



COST 850
BIOCONTROL SYMBIOSIS

Report of Meeting

Challenges of Internal Co-operation
Communication with all Stakeholders

held in

Einsiedeln, Switzerland, 10 -12 January 2002

WG 1 Symbiosis Biology
WG 2 Bioactive Molecules
WG 3 Biotechnology
WG 4 Interaction with Field Biota
WG 5 Socio-economic aspects

Organisers: Jürg Grunder, Swiss Federal Research Station, Wädenswil, Switzerland
Holger Philipsen, Royal Veterinary and Agricultural University, Denmark
Facilitators: N.Sriskandarajah, Royal Veterinary and Agricultural University, Denmark
Henrik Sønksen, Danish Institute of Agricultural Education and Information

Introduction

A three day meeting was held in Einsiedeln, Switzerland from 10-12 January 2002. There were 45 participants including members of all five working groups in Cost 850 and invited speakers and facilitators. Jurg Grunder from the Swiss Federal Research Station at Wadenswil had made all the local arrangements. The meeting took place in an eminently beautiful and calm setting. Apart from engaging in contemplation as well as active planning regarding Cost 850, delegates also had the opportunity to taste Swiss culture and experience history and the local landscape, including visits to a famous local monastery and the nearby ski fields.

This report provides the background to the meeting and a summary of the topics discussed and decisions and action plans made. We have attempted to offer the text created by participants as close to the original form as possible by transferring the text from the poster sheets directly as mini-posters into the report.

There were many positive remarks made by delegates during the final evaluation session of the meeting as to the importance of the theme of the meeting, its process and outcome.

It is important that the ideas agreed on and suggestions for action that emerged at the meeting are pursued by those identified as responsible, so that progress in this direction within COST 850 surpasses previous efforts.

It is recommended that progress reports from nominated persons and working groups are received twice (Sept 1 and Feb 1) between now and the next meeting of the Management Committee in May 2003. Working Group 5 supported by other working groups will continue to monitor progress and also propose plans for further action in the coming year.

Background

A two day meeting of members of WG 3 and WG 5 held in Kiel in May 2001 recommended that a plenary session comprising of all working groups of COST 850 be held with the emphasis on internal co-operation and contact with stakeholders in society. This recommendation was approved at the Management Committee meeting held in Wageningen in August 2001 and a committee was appointed to plan the details of a meeting on the theme of Internal Co-operation and External Communication.

The Einsiedeln meeting was the outcome of this plan. The design of the meeting was to utilise the experiences of invited speakers from the commercial sector and the research-advisory sector as starting point and to set the scene for provoking questions. These issues and questions were to lead us to identifying desired improvements and planning action. The workshop facilitators followed this design with particular tasks and activities to arrive at action plans for the whole group to work on.

We, as organizers and facilitators, are pleased to provide our compilation of what was produced by participants at the meeting. In our view this was achieved at the cost of some hard work, and we were pleased with the outcome.

Goals and Objectives

Some of the broader goals of WG 5 on Socioeconomics have been to:

- initiate discussion on defining/refining the goals for COST 850
- improve internal communication within COST 850
- create real WORKING GROUPS not just research groups for information sharing
- develop better ways of communicating with other stakeholders and end users

With these in mind, the meeting process was designed to achieve the following objectives:

- Create a common vision about COST 850
- Identify common areas for co-operation between all working groups
- Teambuilding within COST 850
- Set an achievable list of tasks

Process used

The meeting opened with a plenary session where four invited speakers made presentations, following which they also took part in a panel discussion. The rest of the conference was organised as three workshop sessions. The details of these sessions are as follows:

Opening Plenary Session – four invited speakers

Hubert Winters - What to consider in technology transfer of biotechnology methods to end users?

Martin Andermatt - Biocontrol products – from production to end users

Peter Smits - Getting the message across

Janice Jiggins - Learning through stakeholder participation- Implications for research

Workshop Sessions

1 - Making Connections: Each participant was asked to produce a minimum of three questions that arose from the plenary presentations and follow up discussions. These were then compiled into a long list from which five themes were selected for further work. Participants were allocated to one of five groups and each group was allocated a theme that emerged from the questions. Participant started by presenting themselves to the rest of the group through a drawing/picture prepared on the spot describing their own project or work

2 - Seeing the Whole Picture Together: One representative from each WG made a presentation of the work that was being undertaken by them. Following discussion of these, the participants were asked to work in their groups to produce what was called a 'wish list' of actions.

3- Planning for the Future: The many items that were put on the wish list were then ranked by all participants. Based on the rankings, a short list of tasks was chosen for further planning towards action. These were then presented to the final plenary session.

The meeting then concluded with an active and participatory process of evaluation and feed back.

The rest of this report contains the output from the workshop sessions arranged as follows:

I. Questions arising following plenary session

II. Themes identified from questions

III. Wish and Task list

IV. Action Plans

I. Questions arising following plenary session

Do we have enough solutions to offer to solve the problems of the farmers?

How can we interfere with cropping systems?

What opportunities do we have to let the end user participate on the product and concept development?

Do politicians plan or react?

What is the future for EPN?

What will happen if EPN research will stop?

Who are the real losers or winners (identify) when stopping?

What is the future for biological control?

Public opinion about biologicals when they are not niche products any more?

Are biologicals really as effective as chemicals?

What is a pesticide?

What damage are the bad chemicals actually doing?

What are the bottlenecks to EPN development?

How could “income” industry, like tourism, work together with a subsidised industry?

What use is EPN research making in the current developments in genomics?

How can we support worldwide advertising for bio-control management?

Internal conflicts of interest between:

Scientific Objectives <----->Societal involvement

Should a marketing course be obligatory to all studies in biology?

Who will be our messenger?

Work on changing rules OR make products more competitive ?

Do they have the knowledge to understand the language of Science?

Stakeholder participation

- does it fit into research granting system ?

Who are the stakeholders?

- producers
- consumers
- politicians

Which stakeholders can help improve efficacy of our systems?

Can the whole COST 850 be compared to a large company?

Interest and action of individuals in COST 850?

What can I do to get things moving?

How can we maintain joint action to cause change in community?

Role of fundamental research and development in current EPN production

Who are “customers of university research?”

How can scientists in COST 850 know and share the meaning and the direction in the innovation and in the biotechnological research?

How to reduce scientific bureaucracy to find time for economic and practical problems concerning EPN’s?

What are the main ways in which the cost of using biologicals can be reduced?

Is there a role for nematodes in subsistence agriculture/developing country agriculture?

How can we facilitate trans-national research projects in WGs of COST 850?

How to develop efficient exchanges between researchers & producers?

**How to start to develop an experiential learning system?
With whom?**

How could COST 850 access resources to conduct dialogue with European and developing country partners?

What is Peter Smits’ message to the scientists?

II. Themes identified from questions

Themes

Theme 1: Lobbying, promoting and advertising for better community perception of EPNs

Theme 2: Need to identify stakeholders relevant to us. Select important ones and find ways of reaching them

Theme 3: COST 850 as an organisation and ways of managing it better

Theme 4: EPN research with renewed approach and making it more market oriented

Theme 5: Interdisciplinary and international co-operation within and outside of COST 850

Theme 1: Lobbying, promoting and advertising for better community perception of EPNs

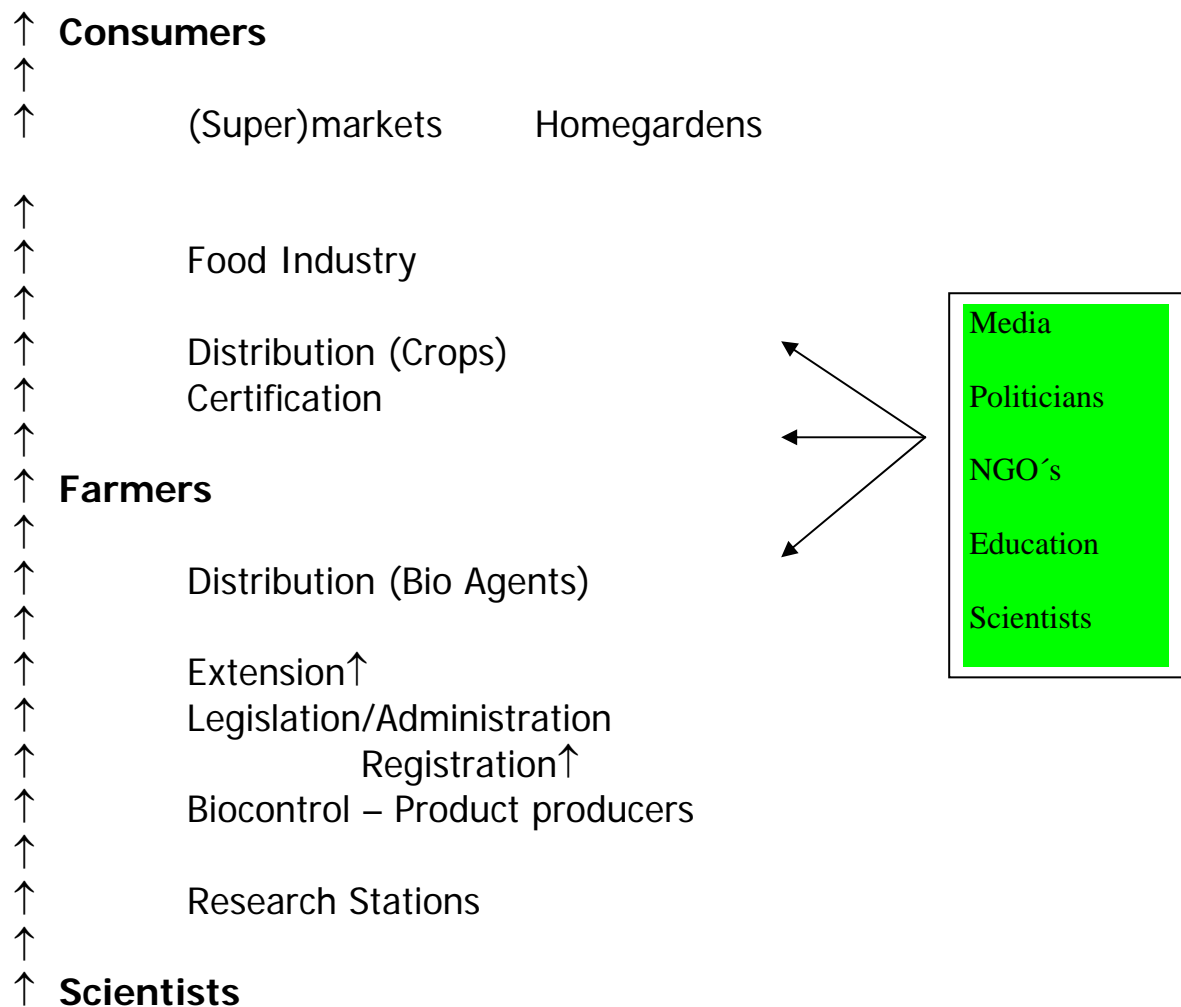
Common

Goal

**TO HAVE SOCIETY INCORPORATE
SYMBIOTIC ORGANISMS/COMPLEXES
IN SUSTAINABLE CROPPINGS**

- Have a proper comparison of chemical & biological costs
- Estimation of the potential of biological systems
- Demonstrate damage by chemicals
- Demonstrate chemicals in water – residues in food
- National meetings of stakeholders & experts
- Meeting with EU regulations
- Establishment of structure to carry it forward

Theme 2: Need to identify stakeholders relevant to us. Select important ones and find ways of reaching them



Theme 3: COST 850 as an organisation and ways of managing it better

MANAGING THE ACTION BETTER

GOALS OF 850

- Define } All WG-participants'
- Prioritise } ownership

ACTIONS:

- Distribute task lists and responsibilities
- Broader responsibilities to include more members
- More commitment

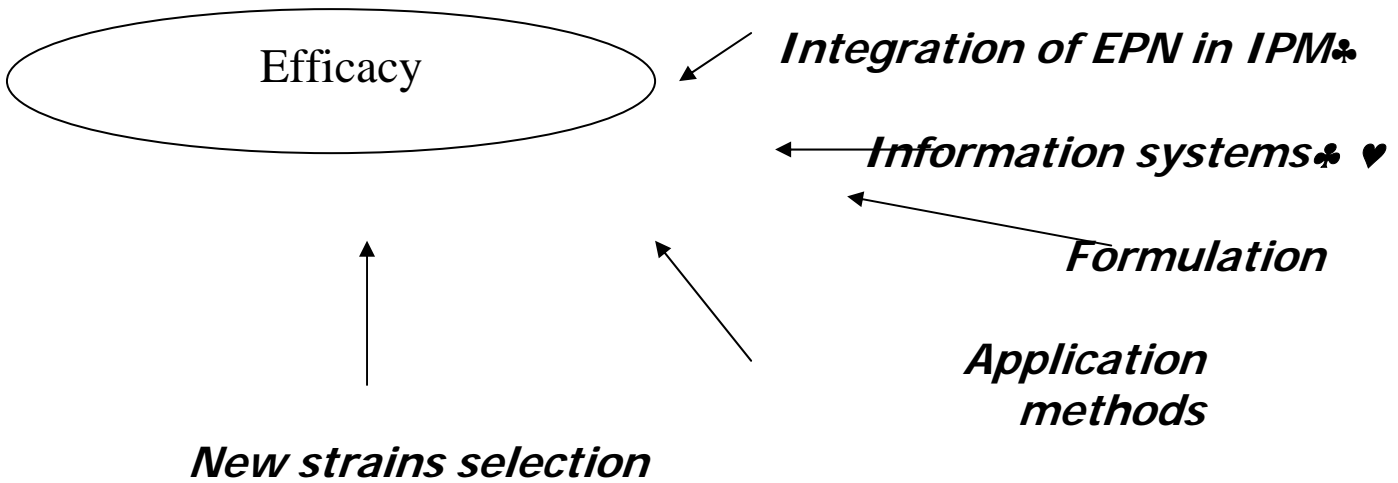
RISK:

- Bureaucracy
- "Fun" goes out of action - counter productive
- Trade off - efficiency up and involvement down

WAY AHEAD:

- 1) WEBSITE - Who does it ? Who pays ? Sponsorship ?
 - ASK for Action
 -
- 2) ELECTRONIC NEWSLETTER
- 3) GET RID OF PAPER WORK - we should be green and COST should pay it

Theme 4: EPN research with renewed approach and make it more market oriented



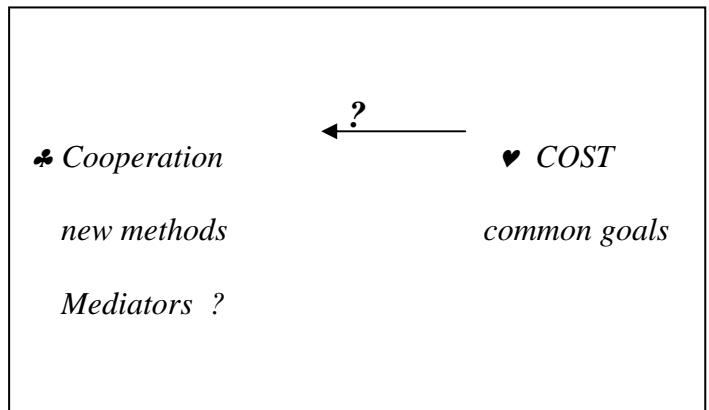
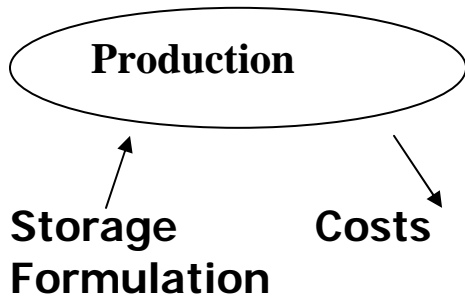
MARKET

Current

New ?

Black vine weevil
 Sciarid flies
 Grubs
 MC
 Home & Garden

Companies
 Extension



Theme 5: Interdisciplinary and international cooperation within and outside of COST 850

Common goals

Survey of achievements

- production
- use

Gaps Next possible use
 application

Exchange of information

Information for national projects

connections between different groups

connections between international project proposals

Short time mission – information

- investigation

Setting up parallel investigations on well defined projects

Co-operation on specific topics

III. Wish and task list

Final list of tasks were given priority ranking for action

The chosen tasks were then subject to further planning at the workshop resulting in working plans to be implemented within the coming year (2002).

Take action on creating a:

- | | | |
|------------------------------------------------------------------------------------|------------------|------|
| 1. Website | xxxxxxxx | |
| 2. Internal info system and
Publish an electronic newsletter | xxxxxxxx | (22) |
| 3. Establishing a culture collection for
nematodes widely available to everyone | xxxxxxxxxxxxxxxx | (12) |
| 4. Organise national meetings of stakeholders
and experts | xxxxxx
xxxxxx | (11) |
| 5 Cooperate in order to achieve integration of
EPN in IPM/ICM | xxxxxxxxxxxx | (9) |

In addition to the prioritised tasks, future tasks were also described by one group in a broader perspective.

List of tasks that were given lower priority:

- | | | |
|-----------------------------------------------------------------------|----------|-----|
| - Cooperate in creating information systems
(External) | xxxxxxxx | (7) |
| - Cooperating in linking with companies and
extension | xxxxxxxx | (7) |
| - Initiate cooperative work on SLUGS | xxxxxxxx | (7) |
| - Organise meetings with EU legislators | xxxxx | (4) |
| - Coordinate interaction between WG 1,2 & 3 | xxx | (3) |
| - Approach "mediators" to link politicians, farmers
and scientists | x | (1) |

IV. ACTION PLANS

- 1. Creating a web site, information system and an electronic newsletter (action plan not included here)**
- 2. Establishing a culture collection**
- 3. Organising national meetings with Stakeholders**
- 4. Integrate EPN with IPM/ICM**
- 5. Medium and long term activities**

ACTION PLAN: ESTABLISHING AN EPN CULTURE COLLECTION

Bill Hominick, 6 March 2002

INTRODUCTION :During the two day meeting, it was decided that a priority for this COST Action is to work towards establishing a stable and secure culture collection. Such a BRC (Biological Resource Centre) would fit in well with current international and EU activities to establish networks of BRCs meeting quality assurance standards to support biosciences in the 21st century. After some discussion, the following essential elements of an ACTION PLAN were agreed.

WHAT ACTIVITIES:

1. Obtain data for collections that exist amongst COST members. The data should include only isolates that have been correctly identified. Data for bacterial associates are beyond the scope of the present plan.
2. Make our ACTION known to EBRCN (the European Biological Resource Centre Network), an EC project (May 2001- April 2004) to establish a thematic network in the Quality of Life and Management of Living Resources programme of Framework V.
3. Use the COST 850 website to make the database available to members.
4. Establish a virtual collection (i.e. the collection can be dispersed over a number of sites, but it will have a common access point/catalogue).
5. Establish and implement quality management and quality control procedures for the collection.
6. Produce a stable collection, preserved in liquid nitrogen. This may require research to adapt protocols for some species.
7. Work towards meeting CABRI (Common Access to Biological Resources and information :www.cabri.org) standards, so that the epn catalogue appears on its website. This is the online address for Europe's quality assured biological resources.
8. Explore funding opportunities nationally. Also, there should be a pricing mechanism for supply of isolates. The collection must be sustainable and cannot be "free".

WHO:

- Bill Hominick, Co-ordinator
- Paul Fitters
- Solveig Haukeland Salinas
- Zdenek Mracek
- Andras Fodor
- Fernando Garcia del Pino

WHEN: (= milestones) :(Related to activities numbered above)

1. Report progress to MC at June meeting; basic database by end of 2002 (Hominick)
2. Report to EBRCN Partners meeting, 13-14 May (Hominick)
3. Co-ordinate with website development (Hominick)
4. June 2004 (All)
5. June 2005 (All)
6. Now and continuous (All)
7. End of COST 850
8. Continuous; agreed price structure for supply of isolates in place by June 2004 (All)

RESOURCES:

1. Time of participants
2. COST 850 STSMs to train curators in preservation techniques. Hosted by Maynooth or Budapest.
3. COST 850 website and webmaster

OUTCOME

A stable and secure collection preserved in liquid nitrogen, so requiring minimal maintenance and providing a resource for reference and for future use. The collection may be dispersed over a number of sites, but a central repository should also be established with duplicate deposits. This could be at any of a number of national biological collections such as CBS (Centraalbureau voor Schimmelcultures, The Netherlands; DSMZ (Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH, Germany); BCCM (Belgian Coordinated Collections of Microorganisms; UKNCC (United Kingdom National Culture Collection).

NATIONAL MEETING WITH STAKEHOLDERS

WHAT – Activity (or activities in sequence)

Organisation of national meeting as a forum

Identify the local stakeholders:

Scientists

Extension services

Companies that work in biocontrol market

Farmers associations

Media

Subjects:

What are EPNs?

Mechanism of action, symbiosis, survey, identification, conservation

Practical applications: weevils, noctuids, sciarids, leaf applications, slugs

Technical information to users (storage, application, etc.)

Difference between chemical and biological control

Potential market

Demonstration of biological control in organic farms, who use EPNs

WHO?

The national MC members

RESOURCES

Cost Action or national resources

OUTCOME

To promote the interest about EPNs; to promote the EPNs use; to publish news about national meetings on COST850 newsletter

MILESTONE

General national-meetings-calendar.

Integrating EPNs in IPMA/ICM

⇒ Character of fitting EPNs into IPM-system

Advantages

fast in activity
 effective against a wide spectrum of insects
 lasting /persistence /self producing
 active pest finding
 resistant to many chemicals
 fertilizer
 pesticides
 limited host range
 easy handling of application
 several commercial products available
 safe for nontargets
 safe for consumers and environment

Disadvantages

cost of production
 short shelf live
 formulation for bioagent
 storage at certain temperature
 susceptible to humidity
 susceptible to UV
 application techniques have to be adapted
 need for more producers
 registration status is not clarified

List of main crops and pests EPNs are active for:

Crops

Mushrooms
 grass crop

Strawberries
 glasshouse crop
 Orchard

hazel- / chest- / walnut
 Palms
 Grapes
 urban parks

Pests

Sciaridae, Phoridae
Melolontha / Phyllopertha / Amphimalon
Othiorhynchus
Othiorhynchus / Sciaridae / grubs
Sawflies / grubs / <i>Capnodis tenebrionis</i> / <i>Cydia pomonella</i>
<i>Balamius nucum</i> / <i>Cydia pomonella</i>
Curculionidae
Othiorhynchus
Othiorhynchus / Termites

⇒ Actions

Contact IPM-people / Promotion of EPNs (companies, extension people)

Promote research in areas missing (orchards, urban areas, foliar application, etc.)

Promote improvement of application methodologies (exchange with farmers)

Forecasting tools for EPNs in IPM-systems

⇒ Who?

Everyone, who is able to.

⇒By when?

As soon as possible. The actions are long-term changes, which have to be performed step by step.

Medium and Long Term Activities

In order to be able to define future activities of the COST Action 850 one must define the objectives first.

Objective of COST 850 is to

1. Improve cooperation between the participating scientists
2. Transfer of technology to extensions services and growers

We expect the outcome of our Action to be:

- a) Information on symbiosis
- b) New active molecules
- c) EPN products for new applications
- d) Information to extension services and the public
- e) Information on function of EPN in the field

In order to achieve these goals, we should:

1. Always be at the pulse of the participant´s research in order to improve cooperation, support interaction and identify when results of fundamental research are ready for transfer to the public or the users.
A task for all of us.
2. Improve our information systems.
The activities should not so much concentrate on the production of books, which are proceedings of our meetings (like it has been done in COST 819), but rather try to produce material, which is useful to transfer the technology to users and extension people.
For the production of the website a long-term goal of our activity should be that other networks include links to our page in order to reach our target groups. Small videos might be included to demonstrate correct use of EPN in the different culture systems and link to additional and more profound information.
This task will be in the hands of WG5 with all other WGs to provide the information
3. Link with existing networks to integrate EPN in the different cropping systems.

Scientists have produced much information on the successful use of EPN.

We should cooperate in the transfer of the technology to the users and offer our potential for a further improvement or adaptation. For these activities we can use the financial resources of our COST action. On a medium term we can work on the transfer to mushroom growers and turf grass attendants. In this field we have much experience already. On the long term, black vine weevil in strawberries, pests in nuts, thrips in ornamentals, apple saw fly, cherry fruit fly, etc. (you name it) should be approached.

Example: The mushroom meeting

We will get growers' organisations, extension people, growers, spawn producers and the marketing sector to a meeting, where we present the potential of EPN to, replace pesticides in mushrooms. Experts can explain the guidelines for the production of "organic" mushrooms. Such a workshop should be advertised by the national journals read by the growers. EPN producers will present their products. On such a meeting the two sides (Science and Producers) should learn about each other's views and experiences to understand the limits and potentials of the use of EPN and define future cooperation on the improvement of the systems.

We can learn from the first meeting and can then transfer this scheme to other crops. The organisation should be in the hands of WG3. Participation of WG4 is requested to provide information on conditions, which can support EPN performance. WG5 will mediate the transfer and improve on our abilities of the transfer process.

Conclusions

The description of the workshop in the foregoing pages indicates active participation of delegates in choosing areas needing action. The five prioritized areas for action were:

- Creating a web site, information system and an electronic newsletter
- Establishing a culture collection
- Organising national meetings with stakeholders
- Integrate EPN with IPM/ICM
- Medium and long term activities

The five groups which worked on these areas have indicated several activities that require immediate attention under each heading. The necessity for collective ownership of these planned activities was also brought up at the final session of the meeting.

We believe that it is important that the ideas agreed on and activities recommended at the conference are pursued by those identified as responsible, so that progress in this direction within COST 850 surpasses previous efforts.

It would make sense to use the time leading up to the next Management Committee meeting in May 2003 to obtain reviews of progress on agreed plans of action. If written reports could be provided by nominated persons to WG 5 on further progress in the coming months (as suggested earlier, in September and February), WG 5 would be in a position to persist with its goals of fostering a 'push and pull' relationship between COST 850 and the end user community.