

Bridging the Gap Between Science and Public Perception of Agriculture

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From 1900 to 2000, the proportion of society in the United States directly engaged in agriculture has dropped from 41% to 1.9%. Globally, populations are expected to be 70% urban and 30% rural by 2050. This decrease in direct engagement in agriculture has remarkably changed the level of agricultural literacy among the majority of the public. Concurrently, agricultural technology has gone through a radical transformation from low-tech, low-input farming to high-tech, intensive agriculture that has multiplied the productivity per unit area of land while drastically reducing the resources required per unit of output. As in many fields, as complexity in agricultural science has increased, so has the level of sophistication and specialization required to excel and successfully compete. This, however, has come at the cost of connectivity with the consumer. Today, commercial farms sell their animals or produce into a large-scale efficient food industry that seeks to commoditize food in order to provide the best product at the lowest price to the largest markets. Farmers have also adopted new technologies that have improved their efficiency and productivity. Consumers continue to feel an emotional connection with the food they eat, but they have begun to realize that they know very little about how and where it was produced and who produced it. Food-conscious consumers have sought to reestablish that connection to their food by shopping locally or selecting organic food and are willing to pay a premium for that source. Many other consumers are unable or unwilling to pay a premium for their food but also have many questions about the safety of food, the science behind agriculture technologies and what impact food production has on the environment or animal welfare. As Gross Domestic Product has increased globally, diets have shifted to a greater proportion of animal proteins, which has raised questions about sustainability. The perceptions of risk associated with food vary widely between consumers and scientists that are familiar with a technology. Agricultural scientists and the food industry are now increasingly faced with genuine questions from consumers and policy-makers and criticism from activists. Increasingly, the gap of understanding between agricultural scientists and the activist community has produced mistrust on both sides and grown into full-blown emotional debates and, in some cases, well-funded political campaigns to advance policies or laws seeking to ban specific practices or technologies. Clearly, this gap in understanding and trust has the potential to spark unwarranted fears about food. It could also produce public policy that limits technology use without well-founded scientific reason despite the badly-needed efficiencies that they provide. This presentation will attempt to describe how agricultural technologies and associated risks are perceived by the public and what key questions deserve answers. In addition, I will identify opportunities for agricultural scientists to reestablish the connection with the consumer.