



Proposed unit charge rates on livestock germplasm exports

Agriculture and Investment
Services Discussion Paper No:
2019/09

Agriculture & Investment Services

Ministry for Primary Industries
Manatū Ahu Matua

ISBN No: 978-1-99-000890-0 (online).

ISSN No: 2253-3907 (online)

November 2019

Disclaimer

While every effort has been made to ensure the information in this publication is accurate, the Ministry for Primary Industries (MPI) does not accept any responsibility or liability for error of fact, omission, interpretation or opinion that may be present nor for the consequences of any decisions based on this information.

Requests for further copies should be directed to:

Publications Logistics Officer
Ministry for Primary Industries
PO Box 2526
WELLINGTON 6140

Email: brand@mpi.govt.nz
Telephone: 0800 00 83 33
Facsimile: 04-894 0300

This publication is also available on the Ministry for Primary Industries website at:
<http://www.mpi.govt.nz/news-and-resources/publications/>

Cover Photograph: Gordon Saunders.

© Crown Copyright – Ministry for Primary Industries

Contents

Page

| | | |
|-----------|--|-----------|
| 1 | Overview | 1 |
| | Making a Submission | 1 |
| | Official Information Act 1982 | 1 |
| | Goods and Services Tax (GST) | 2 |
| | Next Steps | 2 |
| 2 | Background | 3 |
| 3 | Proposed Options | 6 |
| | Criteria for analysing options | 6 |
| | Option 1: Pooled rate | 6 |
| | Option 2: Individualised category rates (MPI preference) | 7 |
| | Option 3: Partly pooled and partly individualised rates | 7 |
| | Business-level impacts of options | 9 |
| 4 | Discussion | 10 |
| | Summary of option performance against criteria | 10 |
| | What drives these results? | 10 |
| | What impact will this have on businesses that pay these fees and on MPI? | 11 |
| | Impact on MPI | 12 |
| | How and when will the changes take place? | 12 |
| 5 | Questions | 12 |
| 6 | Appendix 1: MPI's Approach to cost recovery | 13 |
| 7 | Appendix 2: Ruminant Germplasm sub-category export volume trends | 15 |
| 8 | Appendix 3: Proportion of time spent maintaining ruminant germplasm OMARs | 16 |
| 9 | Appendix 4: Volumes of OMARs reissued 2017 – 20 | 17 |
| 10 | Appendix 5: Annual export volumes of two 'indicative' exporters | 18 |

1 OVERVIEW

The Animal Products Act 1999 sets the regulatory system for the production and processing of animal products and facilitates their export. In the year ended 30 June 2019, nearly \$29 billion of the over \$46 billion of primary industry exports were animal products, which represents around half of New Zealand's merchandise exports.¹ This includes the export of animal germplasm (semen, embryos and ova).

Between November 2018 and January 2019, MPI consulted publicly on proposed changes to unit charge rates for the export of live animals and animal germplasm. The proposals included an increase in the unit charge for exports of ruminant (cattle, sheep, goats, deer) germplasm from six cents per unit (up to a maximum of \$2,400 per consignment) to seventeen cents per unit (up to \$6,800 per consignment).

We received two submissions on the proposed new unit charge rates. These opposed the increase for bovine (cattle) semen on the basis that it is already over recovered by roughly double and is subsidising other categories, which the submitters considered inequitable. In response, we investigated these issues and left ruminant germplasm unit charge rates unchanged.

We have confirmed there is cross subsidisation between bovine semen and other ruminant germplasm types. This discussion paper takes that into account and proposes four rate options for unit charges on the export of ruminant germplasm.

MAKING A SUBMISSION

We welcome submissions on the options contained in this document. All submissions must be received no later than **5pm on 16 December 2019**.

You can return your submission to:

Email: costrecovery@mpi.govt.nz
Mail: Cost Recovery Directorate
Ministry for Primary Industries
PO Box 2526
Wellington 6140

We encourage you to make your submission using the template available on the MPI website at www.mpi.govt.nz/consultations. Please include the following information:

- the title of this discussion document
- your name and title
- your organisation's name (if you are submitting on behalf of an organisation) and whether your submission represents the whole organisation or a section of it
- your contact details (such as phone number, address and/or email).

Providing a submission is optional and not a legal requirement.

OFFICIAL INFORMATION ACT 1982

Submissions are official information and may be the subject of requests for information under the Official Information Act 1982 (OIA). The OIA specifies that information is to be available to requesters unless there is a good reason for withholding it.

¹ Year ended 30 June 2019, based on MPI (2019) *Situation and Outlook for the Primary Industries* and merchandise export data from Statistics New Zealand.

Submitters may wish to indicate grounds for withholding specific information in their submissions, such as where they consider information is commercially sensitive or they wish personal information be withheld. We will consider these requests in accordance with the provisions of the OIA.

Should we decide to withhold information on request, any such decision is reviewable by the Ombudsman.

GOODS AND SERVICES TAX (GST)

The unit charge rate options discussed in this document are GST exclusive. This ensures that regulated charges will continue to be valid in the event of any change to GST rates.

NEXT STEPS

All submissions received within the timeframe will be considered and used to inform final policy decisions in relation to these proposals. We aim to implement policy decisions from 1 July 2020.

We will undertake stakeholder engagement during the consultation period. If you would like to meet with us to discuss the contents of this document, or other matters related to cost recovery, please contact us by emailing costrecovery@mpi.govt.nz.

2 BACKGROUND

Cost recovery at MPI

Cost recovery plays a significant role in ensuring that services critical to protecting New Zealand’s food safety, biodiversity and the \$46.4 billion (2018/19) primary industry exports annually are sufficiently funded. In 2018/19 approximately 30% (\$220 million) of MPI’s departmental funding was from cost recovery through more than 300 fees and levies authorised under ten different Acts.

Cost recovery settings are reviewed annually to ensure they are fair and effective. A number of fees were updated from July 2019 in the food system only. The 2019 updates included both increases and decreases, which were cost neutral overall.

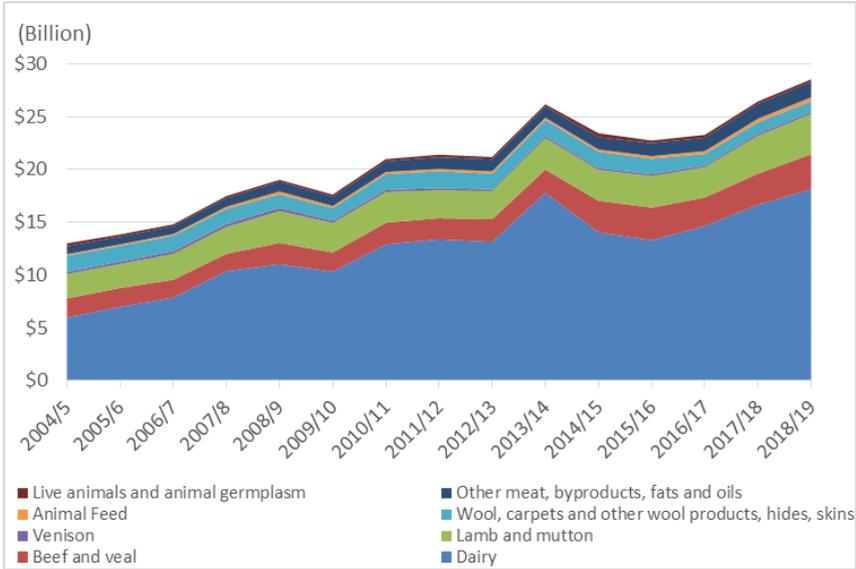
The scope and diversity of services MPI provides across different sectors means that it is not practical to adopt a ‘one-size-fits-all’ approach to cost recovery settings. Instead, we take a principles-based approach, as described in MPI’s cost recovery policy guidance.² Further information about MPI’s approach to cost recovery, and the authority to recover for the costs under the Animal Products Act 1999, are set out in Appendix 1.

The genetic Improvement of livestock is a major industry in New Zealand

Products derived from pastoral farming of ruminant livestock include milk, meat, wool, hides and skins. They collectively accounted for around \$29 billion of New Zealand’s exports in 2018 or around 50% of total merchandise exports.

Genetic improvement is an important contributor to increasing the productivity of pastoral farming. This is reflected in significant investments in research and breeder tools by each of the relevant peak industry bodies,³ as well as by government agencies.⁴

Figure 1: New Zealand’s exports of pastoral farming-related products by value



² <https://www.mpi.govt.nz/dmsdocument/30855-ministry-for-primary-industries-cost-recovery-policy-guidance>.

³ These include DairyNZ (through its subsidiary New Zealand Animal Evaluation Limited), Beef+Lamb New Zealand (through subsidiaries B+LNZ Genetics and Sheep Improvement Limited (SIL)) and Deer New Zealand (for instance, by developing and maintaining Deer Select, New Zealand’s deer recording database).

⁴ This includes partnership funding, such as by the Ministry for Business, Industry and Employment (MBIE) for initiatives such as “AI on hooves: Multiplying elite sheep genetics by germline complementation” with AgResearch Limited, and with B+LNZ Genetics on the Genetic Single Step genetic evaluation system and by MPI in the *Happy Cows – Healthy Milk* Primary Growth Partnership Programme with DairyNZ and the Livestock Improvement Corporation.

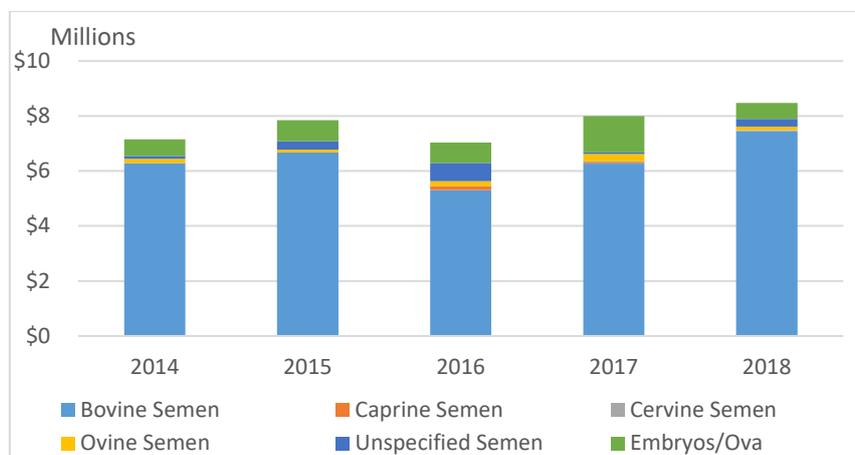
In the domestic dairy sector there are around six million artificial inseminations (AIs) of cattle for production purposes each year, and a substantial proportion of herds are bred using AI. Just one year using AI can offer economic benefits in the low tens of thousands of dollars (net of costs) for a typical dairy farm over a ten-year period, when compared to use of a service bull.⁵

While volumes are lower for other types of ruminant livestock, domestic artificial breeding is also relied on heavily and can offer economic benefits.

Ruminant germplasm exports can be a profitable side market for breeders and are dominated by exports of bovine semen

Exports of ruminant germplasm are relatively small but provide a second income source for some breeders. Exports were valued at around \$8.5 million in 2018, dominated by bovine semen exports of \$7.5 million (nearly 90%). In 2018 over 1.5 million units of bovine semen were exported, compared with only around 12,000 from all other ruminant germplasm types combined (see Appendix 2 for further data on export volumes).

Figure 2: New Zealand's ruminant germplasm exports by value



What services are being funded?

Exporters of live animals and germplasm under the Animal Products Act 1999 (APA) must obtain an Official Assurance from MPI as a prerequisite for exporting to most countries. The requirements of these Official Assurances are set by agreement with the importing country and require constant review and maintenance, including the following services:

- Market access maintenance, involves maintaining access to existing overseas markets by renegotiating market access conditions and specifications as overseas authorities' requirements change and clarifying overseas market access requirements.
- Export standards and systems, which involves implementing, monitoring and reviewing export standards and systems.

These services are club goods, as the benefits are excludable (only those who export live animals or germplasm benefit) and non-rival (the ability of one person to export does not affect the ability of others).⁶ Consistent with MPI policy, the costs of providing these services are cost recovered through

⁵ See, for instance, DairyNZ (2015), *Stopping AI - it's not worth it advises DairyNZ*, <https://www.dairynz.co.nz/news/latest-news/stopping-ai-its-not-worth-it-advises-dairynz/> retrieved 29 August 2019.

⁶ For further discussion of these concepts see MPI (2018), *Ministry for Primary Industries Cost Recovery Policy Guidance (MPI Information Paper No: 2018/08)*, available at <https://www.mpi.govt.nz/dmsdocument/30855-ministry-for-primary-industries-cost-recovery-policy-guidance>.

a per unit charge on exports of these items under the Animal Products (Fees, Charges, and Levies) Regulations 2007.⁷

What's the problem and why?

Unit charge rates are designed to ensure that charges reflect actual costs and that these are fairly and equitably spread between exporters. They are based on estimates of total service costs, which are apportioned to different export categories based on the estimated share of staff time spent on each, and divided by expected export volumes to produce the rate for each category. Since rates were set in 2015, total costs, time allocation and export volumes have changed. This makes the rates outdated and results in costs not being fully recovered.

To address this, MPI consulted on new unit charge rates between November 2018 and January 2019. The Government agreed to these new rates and they came into force on 1 July 2019. The exception to this was the rate for ruminant germplasm (semen, embryos and ova of cattle, sheep, goats and deer), which had been proposed to increase from six to seventeen cents per unit (or for semen types, from a maximum of \$2,400 per consignment to \$6,800 per consignment).

Based on expected export volumes, this proposed new rate was forecast to increase ruminant germplasm cost recovery by around \$156,000 per annum (from \$82,000 to \$239,000), reflecting forecast annual expenditure of \$198,000 and the repayment over three years of accumulated deficits from previous years (\$41,000 per annum).

The ruminant germplasm rate was left unchanged because two submitters claimed that a flat rate would result in significant cross subsidisation from bovine semen in favour of other ruminant germplasm types. Best practice guidance by the Treasury and MPI's own cost recovery policy guidance is that cross subsidisation should generally be avoided, as costs are not fully paid for by users and can lead to outcomes that are inconsistent with the efficient allocation of resources.

MPI undertook to look into the issues raised by submitters and to reconsult with industry prior to making any changes, which is the objective of this consultation document.

The costs of maintaining overseas market access for different ruminant germplasm categories are independent of each other

Overseas market access arrangements (OMARs) for the export of live animals and animal germplasm are required by foreign governments to prevent the spread of animal diseases in their countries. Most OMAR updates are required because of disease risk changes and/or the importing country changes its requirements.

Disease risks and importing countries' requirements for each ruminant germplasm type are different and are negotiated separately (the exception is ovine and caprine semen, which can sometimes be negotiated together). There are virtually no economies of scale or scope (respectively) from either: (i) negotiating more OMARs for the same category of ruminant germplasm; or (ii) negotiating OMARs for more categories of ruminant germplasm.

Because of these factors the time spent on each OMAR can be similar, even if export volumes differ markedly. In the last two years five OMARs were reissued for bovine semen following market access negotiations (with export volumes of 3.14 million straws over that period) compared with three OMARs for ovine and caprine semen (with only 20,000 straws exported). As such, calculating unit charge rates jointly would result in over-charging bovine semen relative to their costs and under-charging non-bovine semen categories.

⁷ Schedule 1, Part 8.

Table 1: Estimated annual expenditure for each germplasm category

| Category | % of MPI's time spent on germplasm | Estimated cost per annum | Average export value pa (millions) |
|-------------------------|------------------------------------|--------------------------|------------------------------------|
| Bovine semen | 45% | \$107,389 | \$6.11 |
| Ovine and caprine semen | 28% | \$67,946 | \$0.52 |
| Cervine semen | 5% | \$11,752 | |
| Embryos/Ova | 22% | \$52,348 | \$0.77 |
| Total | 100% | \$239,435 | \$7.40 |

3 PROPOSED OPTIONS

CRITERIA FOR ANALYSING OPTIONS

We have developed four main options, with three sub-options for Option Three. The options are described below and are assessed against three criteria, which have been selected to highlight the relative advantages and disadvantages of each option.

The first two criteria are from the principles of cost recovery under the Animal Products Act 1999.⁸ A third criterion is added to these, because moving away from a jointly calculated rate would lead to a very sharp increase for some categories that may have an impact on the operation of some exporters. Including this additional criteria will help illustrate these impacts. The criteria are:

1. **Equity** – funding for the service should generally be sourced from the user of the service commensurate with their benefit or use of the service.
2. **Efficiency** – costs should generally be allocated and recovered to ensure that maximum benefits are delivered at minimum cost (allocative efficiency). This is achieved where businesses making decisions about whether to provide a good or service take into account the full costs of providing them (including costs to government).
3. **Transitional impact** – the extent to which large, sharp cost increases are avoided.

Each option and its performance against these criteria are set out below, as well as the estimated amount MPI would recover from each ruminant germplasm sub-category. Potential impacts are based on average annual export volumes over 2015-2017. For ease of exposition, maximum consignment rates for each option are not shown, but change on a pro-rata basis with the unit rate.⁹

OPTION 1: POOLED RATE

This option is the same as that consulted on in 2018/19 and is to charge all types of ruminant germplasm exports the same rate.

This option rates poorly for equity because it results in bovine germplasm exporters paying more than it costs MPI to provide the market access services (as measured by cost to MPI). It also rates poorly for efficiency, as bovine germplasm exports would pay over 99% of the total amount to be recovered

⁸ See section 113 for the full definition of these principles. There are two other principles under the Act (transparency and justifiability) but these are less relevant for determining the relative distribution of already determined levels of costs to be recovered.

⁹ For instance, under option one unit charges increase from six cents to seventeen cents, and the same proportional increase in consignment rates is from \$2,400 to \$6,800.

when their contribution to costs is much lower. This may incentivise lower levels of bovine germplasm exports and higher exports of other categories than is profitable, reducing overall benefits.

However, this option has the lowest transitional impact. Rates per unit increase from 6 cents to 17 cents. It results in the smallest estimated increase for non-bovine semen categories (in total from around \$700 per year to \$2,200). Although bovine semen rates increase by the greatest amount (from around \$83,000 to \$237,000 a year), this is relatively small as a percentage increase when compared with the increases for non-bovine semen categories under all other options.

Estimated overall impacts of Option 1:

| Category | Rate per unit | | Average Volume pa | Cost recovery pa | Potential cost recovery pa | Variance pa |
|-------------------------|---------------|----------|-------------------|------------------|----------------------------|------------------|
| | Current | Proposed | | | | |
| Bovine semen | \$0.06 | \$0.17 | 1,377,821 | \$82,700 | \$237,300 | \$154,600 |
| Ovine and caprine semen | \$0.06 | \$0.17 | 8,630 | \$500 | \$1,500 | \$1,000 |
| Cervine semen | \$0.06 | \$0.17 | 1,488 | \$100 | \$300 | \$200 |
| Embryos/Ova | \$0.06 | \$0.17 | 2,312 | \$100 | \$400 | \$300 |
| Total | | | 1,390,251 | \$83,400 | \$239,400 | \$156,000 |

OPTION 2: INDIVIDUALISED CATEGORY RATES (MPI PREFERENCE)

This option is to set unit charge rates by category of ruminant germplasm based on the estimated share of costs for each and expected export volumes (see Appendix 2 and Appendix 3).

This option is the most equitable and efficient of the options. Because individual prices are set based on each category's cost estimates, the level of charge for the service is commensurate with the level of service (equity). It also results in the greatest overall benefit because by charging each category its full cost, exports will only occur when benefits are greater than costs (efficiency).

It is also the option that has the sharpest cost increases for non-bovine germplasm categories. Bovine semen increases from 6 cents per unit to 8 cents; non-bovine from 6 cents per unit to just under \$8 and embryos/ova from 6 cents per unit to \$22.64 – see table. For embryos and ova, estimated annual costs increase from around \$100 a year to over \$52,000 and for non-bovine semen types it increases from around \$600 to \$79,000. In contrast, estimated annual charges for bovine semen only increase from around \$83,000 to \$107,000.

Estimated overall impacts of Option 2:

| Category | Rate per unit | | Average Volume pa | Cost recovery pa | Potential cost recovery pa | Variance pa |
|-------------------------|---------------|----------|-------------------|------------------|----------------------------|----------------|
| | Current | Proposed | | | | |
| Bovine semen | \$0.06 | \$0.08 | 1,377,821 | 82,700 | 107,400 | 24,700 |
| Ovine and caprine semen | \$0.06 | \$7.87 | 8,630 | 500 | 67,900 | 67,400 |
| Cervine semen | \$0.06 | \$7.90 | 1,488 | 100 | 11,800 | 11,700 |
| Embryos/Ova | \$0.06 | \$22.64 | 2,312 | 100 | 52,300 | 52,200 |
| Total | | | 1,390,251 | 83,400 | 239,400 | 156,000 |

OPTION 3: PARTLY POOLED AND PARTLY INDIVIDUALISED RATES

This option is a mix of Options One and Two. It reduces the level of cost increase for most categories compared with Option Two. This may be desirable because:

- significant price increases may reduce exports from non-bovine semen categories and reduce the number of exporters. This in turn could reduce the amount of industry and technical expertise available and reduce sector competition. This could have detrimental impacts for the domestic livestock sector generally
- it could allow a few years of transition towards individually calculated rates, which could be introduced at a later date.

The value of these benefits is subjective and difficult to quantify. For consultation we have developed three sub-options. For each category the unit charge rate is calculated by pooling either 25% (Option 3a), 50% (Option 3b) or 75% (Option 3c) of costs, with the balance calculated based on individualised category rates.

This option is more equitable and efficient than Option 1 but less equitable and efficient than Option 2. It has less of a transitional impact than Option Two but more of a transitional impact than Option One.

Estimated overall impacts of Option 3a (25% pooled costs):

| Category | Rate per unit | | Average Volume pa | Cost recovery pa | Potential cost recovery pa | Variance pa |
|-------------------------|---------------|----------|-------------------|------------------|----------------------------|----------------|
| | Current | Proposed | | | | |
| Bovine semen | 0.06 | 0.10 | 1,377,821 | 82,700 | 139,865 | 57,165 |
| Ovine and caprine semen | 0.06 | 5.95 | 8,630 | 500 | 51,331 | 50,831 |
| Cervine semen | 0.06 | 5.96 | 1,488 | 100 | 8,878 | 8,778 |
| Embryos/Ova | 0.06 | 17.02 | 2,312 | 100 | 39,361 | 39,261 |
| Total | | | 1,390,251 | 83,400 | 239,400 | 156,000 |

Estimated overall impacts of Option 3b (50% pooled costs):

| Category | Rate per unit | | Average Volume pa | Cost recovery pa | Potential cost recovery pa | Variance pa |
|-------------------------|---------------|----------|-------------------|------------------|----------------------------|----------------|
| | Current | Proposed | | | | |
| Bovine semen | 0.06 | 0.13 | 1,377,821 | 82,700 | 172,341 | 89,641 |
| Ovine and caprine semen | 0.06 | 4.02 | 8,630 | 500 | 34,716 | 34,216 |
| Cervine semen | 0.06 | 4.03 | 1,488 | 100 | 6,004 | 5,904 |
| Embryos/Ova | 0.06 | 11.41 | 2,312 | 100 | 26,373 | 26,273 |
| Total | | | 1,390,251 | 83,400 | 239,400 | 156,000 |

Estimated overall impacts of Option 3c (75% pooled costs):

| Category | Rate (\$/unit) | | Average Volume pa | Cost recovery pa | Potential cost recovery pa | Variance pa |
|-------------------------|----------------|----------|-------------------|------------------|----------------------------|----------------|
| | Current | Proposed | | | | |
| Bovine semen | 0.06 | 0.15 | 1,377,821 | 82,700 | 204,818 | 122,118 |
| Ovine and caprine semen | 0.06 | 2.10 | 8,630 | 500 | 18,101 | 17,601 |
| Cervine semen | 0.06 | 2.10 | 1,488 | 100 | 3,130 | 3,030 |
| Embryos/Ova | 0.06 | 5.79 | 2,312 | 100 | 13,386 | 13,286 |
| Total | | | 1,390,251 | 83,400 | 239,400 | 156,000 |

OPTION 4: MARGINAL COST PRICING

This option calculates unit charge rates using a marginal cost pricing methodology. Marginal cost pricing is the cost of producing an additional unit or servicing one additional customer group and is often used to determine the optimal level of resource use.

This option spreads overall costs between ruminant germplasm categories by assuming that OMARs for bovine germplasm are foundational (irrespective of price, there is ongoing demand for the service) but that there is price sensitivity for other categories and that staff costs are avoidable (the marginal cost).

In that scenario, it will be optimal to continue maintaining OMARs for non-bovine ruminant germplasm so long as marginal costs are met. Applying the marginal cost pricing methodology, staff costs are treated as marginal costs and these are allocated across the sub-categories based on the amount of time spent on them. Non-staff costs are treated as fixed costs that are assigned to the foundational service for the ruminant germplasm category, which in this case is bovine semen. Rates calculated in this way are set out below.

Estimated overall impacts of Option 4:

| Category | Rate (\$/unit) | | Average Volume pa | Cost recovery pa | Potential cost recovery pa | Variance pa |
|-------------------------|----------------|----------|-------------------|------------------|----------------------------|----------------|
| | Current | Proposed | | | | |
| Bovine semen | 0.06 | 0.12 | 1,377,821 | 82,700 | 166,762 | 84,062 |
| Ovine and caprine semen | 0.06 | 4.33 | 8,630 | 500 | 37,395 | 36,895 |
| Cervine semen | 0.06 | 4.35 | 1,488 | 100 | 6,468 | 6,368 |
| Embryos/Ova | 0.06 | 12.46 | 2,312 | 100 | 28,810 | 28,710 |
| Total | | | 1,390,251 | 83,400 | 239,400 | 156,000 |

The resulting rates using this calculation are fairly similar to those in Option 3(b) and have the same relative performance against the analysis criteria.

It does not, however, accurately reflect MPI's work programme for live animal and germplasm exports or the way overheads are allocated. There is a range of other OMARs across a variety of live animal and germplasm categories that need to be updated to facilitate market access. If work maintaining market access for non-bovine ruminant germplasm exports ceases, staff time would be allocated to other categories and would increase market access opportunities in those areas and may drive increased export volumes. As such the assumptions on which this option is based do not reflect what would actually occur.

BUSINESS-LEVEL IMPACTS OF OPTIONS

So that the transitional impact on exporting businesses can be better understood, two indicative exporter profiles have been developed with the impact of each option on these is shown below. The export volumes of these indicative businesses are set out in Appendix Five.

The two indicative exporters are:

- A large, bovine genetics business with diversified services. This is representative of the small number of large bovine genetic organisations, which focus mainly on dairy, that have large and diversified domestic operations. They also export comparatively large volumes of bovine semen (and occasional small amounts of other germplasm) and is responsible for the large majority of livestock germplasm exports.
- A smaller, specialist livestock reproductive service provider. This provider represents most livestock germplasm exporters, which provide technical reproductive services to breeders, including extracting, processing and storing semen; laboratory analysis and testing services; artificial insemination; embryo and/or ova transfer; and animal health checks. Because of the technical, procedural and regulatory requirements for germplasm export, this provider also facilitates the export of germplasm on behalf of breeder clients. Most livestock germplasm exports that are not made by large specialised bovine semen businesses are made by a provider similar to this.¹⁰

Large semen exporter

| Commodity | Average export volume pa | Cost pa | | | | | | |
|--------------|--------------------------|-----------------|------------------|-----------------|-----------------|-----------------|------------------|-----------------|
| | | Current | Option 1 | Option 2 | Option 3a | Option 3b | Option 3c | Option 4 |
| Bovine Semen | 737,000 | \$44,000 | \$127,000 | \$57,000 | \$75,000 | \$92,000 | \$110,000 | \$89,000 |
| Ovine semen | 100 | \$10 | \$20 | \$790 | \$590 | \$400 | \$210 | \$430 |
| Total | 737,100 | \$44,010 | \$127,020 | \$57,790 | \$75,590 | \$92,400 | \$110,210 | \$89,430 |

Other exporter

| Commodity | Average export volume pa | Cost per annum | | | | | | |
|-----------------|--------------------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | Current | Option 1 | Option 2 | Option 3a | Option 3b | Option 3c | Option 4 |
| Bovine semen | 9,000 | \$540 | \$1,550 | \$700 | \$910 | \$1,130 | \$1,340 | \$1,090 |
| Ovine semen | 1,000 | \$60 | \$170 | \$7,870 | \$5,950 | \$4,020 | \$2,100 | \$4,330 |
| Caprine semen | 2,000 | \$120 | \$340 | \$15,750 | \$11,900 | \$8,050 | \$4,200 | \$8,670 |
| Cervine semen | 400 | \$20 | \$70 | \$3,160 | \$2,390 | \$1,610 | \$840 | \$1,740 |
| Bovine embryos | 90 | \$10 | \$20 | \$2,040 | \$1,530 | \$1,030 | \$520 | \$1,120 |
| Ovine embryos | 500 | \$30 | \$90 | \$11,320 | \$8,510 | \$5,700 | \$2,890 | \$6,230 |
| Caprine embryos | 100 | \$10 | \$20 | \$2,260 | \$1,700 | \$1,140 | \$580 | \$1,250 |
| Cervine embryos | 50 | \$3 | \$10 | \$1,130 | \$850 | \$570 | \$290 | \$620 |
| Total | 13,140 | \$793 | \$2,270 | \$44,230 | \$33,740 | \$23,250 | \$12,760 | \$25,050 |

¹⁰ The balance are hybrids of these two business types.

4 DISCUSSION

SUMMARY OF OPTION PERFORMANCE AGAINST CRITERIA

The table below shows the relative performance of the options against the three criteria. Green means that the option meets the criteria best, red that it meets it least and yellow is somewhere in between.

Comparison of options against the criteria

| | Equity | Efficiency | Transitional impact |
|---|--------|------------|---------------------|
| Option 1: Pooled rates | ● | ● | ● |
| Option 2: Individualised category rates | ● | ● | ● |
| Options 3a/3b/3c: Partly pooled and partly individualised | ● | ● | ● |
| Option 4: Marginal cost pricing | ● | ● | ● |

Key

| Option is most consistent with criterion | Option is neither the most nor least consistent with the criterion | Option is least consistent with criterion |
|--|--|---|
| ● | ● | ● |

The preferred option depends on the relative weight that is given to the principles of equity and efficiency, compared with that of minimising transitional and small business impacts:

- If efficiency and equity are given most weight, Option 2 performs best.
- If minimising business and transitional impacts is given most weight, Option 1 performs best.
- If equity and efficiency and minimising transitional impacts are both given significant weights, Option 3 and Option 4 perform best.

MPI's preferred option is Option 2, because it would match prices most closely with the actual costs for each ruminant germplasm category and prevent cross subsidisation. It would, however, lead to significant price increases for many categories. We seek submissions from businesses that may be affected by these proposals on which option they prefer, what the impact of the options may be on them and any other information that may help inform decisions on which option to implement.

WHAT DRIVES THESE RESULTS?

As discussed above there are currently large disparities between the level of export returns for some categories compared with the cost to MPI of maintaining the different categories of ruminant germplasm OMARs.

Bovine semen exports account for 99% of ruminant germplasm exports by volume and 83% by value but only 45% of the cost to MPI of maintaining ruminant germplasm OMARs.¹¹ In contrast, the other categories represent only 17% of ruminant germplasm exports by value, while incurring 55% of costs to MPI and represent only around 1% of exports by volume.

This is owing to the high level of worldwide trade in bovine semen, in particular among North American and European Union economies (but increasingly also in emerging markets), owing to the relatively low cost and high returns that superior bovine genetics provide. International trade in other types of ruminant germplasm is significantly lower, while the costs to MPI of maintaining OMARs for these are similar to those for bovine semen.

¹¹ See Appendix 2.

This means that pooling costs (Option 1) would result in considerable cross subsidisation between categories, while separately calculating rates (Option 2) would result in considerable rate increases for non-bovine semen categories.

WHAT IMPACT WILL THIS HAVE ON BUSINESSES THAT PAY THESE FEES AND ON MPI?

Exporting ruminant germplasm can be lucrative

The cost of supplying semen for export varies significantly, from less than \$1 to up to \$15 per unit.¹² For embryos and ova, costs are much higher and typically range from \$200 to \$300 per viable embryo/ova.

While export costs are high, prices can also be high. Domestic and export prices for high-quality semen (non-bovine) typically range from \$30 to \$60 per unit, with highly sought after specimens attracting prices of \$100-\$150 per unit.

High-quality embryos typically attract prices of between \$300 and \$600 per unit, and the average export price over the last three years was over \$400 per unit.¹³ Highly sought after specimens can attract much higher prices. In recent years there have been instances when highly sought after sheep embryos have commanded prices of around \$2,000 per unit and similar prices are common for deer embryos. For the most sought after deer embryos, international prices can be many times more than this.

Ruminant germplasm is mainly a domestic industry with occasional exports

Over the last five years there have been no more than eight exporters of ruminant germplasm of any type in any year. A few exporters (two to three) are specialist livestock genetic companies, providing targeted or end-to-end services (breeding, genetic selection, as well as a range of technical and practical services associated with semen/embryo extraction) and account for the majority of bovine semen exports, which heavily dominates ruminant germplasm exports.

Other exporters are not breeders but provide specialist animal reproductive services to breeders, the vast majority of which is for use domestically.¹⁴ Occasionally, breeders identify a profitable export opportunity¹⁵ and because of the technical, procedural and regulatory requirements for exporting germplasm, these are exported by the specialist service providers on behalf of their breeder clients. Almost all non-bovine ruminant germplasm exports are facilitated by these specialist companies.

Unit charge rate increases for non-bovine semen categories are unlikely to have a significant impact on overall business viability

Some of the options above would result in large cost increases for some animal reproductive service providers. For instance, the increase under Option 2 may lead to some of the more marginal embryo consignments not being exported. However, total embryo export volumes across all ruminant types are very low, averaging around 2,000 per year (see Appendix 1). In contrast, a number of individual specialist animal reproductive businesses supply over 5,000 embryos a year, the majority of which are for the domestic market. While aggregate exports of around 2,000 embryos a year is a useful additional revenue source for these businesses, it is a niche addition to the much larger domestic sector.

¹² Figures are net of typical on-farm costs and include services like quarantine, animal inspection, extraction, freezing in nitrogen, laboratory analysis etc.

¹³ Calculated using Statistics New Zealand export data and MPI data on export volumes.

¹⁴ This typically includes extracting, processing and storing semen; laboratory analysis and testing services; artificial insemination; embryo and/or ova transfer; and animal health checks.

¹⁵ In the last three years the average number of consignments that were not bovine semen was only around 30 per year.

Overall, these cost increases might make some export consignments uneconomic but because the export market is so much smaller than the domestic market, it is unlikely to have a significant impact on the viability of most businesses.

IMPACT ON MPI

The live animal and germplasm component of the Standard Setting for the Food Industry memorandum account has a projected 30 June 2020 closing balance of -\$0.6 million, \$0.1 million of which is attributable to the ruminant germplasm sub-categories. The proposed fee changes in this document mean that this balance should trend to zero over the following three years.

HOW AND WHEN WILL THE CHANGES TAKE PLACE?

Proposed changes in this proposal will be implemented through amendments to the Animal Products (Fees, Charges, and Levies) Regulations 2007. These will take effect from 1 July 2020.

5 QUESTIONS

1 Which of these options do you support the most? Indicate this by ranking each option from one to six (one being most preferred) below.

| | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> |
| Option 1 | Option 2 | Option 3a | Option 3b | Option 3c | Option 4 |

2 What are the reasons for your opinion?

3 What impact will these options have on you?

| | | | | | |
|-----------------------------|--------------------------|--------------------------|--------------------------|-----------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Significant negative impact | Negative impact | No impact | Positive impact | Significant positive impact | Don't know |

4 Please describe any impact and quantify this if possible.

5 Are there any other issues associated with the proposed changes you think MPI should be aware of?

6 APPENDIX 1: MPI'S APPROACH TO COST RECOVERY

Cost recovery is an important part of MPI's funding arrangements. It involves charges (usually fees or levies) to recoup the costs of providing services to individuals, businesses or other entities. Cost recovery is only undertaken where there is a lawful authority provided for in legislation or in some cases on a contractual basis.

MPI recovers costs associated with activities and services that deliver outputs. Our charges do not generally seek to recover costs or reflect benefits associated with the wider outcomes a service may contribute to.

A Principled Approach

Four key principles guide MPI's approach to cost recovery – equity, efficiency, justifiability and transparency. They are common features in most legislation that authorises us to recover costs. The principles, described below, are found in the four Acts within the food system:¹⁶

- *Equity* – services should be funded from users that benefit from the service or users that create risks that the service is designed to manage ('risk exacerbators').
- *Efficiency* – costs should be charged to ensure that maximum benefits are delivered at minimum cost.
- *Justifiability* – charges should only recover the reasonable costs (including indirect costs) of providing the service.
- *Transparency* – costs should be identified and allocated to the service for the recovery period in which the service is provided.

Cost recovery guidance from the Treasury, Controller and Auditor-General

In addition to the four principles that we apply in cost recovery decision-making, we also apply the general guidance on cost recovery for public entities published by the Treasury and Controller and Auditor-General (CAG). That guidance requires consideration of:

- *Authority* – does the public entity have legal authority to charge a fee for the goods and services provided?
- *Effectiveness* – are resources allocated in a way that contributes to the outcomes being sought by the activity? Is the level of funding fit for purpose?
- *Simplicity* – is the cost recovery regime straightforward and understandable to relevant stakeholders?
- *Accountability* – public entities are accountable to Parliament and to the public. To be accountable, entities need to ensure that their processes for identifying costs and setting fees are transparent.
- *Consultation* – has the entity engaged in meaningful consultation with stakeholders and is there opportunity for stakeholders to contribute to the policy and design of the cost recovery activity?

Treasury's guidance encourages agencies to adopt an open-book approach throughout the different stages of the cost recovery process. This consultation document includes information about the costs of each proposal, thereby addressing Treasury's guidance to provide this information.

Ensuring cost recovery remains appropriate

Ongoing performance reporting

We recognise that performance reporting is a critical component of providing transparency to industry and other interested parties, as well as ensuring ongoing system efficiency.

¹⁶ These are the Agricultural Compounds and Veterinary Medicines Act 1997, the Animal Products Act 1999, the Wine Act 2003 and the Food Act 2014.

To improve transparency we have worked with industry to create a framework for reporting on the performance of cost-recovered services. We will continue to work closely with industry to ensure that the performance information produced in the reports is meaningful.

Ongoing monitoring and review

We monitor the financial performance of all of our cost recovered systems on an ongoing basis through the year. In line with best practice guidance, we generally review each cost recovery regime at least once every three years. This ensures that cost recovery regulatory settings remain appropriate. Reviews will consider both cost recovery policy settings and fee and levy rates.

Fees and levies may also be updated outside the review cycle if a material surplus or deficit accumulates in a memorandum account.¹⁷ However, we aim to set fees and levies at levels that ensure memorandum accounts trend towards zero over a three-year period.

¹⁷ Memorandum accounts record expenditure, revenue and the accumulated balance of surpluses and deficits from MPIs charges.

7 APPENDIX 2: RUMINANT GERMLASM SUB-CATEGORY EXPORT VOLUME TRENDS¹⁸

| Category | Units exported | | | | | | | |
|-------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| Bovine (cattle) semen | 1,083,522 | 1,160,455 | 1,573,105 | 1,596,560 | 1,251,776 | 1,253,030 | 1,628,656 | 1,511,038 |
| Caprine (goat) semen | - | 50 | - | 1,266 | 300 | 4,439 | 40 | 5,556 |
| Ovine (sheep) semen | 7,844 | 7,271 | 1,877 | 5,518 | 5,049 | 6,492 | 9,569 | 3,960 |
| Cervine (deer) semen | 275 | 220 | 325 | 816 | 1,557 | 2,275 | 633 | 1,803 |
| Bovine (cattle) embryos | 950 | 1,801 | 850 | 536 | 437 | 457 | 196 | 222 |
| Caprine (goat) embryos | - | 125 | 171 | 3 | 23 | - | 869 | 24 |
| Ovine (sheep) embryos | 96 | - | 1,737 | 1,836 | 825 | 2,778 | 809 | 200 |
| Cervine (deer) embryos | - | - | - | 108 | 203 | 199 | 140 | 264 |
| Total | 1,092,687 | 1,169,922 | 1,578,065 | 1,606,643 | 1,260,170 | 1,269,670 | 1,640,912 | 1,523,067 |

| Category | Consignments exported | | | | | | | |
|-------------------------|-----------------------|----------|------------|------------|------------|------------|------------|------------|
| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| Bovine (cattle) semen | | | 135 | 137 | 120 | 108 | 121 | 121 |
| Caprine (goat) semen | | | - | 2 | 1 | 2 | 1 | 3 |
| Ovine (sheep) semen | | | 9 | 8 | 9 | 11 | 16 | 11 |
| Cervine (deer) semen | | | 2 | 3 | 5 | 7 | 5 | 7 |
| Bovine (cattle) embryos | | | 13 | 10 | 8 | 4 | 7 | 7 |
| Caprine (goat) embryos | | | 1 | 1 | 1 | - | 3 | 1 |
| Ovine (sheep) embryos | | | 4 | 4 | 2 | 6 | 4 | 1 |
| Cervine (deer) embryos | | | - | 1 | 2 | 2 | 2 | 2 |
| Total | - | - | 164 | 166 | 148 | 140 | 159 | 153 |

¹⁸ Live animal and germplasm export data is available at <https://www.mpi.govt.nz/exporting/animals/live-animals/resources-for-exporting-live-animals/>

8 APPENDIX 3: PROPORTION OF TIME SPENT MAINTAINING RUMINANT GERMLASM OMARS¹⁹

| Category | Proportion of MPI's time | Average export value pa (millions) | Proportion of export value | Typical export price range per unit |
|-------------------------|--------------------------|------------------------------------|----------------------------|-------------------------------------|
| Bovine semen | 45% | \$6.11 | 83% | \$3 - \$40 |
| Ovine and caprine semen | 28% | \$0.52 | 7% | \$15 - \$100 |
| Cervine semen | 5% | | | \$50 - \$650 |
| Embryos/ova | 22% | \$0.77 | 10% | \$150 - \$800 |

¹⁹ Time spent is based on MPI time recording data; estimated export value is from Statistics New Zealand.

9 APPENDIX 4: VOLUMES OF OMARS REISSUED 2017 – 2020

| Category | Issued OMARs | Reissued OMARs | | |
|-------------------------|--------------|----------------|----------|----------|
| | | 2017 | 2018 | 2019 |
| Bovine semen | 44 | 3 | 2 | 0 |
| Ovine and caprine semen | 28 | 1 | 2 | 1 |
| Cervine semen | 9 | 0 | 0 | 3 |
| Embryos/ova | 51 | 2 | 3 | 2 |
| Total | 132 | 6 | 7 | 6 |

²⁰ OMARs often cover both caprine and ovine semen or embryos.

10 APPENDIX 5: ANNUAL EXPORT VOLUMES OF TWO 'INDICATIVE' EXPORTERS

The export volumes of the two 'indicative' exporters discussed in section three are set out below. They represent typical annual export volumes for these types of exporters based on export volume data held by MPI.

| | Large, diversified bovine semen business | Smaller, specialist animal reproductive services provider |
|-----------------|---|--|
| Bovine semen | 737,000 | 9,000 |
| Ovine semen | 100 | 1,000 |
| Caprine semen | 0 | 2,000 |
| Cervine semen | 0 | 400 |
| Bovine embryos | 0 | 90 |
| Ovine embryos | 0 | 500 |
| Caprine embryos | 0 | 100 |
| Cervine embryos | 0 | 50 |
| Total | 737,100 | 13,140 |