

WESTERN MINIMUM TILLAGE COMMITTEE - L. Gutek

Background

As a result of the minimum tillage workshop held in Saskatoon in early 1978, one of the recommendations from the session included a statement on the need for establishing an advisory committee to make recommendations on research requirements in tillage. The Committee would also act to coordinate tillage research in Western Canada.

Dr. A. Guitard, Director General, Western Region, was asked to form the Committee which would have representatives from the three prairie provinces. As a result, a small committee was formed with provincial representatives from Universities, Provincial Governments and Agriculture Canada.

Activities

The Western Minimum Tillage Committee held its first meeting on January 30, 1979 at Saskatoon. A second meeting was held on July 10, 1979 at Winnipeg. Dr. W. Pelton, Director, Agriculture Canada Research Station, Swift Current was appointed Chairman and L. Gutek was appointed Secretary. Each of the three Provincial Departments of Agriculture have members on the Committee. Other members on the Committee include a provincial representative from the University and Agriculture Canada. Farmers are also represented on the Committee.

The following terms of reference were developed for the Committee:

- 1) To know what is being done in minimum tillage in Canada and the United States.
- 2) To coordinate the activities in minimum tillage among the various institutions represented on the Committee.
- 3) To make recommendations for new research.
- 4) To make recommendations for the application of minimum tillage technology to producers through various extension mechanisms.
- 5) To assist in reviewing proposals for contract research.

The Committee makes its recommendations to Dr. A. Guitard, Director General, Western Region and to Universities and Provinces. In addition recommendations from the Committee could go to the provincial advisory committees.

Appointments to the Committee have been made by the Deans of Agriculture and Deputy Ministers. Terms of reference and membership will be reviewed after 2 years. The Committee usually meets twice a year - once for a winter planning meeting and a summer meeting for a combined field day-symposium updating session.

After its first two meetings the Committee has prepared and forwarded a list of eight recommendations to Dr. A. Guitard, Director General, Western Region.

Recommendations

- 1) That each province be responsible for the preparation of an extension information kit.

- 2) That R. Zentner be encouraged to update the crop stimulation model to accommodate additional data including fertilizer inputs as part of his research for his Ph.D. thesis at Minnesota.
- 3) Agriculture Canada increase support relative to the development of control measures for volunteer crops.  
The control of volunteer crops in zero till fields is probably the most serious weed control problem at present. Only limited research is being done at the University of Manitoba, the Crop Development Centre and Lacombe Research Station on this problem and a more concentrated effort is needed particularly to control volunteer flax in cereals and volunteer barley in oilseed crops.
- 4) Agriculture Canada increase support relative to the development of effective marking systems to be used for stubble spraying.  
Present disc, foam and dye markers are not suitable because marks do not remain visible for a long enough period on stubble fields.
- 5) To continue to support the development of effective straw and chaff spreading equipment for combines.  
A Swift Current/University of Saskatchewan contract has terminated with the successful development of a straw chopper. No other contracts of this nature are active.
- 6) To assist in the development of a drill that will provide adequate penetration and suitable seed placement with a minimum of soil disturbance when seeding directly into high residue stubble fields.  
Although considerable research is now underway to improve zero-till drills, little effective progress is being made. The type of opener is the critical problem and neither disc nor hoe type openers appear to have sufficient potential to resolve the problem.
- 7) Support increased research on the evaluation of soil physical properties as affected by zero tillage.  
Soil temperature, moisture and aeration are the critical problems, particularly in areas where uniform and persistent snow cover is not assured.
- 8) Support research on fertilizer placement and uptake, volatilization, denitrification and leaching in conjunction with various zero-tillage practices presently being conducted.  
Only limited research on fertility problems with zero tillage are now underway.

A winter meeting of the Committee will not be held this year. The next meeting is scheduled for the last part of June at Agriculture Canada Research Station, Lethbridge.