

Avi Grinstein

1946–1998



IN MEMORIAM

Dr. Avshalom (Avi) Grinstein, a Senior Scientist at The Volcani Center, was born on August 26, 1946, in Tel Aviv, Israel, and passed away suddenly on October 19, 1998, following a brain hemorrhage. Avi's sudden death, at the peak of most intensive and international activities, left his many friends, colleagues and students bereaved and mourning. Avi followed a path typical to many Israelis: high school, military service, membership in a Kibbutz (Nir Yitzhaq), and university education. Avi studied at The Hebrew University of Jerusalem's Faculty of Agriculture, where he completed the B.Sc. (1972), M.Sc. (1974) and Ph.D. (1981) degrees, all of them in the branch of Plant Protection. Afterwards, he joined the Laboratory for Pesticide Application Research at the ARO, The Volcani Center, Bet Dagan, which later was renamed the Laboratory for the Research of Pest Management Application, which he also headed in the coming years.

Avi's expertise covered many aspects of Plant Protection, both fundamental and applied. In the initial stages of his scientific career, Avi studied interactions between herbicides and soilborne pathogens. He was the first to unearth the surprising finding that dinitroaniline herbicides (which are notoriously known to increase the incidence of some fungal plant diseases), in certain plants induce disease resistance. The mechanism of induced resistance in tomato was found to be related to increased phytoalexin production. Field studies showed the potential of one of these herbicides, dinitramine, to reduce the incidence of *Sclerotium rolfsii*. These works were further extended and validated by other researchers in both Israel and other countries. Avi strongly believed (and demonstrated in many studies) that the proper application of pesticides has the potential to improve pest control, while concomitantly reducing pesticide dosage, environmental hazards and pollution. He confirmed this approach with onions, cotton, peanuts, potato and other crops. Avi and his co-workers developed innovative technologies for seed and tuber disinfection with reduced amounts of pesticides. Similarly, they also developed innovative technologies for postharvest treatment with reduced amounts of pesticides and technologies related to aerial application.

Avi was concerned about the environment. Along with this he also believed that pesticides are needed to ensure requisite production of food. Hence, he dedicated himself to reducing pesticide use as well as to developing nonchemical methods of pest control. For instance, Avi and his colleagues developed a very effective physical method (flaming) for the disinfection of peanut seeds. However, soil solarization, a nonchemical method for soil disinfestation using solar energy, was his favorite subject of research. He was involved in developing the method and studied many aspects of its mode of action and implementation. He had been recognized the world over as a leading expert on soil solarization and was frequently invited to deliver lectures or to attend discussions on this subject at national and international meetings in Israel and other countries, including France, Mexico, China and Italy.

Avi was an expert not only in soil solarization but also in other methods of soil disinfestation. He studied means for reducing the dosage of methyl bromide, developed laboratory simulation systems,

studied combinations of methods of control, and chemical and nonchemical alternatives to methyl bromide. Again, he paid special attention to the development of improved technologies of application, which he regarded as a key factor for success.

Avi collaborated with scientists from other disciplines, including engineers who developed the necessary equipment. He was very pleased to cooperate with scientists from other countries (USA, Italy, France), but the collaboration with scientists from the Middle East, *e.g.* Egypt and Morocco, as well as Palestinians, gave him particular satisfaction and brought him great joy, since he regarded such collaboration as the highlight of his work.

The above are only a few examples, out of many, of Avi's scientific activities. Avi received several awards recognizing his achievements (A.Z. Cohen Award, Kurtz Award, Ben-Gurion Award, Inventor's Award).

Avi was a very active person dedicated to science, his students, his colleagues and to society. He held many positions, among them Head of the Laboratory for Research on Pest Management Application, and President of the Israeli Phytopathological Society; served as a member or chairperson of many national and international committees, and as consultant to international projects; chaired sessions at national and international scientific meetings; and was recently involved in many activities related to the forthcoming XIVth International Plant Protection Congress. Avi was on the editorial board of *Phytoparasitica* and a frequent reviewer for several journals.

Avi regarded education as the tool to transfer knowledge, concepts and ideas. He taught very successfully a course on Pesticide Application at The Hebrew University, supervised students in their research and preparation of theses, gave lectures in many courses, including training courses, wrote manuals for students and also many educational articles, was involved in producing video films which were translated into several languages and edited the Newsletter of the Israeli Phytopathological Society.

Avi was an extremely pleasant person, had many friends, was most cooperative, always going out of his way to help others (all knew that Avi would be the first to lend a hand), had a special sense of humor and never tired. Avi was liked and loved by everyone. He never changed over the years: always informal, never keeping a distance from others, a person of integrity, with an honest and frank manner, saying what was on his mind but never hurting others, always kind. Innumerable friends attended his funeral and many others, all deeply saddened, wrote letters of consolation from abroad. Everyone spoke of how deep was their friendship with Avi, and how highly they regarded him professionally.

It was with the greatest sorrow that Avi's friends in the scientific community and elsewhere, received the bitter news of his sudden death. Avi left many scientific legacies. We, his friends, colleagues and former students, pledge that we shall do our best to complete the work that Avi started, to strengthen further what he established, and to institute new projects, inspired by his memory. All of this will be a true and fitting memorial for Avi Grinstein. His passing is a great loss to us all. Avi will always be remembered as a dear friend and excellent scientist. We shall miss him sorely, and his memory will remain forever in our hearts. May his memory be for a blessing.

Avi Grinstein is survived by his wife Rachel, daughter Inbar and son Ofir.

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