IPM Decisions – Forecasts, monitoring and DSS

Mark Ramsden
Sli.do question responses

Data-driven decisions can deliver profitable IPM

Number of responses (total = 16)

I strongly agree: 8
I agree: 4
I neither agree or disagree: 1
I disagree: 2
I strongly disagree: 1
Decisions Support Systems

What limits the use of decisions support systems?

- Unaware of available DSS
- The DSS are not user friendly
- The DSS are insufficiently risk-averse
- The benefits of the DSS are unclear
- DSS do not reflect multi-pest pressures
- Unwilling to trust DSS outputs
- Lack of support in using DSS
Stepping-up integrated pest management decisions support for crop protection

**IPM Decisions**

Increase the impact of on-farm DSS for IPM

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Horizon 2020

IPM Decisions – Project 817617

www.IPMDecisions.net
What will IPM Decisions deliver?

**A pan-European online Platform**

- Delivering DSS, data, tools and resources

**An IPM Decisions Network**

- Forming a community of users and stakeholders across the EU
## Pan-European online platform

### Farmer and adviser
- End users of DSS
- Simple ‘click and go’ platform to find and run DSS

### Applied research or adviser
- Adopting DSS developed in other countries
- Testing/comparing DSS

### Researchers
- Adapting DSS developed in other countries
- Evaluate effect of changes on validity

### Developers of farm DSS
- Creating new DSS
- Combining existing DSS on platform
Workshops

*Increase user access to, and uptake of, IPM DSS*

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Example mock-up farmer dashboard

DSS 1
Crop Information and Observations
- Variety: Elition
- Sowing Date: 24/09/2018
- Sprays Applied
  - Mancozeb: 01/03/2019, 2.0 kg/ha
- Pest Observations
  - Date
  - Severity (%)
  - 16/06/2019: 1
  - 07/07/2019: 2
  - 21/07/2019: 3
- Add new spray application

DSS Output
- Severity vs Date

Recommended Actions
- [List of recommended actions]

DSS 2
This DSS is external to the IPM Decisions platform, click here to be taken to the DSS website (payment required for use of DSS)

Septoria
- Add Pest Observation

High Risk
- IPM
- IPM Decisions
Validation

Quantify the benefits of using DSS

- Are the predictions accurate?
- Are the predictions useful?
- Is it sufficiently risk averse?
- Where/when have they been verified?
- Costs/benefits to the farmer?
- Costs/benefits to the environment?

<table>
<thead>
<tr>
<th>DSS name</th>
<th>description</th>
<th>Crop</th>
<th>Target pest</th>
<th>known to be validated</th>
<th>description of model published</th>
<th>developed since</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop Protection Online</td>
<td>wheat</td>
<td></td>
<td>Aphids in wheat</td>
<td>1</td>
<td>1</td>
<td>1990</td>
</tr>
<tr>
<td>Crop Protection Online</td>
<td>barley</td>
<td></td>
<td>Aphids in barley</td>
<td>1</td>
<td>1</td>
<td>1990</td>
</tr>
<tr>
<td>Crop Protection Online</td>
<td>oat</td>
<td></td>
<td>Aphids in oats</td>
<td>1</td>
<td>1</td>
<td>1990</td>
</tr>
<tr>
<td>Crop Monitor Pro</td>
<td>Winter wheat</td>
<td></td>
<td>All wheat pests inc. slugs</td>
<td>1</td>
<td>1</td>
<td>1990</td>
</tr>
<tr>
<td>Crop Monitor Pro</td>
<td>Winter oilseed rape</td>
<td></td>
<td>All OSR pests inc. slugs</td>
<td>1</td>
<td>1</td>
<td>1990</td>
</tr>
<tr>
<td>GAIA</td>
<td>Almondso</td>
<td></td>
<td>almond fruit wasp</td>
<td>1</td>
<td>1</td>
<td>1990</td>
</tr>
<tr>
<td>GAIA</td>
<td>Grapes</td>
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<td>European grapevine moth</td>
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<td>1</td>
<td>1990</td>
</tr>
<tr>
<td>GAIA</td>
<td>Peaches</td>
<td></td>
<td>Peach twig borer, summer fruit tortrix, peach moth</td>
<td>1</td>
<td>1</td>
<td>1990</td>
</tr>
</tbody>
</table>
Foster DSS innovation through the Platform, to secure longevity of impact.
European-wide demonstration farm network

*Expected Impacts 2020-2025*

- Help farmers incorporate IPM in existing systems
- Support platforms such as IPM Decisions
- Promote partnerships between actors and DSS developers
- Create EU IPM demonstration farm network for peer-to-peer learning
- Increase awareness of IPM toolbox
- Increase on-farm use of IPM techniques
- Develop IPM training for farmers and advisors
What limits the use of decision support systems?

- Unaware of available DSS: 6 responses
- The DSS are not user-friendly: 8 responses
- The DSS are insufficiently risk-averse: 1 response
- The benefits of the DSS are unclear: 10 responses
- DSS do not reflect multi-pest pressures: 7 responses
- Unwilling to trust DSS outputs: 6 responses
- Lack of support in using DSS: 6 responses

(总共有20份响应)
Summary

What limits the use of decisions support systems?

- Unaware of available DSS → Creating single market place platform
- The DSS are not user friendly → Bespoke dashboards
- The DSS are insufficiently risk-averse → Presenting supporting data
- The benefits of the DSS are unclear → Quantifying benefits
- DSS do not reflect multi-pest pressures → Enabling new DSS
- Unwilling to trust DSS outputs → Presenting supporting information
- Lack of support in using DSS → Creating a IPM Decisions Network