

IPM Definitions

1990-1998

- 1.** "Integrated pest management, or IPM is a systematic approach to crop protection that uses increased information and improved decision-making paradigms to reduce purchased inputs and improve economic, social, and environmental conditions on the farm and in society. Moreover, the concept emphasizes the integration of pest suppression technologies that include biological, chemical, legal, and cultural controls". (Allen, W. A. and E. G. Rajotte. 1990. *Annu. Rev. Entomology*. 35: 379-97.)
- 2.** "Integrated pest management, or IPM is an approach to pest control that utilizes regular monitoring to determine if and when treatments are needed and employs physical, mechanical, cultural, biological and educational tactics to keep pest number low enough to prevent intolerable damage or annoyance. Least-toxic chemical controls are used as a last resort". (Olkowski, W. and S. Daar. 1991. *Common sense pest control*. Taunton Press. 715 pp.)
- 3.** "Integrated pest management (IPM) is a pest management strategy that focuses on long-term prevention or suppression of pest problems with minimum impact on human health, the environment, and non-target organisms". "Preferred pest management techniques include encouraging naturally occurring biological control, using alternate plant species or varieties that resist pests, selecting pesticides with lower toxicity to humans or nontarget organisms; adoption of cultivating pruning, fertilizing, or irrigation practices that reduce pest problems; or changing the habitat to make it incompatible with pest development. Broad spectrum pesticides are used as a last resort when careful monitoring indicates they are needed according to pre-established guidelines." (Flint, M. L., S. Daar and R. Molinar. 1991. *Establishing integrated pest management policies and programs: a guide for public agencies*. Univ. Calif. IPM Publication 12. 9 pp.)
- 4.** "IPM is a system approach based on science and proven crop production and resource conservation practices. It uses all suitable techniques, such as natural enemies, pest resistant plants, cultural management, and pesticides in a total crop production system to anticipate and prevent pests from reaching damaging level." (Consumer response to information on integrated pest management. 1992. *J. Food Safety*, 12: 315-326.)
- 5.** "Integrated Pest Management is the coordinated use of pest and environmental information along with available pest control methods, including cultural, biological, genetic and chemical methods, to prevent unacceptable levels of pest damage by the most economical means, and with the least possible hazard to people, property, and the environment". (Proceedings of the National Integrated Pest Management Forum. 1992. American Farmland Trust, 86 pp.)

Cited by:

- Sorensen, A. A. 1993. *Integrated pest management: future farming tasks lessons from the past*. Food Insight, May/June 1993.

- 6.** "IPM is an ecologically-based pest control strategy which is part of the overall crop production system. 'Integrated' because all appropriate methods from multiple scientific disciplines are combined into a systematic approach for optimizing pest control. 'Management' implies acceptance of pests as inevitable components, at some population level of agricultural system". [Zalom, F. G., R. E. Ford, R. E. Frisbie, C. R. Edwards and J. P. Telle. 1992. Integrated pest management: addressing the economic and environmental issues of contemporary agriculture. *In* Food, crop pests, and the environment: the need and potential for biologically intensive integrated pest management, F. G. Zalom and W. E. Fry (eds.), APS Press, St. Paul, MN.]

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- Gianessi, L. 1993. The Quixotic Quest for Chemical-free Farming. *Issues in Science and Technology*: 10: 29-36.
 - Saarenmaa, H. 1992. Integrated pest management in forests and information technology. *J. Appl. Entomol.* 114: 321-332.
 - Sorensen, A. A. 1993. Integrated pest management- finding a new direction. *Cereal Food World*. 38: 187-196.
 - Vandeman, A., J. Fernandez-Cornejo, S. Jans and B. Lin. 1994. Adoption of integrated pest management in U. S. Agriculture. *Agri. Information Bull.* 707. USDA. 28 pp.
- 7.** "Integrated Pest Management, or IPM, involves the carefully managed use of an array of pest control tactics - including biological, cultural, and chemical methods - to achieve the best results with the least disruption of the environment." [Environmental Protection Agency. 1993. EPA for Your Information. Prevention, Pesticides and Toxic Substances (H7506C). 2 pp.]

Cited by:

- American Medical Association Council on Scientific Affairs. 1993. Diet and cancer: where do matters stand? *Archives of Internal Medicine*, 153: 50-56.
- 8.** "Integrated Pest Management (IPM)- A combination of pest control methods (biological, chemical, and cultivation) that, if used in the proper order and at the proper times, keep the size of a pest population low enough that it does not cause substantial economic loss." (Raven, P.H., L.R. Berg and G.B. Johnson. 1993. *Environment*. Saunders College Publishing, N.Y. 569 pp.)
- 9.** "IPM is a management approach that encourages natural control of pest populations by anticipating pest problems and preventing pests from reaching economically damaging levels. All appropriate techniques are used such as enhancing natural enemies, planting pest-resistant crops, adapting cultural management, and using pesticides judiciously." (United State Department of

Agriculture, Agricultural Research Service. 1993. USDA programs related to integrated pest management. USDA Program Aid 1506.)

Cited by:

- Vandeman, A., J. Fernandez-Cornejo, S. Jans and B. Lin. 1994. Adoption of integrated pest management in U. S. Agriculture. Agri. Information Bull. 707. USDA. 28 pp.
- 10.** "Management activities that are carried out by farmers that result in potential pest populations being maintained below densities at which they become pests, without endangering the productivity and profitability of the farming system as a whole, the health of the family and its livestock, and the quality of the adjacent and downstream environments". (Wightman, J. A. 1993. Towards the rational management of the insect pests of tropical legumes crops in Asia: review and remedy. pp. 233-256. *In* Crop protection and sustainable agriculture. CIBA Foundation Symposium 177. 285 pp.)
- 11.** "Integrated Pest Management is the judicious use and integration of various pest control tactics in the context of the associated environment of the pest in ways that complement and facilitate the biological and other natural controls of pests to meet economic, public health, and environmental goals". (Cate, J. R. and M. K. Hinkle. 1994. Integrated Pest Management: the path of a paradigm. The National Audubon Society Special Report. 43 pp.)
- 12.** "Integrated Pest Management is the use of a variety of pest control methods designed to protect public health and the environment, and to produce high quality crops and other commodities with the most judicious use of pesticides". (Cooperative Extension System, University of Connecticut. 1994. Integrated pest management programs. Univ. Connecticut. 22 pp.)
- 13.** European Plant Protection Organization has defined integrated Control as "the use of all economically, ecologically and toxicologically justifiable means to keep pests below the economic threshold, with the emphasis on the deliberate use of natural forms of control and preventive measures". Dehne, H-W. and F. Schonbeck. 1994. Crop Protection- past and present. pp. 45-71. *In* Crop Production and Crop Protection, Oerke, E-C. H-W. Dehne, F. Schonbeck and A. Weber (eds.), Elsevier, Amsterdam. Netherlands. 808 pp.
- 14.** "An effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interactions with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment. IPM take advantage of all pest management options possible, including, but not limited to the judicious use of pesticides." (Leslie, A. R. 1994. Preface. *In* Integrated pest management for turf and ornamentals, Leslie, A. R. (ed.). Lewis Publishers, London. 660 pp.)

- 15.** "Integrated pest management is a sustainable approach to managing pests by combining biological, physical, and chemical tools in a way that minimizes economic, health, and environmental risks". (National Coalition on Integrated Pest Management (NCIPM). 1994. Toward a goal of 75 percent cropland under IPM by 2000. Jan. Austin, TX.)

Cited by:

- Appropriate Technology Transfer for Rural Area (ATTRA). 1995. Integrated pest management information package. National Center for Appropriate Technology. Fayetteville, Arkansas. 21 pp.
 - National Foundation for Integrated Pest Management Education. 1994. Integrated pest management. IPM Monitor. Austin, TX, Winter 1994.
 - National Foundation for Integrated Pest Management Education 1994. IPM: The Essence. IPM Monitor. Austin, TX, Summer 1994.
 - Vandeman, A., J. Fernandez-Cornejo, S. Jans and B. Lin. 1994. Adoption of integrated pest management in U. S. Agriculture. Agri. Information Bull. 707. USDA. 28 pp.
- 16.** "Integrated Pest Management (IPM) is an approach to making pest control decisions with increased information and the use of multiple tactics to manage pest populations in an economically efficient and ecologically sound manner." (Norton, W. G. and J. Mullen. 1994. Economic Evaluation of integrated pest management programs: a literature review. Virginia Cooperative Extension Publ. 448-120, Virginia State Univ. Petersburg, VA., and Virginia Polytech. Instt. & State University, Blacksburg, VA. 112 pp.)
- 17.** "IPM, in its simplest form, is a control strategy in which a variety of biological, chemical, and cultural control practices are combined to give stable long-term pest control." [Ramalho, F.S. 1994. Cotton pest management. Annu. Rev. Entomol. 39: 563-578.]
- 18.** "IPM is a system that controls pests and contributes to long-term sustainability by combining judicious use of biological, cultural, physical and chemical control tools in a way that minimizes the risks of pesticides to human health and the environment." (Sorensen, A. A. 1994. IPM in partnership with nature. Center for Agriculture in the Environment, American Farmland Trust, DeKalb, Illinois. 2 pp.)
- 19.** "Integrated pest management is a pest management system that in the socioeconomic context of farming systems, the associated environment and the population dynamics of the pest species, utilizes all suitable techniques in as compatible manner as possible and maintains the pest population levels below those causing economic injury". [(Dent, D. R. 1995. Integrated pest management. Chapman & Hall, London. 356 pp.). This definition was modified from: Smith, R. F. and H. T. Reynolds. 1966. Principles, definitions and scope of integrated pest control. Proc. FAO Symposium on integrated pest control 1, 11-17.]

- 20.** "Integrated Pest Management' means the selection, integration, and implementation of multiple pest control techniques based on predicted economic, ecological, and sociological consequences, making maximum use of naturally occurring pest controls, such as weather, disease agents, and parasitoids, using various biological, physiological, chemical, and habitat modification methods of control, and using artificial control only as required to keep particular pests from surpassing intolerable population levels predetermined from an accurate assessment of the pest damage potential and the ecological, sociological, and economic cost of other control measures. (Florida Statutes 1995, Chapt. 482)
- 21.** "Integrated pest management (IPM) is the judicious use and integration of various pest control tactics in the context of the associated environment of the pest in a way that compliment and facilitate the biological and other natural controls of pests to meet economic, public health, and environmental goals. Whenever possible, IPM uses scouting, pest trapping, pest resistant plant varieties, sanitation, various cultural control methods, physical and mechanical controls, biological controls, and precise timing and application of any needed pesticides." (R. G. Adams, 1996. Introduction to Integrated Pest Management. pp. 1-7. In Northeast Sweet Corn Production and Integrated Pest management manual, [R. A. Adams and J. C. Clark (eds.)], Cooperative Extension System, University of Connecticut. 120 pp.)
- 22.** "Integrated Pest Management (IPM) is a sustainable approach to managing crop pests. IPM combines the use of biological, cultural, physical and chemical tactics in a way that minimizes economic, health, and enviromental risks." [Florida Cooperative Extension Service (The Institute of Food and Agricultural Sciences, University of Florida). Fall 1996. p. 2. IPM Florida]

Cited by:

- Florida Cooperative Extension Service (The Institute of Food and Agricultural Sciences, University of Florida). Winter 1996. p. 2. IPM Florida
- 23.** "Real IPM: 'A crop protection system which is based on rational and unbiased information leading to a balance of non-chemical and chemical components moving pesticide use levels away from their present political optimum to a social optimum defined in the context of welfare economics'." (Waibel, H. and J. C. Zadoks. 1996. Institutional Constraints to IPM. XIIIth International Plant Protection Congress (IPPC), The Hague, July 2-7, 1995. Pesticide Policy Project, Publ. Series. No. 3. Institute of Hortic. Economics, Hannover, Germany. 63 pp.)
- 24.** "The management of pests by integrating host resistance, cultural, biological and chemical controls in a manner that minimises economic, health and environmental risks." [CPM (Crop Protection Manager). January 1997. *Ixx* Insect Management- Insecticides Do Have a Role in IPM. pp. 21-22.]
- 25.** "Integrated pest management' means a coordinated decision-making and action process that uses the most appropriate pest control methods and strategy in an

environmentally and economically sound manner to meet agency pest management objectives. The elements of integrated pest management include: (a) Preventing pest problems; (b) Monitoring for the presence of pests and pest damage; (c) Establishing the density of pest population, which may be set at zero, that can be tolerated or corrected with a damage level sufficient to warrant treatment of the problem based on health, public safety, economic or aesthetic threshold; (d) Treating pest problems to reduce population below those levels established by damage thresholds using strategies that may include biological, cultural, mechanical and chemical control methods and that shall consider human health, ecological impact, feasibility and cost effectiveness; and (e) Evaluating the effects and efficacy of pest treatments." [Oregon Statutes (ORS 262.1), Chapter 943)

Cited by:

- McCoy, M. (ed.). 1992. Integrated pest management basic principles fit nursery production. *Ornamentals Northwest Seminars & Farwest Show*. 36 (8): 120-123.
- 26. "The management of pests by integrating host resistance, cultural, biological and chemical controls in a manner that minimizes economic, health and environmental risks." [CPM Crop Protection Manager. 1997, In: *Insect Management- Insecticides Do Have a Role in IPM*. pp. 21-22.]
- 27. "Integrated Pest Management (IPM) for agriculture is the application of an interconnected set of principles and methods to problems caused by insects, diseases, weeds and other agricultural pests. IPM includes pest prevention techniques, pest monitoring methods, biological control, pest-resistant plants varieties, pest attractants and repellents, biopesticides, and synthetic organic pesticides. It also involves the use of weather data to predict the onset of pest attack, and cultural practices such as rotation, mulching, raised planting beds, narrow plant rows, and interseeding." [James P. Tette . 1997. *New York State Integrated Pest Management Program*, New York State Department of Agriculture and Markets, Cornell University and Cornell Cooperative Extension. 60 pp.]
- 28. "Integrated Pest Management (IPM) is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistance varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and nontarget organisms, and the environment." [University of California State-wide Integrated Pest Management Project, 1997. *Annual Report*, University of California State-wide Integrated Pest Management Project, California. 77 pp.]
- 29. "IPM is a decision support system for the selection and use of pest control tactics, singly or harmoniously coordinated into a management strategy, based on

cost/benefit analyses that take into account the interests of and impacts on producers, society, and the environment." [Marcos Kogan. 1998. Integrated Pest Management: Historical Perspectives and Contemporary Developments. Annu. Rev. Entomol. 43: 243 - 270]



<http://www.ippc.orst.edu/IPMdefinitions/defineIII.html>