

Innovative Project to Tackle Veterinary Waste

An innovative project for the recycling and responsible disposal of veterinary medicines is underway, involving pharmaceutical manufacturers, recyclers, and the farming community.

Teat sealants, vaccines, antibiotics and drenches are just a handful of the products that result in an array of waste at the end of the veterinary process. The New Zealand animal pharmaceutical industry, rural recycling schemes and associations are tasked with finding a solution following a directive from the government to take responsibility for this waste. The extent and nature of veterinary medicines, as well as the materials used and what they contain, will lead to some head-scratching on how to manage such a diverse array of products in a sustainable way – with a priority towards recycling them and turning them, where possible, into useful new products.

In July 2019, the New Zealand government announced an ambitious goal to determine certain products as ‘priority products’ under the Waste Minimisation Act, including veterinary medicines. As part of the New Zealand Government’s wider plan to reduce the amount of rubbish ending up in landfills or polluting the environment, it declared six priority products for regulated product stewardship under the Act. These product categories involve plastic packaging, tyres, electrical and electronic products (e-waste) and refrigerants, along with agrichemicals and their containers. Veterinary medicines are included in the ‘agrichemical’ product category. As there is no product stewardship scheme in place for these medicines, the industry is tasked with co-designing a scheme.

This is the first time that the New Zealand government has taken such a hard line on product packaging. The directive puts the onus on importers and manufacturers to take responsibility for their products by ensuring that they can be recycled or, at least, safely disposed of. The Act’s associated guidelines direct them to pay for this through a levy for the recovery costs through a not-for-profit product stewardship scheme – whereby a recycling organisation will be tasked with finding the most sustainable solution. Full net costs for stewardship will be proportional to the producer’s market share and ease of reuse or recyclability of their product.

Responsibility is also spread throughout the supply chain – through the distribution, sale and use, to the end-of-life disposal of the products, so all who have a hand in any of these processes wear some of the responsibility. There is no point determining that the manufacturer or importer bears this solely, as someone at the end of the supply chain will need to take action to enable the recycling of the product.

The guidelines also stipulate the free and convenient collection of the priority product for household and business consumers at end of life, including rural populations.

With New Zealand being geographically spread out with some isolated communities, the bar is raised extremely high. Add to this the expectation that legacy and orphaned

products be substantially funded by the scheme, and it will be no mean feat.

Trials to investigate which products can be recycled are already underway, but there are some challenges. There is no similar known scheme in place for these products and there is still much research to be done.

Each product will need to be assessed to determine its hazardous properties and ascertain which have no or limited effects on the environment, so that they can safely be rinsed, handled and transported. Those that can’t be safely managed will need specialist treatment, transportation and handling. Products such as vaccines and antibiotics will bring challenges, especially as they are often applied with needles. The options for recycling these may be limited, as the risk of exposure from some of the residue of the medicine is just too great for the safety of people and the environment.

This innovative project will see the animal health industry increase the recycling of animal health products and packaging. The rural recycling programme, Agrecovery, is taking the lead in driving the project in conjunction with New Zealand animal health manufacturers. When considering the vast array of veterinary medicines available in an agricultural nation like New Zealand, the project’s scope is extensive.

Agrecovery has managed and operated successful voluntary product stewardship schemes for agrichemicals and their containers in New Zealand since 2006. In this time, more than 3000 tonnes of product packaging has been recovered and recycled into new materials, and more than 150 tonnes of unwanted agrichemicals have been collected and safely disposed of. The organisation delivers two product stewardship schemes:

1. The Agrichemical Container Collection Scheme, which receives and recycles agrichemical containers.
2. The Agrichemical Chemical Recovery Scheme, which receives and dispose of unwanted residual agrichemicals.

The rural recycling programme has a long-standing commitment to expanding its focus to include other farm waste and strives to improve the efficiency and delivery of its services.

As the organisation takes on the challenge of veterinary medicines, it has three attributes in its favour. It is already a not-for-profit organisation. Agrichemical manufacturers pay a levy to Agrecovery for the recycling of plastic containers as well as any leftover product. This is what funds the programme. It is also familiar with managing hazardous materials, having procedures in place to manage the health and safety of its contractors and staff when dealing with the chemicals. Thirdly, its operational model already includes the recycling of drench containers for veterinary medicine manufacturers. In total, the drench containers it recycles each year holds a total of 1,766,674 litres of animal product. This is already set to increase, as new product manufacturers have recently signed up to support the scheme. The organisation’s history, expertise, structure and sustainability measures make it the

best-suited organisation for undertaking the recycling of veterinary medicines.

Consistency of product packaging is also a consideration for recyclers. Part of the solution will involve the recycler identifying packaging specifications for manufacturers to ensure the recycling of products without compromising their efficacy and shelf-life. Having a centralised service to collate and specify requirements for this, in collusion with manufacturers, will ensure consistency and allow more product to be recycled.

Considering these factors, the development of the product stewardship scheme will take several years. Now in its first year, the project, being run by Agrecovery, is working through the recycling issues and forming a stakeholder advisory group to formulate a cross-industry approach to them. The veterinary industry is being asked to share commercially-sensitive information about its products and their share in the marketplace. This information needs to be protected, so processes are being established to manage this as part of the scheme development. Alongside understanding the amount and types of product packaging, the scheme is working through understanding the users of it and its channels to market. It is also assessing what is currently being done with the packaging at the end of its life – including mapping existing services, activities, and behaviours. Integral to all of this is identifying existing barriers to effective product stewardship and finding opportunities to remove them. The project is focused on ensuring a strong foundation for a resilient and robust scheme that is fair and minimally disruptive to the industry and product users.

After this scoping is done, a process of prioritising products to recycle will be completed. It makes sense that the products that are easiest to recycle and have the greatest volumes will be the first in line. Determining fair and reasonable criteria for prioritising products to focus on and selecting products for development will follow, including small-scale pilot trials and sharing of trial data as appropriate. Alongside this, identifying potential collection, recycling and/or options for safe disposal need to be investigated.

The next stage of the project will be driven by what is uncovered during the first stage of the project. One thing that is certain is that it will include meeting the requirements of the government's guidelines and delving into the logistics of initiating a new scheme for the veterinary pharmaceutical industry.

Summary of the Regulations

The relevant priority product for veterinary medicines is 'All agrichemicals and their containers up to and including 1000 litres in size or equivalent packaging for dry goods that are used for:

- any horticulture, agricultural and livestock production, including veterinary medicines;
- industrial, utility, infrastructure and recreational pest and weed control;
- forestry;
- household pest and weed control operations; or
- similar activities conducted or contracted by local and central government authorities.

This includes, but is not limited to, all substances that require registration under the Agricultural Compounds and Veterinary Medicines Act 1997, whether current or expired, and their containers (packaging), which are considered hazardous until they have been triple-rinsed.'

Overview of the Guidelines

In July, 2020 the Ministry for the Environment gazetted a finalised 'General Guidelines for Product Stewardship Schemes for Priority Products Notice' which laid out its expectations and requirements for product stewardship schemes.

Circular Resource Use

- Continuous improvement in minimising waste and harm and maximising benefit from the priority product at end of life.
- Increasing end-of-life management of the priority product higher up the waste hierarchy to support transition to a circular economy in New Zealand.
- Investment in initiatives to improve circular resource use, reusability, recyclability, and new markets for the priority product.

Internalised End-of-life Costs

- Full net costs for stewardship of priority products at end of life met by product or producer fees proportional to the producer's market share and ease of reuse or recyclability of their product.
- Free and convenient collection of the priority product for household and business consumers at end of life, including rural populations.
- Collection and management of legacy and orphaned priority products fully or substantially funded by the scheme.

Public Accountability

- Clear information to household and business consumers on how the scheme works, how it is funded, and how to find the nearest collection point.
- Transparent chain of custody for collected and processed materials, to both onshore and to offshore processors, and published mass balances showing rates of reuse / recycling or environmentally sound disposal of the priority products.
- Publicly available annual reports that include measurement of outcomes and achievement of targets, fees collected and disbursed, and net cash reserves held as contingency.

Collaboration

Optimal use of existing and new collection and processing infrastructure and networks, and co-design and integration between product groups.

Governance

The scheme will be managed by a legally registered not-for-profit entity. Annual independent audits will be conducted on scheme performance and included in scheme's annual reports to the Ministry for the Environment. The annual reports must contain the following:

- financial performance and scheme cost-effectiveness;
- environmental performance; and
- agreements with scheme service providers.

Governance arrangements will be established for the initial setup and ongoing development and operation of the scheme that are appropriate to the size and scale of the scheme.

All governance activities will adhere to the Commerce Commission guidelines on collaborative activities between competitors, including but not limited to considering the option of applying for collaborative activity clearance from the Commission for the scheme.

The scheme will be the only accredited scheme for that product, or

- have agreements in place with other scheme managers to enable cooperation and cost-effective materials handling and to prevent confusion for household and business consumers; and
- demonstrate how net community and environmental benefit (including cost-effectiveness and non-monetary impacts) will result from multiple schemes for that priority product.

Directors or governance boards will:

- be appointed through an open and transparent process;
- represent the interests of producers and consumers of the priority product and the wider community as informed by stakeholder advisory groups; and
- follow governance best practice guidelines, for example the Institute of Directors of New Zealand Code of Practice for Directors, including for the identification and management of conflicts of interest.

Scheme Operations

- Services (e.g. collection, sorting, material recovery and disposal) will be procured using transparent, non-discriminatory and competitive processes open to all competent entities whether existing, new entrant or social enterprise.
- Clear, regular and open reporting and communication will be given to scheme participants and stakeholders.
- Processes exist to manage commercially confidential or sensitive information appropriately.
- All people involved in the scheme will have completed suitable training to complete their roles, including in best practice in prevention and reduction of harm to people and the environment.
- Ability to obtain new or existing permits held, for all necessary activities in New Zealand in relation to processing and potential export of priority products or their constituent components.

Targets

All schemes will set and report annually to the Ministry for the Environment on targets that include:

- significant, timely and continuous improvement in scheme performance;
- performance against best practice collection and recycling or treatment rates for the same product type in high-performing jurisdictions;
- a clear time-bound and measurable path to attain best practice;
- implementation phase-in to reflect availability of markets and infrastructure;
- new product and market development to accommodate collected materials; and
- measures for public awareness of scheme participant satisfaction and a record of response by the scheme to concerns raised.

Targets will be reviewed and adjusted no less than every three years from the date of accreditation, accounting for

changes in the market, natural events, and technology. The gazetted guidelines provide timelines for securing accreditation or reaccreditation for priority products:

- within one year from the date of priority product declaration for product categories with existing accredited voluntary schemes that wholly or substantially cover that priority product;
- within one year from the date of priority product declaration or co-design recommendations to the Government, whichever is later, for product categories not substantially covered by voluntary accredited schemes for which a co-design process has commenced; or
- within three years from the date of priority product declaration for all other priority product categories.

This indicates that accreditation must be sought within one year of completing the co-design process, which is not specifically time-limited.



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Jeff Howe commenced with Agcarm in December 2020 as Technical Manager – Animal Health, after twenty years developing international business at Victoria University of Wellington. Before that, he worked for the Foundation for Research, Science and Technology – where he developed research strategies for animal industries and intellectual property policy, and for the then-Ministry of Agriculture and Forestry Policy Group where he worked on the development of the Agricultural Compounds and Veterinary Medicines (ACVM) and Hazardous Substances and New Organisms (HSNO) Acts.

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