

3. Development of a blueprint for comprehensive surveys of wastes.

4. Assessment of legislative and enforcement problems, and the development of solutions.

5. Assessment of factors of solid waste disposal with particular reference to town planning, land utilization and management aspects.

6. Feasibility studies and assessment of factors related to (a) levy of a disposal fee on the sale of non-degradable and non-combustible containers and packaging materials, (b) establishment of a solid waste monitoring system, and (c) establishment of a system for the reclamation or salvaging of wastes of economic value.

7. Development of national guidelines for solid waste management in Canada.

The second general heading is Disposal Methods. Here again, we are certainly in need of further information, including:

1. Feasibility studies on pipeline transport of solid wastes, including solid wastes from water and sewage treatment plants.

2. Studies on composing of degradable wastes with special reference to fertilizer value.

3. Studies on methods of incineration of combustible, pathological, and radioactive wastes with a view to achieving their neutralization without at the same time creating an even more serious risk for the future.

4. Methods of sampling and analysis of solid wastes, particularly from urban areas.

5. Methods for collection, treatment and disposal of animal wastes including feed lots and livestock farms. Recent publications have indicated the serious damage to water courses and to underground water reservoirs by effluence from modern feed lot operations.

6. Methods for composting agricultural, vegetative refuse.

7. Methods for the disposal of solid organic wastes and determination of bio-degradability, with particular reference to wastes containing biocides.

8. Studies on sanitary land fill under varied conditions of location, construction, operation and post-operative utilization of land.

9. Studies on reclamation of non-degradable wastes and associated problems.

10. Research for the development of new kinds of packaging materials and containers.

The heading "Environmental Effects" recommends a number of studies in areas where more information is desired. These include:

1. Studies on microbial hazards of disposal of pathological wastes from hospital and clinical laboratories.

2. Studies on micro-organisms active in refuse decomposition.

3. Studies on factors affecting oxidative conditions of buried wastes such as moisture, temperature, nitrogen, phosphorus, minerals, etc.

Pollution Research

4. Studies on gas production and composition of gases from buried wastes.

5. Studies on composition of wastewater drainage from land-fill areas, and its significance in relation to water pollution at the surface as well as underground.

6. Disease transmission, and nuisance aspects of garbage disposal practices.

7. Studies on volatile constituents of refuse.

8. Studies on beneficial and detrimental effects of organic decomposition with special reference to soil and water quality.

9. Fate of biocides in composted agricultural wastes.

10. Chemical cycles and ecology of solid waste composting.

11. The impact of solid waste disposal on the total environment of man—studies on interrelationships of individual effects.

I trust that this lengthy litany of detailed items will satisfy the hon. member that the department has a broad, comprehensive interest in the question he has raised.

The hon. member mentioned that research programs being carried out in the United States were ahead of anything we have in Canada. It is my view that one of Canada's shortcomings in terms of the economy and its resources has been a reluctance to utilize the results of research done elsewhere.

• (5:30 p.m.)

There is an insistence by many Canadians that we must do basic research here which is, in fact, a duplication of efforts being exerted elsewhere. I would be most reluctant to see the government launch a research program nearly as comprehensive as the one indicated as being necessary, without having full knowledge of what is being done in other countries and of the savings we could make for our own taxpayers by using the research of others rather than undertaking our own.

At the same time, we do have very extensive areas which it is desirable we should pursue. It is quite possible that some of these areas are not being satisfactorily or adequately pursued in other countries. Then, certainly, Canada would have something to offer not only itself but the world through pursuing these areas. I do not think for a moment we should attempt—

Mr. Alexander: Would the hon. member permit a question?

The Acting Speaker (Mr. Laniel): Is the hon. member for Hamilton West (Mr. Alexander) rising to ask a question?

Mr. Alexander: Yes, Mr. Speaker. I am wondering whether I am right in assuming that the hon. Parliamentary Secretary has indicated that we must wait until the United States completes its research and develops the necessary solutions before we move into the same type of programs initiated there?