

Existing ag. policies affecting sustainability

The University of Guelph's new institute for Agricultural Policy held a conference on May 31 st to address the policy effects of sustainable agriculture on the future of the Canadian agri-food system. As sustainable agriculture is in its infancy, most presenters skirted the theme of the conference and spoke instead on the effect of current policies and practices on the future sustainability of agriculture.

This was an important feature of the conference, for although much was made of the current economic and environmental malaise in agriculture, few solutions were provided to overcome it. Nevertheless, the speakers had diverse perspectives which provided some insight into what impedes the development of sustainable agriculture.

Soil erosion

Much of the day was devoted to the effects of soil erosion, both on and off the farm. Karen Switzer-House, Executive Secretary of Soil Conservation Canada, described soil erosion as a pervasive problem affecting all regions of the globe. She estimated that 26 billion tonnes of soil are eroded annually throughout the world, an alarming rate for something that is so crucial to our economic well being. Soil erosion is affecting yields and driving expansion on to marginal lands, a cycle that disables our long term potential to, food production.

According to Switzer-House, irrigation greatly boosted global production in the past, thereby helping to ensure food security. With increased dependence on irrigation, though, has come salinization and depleted water sources. What will replace those soils that are now saline or those that have eroded away?

Switzer-House finds fault with existing agricultural policies as there are no long-term programs to address salinization, erosion, and deforestation, making it very difficult to predict the future. Consequently, the future of food security is in jeopardy. Most of the world's prime agricultural land is in low lying areas and if global warming is a reality, a one meter rise in the world's oceans could submerge one third of the globe's arable land.

The days speakers all addressed

the major problems associated with conventional agriculture and most noted that much remains to be done to develop a more sustainable agriculture. Solutions, though, are not always forthcoming.

Dr. Katherine Reichelderfer, Senior Fellow with the Washington based Resources For the Future, described how movement toward sustainability originates with a close evaluation of existing agricultural policies. Dr. Reichelderfer characterized American farm programs as obscure and complicated. In an effort to supply sufficient food and fibre to domestic and international markets and to assist farmers economically, the agricultural administration has ignored environmental sustainability.

Degrading practices

The distorting effects of most farm support programs have encouraged farmers to adopt or maintain environmentally degrading practices. Poorly designed commodity price support programs provide an economic incentive for participating farmers to increase fertilizer and pesticide inputs. In the United States, the most highly subsidized crops are the most erosive and are produced with the highest inputs. These subsidies provide no incentive to practice conservation farming. Farmers who have developed efficient crop rotations of three or more years are in some cases penalized as they are unable to plant the required percentage of their base acreage to subsidized crops.

An essential step towards an efficient and comprehensive agricultural policy is a critical assessment of past and present policies. The new Farm Bill for 1990 is currently being drafted and Dr. Reichelderfer believes it should reflect a more enlightened policy perspective.

The term sustainable agriculture is still young but has attracted the attention of the entire industry. No one wants to be left out, however, input intensive, conventional agriculture does not fit the criteria.

Nevertheless, the adherents of sustainable agriculture must still justify the necessity for change. Agriculture needs some rethinking, but proof that this is so is still being demanded.

Four concerns

Dr. Murray Miller, Director of the University's Soil and Water Conservation Centre, spoke of four areas of concern: soil erosion, soil structure degradation, phosphorus in surface water and nitrate contamination of groundwater. All four are relevant concerns, both on and off the farm.

On slightly or moderately eroded soils, yields can decrease 20%, while on severely eroded soils production can decline 60%. Research he conducted in Waterloo County revealed 80% of all cropland to be moderately to severely eroded, accounting for a 4% loss in productivity.

Provincially, Dr. Miller expects yields have declined 3-5% due to erosion. Similarly, Dr. Miller counts soil structure degradation to be as serious a problem as soil erosion.

Unfortunately, well documented information is limited as suitable measurement methods are in short supply.

The case for phosphorus reduction was heavily promoted by the International Joint Commission some years ago when it determined that phosphorus loading into surface water was the Great Lakes' biggest problem. Lake Erie is the major focus of remedial programs and run off from agriculture accounts for 30% of the phosphorus flowing into that lake.

Nitrate contamination of groundwater is a more recent discovery and has not yet received the attention accorded phosphorus. To date no comprehensive monitoring program has been developed for Ontario, but isolated tests have shown some areas to be well above the maximum permissible limit of 10 ug/ L. Regions of sandy soils supporting corn, potato, and livestock production are of prime concern.

Environmental recommendation Dr. Miller suggests that fertilizer recommendations should not be solely based on existing economic parameters. Instead, recommendations must also reflect the environmental soundness of specific management practices. He provided the example of concentrated livestock operations that apply excessive manure at improper times. Dr. Miller suggests that maximum nitrogen rates be based on the potential groundwater impacts.

Economists Dr. Glen Fox of the University of Guelph and Dr. S. Taft of the University of Minnesota together presented a different view on the issues of sustainability in agriculture. While they recognized that the off-site effects, or external costs of soil erosion were sizeable, the effects on production did not, as yet, warrant a shift in production practices. According to them conservation farming is currently not an attractive management decision as the costs associated with soil erosion, although great, are external to the farm and the farmer has little economic incentive to worry about them.

Farmers have expressed interest in conservation farming techniques such as cover crops, crop rotations, and conservation tillage but adoption rates have been low. Dr.'s Fox and Taft indicated that yield losses are not high enough to induce farmers to adopt alternative strategies.

Earlier in the day Dr. Reichelderfer described how policy barriers could prevent farmers from adopting sustainable farming practices. Perhaps government policy and other factors are more involved in farming decisions than we may recognize

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