

**INTEGRATED PEST MANAGEMENT :
AN APCPA SURVEY OF THE POLICY AND PRACTICE
OF CORPORATE MEMBERS**

FINAL REPORT

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EXECUTIVE SUMMARY

A short qualitative survey of APCPA core member companies' Integrated Pest Management (IPM) policy and practice was instigated by APCPA's Sustainable Agriculture Project Team, and conducted July-October 2000. The survey was intended to provide a frame of reference for the Asia Pacific Regional Technology Centre in planning future IPM training resources. This survey provides only an overview of the current situation from the perspective of company managers.

The results are summarised and compared to the results of a much larger survey conducted in the region in 1998 in the Comments and Analysis section. The collated responses to each question are presented in the Summary of Survey Results.

The main findings of the survey were –

- Corporate attitudes towards IPM have become increasingly positive with regard to the benefits that IPM offers to the crop protection industry and to the long-term sustainability of agriculture. All the companies who participated in the survey are actively working towards IPM compliance in their activities, new product portfolios and human resource capacity.
- Nevertheless, there are significant shortfalls between the global industry's expectations and actual rate of progress in practical implementation of IPM.
- The major constraint to progress in the implementation of IPM is lack of effective partnerships, combined with the huge scale of the task in promoting a subject that is considered highly complex, to a very large number of farmers with little or no prior relevant knowledge or experience.
- Resolving the conflict between sales volume based reward systems and the crucial role of sales staff in IPM implementation at field level remains an outstanding issue. Companies need to develop novel appraisal and/or incentive tools for staff.
- There is a clear demand for practical skill-based and training. A strong interest in the web/IT based training methods was also identified.
- A regional public relations programme which highlighted the best industry IPM initiatives would provide significant support and incentive to companies and individuals in their efforts to promote IPM policy and practice.
- With reference to the Asia-Pacific Regional Technology Centre, the survey indicated there is significant demand for generic, crop specific IPM training, in tandem with in-company training resources. This training will need to deliver very practical farmer training techniques, including resources/simple tools that are transferable and make the adoption and successful practice of IPM at field level achievable and less complex.

COMMENTS ON BACKGROUND AND METHODOLOGY

This survey was prepared and sent out to the ten core member companies of APCPA in July 2000. A named senior manager from each company was asked to collate, aggregate and summarise results for the whole region. It was conducted on a minimal budget and used no external resources. In total eight companies finally submitted responses.

The survey focused particularly on the human resource capacity and needs of companies.

The survey was intended to inform both APCPA and the Asia Pacific Regional Technology Centre on how they might best support companies' efforts to integrate IPM fully into their business in the Asia Pacific region. In particular, the survey was intended to inform and shape the development of the IPM Distance Learning Programme, which will be available as a training resource from the second quarter of 2001.

Elements of the survey overlap with the areas of investigation with the Landell Mills (LM) survey conducted in 1998, and where appropriate the responses for this small survey conducted in 2000 are compared to the responses of the earlier survey, in the Comments and Analysis section of this document. Question wording, scope and framing is different for the two surveys and the limitations this places on comparison is recognised. Nevertheless, some simple cross-referencing between the two surveys provides some measure of progress over time.

The small size of survey sample has at least two important impacts on the way in which the results are presented in this document -

- Analysis of the results is limited because few reliable generalizations may be extrapolated from the data.
- Specific responses are not provided as examples in order to ensure total confidentiality of those companies who participated in the survey.

ANALYSIS AND CONCLUSIONS

Comparison of the responses to this survey with the LM survey suggests that companies have significantly advanced integration of IPM into their corporate plans and policy. All respondents to this survey described IPM as an integral part of the operational objectives, compared to 63% of the global R&D based respondents in the LM survey. IPM was described as a fundamental reference point for the marketing plans of all the survey responses, compared to just 50% of all respondents of the LM survey. In addition the LM survey respondents described a lack of technology as a fundamental constraint in the implementation of IPM. This was not described as a constraint in the current survey, and indeed many respondents described new product initiatives that provided important platforms and stimulus for their IPM activities. It would appear that new chemistry and technological advances are now considered to be sufficiently in place to advance, rather than hinder the forward progress of IPM.

Personnel are described on the whole as positive in their response to IPM, and at all levels the long-term benefits to the crop protection industry, to farmers and agriculture, and to society in general are clearly recognised.

However, evidence of real progress in advancing IPM within the crop protection industry is absent in a number of areas, and there appears to be a significant gap between the aspirations of the crop protection industry¹ and practice in the region: Three examples are outlined below -

- *The fundamental need for partnerships is clearly articulated in Q 5 responses, but appears to have made little progress (50% of 1998 LM respondents described partnership initiatives, and in this survey less than half the respondents described IPM extension partnership projects.*
- *Respondents identified the importance of direct contact and the essential role of sales and technical staff in providing farmers with the necessary information and skills to incorporate IPM principles, and yet sales staff IPM competencies are assessed as relatively low in Part 2 of this survey.*
- *A continuing corporate culture of sales volume orientation is identified as a constraint in Q5 and Q2 illustrates a continued lack of performance incentives for staff in promoting IPM. This issue was also identified in the 1998 LM survey.*

It is suggested that the following conclusions and action points may be drawn from the results of this survey-

¹ For example See “IPM – The Way Forward for the Crop Protection Industry’ GCPF Position Paper

A Proactive approach to IPM Partner Projects

More proactive and collaborative approach by industry is required first of all in forging working partnerships. The main barrier to alliance building continues to be a paradigm clash on exactly what implementing IPM means at the farmer and institutional level. The crop protection industry (including retailers and distributors) must demonstrate the important role it already plays as an information link and resources to the farmer and farming communities, and that it can bring real value in the multi stakeholder movement to advance IPM in the region. The LM survey suggests that crop protection companies are rated very highly amongst farmers as a source of information. More crop focused tools and information, alongside product information would provide important contributions to the roll out of IPM, and provide evidence of industry's genuine commitment to this objective.

Strengthening Human Resource Capacity of Industry through Training

The survey indicates that IPM training activity levels in industry are increasing exponentially, but that there are still significant gaps in IPM competencies amongst key personnel groups. Previous training has raised awareness, developed the conceptual principles of IPM and has contributed to the development of new IPM compatible products. Current and future training needs to address the gap between strategy and practices- in other words the challenge of implementation. This was highlighted in both the 1998 and 2000 survey, but the significance of this barrier is probably greater than previously, now that other constraints (such as the strengthening of R&D capacity, and the launch of new technologies) have been overcome

Companies will continue to develop training tailored to their own corporate needs. In addition however, the survey indicated there was significant demand for generic training focusing on crops, rather than products.

Such training can serve a number of functions -

- *Provide the foundations and contents for a "goody box" of simple IPM skills and tools with which to support farmers in IPM*
- *Provide a forum for practitioners to share real life experiences and knowledge*
- *Strengthen the IPM competence of*
 - *personnel with responsibility for the company/farmer interface*
 - *personnel with responsibility for developing a corporate culture and performance incentives are IPM friendly.*

The APRTC aims to provide exactly this type of resource. The proposed open corporate university model should be well received, both by industry (the LM Survey found universities were considered the most important and credible source of information on IPM for crop protection industry personnel) and by non-industry personnel. Both surveys highlight the lack of adequate skills and resources as a barrier to the advance of IPM implementation at the local level.

Increase the Visibility and Credibility of Industry Activities

Respondents identified a strong demand for APCPA to highlight and present IPM activities, as a foundation for building relationships, and gain positive feedback and indirect returns on investments in such activity. Publishing examples of industry IPM case studies, taking a more active role in public IPM debate and policy influencing fora are examples of how industry can increase its public profile in IPM.

Such an increase in visibility however, will only be influential if industry adopts the new behaviour standards advocated by the global federation, and addresses the concerns of other stakeholder groups. This requires a willingness and appropriate action by industry to evaluate activities, to work constructively with other stakeholder groups on the conflicting IPM paradigms, and to deal energetically with the very real constraints identified in this survey.

SUMMARY OF SURVEY RESULTS

Q1 What is your company's stated policy on IPM?

Very few respondents' corporate policy statements make explicit reference to integrated pest management. Most respondents expressed the view that IPM was perceived as an operational objective within the strategic context of a policy on sustainable agriculture and integrated crop management, terms which are felt to be less commonly used in the Asia Pacific region than the rest of the world²

A number of respondents made specific reference to the GCPF Policy Declaration on IPM³, indicating this provided an appropriate frame of reference for corporate activities such as product development.

Q2 How is this policy translated into defined annual objectives, and incorporated into personnel performance appraisal systems (managerial, field forces)? Please give examples of IPM criteria used.

Few companies were able to provide examples of IPM based performance measurements and targets. In fact performance criteria were still most commonly sales volume based.

A majority of respondents made reference to plans to develop more specific staff appraisal schemes, country performance targets. A need for more training to facilitate these developments was also clearly recognised.

Other comments indicated that most companies felt that such performance targets needed to be very location specific, taking into account prevailing conditions such as local farming practice, regulatory environment.

² IPM: A New Paradigm for Industry, Discussion Paper by W W Ellis

³ IPM The Way Forward for industry, GCPF

Q3. How does your company coordinate IPM training activities at country and regional levels ? Please give brief details of any IPM staff functions at country or regional levels.

Responses to this question reflected a broad range of approaches by companies to staff training in general, and particularly in relation to IPM. Responses to this question indicated that IPM training tended to evolve from local ad hoc initiatives, and then from global coordination to regional coordination, but with significant adjustment at the local country level, perhaps reflecting increased funding commitments as IPM becomes more embedded in company business plans and policy.

In those companies that assigned responsibility for IPM to a recognized staff function, IPM was part of a portfolio of responsibilities that most commonly included product stewardship, and sustainability.

Q4. What practical support do you receive from your global HQ to enable you to implement IPM in the region (e.g. training, financial support, literature)

Global head offices did provide some support in terms of training in the theoretic and conceptual principles of IPM. Also provided literature and support in developing locally relevant literature in some instances.

However, support appeared to be provided to national affiliates mainly on an ad hoc basis, driven by local demand, rather than by a global corporate vision. This echoes the responses to Q1 indicating few policy statements on implementation of IPM principles and practice, and to Q2 , that the establishment and success of IPM is determined at the very local level of farmer/company representation interface, and perhaps also as a response to prioritization of IPM by government agencies.

Support was generally technology focused- that is, related to new product. Literature provided by HQ often linked to this “IPM fit”.

In some instances limited financial support for specific IPM projects such as training materials or trials was available on a case by case basis.

Q5 What is your company’s annual IPM budget allocation for the region? What in your view are the 3 major constraints to implementing IPM in the region, and how might they be addressed?

Budget

None of the companies who participated had a specific IPM budget allocation.

Constraints

Some respondents described lack of a dedicated budget for IPM as a constraint.

Some also pointed to short-termism in corporate cultures driven by competition and sales volume. There is a fundamental challenge in resolving the crucial role of sales staff in IPM implementation at field level with the sales based performance measurements and incentives used to reward them. provided for sales staff who have direct contact with farmers. Companies need to develop novel appraisal and/or incentive tools for staff.

A number of additional constraints suggested by respondents were inter-related and may be summarized thus:

The majority of farmers in the Asia Pacific region are small holders with little prior knowledge or experience to encourage or support the transition to, and adoption of IPM. Many survey respondents therefore described the scale of the task as a major constraint in itself. Indeed respondents were very explicit that it is would be quite unrealistic to expect industry to significantly advance the implementation of IPM in isolation from the many other stakeholders who have responsibilities for local agricultural practices.

However, dissonance on what constitutes integrated pest management between the many stakeholder groups who can and do influence the implementation of IPM at farmer/field represents a barrier to developing effective partnerships and synergies between the multiple stakeholder groups. Indeed this lack of common criteria and methodology was perceived to actually undermine efforts to disseminate IPM training and knowledge because target groups are the recipients of contradictory and therefore confusing messages. This ultimately diminishes the credibility of IPM principles and confidence of the target groups.

IPM is perceived to require a relatively complex set of skills and knowledge by its practitioners (i.e. the farmer), and most respondents described a lack of adequate resources to support farmers in establishing IPM. There appears to be a strong demand for a 'goody box' of decision-making and re-skilling tools for farmers that companies could draw on in their efforts to support IPM at field level.

Q6. What benefits if any, do you your staff see in pursuing IPM?

The benefits were largely perceived as long term ones. In summary these were -

- IPM provides demand stimulus for continuing research and development for IPM compatible compounds,
- Extend the life cycle of products, for example through better management and control of resistance development in pest organisms.
- The contribution of IPM to sustainable agricultural and environmental conservation.
- Active IPM promotion offers industry the opportunity to build relationships with other agricultural and environmental stakeholder groups, and demonstrates its recognition of its social responsibilities.

- Proactive pursuance of IPM demonstrates industry's ability to self-regulate to both stakeholders and society at large, and to counter demand for more and greater further externally imposed regulation.

Q7. What staff training have you conducted on IPM over the past 12 months, and what are your plans/staff training objectives for the coming 18 months?

Previous training mainly related to safe use and application technology, pest identification, resistance management, threshold levels and the principles of good agricultural practice. Training was most commonly crop specific and/or in support of specific IPM compatible products. In some instances where there are no in-country company representatives, training is provided to distributors in lieu.

Almost all respondent companies indicated that there were plans to implement more comprehensive training programmes in the following eighteen months, but only one response included any details on the nature of this training.

Q8. Key IPM projects run by your company in the region, including non-industry partners?

Inevitably project selection is determined by product portfolio, and company's market strengths, but within this survey sample IPM projects on broad range of crops and countries had been conducted.

Some IPM projects were primarily research programmes, but more of the projects described focused on regimen development, and training in the use of IPM tools, such as threshold levels.

A minority of respondents indicated involvement in partnership projects. Those described were mainly, but not all, in partnership with national Departments of Agriculture, and their extension services, and in most instances were training eg correct application techniques.

Q 9. Do you incorporate IPM guidelines on product labels, use instructions and in farmer meetings?

The main channel of communication on IPM was direct contact such as farmer meetings. Printed guidelines were felt to be subject to a number of constraints. The most common printed IPM materials related to resistance management.

Constraints in using printed materials, and especially product labels to disseminate IPM guidelines, may be summarized as -

- The complexity of the subject matter
- Greater priority given to other written information, such as safe use advice and other information that is legally required to be included on labels and product information.

Q10. Do you and your staff see an inherent conflict between your company's IPM policy and its sales objectives? If so, how might these be addressed?

A number of respondents stated that no conflict was perceived.

For those respondents who did perceive inherent conflict, there was significant consensus in the responses. Namely, this conflict was felt to a short-term issue, which would be resolved in the longer term by the strategic logic of adopting IPM principles.

Q 11. How could APCPA best facilitate implementation of IPM, and support company initiatives ?

There were many suggestions in response to this question. These may be grouped into four broad headings, presented in order of most common first.

- Generate broader support of the FAO definition of IPM, and industry's interpretation of that definition, through increased advocacy and marketing activities, and fostering partnerships with other IPM stakeholders/advocates.
- Generate positive feedback for existing and future efforts by providing publicity for IPM initiatives and establishing an awards system for innovation and success in the promotion of IPM.
- Provide training and the opportunity for greater information exchange. A number of respondents also indicated particular interest in computer/web-based methods.
- Provide leadership and encourage compliance by setting industry standards.

Q12 Please give a breakdown of your staffing levels for 2000 over the region in (a) R&D/Technical and (b) sales and marketing. For consistency please include all 13 APCPA member countries.

Few respondents were able to provide this information in full detail as requested. However, extrapolating from the limited data provided, the regional work force for all core member companies may be estimated at roughly 4,000, and this may be subdivided into 20 – 35 % R&D/Technical, 65-80% Sales and Marketing. None of the respondents who were able to provide data on staffing levels could confirm which countries were included in their estimates.

Q13. What percent of your field force has access to the Internet via the company And

Summary of Responses to Part 2 of Survey: Functional Analysis of Staff Access to IT Resources, and Competence in IT, IPM and English Language.

Four of the eight respondents provided a breakdown of staff access to IT resources, with some additional descriptive responses. There was large variation in access to IT resources, ranging from 10 – 100% of total work force with access to Internet. In the main however, staff access to computer, colour printer and the Internet may be estimated

at 60% or more, particularly for technical/R&D staff, and management and senior marketing staff.

Companies were also asked to assess staff proficiency in English language, IT and IPM on a scale of 1-10, broken down into functional roles, and seniority levels

- IT skills were most commonly rated 7 – 9, with management scoring higher (8-10).
- IPM competency was rated highest for R&D and marketing staff (6/7), lower for sales and production staff (4-6), and administration rated the lowest. Senior management generally scored higher (8 +).
- English language skills followed similar patterns, but overall scored slightly higher than IPM competence.

ACKNOWLEDGEMENTS

Thank you to the eight companies –Aventis, Bayer, Dow AgroSciences, DuPont, FMC, Monsanto, Novartis and Zeneca for supporting this survey through their participation.

I would also like to take this opportunity to express my thanks and appreciation to Wyn Ellis for his technical support, background information and comments on this report in its draft form.

APCPA Company Survey: IPM

**For anonymous completion by regional company heads, Asia-Pacific Region
Results will be reported to APCPA Coordinating Council, Beijing,
Oct 24 2000**

Part 1: Company IPM Policy & Implementation Plans

- 1. What is your company's stated policy on IPM?**
- 2. How is this policy translated into defined annual objectives, and incorporated into personnel performance appraisal systems (managerial, field forces)? Please give examples of IPM criteria used.**
- 3. How does your company coordinate IPM training activities at country and regional levels? Please give brief details of any IPM staff functions at country or regional levels.**
- 4. What practical support do you receive from your global HQ to enable you to implement IPM in the region (e.g. training, financial support, literature)?**
- 5. What is your company's annual IPM budget allocation for the region? What in your view are the 3 major constraints to implementing IPM in the region, and how might they be addressed?**
- 6. What benefits, if any, does your staff see in pursuing IPM?**
- 7. What staff training have you conducted, on IPM, over the past 12 months, and what are your plans / staff training objectives for the coming 18 months?**

- 8. Key IPM projects run by your company in the region, including non-industry partners?**

- 9. Do you incorporate IPM guidelines on product labels, use instructions and in farmer meetings?**

- 10. Do you and your staff see an inherent conflict between your company's IPM policy and its sales objectives? If so, how might these be addressed?**

- 11. How could APCPA best facilitate implementation of IPM, and support company initiatives?**

- 12. Please give a breakdown of your staffing level for 2000 over the region (a) R&D/Technical, and (b) Sales & Marketing. For consistency please include all 13 APCPA member countries (Australia, Bangladesh, China, India, Indonesia, Japan, Korea, Malaysia, Pakistan, Philippines, Sri Lanka, Taiwan, Thailand).**

- 13. What % of your field force has access to the Internet via the company?**

Part 2: IT Survey

1. Functional Analysis

Please fill in the relevant fields, on a scale 0 – 10.

<u>Function</u>	Own PC	Access to colour printer	Net Access	English language competence	IT / Net skills	IPM competence
<u>Sales</u>						
Marketing / Promotion						
R&D						
Production						
Admin						

B. Management Level

<u>Mgt Level</u>	Own PC	Access to colour printer	Net Access	English language competence	IT / Net skills	IPM competence
<u>Country Mgr</u>						
2nd Level (Mktg / Tech Mgr)						
3rd Level: (Promoters/ R / D staff) (Mgmnt)						
Field Sales Force (Mgmnt)						

Please return your completed forms to the APCPA Secretariat, preferably by email to info@apcpa.org by 31 August 2000

Thank you for your support!!!!

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