Ecosystem services from farmland: What do farmers think?

NSF-HSD Project: AOC-Ecosystem Services from Low-input Cropping Systems: Incentives to Produce Them & Value of Consuming Them

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Overview

Farmers manage 24-38% of the Earth’s surface and nearly half the continental United States. Agriculture receives and provides ecosystem services. If more diverse ecosystem services are to be generated, then farmers as managers must be willing and able to do so.

Scientists at the Long-term Ecological Research project in agricultural ecology (KBS-LTER) have identified a low-input rotation of corn, soybean and wheat that offers good crop yields and environmental benefits including improved water quality, soil quality, climate stability and beneficial insect populations. Why this low-input crop rotation is not widely adopted by farmers is one of the questions being addressed by this NSF-HSD project.

Methods and Data

The study conducted structured and semi-structured focus group interviews with farmers to explore their views about low-input cropping practices in corn and soybean.

Six focus groups were conducted with Michigan corn and soybean farmers in February and March, 2007.

• 3 focus groups in south-central
• 3 focus groups in central Michigan

Participating farmers compensated $50.

• 39 participating farmers, all male
• 3 out of 39 farmers were organic farmers

Findings

Adoption of low-input practices: In the focus groups, farmers were given short questionnaires about their farms and their current practices and attitudes toward the adoption of specific low-input practices. The practices were then discussed by the group. For each practice, the percentage of farmers that had already adopted, or indicated that it would be easy to adopt the practice is plotted in Figure 2.

Attitudes toward environmental benefits: In the focus groups, farmers also discussed environmental benefits. A 2nd short questionnaire asked farmers to consider some environmental benefits from agriculture and to separately rate the importance of the benefit “to me” and “to society.”

Figure 3 plots the mean difference in farmers’ ratings of various environmental benefits for their perceived importance “to society” minus their perceived importance “to me”.

Items with diffuse benefits “off-farm” are viewed as more important to society than to farmers (e.g., reduced global warming), and items with benefits more directly accruing “on-farm” are viewed as more important to farmers than to society (e.g., soil organic matter).

Agreement on environmental benefits? Farmers were presented with four farming systems that ranged from using a few to several of the low-input practices. Farmers were provided expert views on the level of environmental benefits for each system. Farmers were then asked to make their own ratings of the environmental benefits. Figure 4 shows that the farmers disagreed with the expert ratings on several accounts. For items below the y-axis, farmers viewed the environmental benefits to be less than that indicated by the experts (e.g., N leaching and global warming).

Summary

• Focus group farmers care about environmental stewardship, but put their own livelihoods first.
• Farmers were open to basing input decisions on information on crop needs – pest scouting & soil testing were widely acceptable. Many felt it imprudent to reduce fertilizers or pesticides below levels recommended by university extension.
• The farmers felt little incentive to act on global warming concerns. They saw climate change as more important to society than to themselves. They also doubted that changing their cropping practices would make much difference.

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