The daily admissible dose for a pesticide has a built–in safety factor that allows for the kind of toxicological effects observed in the animal species tested. The daily admissible dose represents that quantity of pesticide that may be ingested daily during a lifetime, without harmful effects. This figure is used to determine the safety and appropriateness of the suggested maximum limits.

The use of pesticides in Canada is based on the principle that the quantity of pesticide applied to a food crop should be the minimum that is required for effective control. Maximum limits are established after analysing the data on residue obtained through tests in real conditions based on the worst case estimate of intake in other words, one tries to obtain the strongest concentrations that could be expected under typical conditions of use. The maximum residue limit represents the maximum quantity of a given pesticide that may legally be found on a given food product. These limits are usually established using a whole, unprocessed agricultural product at the time of harvest, which may be seen as an additional safety margin. Since the concentration of many residues decreases during storage and transportation, and of course when the food is washed, ground and cooked, the residues in many cases fall well below the maximum acceptable limit and frequently are not detectable.

To enforce the food and drug regulations, the Health Protection Branch continually monitors Canadian and imported food. This surveillance shows that generally food contains pesticide residues in concentrations well below the maximum thresholds. In the rare cases where violations are found, they are mainly due to the use of a pesticide on a crop not being registered in Canada, although in some cases, higher upper limits had been authorized for the same pesticide on other food products. When violations are brought to light, appropriate measures are taken, including recall of the food product, Mr. Speaker.

The statement that actual pesticide residues are well within the statutory limits is also based on the preliminary results of the most recent comprehensive diet study conducted between 1985 and 1988 by the Department of National Health and Welfare. This study makes it possible to estimate the proportion of chemicals in humans from an analysis of these substances in composite samples of representative foods in the average total food intake of the population. The samples analysed are obtained in the marketplace and prepared for use just as in an average home kitchen.

• (1730)

Preliminary results confirm previous findings that any pesticide residues are in concentrations well below the statutory limits and that for the most part, they represent only a small fraction of the allowable daily dose calculated by the Health Protection Branch.

Mr. Speaker, no pesticide can be considered absolutely safe, but it is important that this danger be linked to exposure.

As was mentioned before, the mere detection of a small dose of such a substance in food does not mean that this substance is necessarily dangerous. Indeed, some common garden vegetables naturally contain substances that produce significant toxic effects in laboratory animals when administered in high doses.

In some cases, the concentrations of these vegetable substances is higher than those reported for synthetic pesticides or food additives. In any event, no data lead us to believe that eating such food as part of a well–balanced diet can endanger consumers' health.

Before beginning research on the cumulative interactions and potential combined effects of these residues in low concentrations with other substances in food, we should first consider Canada's safety record over the last 20 years. No death or illness due to pesticide residues in legal amounts has been recorded. Indeed, the only proven death resulting from the consumption of a pesticide residue in food that was recorded in Canada was due to the illegal use of a very highly toxic pesticide on cucumbers.

In summary, Mr. Speaker, since the recorded concentrations of pesticide residues in Canadian food supplies are very low and Canada's food safety record with respect to these substances is excellent, doing research into the cumulative or combined effects of pesticides with other substances such as additives in Canadian food products does not seem *a priori* to be a priority for now or likely to become one.

[*English*]

Mr. Patrick Boyer (Parliamentary Secretary to Secretary of State for External Affairs): Mr. Speaker, the Hon. Member for Saskatoon—Clark's Crossing has in a very thoughtful speech put before us this afternoon this question of what happens when food additives and pesticides that are about us everywhere and in the food