Output Class 10: Fisheries

a Identification and description of the relevant biological parameters of aquatic species having newly identified potential for commercial exploitation.

b Evaluation of the interaction between fish stocks, other species and biological and physical/chemical environments.

c Evaluation and prediction of the impacts of human activity on aquatic habitats and communities of commercial significance, including the effects of introducing exotic and genetically modified species.

d Evaluation and development of improved systems and processes for the aquaculture of species not yet under commercial cultivation.

e Enhancement of the natural populations of harvested species through aquaculture and reseeding, including the use of biotechnology, genetic manipulation and selective breeding.

f Identification and control of toxic aquatic organisms, diseases and parasites of commercial species, including the decontamination of harvested fish and shellfish.

Note: These themes refer only to the public good science fund component of Fisheries research. Significant amounts of operational research on the description and management of known marine species of commercial significance is carried out by MAF Fisheries, in support of the Quota Management System.

Output Class 11: Meat, Meat Processing and Products

a The functional properties of meat and meat components, their interactions and performance as food and non-food ingredients for industrial and consumer use.

b Seafood storage, handling, transport and processing that enhance fish species and products specific to New Zealand.

c Meat and fish products in human health and nutrition, including therapeutic foods and food safety.

d Strategic research to improve processing technologies for enhancing product quality and productivity to improve the viability of the meat industry.

e The development of technologies to improve the efficiency and cost of storage, refrigeration and transport systems, emphasising energy efficiency.

f By-product utilisation and waste recovery from meat and fish processing that enhances New Zealand's overseas earnings and develops sustainable waste management practices.

Output Class 12: Dairy Processing, Storage Techniques and Products

a Strategic research into advanced processing technologies for modifying, processing, extracting and refining the components of milk.

b The properties of, and factors that influence, dairy product and component composition and characteristics and their interaction in food systems; including flavour, functionality, colour and texture and other factors desired by consumers.

c Human health and food safety aspects of dairy products; emphasising milkfat nutrition, the therapeutic and prophylactic uses of dairy products and milk components.

d Strategic research into the development of new analytical techniques for quantifying the functional, nutritional and therapeutic properties and components of dairy products.

e By-product utilisation and waste recovery from dairy processing that enhances New Zealand's overseas earnings and develops sustainable waste management practices.

Output Class 13: Fruit, Crops and other Food and Beverage Processing and Products

a Post-harvest factors and their manipulation influencing ripening, senescence and quality of fresh fruit and vegetables in storage and under transportation.

b Post-harvest disinfestation systems that are of quarantine importance for crops, horticultural and food exports and enhance the image of New Zealand products.

c Underutilised raw material and waste utilisation that enhances New Zealand's overseas earnings and develops sustainable waste management practices.

d Improved understanding of plant food components and their interaction in food and non-food systems so they may be manipulated to advantage; horticultural and food products in human health and nutrition, including food safety, emphasising export products.

e Strategic research into the adaptation and exploitation of advanced processing technologies (eg flexible computer integrated manufacturing, intelligent processing equipment, systems management technologies) that add value and extend end uses which can be uniquely exploited by the New Zealand food and beverage processing sectors.

Output Class 14: Fibre, Textile and Skin Processing and Products

a Strategic research into the physical and chemical properties of skins and natural fibres to better meet processing and consumer needs.

b The development and application of advanced processing technologies which can be uniquely exploited by the New Zealand fibre, textile and skin sectors to add value and extend end uses.

c The development of process technologies and products that are environmentally friendly and consumer acceptable; emphasising environmental protection, energy conservation, worker and consumer safety and minimum waste production.

d Strategic research into the development of new measurement concepts and standards critical to improved product and process quality, production and marketing.

Output Class 15: Wood and Paper Processing and Products

a Strategic research into the present and future quality and composition of the forest resource to identify likely processing options.

b Strategic research into the development of new and improved solid wood products and processes, for radiata pine, that add value in New Zealand.

c Strategic research into the development of new and improved pulp and paper products and processes, for radiata pine, that add value in New Zealand.

d The development of processing technologies that minimise waste, energy usage and impact on the environment and produce environmentally acceptable products.

e The development of new and improved technologies for higher value products from wood residues.

Output Class 16: Materials, Industrial Processes and Products

a Development of processes for adding value to products from local feedstocks, including waste and minerals (excluding primary processing sector feedstocks).

b New coating and surface treatment technologies to extend the service life of materials, components, plant and structures.