THE ONTARIO CORN COMMITTEE is made up of representatives of Agriculture and Agri-Food Canada, the Ontario Ministry of Agriculture Food and Rural Affairs, the University of Guelph, the Ontario Soil and Crop Improvement Association, the Ontario Corn Producers' Association, the Seed Corn Growers of Ontario and the Canadian Seed Trade Association. Tests are conducted each year by the following cooperating agencies: University of Guelph, Ridgetown Campus; Department of Plant Agriculture, University of Guelph; University of Guelph, Kemptville Campus; and Agriculture and Agri-Food Canada, Ottawa.

TESTING METHODS

Hybrids entered in The Hybrid Corn Performance Trials are selected by the seed companies. A testing fee is charged per hybrid per replication. A hybrid must be entered in all trials within a Table. Hybrids are replicated within a suitable experimental design at each location. Trials were machine-planted with excess seed , then thinned to 30,000 plants/acre at an early developmental stage. Rows were 30" wide in all trials. Virtually all hybrids entered in the 2006-2007 Performance Trials were treated with Poncho 250 for protection against some soil insects; some hybrids that were not treated were not identified in this Report. There was no significant damage from soil insects at any location. Immediately before harvest, counts were made of plants broken below the ear, and of plants where the ear was leaning into the adjacent row, or otherwise unharvestable; this determined the percentage of broken stalks. The reported moisture contents were determined at harvest. Grain yields were determined from the weight of grain harvested from each plot, and adjusted to 15% moisture. Test weights were determined either during harvest, using monitoring equipment, or in the laboratory using procedures recommended by the Canada Grain Commission. Fertilizer rates may be higher than those recommended by OMAFRA to minimize any effect of soil fertility variability across the plots.

INTERPRETATION OF RESULTS

Within each table, hybrids are identified by brand and/or hybrid number or name. Hybrids are listed in approximate order of maturity based on heat unit ratings provided by the companies. Hybrid selection should be based on the most data available. Greater emphasis should be put on averages from several locations and years because these provide a more accurate prediction of future performance than do results from a single location or year.

Yield - The yield data for Bt and non-Bt hybrids are presented in separate columns in the data tables to assist growers in selecting hybrids without Bt protection for use in refugia or areas with low corn borer pressure. Yield indices for all hybrids are based on the average yield for the whole trial (or trials), (i.e. including both Bt and non-Bt hybrids). This facilitates direct comparisons between Bt and non-Bt hybrids in adjacent columns.

% Lodging - "Lodged Plants" includes plants with stalks that are broken below the ear and plants which are leaning such that the ear is in the adjacent row or otherwise unharvestable. Because all hybrids in a trial are harvested on the same date, the early hybrids within each table tend to show a greater amount of stalk breakage than do later hybrids. Stalk strength should be compared only with hybrids of the same maturity.

Index - The index in the tables indicates a percent of the average of all hybrids included in the trial(s). Indices above 100 reflect the percentage a hybrid is above the average, whereas indices below 100 show the percent below average. Small differences in index are not significant. When a hybrid consistently has a higher index over two years, this difference is probably real and should be considered when choosing a hybrid. The average yield for each table is given in bushels per acre. You can calculate the actual yield for a hybrid by multiplying the average yield times its yield index and dividing by 100. The average test weight is given in kg/hL (kilograms per hectoliter). You can calculate the actual test weight of a hybrid by multiplying the average test weight times its test weight index and dividing by 100.

LSD (0.10) - The LSD is a measure of variability within the trial. When the difference between two or more hybrids is greater than the LSD, then there is a 90% chance that the hybrids are different. Likewise, when yield indices differ by an amount less than or equal to the LSD, then these hybrids should be considered equal.

European Corn Borer Pressure - Four rows each of two adapted non-Bt hybrids were planted adjacent to each Performance Trial. Ten plants were selected from each hybrid for evaluation during the week of September 18th. The entire stalk of each plant was split and the length of corn borer tunnelling was measured. The rating for corn borer pressure was determined using the average total tunnel length per plant (cm.) using the following scale:

None (N) - under 0.5 cm Low (L) - 0.6 to 4.9 cm Moderate (M) - 5.0 to 14.9 cm High (H) - over 15 cm

Managing Bt Corn - When using Bt corn, it is imperative that a refuge area of non-Bt corn be planted near the Bt corn to reduce the risk of developing insect resistance to Bt. This refuge should be equivalent in area to at least 20% of the area planted to Bt corn. Sufficient refuge can be achieved by planting strips of non-Bt at least 6 rows wide throughout the field, or by planting a block of non-Bt corn adjacent to Bt. The refuge area must be within 400 m of the Bt corn. The yield data for Bt and non-Bt hybrids are presented in separate columns in the data tables to assist growers in selecting non-Bt hybrids for refugia, or for areas with low corn borer pressure.