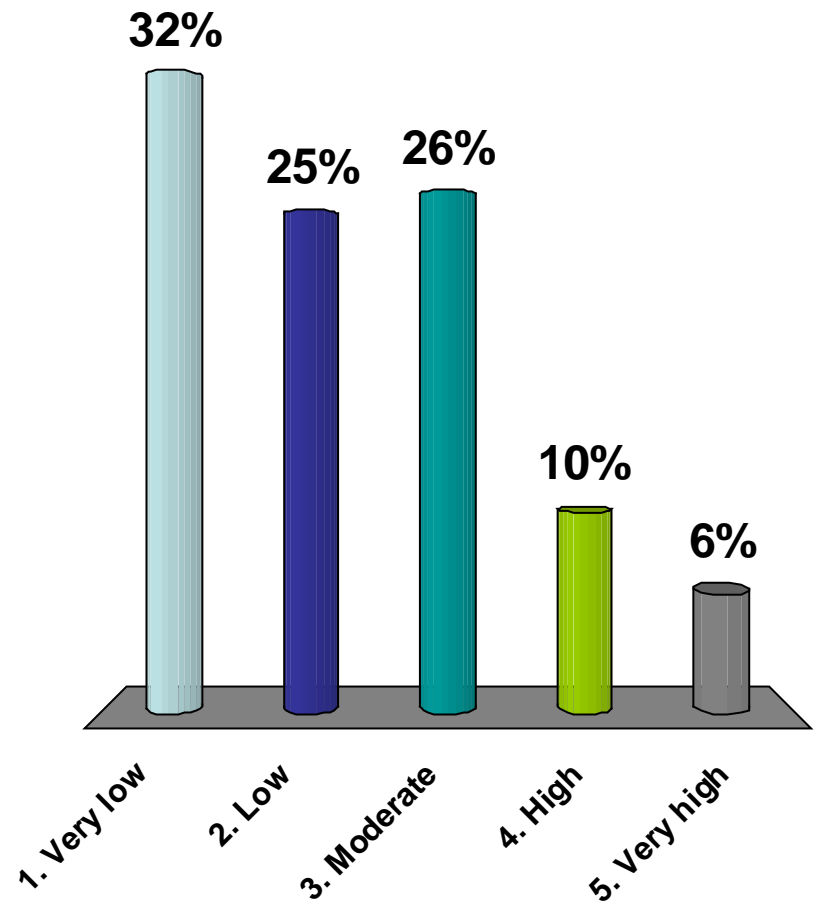
- 1. Never**
- 2. Some of the time**
- 3. Most of the time**
- 4. Always**



Question 4.

What is your level of satisfaction with your current options for weed control in organic orchards?

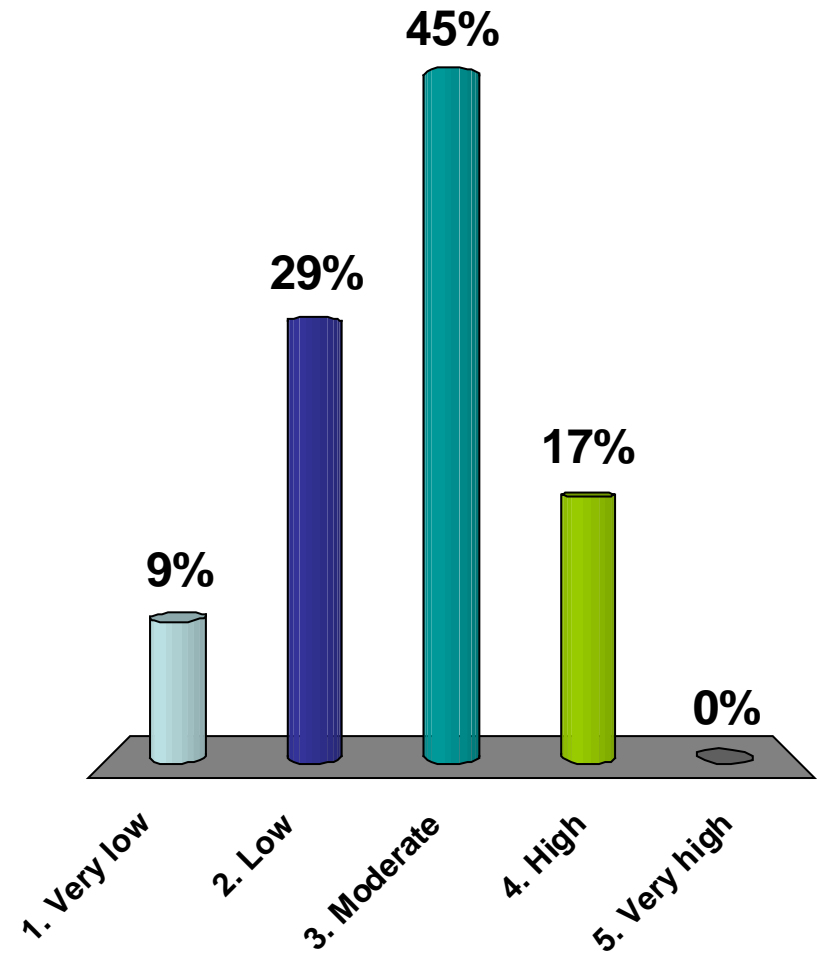
1. Very low
2. Low
3. Moderate
4. High
5. Very high



Question 5.

What is your level of satisfaction with your current options for tree nutrition in organic orchards?

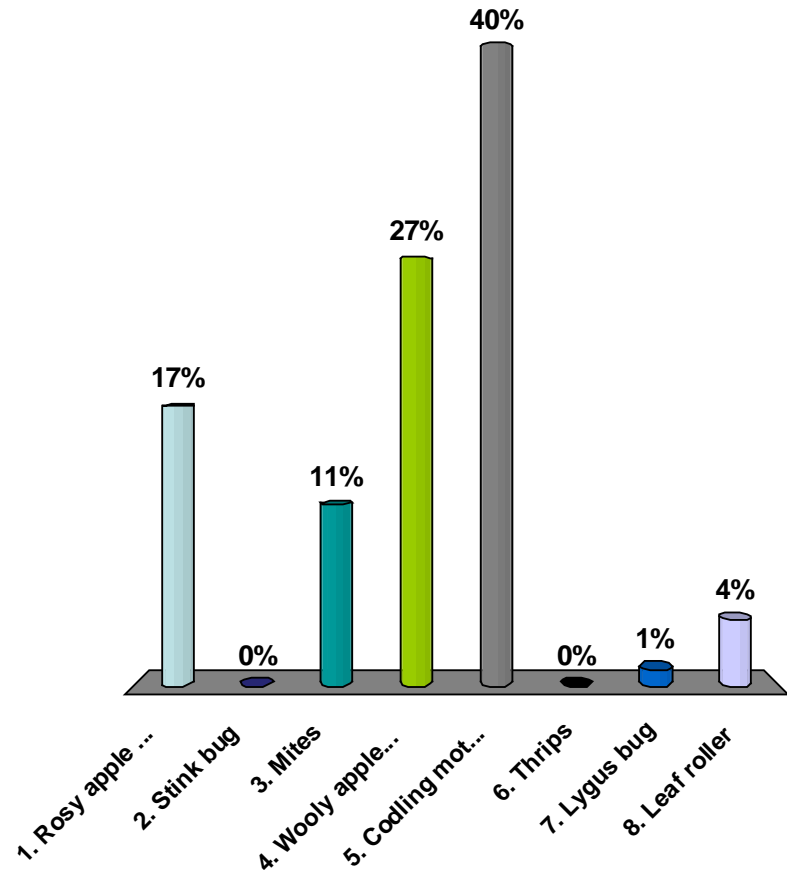
- 1. Very low**
- 2. Low**
- 3. Moderate**
- 4. High**
- 5. Very high**



Question 6a.

Rank the **most** difficult insect pest to control in organic apple production.

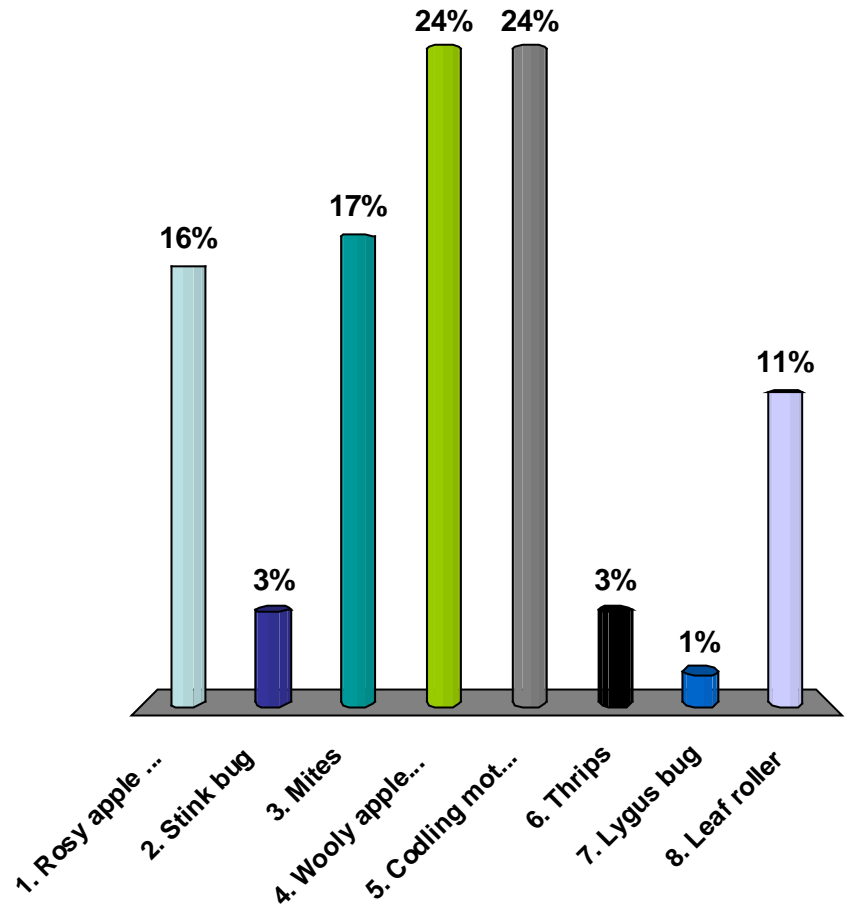
1. Rosy apple aphid
2. Stink bug
3. Mites
4. Woolly apple aphid
5. Codling moth
6. Thrips
7. Lygus bug
8. Leaf roller



Question 6b.

Rank the **second** most difficult insect pest to control in organic apple production.

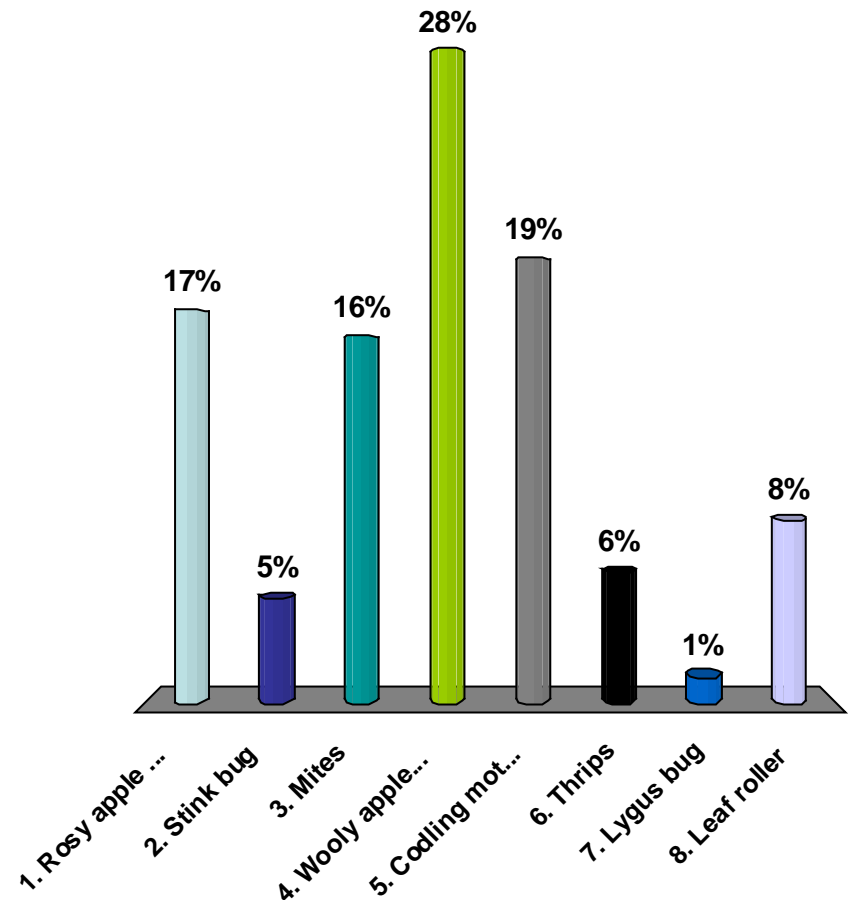
1. Rosy apple aphid
2. Stink bug
3. Mites
4. Woolly apple aphid
5. Codling moth
6. Thrips
7. Lygus bug
8. Leaf roller



Question 6c.

Rank the **third** most difficult insect pest to control in organic apple production.

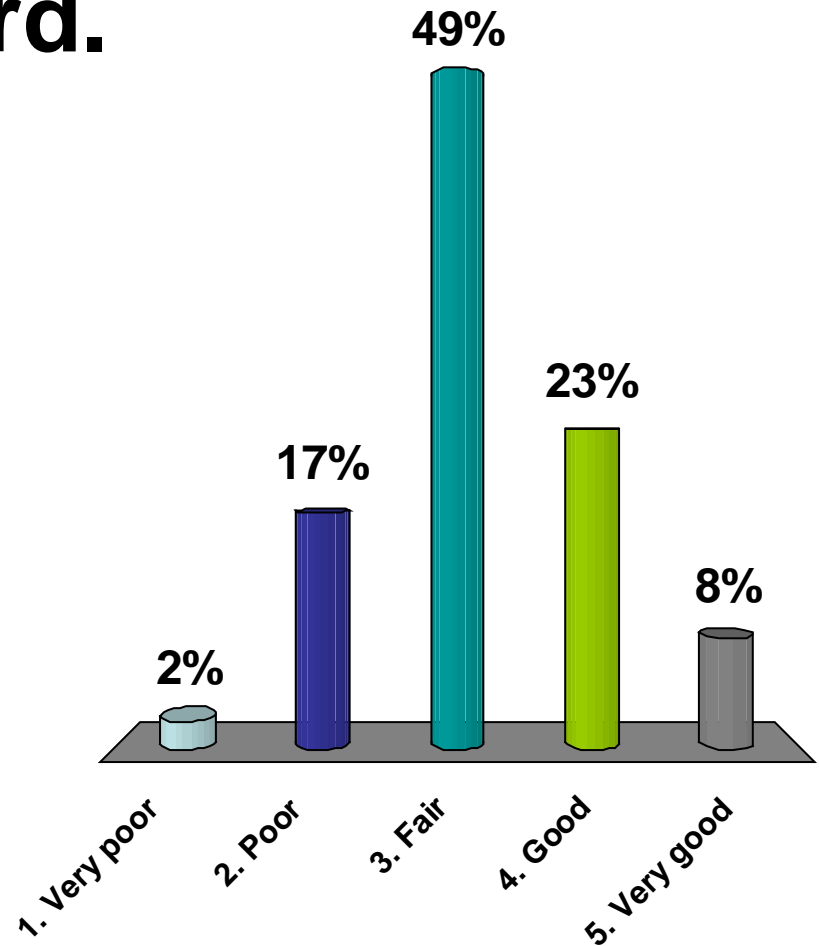
1. Rosy apple aphid
2. Stink bug
3. Mites
4. Woolly apple aphid
5. Codling moth
6. Thrips
7. Lygus bug
8. Leaf roller



Question 7.

Rate the ability of existing tools to control codling moth in an organic orchard.

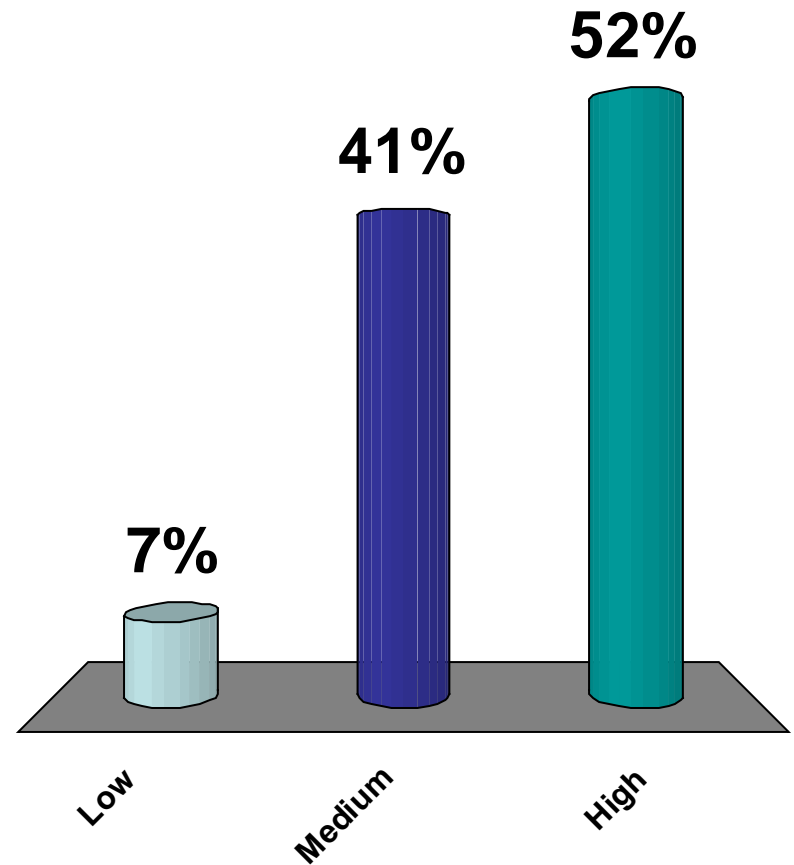
- 1. Very poor**
- 2. Poor**
- 3. Fair**
- 4. Good**
- 5. Very good**



Question 8.

Rate the need for additional coding moth control tools for organics.

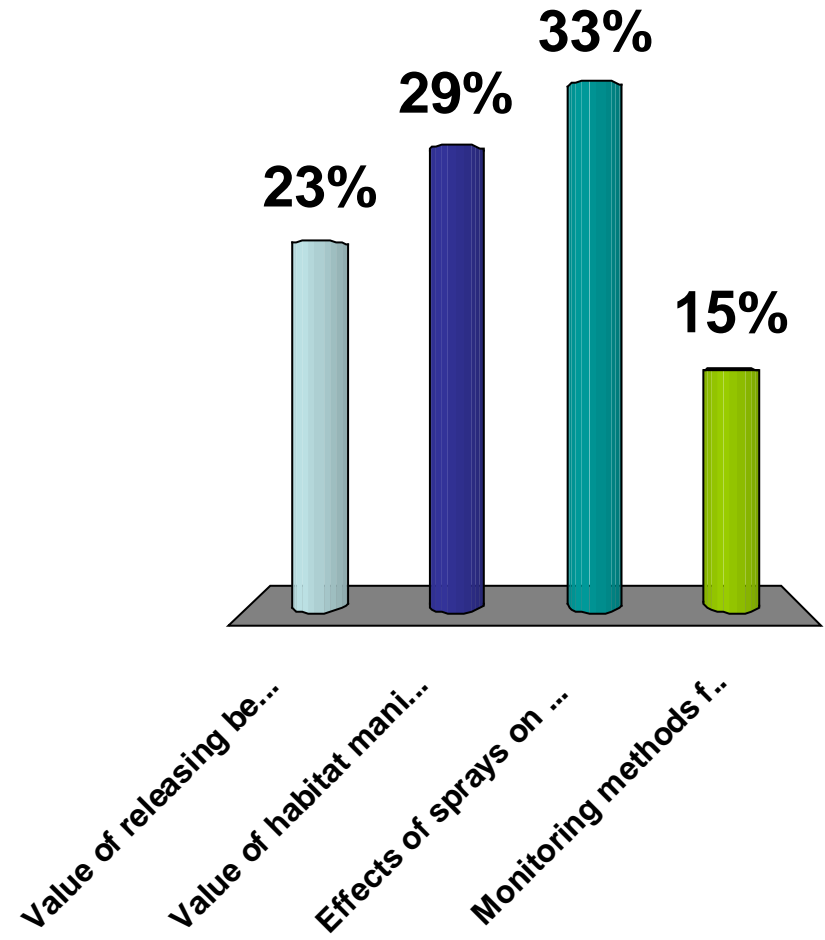
- 1. Low**
- 2. Medium**
- 3. High**



Question 9.

What biocontrol category is the most important for you to know more about as an organic grower?

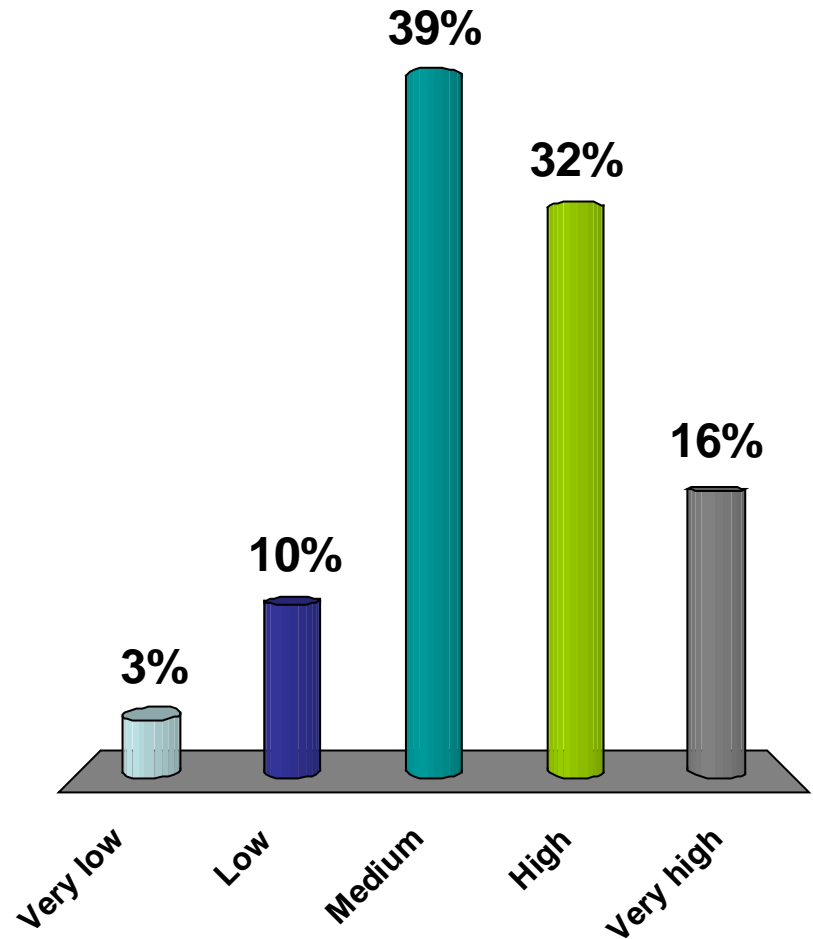
- 1. Value of releasing beneficial insects**
- 2. Value of habitat manipulation (e.g. rose garden, cover crops)**
- 3. Effects of sprays on beneficial insects**
- 4. Monitoring methods for beneficial insects**



Question 10.

Rank the need for more research on post-harvest diseases of organic apples.

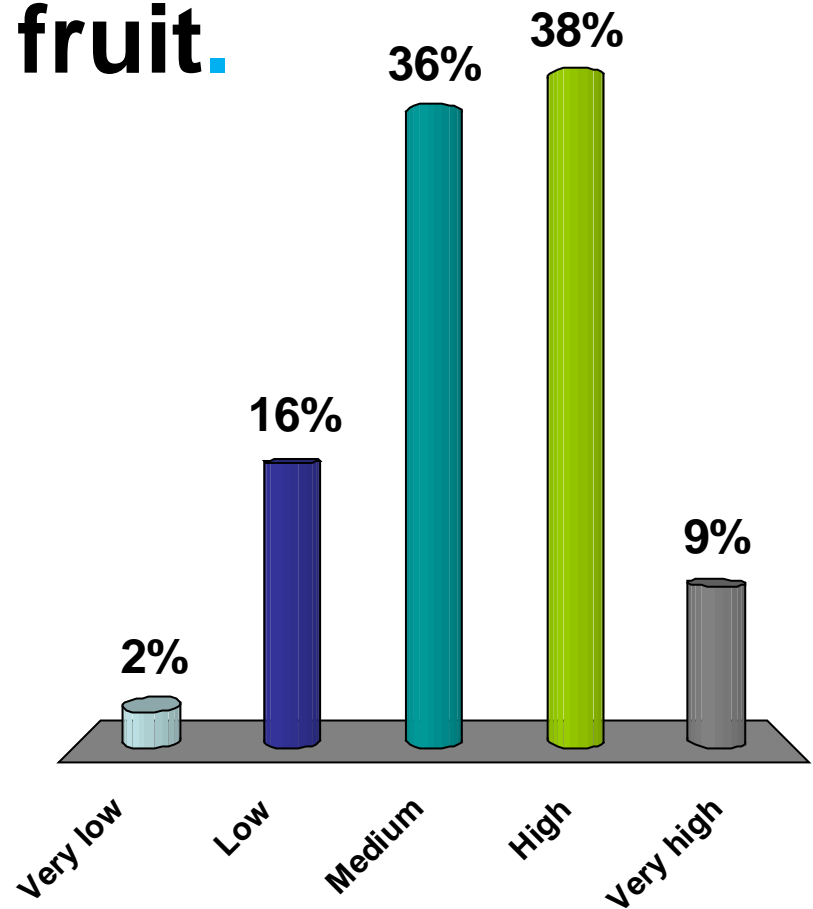
1. Very low
2. Low
3. Medium
4. High
5. Very high



Question 11.

Rank the importance of research to develop methods to measure soil quality changes and the impacts on trees and fruit.

1. Very low
2. Low
3. Medium
4. High
5. Very high



Systems Research

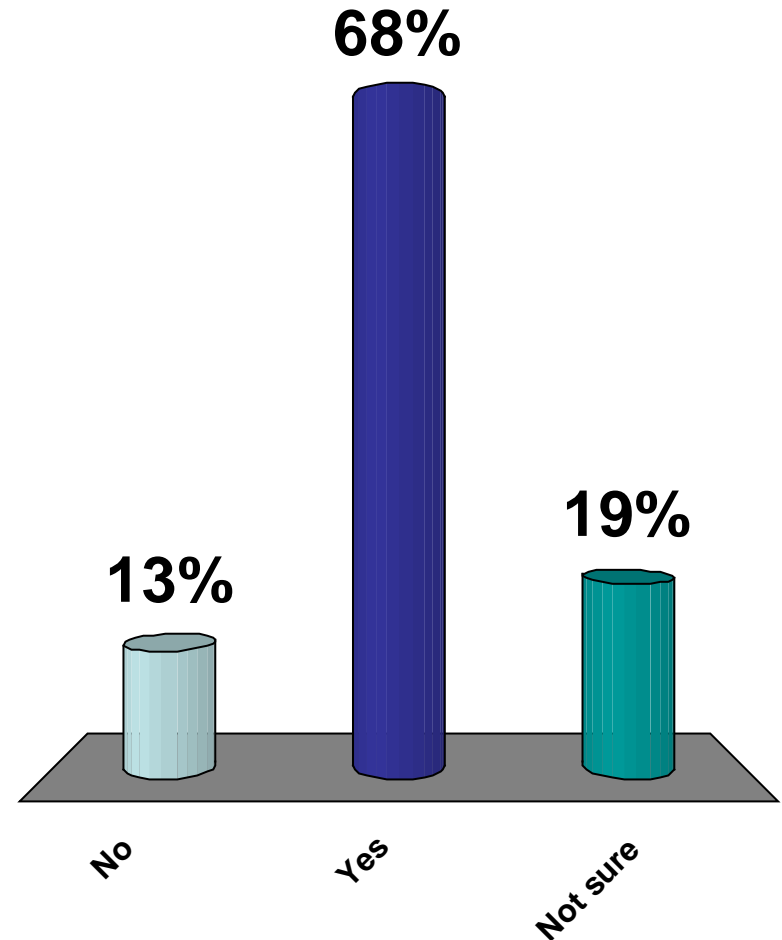
- Long-term
- Interdisciplinary – bugs, dirt, and money!
- Interaction of parts – effects of soil on fruit quality; fertility and diseases, ...
- Ecological design of the orchard system – training systems, rose gardens, ground cover, water use, ...
- Other – climate change impacts, energy, etc.

Benefits: more self-regulation of pests, fertility; more stability; lower environmental impact, lower input costs; ...

Question 12a.

Do we need a long-term organic systems research site?

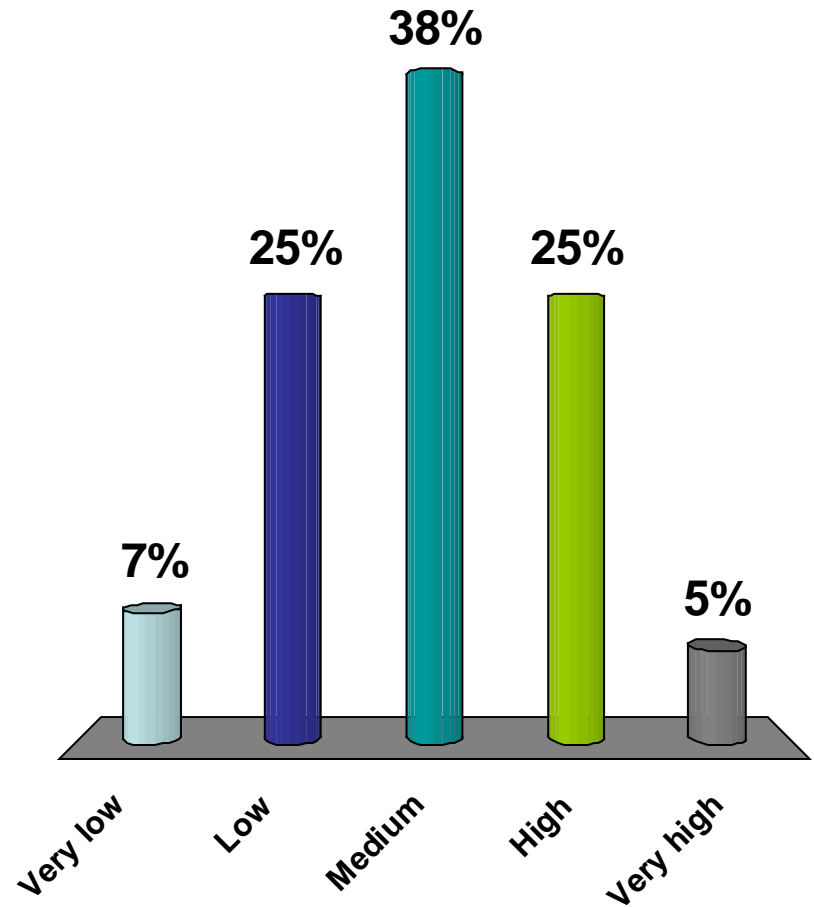
1. No
2. Yes
3. Not sure



Question 12b.

Rank the importance of a systems research site compared to support for more immediate problems (e.g. a new pest)?

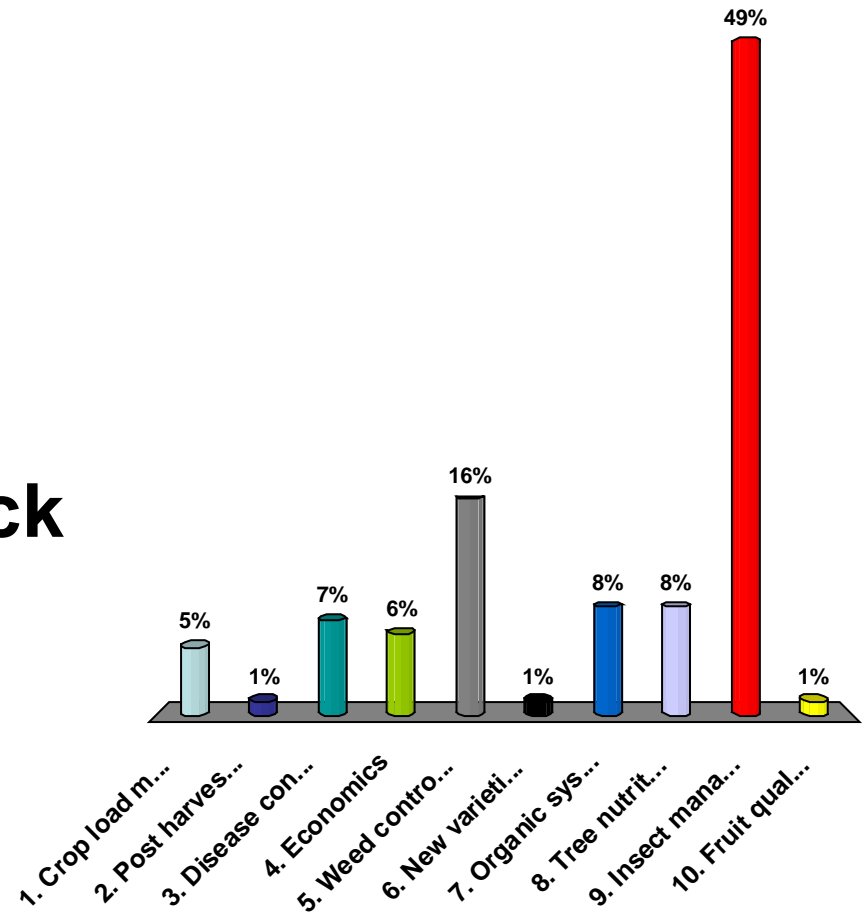
- 1. Very low**
- 2. Low**
- 3. Medium**
- 4. High**
- 5. Very high**



Question 13a.

Choose your **highest** priority for organic tree fruit research.

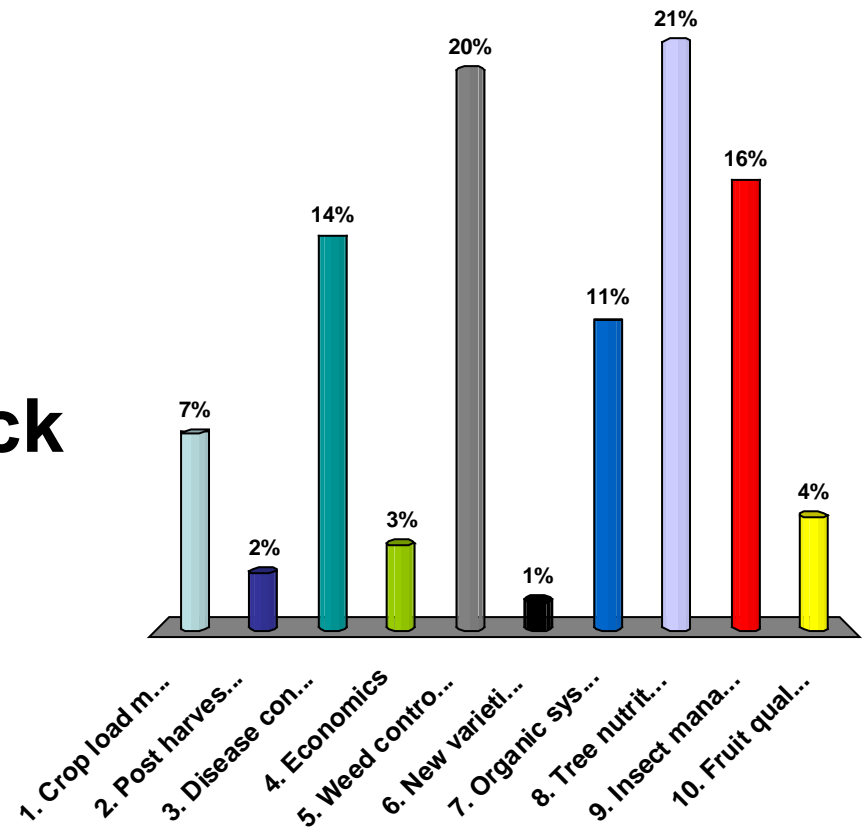
1. Crop load management
2. Post harvest issues
3. Disease control
4. Economics
5. Weed control
6. New varieties / rootstock
7. Organic systems site
8. Tree nutrition
9. Insect management
10. Fruit quality



Question 13b.

Choose your **2nd highest** priority for organic tree fruit research.

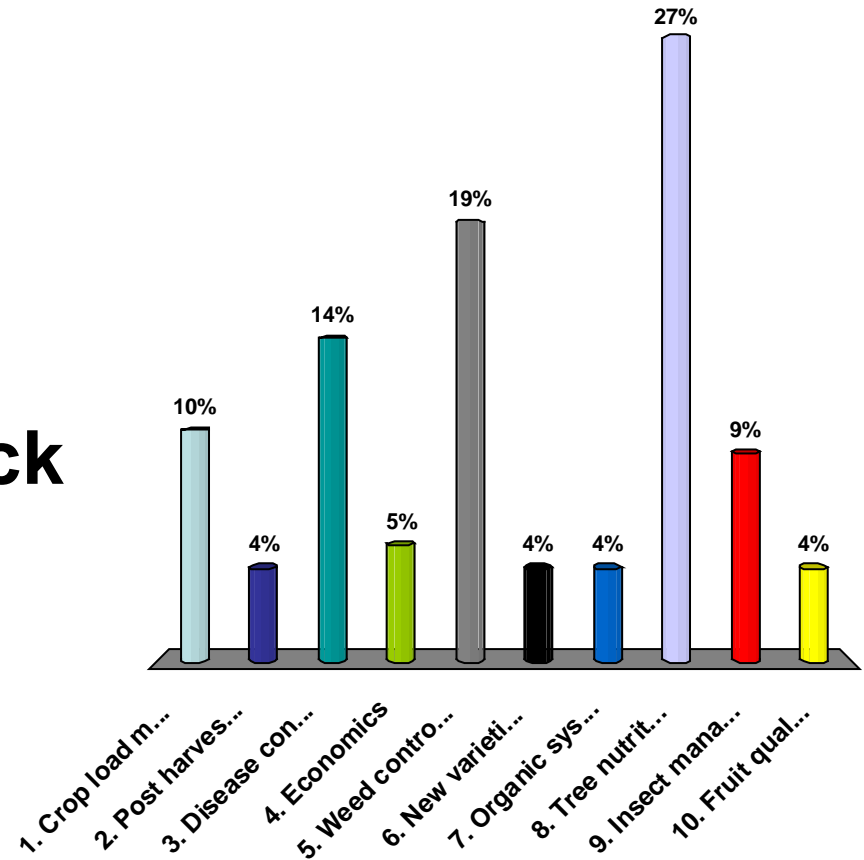
1. Crop load management
2. Post harvest issues
3. Disease control
4. Economics
5. Weed control
6. New varieties / rootstock
7. Organic systems site
8. Tree nutrition
9. Insect management
10. Fruit quality



Question 13c.

Choose your **3rd highest** priority for organic tree fruit research.

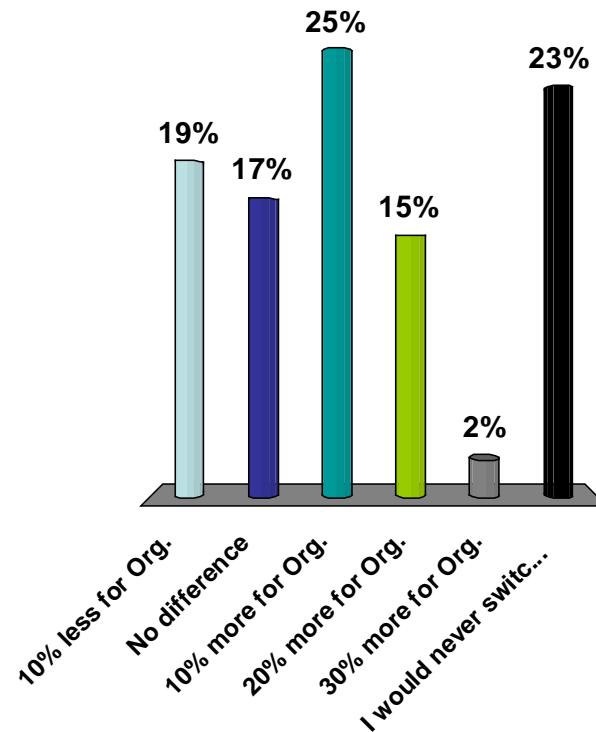
1. Crop load management
2. Post harvest issues
3. Disease control
4. Economics
5. Weed control
6. New varieties / rootstock
7. Organic systems site
8. Tree nutrition
9. Insect management
10. Fruit quality



Question 14.

At what point would you consider switching back to conventional production – if the minimum difference between Organic and Conventional bin returns were:

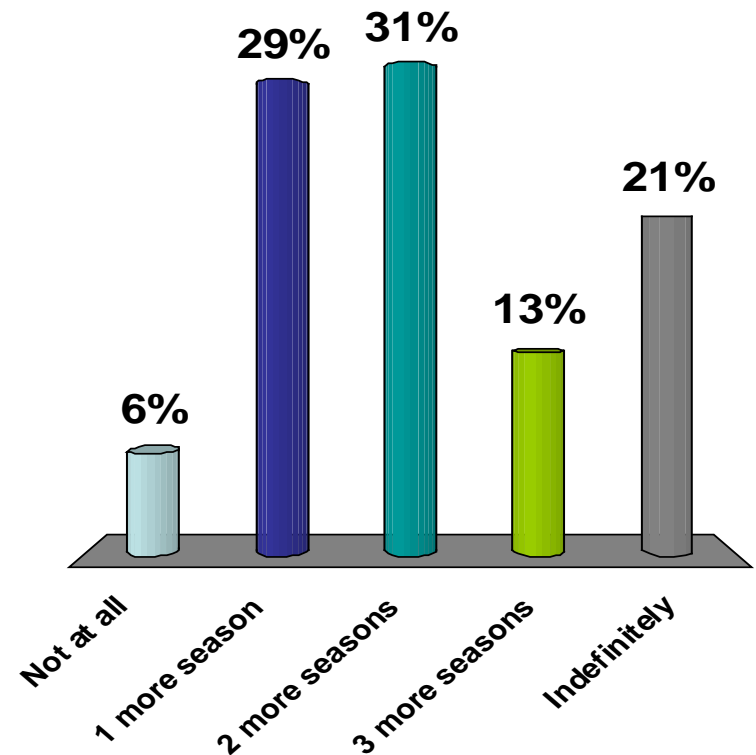
- 1. 10% less for Org.**
- 2. No difference**
- 3. 10% more for Org.**
- 4. 20% more for Org.**
- 5. 30% more for Org.**
- 6. I would never switch back to Conventional**



Question 15.

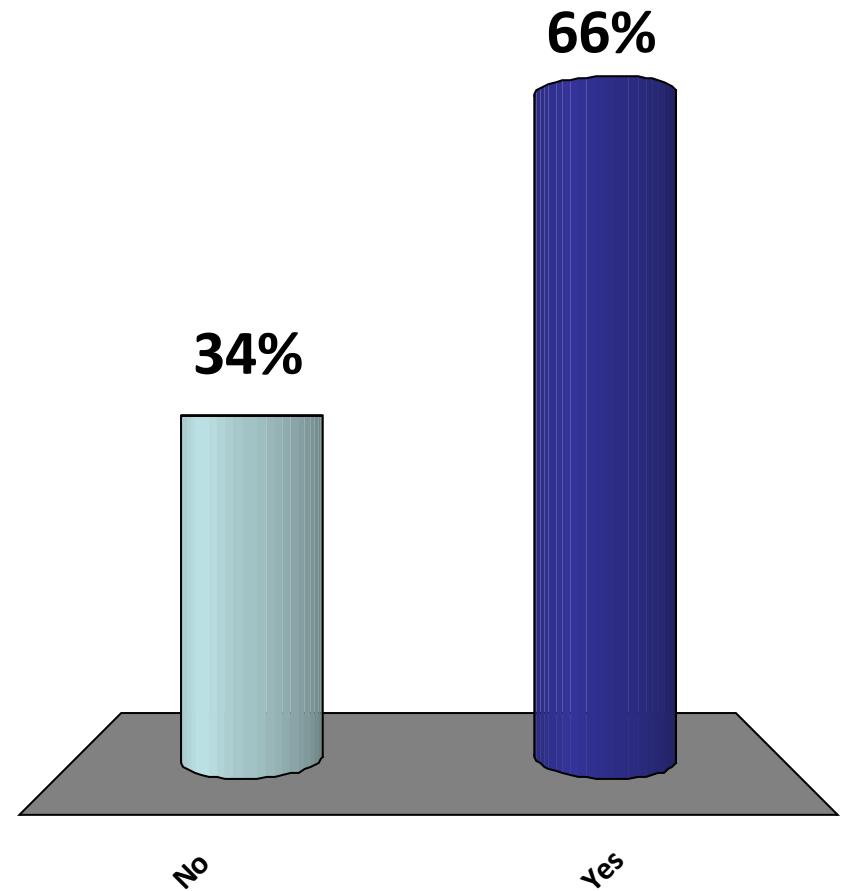
If organic premiums did not cover the increased costs, how long would you be willing to stay with organic production, given the 3 year transition to re-enter?

1. Not at all
2. 1 more season
3. 2 more seasons
4. 3 more seasons
5. Indefinitely



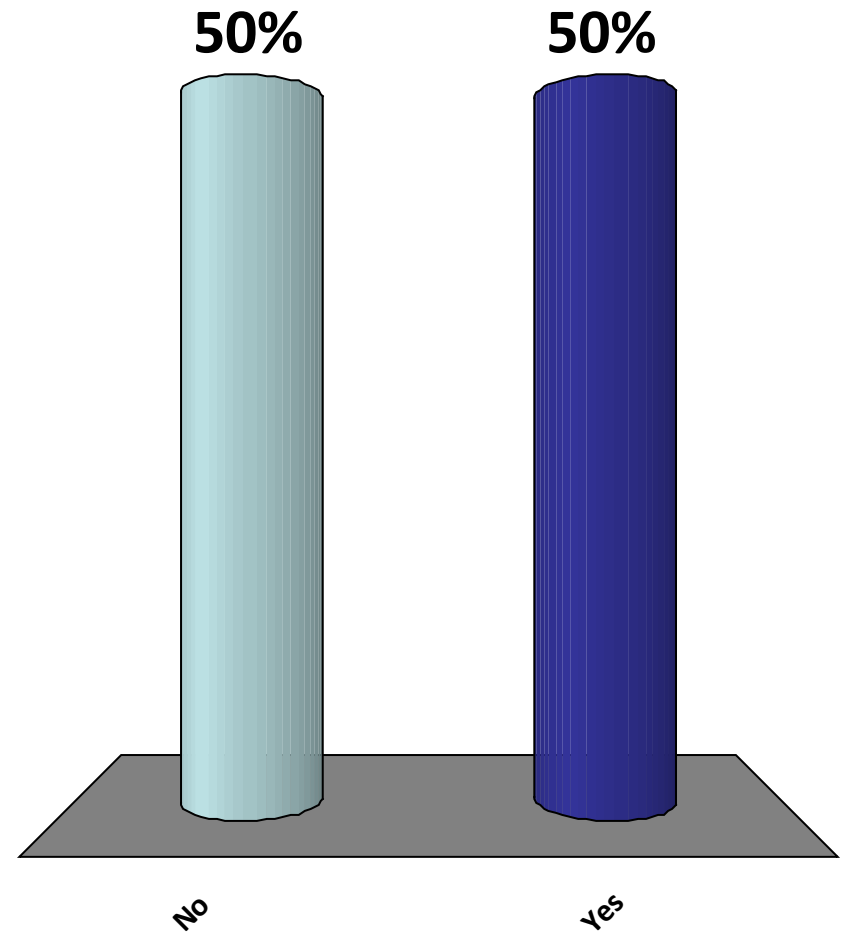
Do you use tillage for weed control?

1. No
2. Yes



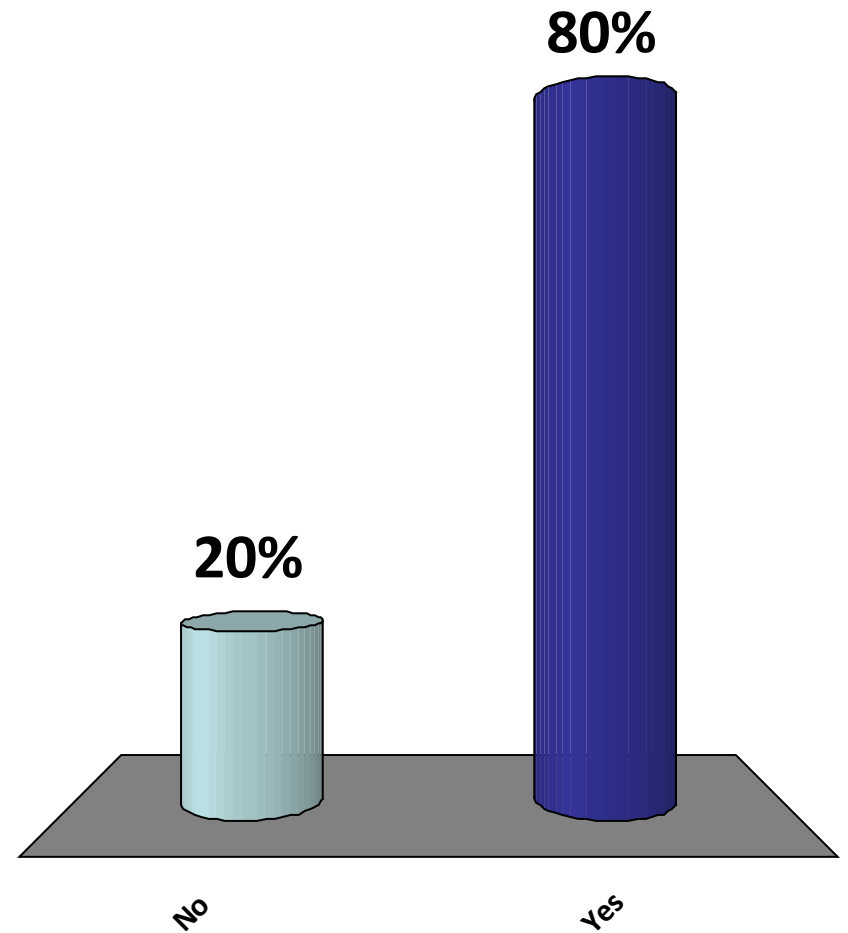
Have you used mulching for weed control / soil improvement?

1. No
2. Yes



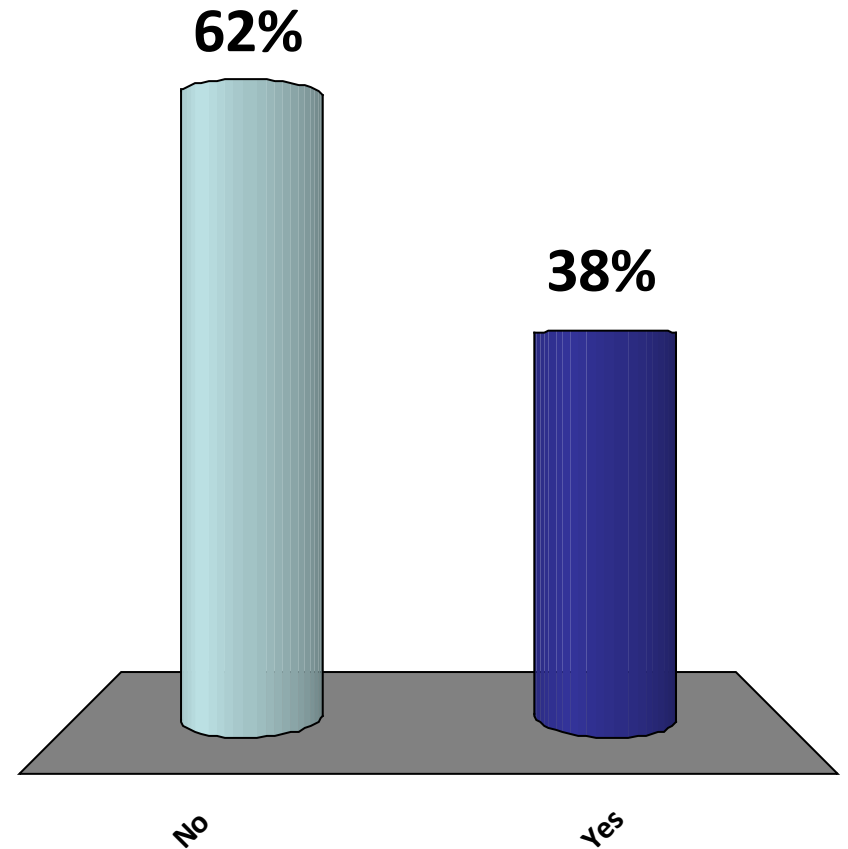
Do you use compost to supply nutrients?

1. No
2. Yes



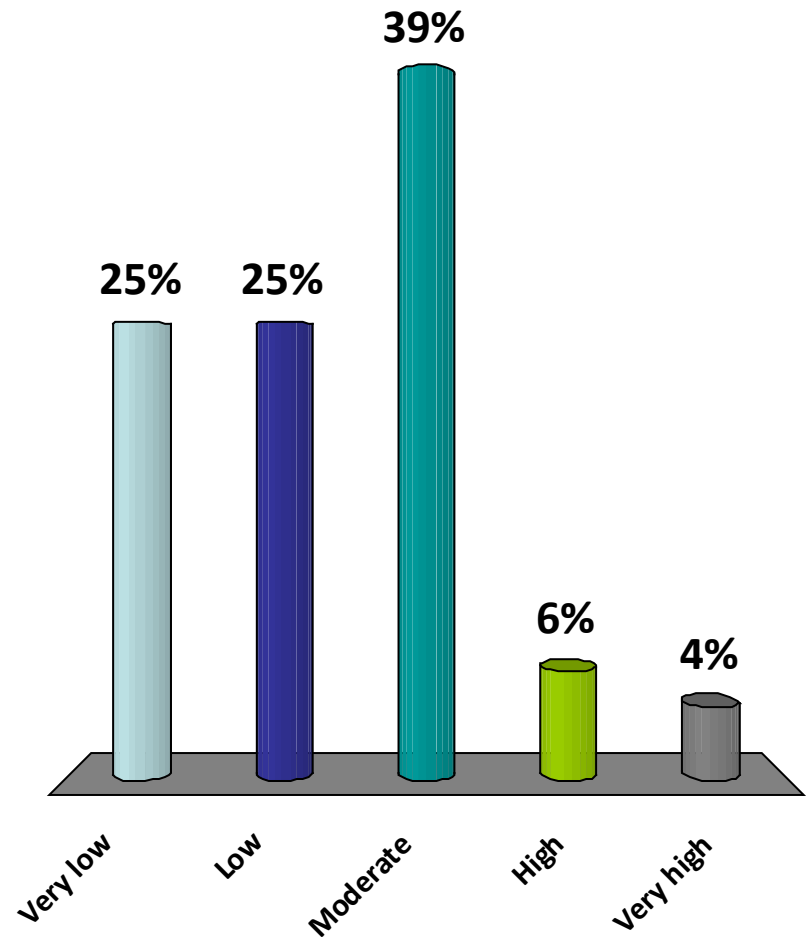
Do you use legumes in the orchard to provide some nitrogen nutrition?

1. No
2. Yes



Rate your ability to adequately control mice (voles) in your organic orchard.

1. Very low
2. Low
3. Moderate
4. High
5. Very high





*Thanks for
participating !*