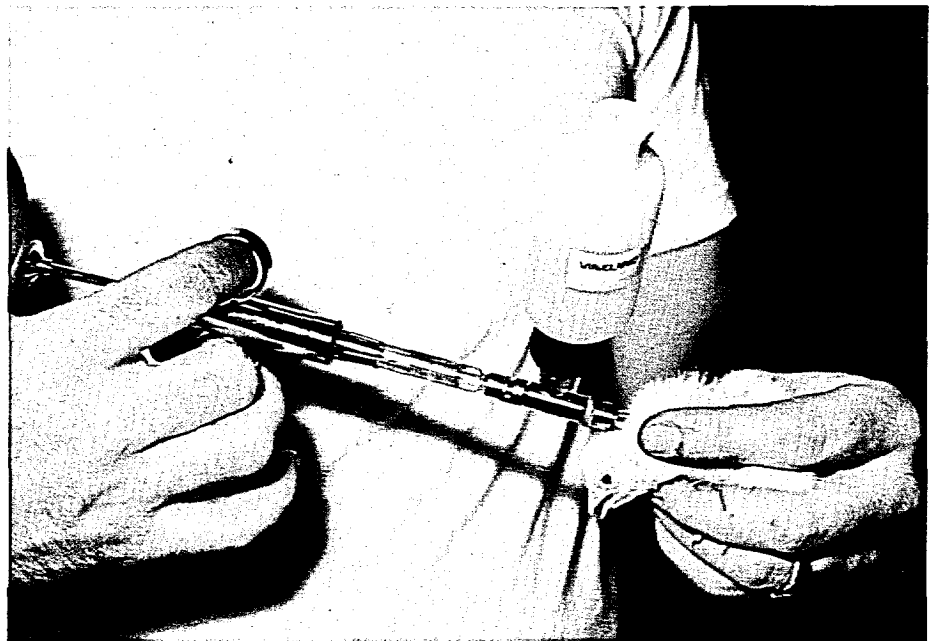


Advances are also being made in diagnostic technologies based on DNA probes. These will be particularly useful for diagnosis of viral infections, especially exotic or highly infectious viruses which require high security laboratory conditions. DNA probes are under development for exotic viruses such as bluetongue and pseudorabies, indigenous viruses (e.g. paroviruses) and bovine viruses which may be transmitted by embryo transfer techniques.

New technologies for preparation of improved antigens for diagnosis of diseases, including brucellosis, leukosis and paratuberculosis, are being developed by scientists at Agriculture Canada, the National Research Council and Institut Armand Frappier (Montréal, Québec) and other institutions across Canada.

Disease Prevention

The use of genetically-engineered bovine interferon for prevention and control of respiratory disease in cattle is currently undergoing trials at the Veterinary Infectious Disease Organization, VIDO, (Saskatoon, Saskatchewan). Work



is also underway on the use of MCABs for prevention of calf scours.

Promising new genetically engineered viral vaccines include the vaccinia-based live recombinant rabies vaccine currently under evaluation in a cooperative project involving Agriculture Canada scientists, the Ontario government,

the Wistar Institute (U.S.A.) and the Institut Merieux (France). Vaccines to protect calves from scours caused by rota and corona viruses are being tested at VIDO, supported by the university-industry programme of the Natural Sciences and Engineering Research Council. Recombinant DNA techniques are also being used to develop live attenuated bacterial vaccines, including one for bovine salmonellosis.

Replacing cumbersome, expensive and sometimes hazardous technologies, these products will have very large international markets and will improve the ability to detect, diagnose and control infectious disease problems.

The level of interest in the animal health care sector in Canada is ever-increasing and Canadian scientists look forward to sharing their accomplishments in this area with agricultural markets throughout the world. ■

