

# Analysis - Implications for the Wool Industry were Australia to experience an FMD outbreak

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There has been genuine concern from wool supply chain participants about the likely impact on Australia's wool sector should FMD come to Australia. This paper has been collaboratively written with Grant Hutchins from Merino International and myself. Grant has extensive experience in international wool markets for 27 years as a trader and analyst.

Australia's wool export markets will likely close immediately after an outbreak because wool can carry the FMD virus. Still, the closure duration of each market would ultimately depend on how long the outbreaks last, the market itself and Australia's ability to disinfect wool. China would be the most significant concern, given it is the largest market taking 75% to 85% of Australia's greasy wool production each year.

The FMD virus can remain infective for several weeks in the presence of organic matter such as soil or chemically inert materials such as wool. As stated, importing countries would immediately ban Australian wool imports and this ban would remain in place until each country's authorities were satisfied that the wool posed no threat to their national biosecurity.

This report looks at the various steps to disinfect wool, potential market impacts and industry costs and a potential solution.

Key areas that are focused on;

- The makeup of Australia's wool sector.
- OIE guidelines on exporting under FMD
- Two scenarios of how an outbreak of FMD may be controlled. Firstly, pre-emptive culling of livestock and secondly, vaccination of livestock.
- Limitations in treating Australian wool to disinfect
- South Africa - A critical case study on FMD's impact on wool - April 2022 outbreak
- How does this translate into the pricing of wool after FMD?
- Global wool markets going forward.

# The makeup of Australia's wool industry - who receives what?

Australia's sheep and lamb population were 68.05 million as of June 2021, with the gross value of Australia's wool industry estimated by ABS at A\$2.64 billion.

Australia produces nearly 25% of all global wool and is the largest exporter globally. Wool-related exports occur as greasy wool, semi-processed wool and skins, with greasy wool being the dominant item making up 85% of export value, skins at 9% and semi-processed at 6% of the total value.

Most of Australia's wool is exported in one form or another to China, India, Italy, the Czech Republic and Turkey and South Korea, which account for 94% of all Australian wool markets.

China is the most important market, taking more than 81% of wool exports, and it is crucial to understand how FMD would impact their buying needs and what type of embargo would be put in place. This report looks at the recent precedent that has occurred in South Africa and its own challenges with China.

Wool export destinations	Market %
China	81.1%
India	3.9%
Italy	3.2%
Other	2.4%
Czech Republic	2.4%
Korea, Rep. of	2.2%
Turkey	1.3%
Other	0.8%
Thailand	0.7%
Germany	0.4%
Taiwan	0.4%
Japan	0.3%
United Kingdom	0.3%
United States	0.2%
Malaysia	0.2%

Source - ABS

## Summary of Australian wool production

Parameter	2020/21	2021/22 Fourth Forecast	Change y-o-y (%)	2022/23 First Forecast	Change y-o-y (%)
<b>Sheep numbers shorn</b> <i>(million head)</i>	66.9	69.0	3.1%	70.9	2.8%
<b>Average cut per head</b> <i>(kg/head)</i>	4.40	4.54	3.2%	4.54	0.0%
<b>Shorn wool production</b> <i>(Mkg greasy)</i>	294	314	6.5%	321	2.5%

Source – ABS, ABARE

# **OIE guidelines on exporting wool under FMD**

Wool must be processed or treated to ensure the destruction of the FMD virus in conformity with one of the OIE procedures.

The FMD inactivation processes outlined below are likely to impose additional costs but provide the opportunity for the wool trade to continue. The extent to which trade can continue depends on the willingness of each specific country to accept inactivation procedures.

It should be noted that during the UK outbreak, for example, Australia did not allow the import of any UK dairy products, even though some were processed to deactivate the virus per the OIE guidelines. So history tells us that markets may not accept any of the procedures outlined by the OIE - it would be recommended that some clarity on what procedures are acceptable from respective importers.

The following are recommended procedures to result in the deactivation of FMD.

1. Industrial washing;
2. Chemical depilation employing slaked lime or sodium sulphide methods;
3. Fumigation in formaldehyde in a sealed chamber for 24 hours;
4. Industrial scouring; or
5. Storage of wool at 18°C for 4 weeks, or 4°C for 4 months, or 37°C for 8 days.

It should be noted that necessary precautions must be made to avoid contact with products with any potential source of FMD virus to avoid cross-contamination.

## **Two scenarios of controlling an FMD outbreak using firstly, pre-emptive culling of livestock and secondly, vaccination of livestock.**

When looking at the most likely scenarios for controlling FMD, two options have been considered: pre-emptive culling of livestock and vaccinating livestock. The likely process of how this is likely to unfold is that should there be an outbreak, the Australian Government under AUSVETPLAN would look to try and contain FMD though initially culling both animals infected and those animals within a specified radius of where the outbreak would occur. If the disease was not brought under control using culling, then it is likely that the control would switch to a vaccine control program.

**Scenario One - Pre-emptive culling of livestock program** - This would be the least way to compromise Australia's market access standing. Under OIE recommendations, countries that contract FMD and use a slaughter-only approach and approved surveillance program could restore their FMD status within three months after the last detected case.

In reality, this is only a recommendation by the OIE, and significant markets such as Japan, the US, China, and the US would need to accept this outcome in their own right. They would likely have their own inspectors come to Australia and be satisfied with the eradication and control program and the rigorousness of the surveillance. Under a best-case scenario, this would be six months minimum of market closure, with US and China likely being the first to reopen.

**Scenario Two - FMD vaccination of cattle** - This would be the next phase if the pre-emptive culling of livestock program were unsuccessful. As a result, cattle and sheep would be vaccinated in restricted and controlled areas.

I have used the precedent of three current FMD status levels within certain countries to guide how markets might reopen in Australia. The three levels of FMD are; firstly, FMD and trying to bring the disease under control, just like in India. Secondly, FMD free with vaccination, just like Brazil, and lastly, FMD free like the US and what Australia is today.

Once a positive is found, following OIE guidelines, a country must go six months without a case while vaccinating to get the "free with vaccination" designation after the last detected case.

In reality, the US requires certain South American countries have 12 months before being allowed. This is the precedent used in my assessment of livestock values and feeds usage for Australian livestock: the first country to accept Australian meat products would be the US after 12 months - just like it does currently with Brazil.

The second assumption is that China would follow quickly behind the US in opening up to Australia. This is based on China's trust in the US inspection system and that all China-approved plants are certified by US inspectors, not China inspectors. This is the only country in the world that can do this. It is also very similar to the role the USDA once played in the 1970s to late 1990s as setting global standards in food safety and inspection. Back then, any US-approved plants in Australia could almost export anywhere. Today many countries like the EU have particular market requirements with or without US approval.

I would then assume that Japan and Taiwan might start to re-accept Australia's product in year three of FMD free with vaccination, and Korea would be the last in year four to enable access again.

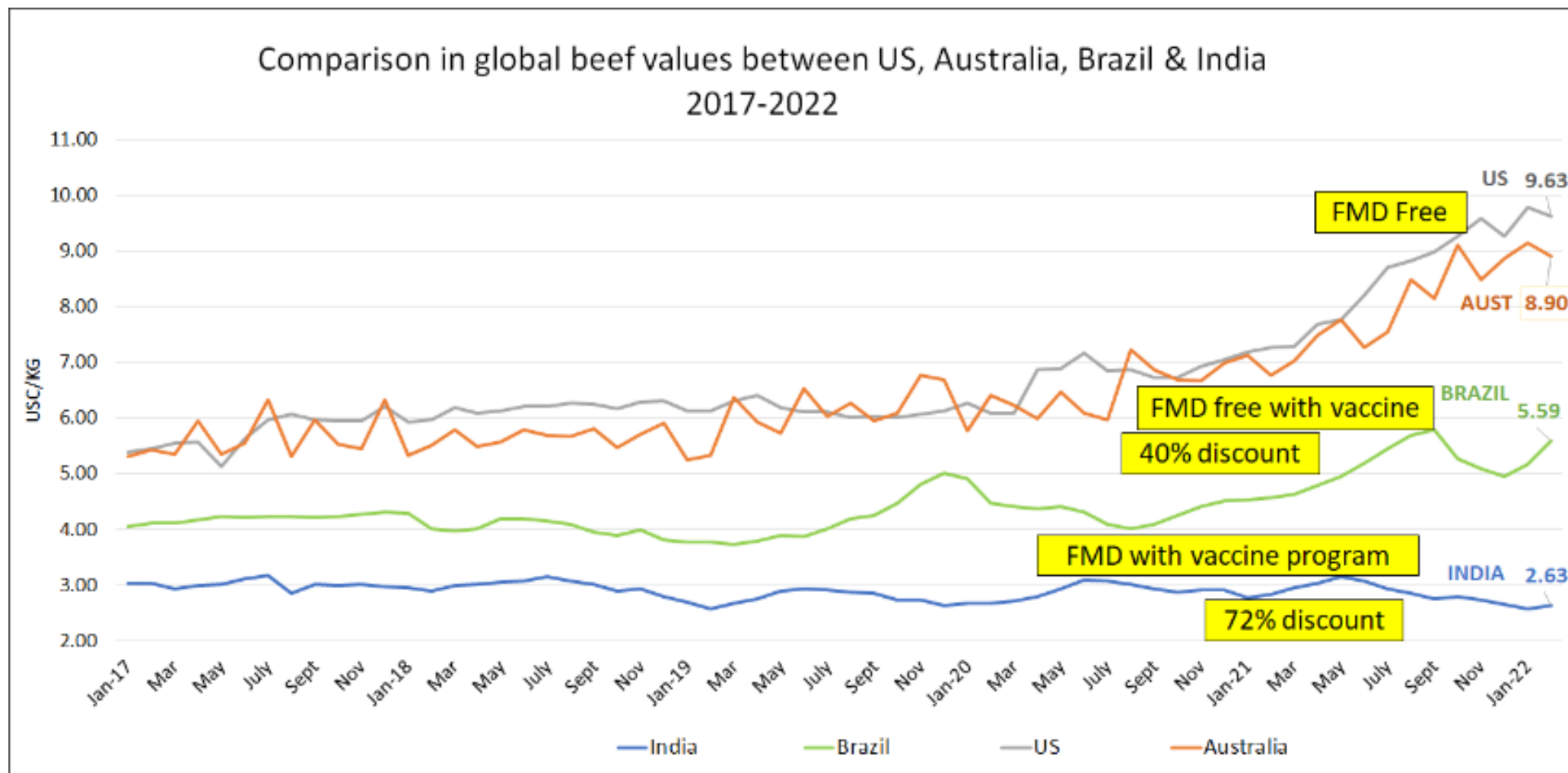
In summary, in scenario 2/ in the initial stages, until the outbreaks have stopped, Australia would be at the exact status of India, with FMD and trying to bring the disease under control. Once a vaccination program gets underway, Australia will lift Brazil's status of FMD-free with vaccination. The final stage of FMD free without vaccination may not be reached until year three or four, when Australia can again export globally at comparable prices to today's meat industry prices.

The wool sector price impact would be felt mainly in Year 1, until China reopened.

It should be noted that another critical assumption is that all secondary meat markets remain open to Australia in all these stages once the disease outbreaks have stopped. Secondary markets would include the Middle East, Indonesia, Malaysia and Vietnam as just a few examples. Record protein prices would be an essential incentive for secondary markets to remain open to Australia.

A similar assumption could be made for wool - that specific secondary markets would remain open even with China closed but would buy at a significant discount.

The following graph highlights these FMD beef market discounts against Australia and the US today - as a guide on how dramatic prices changes occur given your FMD status.








Source – India Customs (APEDA), USDA, MLA, Brazil Comex Stat

## Limitations exist in treating Australian wool to disinfect

When assessing which OIE guidelines and what FMD deactivation procedures the market will accept, South Africa provides an essential insight into how markets could respond.

The use of industrial washing works for Mohair but does not apply to wool as the critical components of our wool grease, suint and dirt, and therefore a much more rigorous approach is needed, such as scouring. The use of chemical depilation and fumigation is not used commercially and is not recognised by any market as a means of deactivating FMD. Lastly, any markets do not recognise storage at 18 C for four months or 4 C for four months or 37 C for eight days as a way to remove FMD. The only truly universally accepted method is scouring - the problem is that Australia has minimal scouring capacity. Can we scour off-shore?

- |   |  |
|---|--|
|  | 1. Industrial washing; <b>Mohair</b>   |
|  | 2. Chemical depilation by means of slaked lime or sodium sulphide;               |
|  | 3. Fumigation in formaldehyde in a sealed chamber for 24 hours;                  |
|  | 4. Industrial scouring; <b>Wool</b>  |
|  | 5. Storage of wool at 18°C for 4 weeks, or 4°C for 4 months, or 37°C for 8 days. |

Source - OIE

It should be noted that European, Indian and Middle Eastern markets would likely remain open but are less than 20% of Australia's markets and would likely see a discount of 40% to 50% over 6 to 12 months as excess supply would overwhelm the market. Given the expected expansion in Australia's sheep flock in coming years, this problem will likely compound as more wool production occurs.

**Scouring or semi-processing** - Only 6 per cent of Australia's wool is exported in its scoured form, mainly to the FMD-free markets of Italy, Germany and France. Scoured wool could be exported immediately after an outbreak under the OIE rules, and Australia has a minimal capacity to increase its output of scoured wool. A good example was that during the UK outbreak, the UK scoured most countries that still accepted wool.

Wool scouring involves washing and drying wool. On the surface, it might seem a simple process it involves several steps, including opening, blending, mechanical cleaning, baling, sampling and testing. Specific customers may also require various chemical treatments that can be carried out with the scouring process. This depends on the market.

Twenty years ago, almost 30% of Australia's wool was scoured, but today, as stated previously, this is now reduced to 6%, with two private companies owning the majority of this capacity. Industry estimates put the ability to increase scouring to 10% of exports of Australia's exports which leaves a significant question

mark over the remaining 90% of exports. It should also be noted that during the UK FMD outbreak that most countries banned UK greasy wool - it could be assumed that the same would occur for Australia.

**Scouring Australian wool off-shore option** - This is one of the options that could see Australian FMD wool go to a country that is also endemic in FMD, such as India, and be scoured at a price. It is not ideal but might be an essential stop-gap while Australia waits for markets to reopen.

The problem with this is that most excess scouring capacity is in China, where Australian producers cannot export. The ability to scour in other countries such as India, South America or New Zealand is doubtful because they are already at total capacity. Or in the case of New Zealand, they are doubtful about taking Australian wool because of their FMD concerns and the need to remain FMD free.

Even if India was to take Australian wool, it is likely to be at such a significant discount, greater than 50%, that for many sellers, this would be too great a discount. In short, there is little to no spare scouring capacity; therefore, this option is minimal.

Country	Scouring Capacity Estimate	Spare Capacity
China	60% to 70%	Some
South America (Argentina & Uruguay)	15%	None
India	10%	None
Australia	6%	None
New Zealand	4%	None

Source – Merino International

## **South Africa - An important case study on FMD's impact on wool - April 2022 outbreak**

In April this year, South Africa experienced an outbreak of FMD that has seen global export markets close to their wool industry and strict domestic livestock restrictions being introduced to control the disease.

Recently, the South African government imposed a three-week ban on all cattle movements due to 116 outbreaks of FMD in six of the country's nine provinces, which will be reviewed weekly. South Africa's wool industry has been poorly impacted, with bans to several key export markets, particularly China, which accounts for almost 75% to 80% of South Africa's wool exports.

This is not the first time South Africa in recent history has experienced FMD; back in 2018/19, an outbreak of FMD occurred that saw bans last for almost 18 months. South Africa started re-exporting to China by using some of the methods outlined by the OIE, which included a heat treatment process whereby if the wool was held in storage at 18 C for more than 28 days, it was allowed to be shipped. An alternative strategy was holding wool at 37 C in a 'hot-box' for a minimum of 8 days. In each instance, independent verification was needed with many operators using temperature loggers. China inspectors also came to South Africa to verify the process at the time.

In 2022, these same methods of deactivation are not being allowed by China. The only wool China is accepting is wool that has been scoured.

This change in China policy is due to a change in the personnel overseeing imports within the General Administration of Customs of the Peoples Republic of China (GACC). They seem to lack understanding of the existing protocols. China's lack of understanding of South Africa's previous success in meeting OIE guidelines has seen a potential overreaction to the wool sector and a misunderstanding of how bi-products can be managed to limit the risk of spreading the disease. What is now deeply concerning is that GACC wants FMD to be under control within South Africa before considering lifting the ban - in reality, the probability of having the disease under control in the near to medium term is improbable.

**What has been the cost to the South African wool industry?** - So far, cardings have been discounted 30% and top fleece lines by only 2% to 5%. The South African inferior wools are expected to be discounted by more than 30%, with some wools from Transkei and Ciskei that could be unsaleable.

A protracted FMD ban could cost the South African wool industry an estimated 20% to 25% of clip value should there be six months of no China access, and with a 12-month ban, this estimate could balloon to 35% to 40% loss. The main reason is lower overall prices and the cost of carrying with storage and interest costs; most exporters do not believe the wool would be destroyed but hold onto it until an appropriate time to sell presents itself.

One key component of the potential overall cost is whether Europe could increase its wool imports and, in part, replace China as a critical buyer. Europe potentially could buy more fleece-style wools from South Africa and less from Australia due to a discount; however, there is no market at present in Europe for the inferior wools. Good fleece wools would not be significantly discounted; however, as mentioned before, the inferior wools would be.

It should be noted that Chinese companies have bought significant amounts of wool that are still unshipped. Another critical factor is that South Africa produces the most certified wool in the world, namely RWS, so without the South African market, they would not be in a position to offer quantities of certified wool. In addition, lanolin is a necessary bi-product and has a significant market value, which many Chinese companies would be missing this vital revenue.

## **How does this translate into pricing of wool after FMD for Australia?**

The cost to the Australian wool industry based on South Africa's experience is likely to be, firstly, the cost of carry of the wool while waiting to regain market access. Secondly, where the alternate markets might price Australian wool, should they be willing to accept the product before China reopens?

Given Australia's dominance in the fine wool market, the relative tight availability globally, and Australia's enormous reliance on China, it would be fair to say that the expected losses for Australia over either a 6-month or 12-month period is likely to be more like 40% to 50%. The most significant price falls is likely at the start of the outbreak.



# **Australia's wool market challenge going forward**

Grant Hutchins from Merino International noted the following key points in global wool markets in the future;

- 1/ It is imperative that the Australian industry address the risks of the extreme early-stage processing concentration to ensure long-term industry sustainability
- 2/ It can do this via bi-lateral agreements that enshrine with key partner destinations agreed to protocols to ensure the uninterrupted movement of greasy wool to destination.
- 3/ OR, without a co-operative agreement, build out scouring capacity on and offshore along with further industry support for growing dry combing capacity in new offshore markets.
- 4/ Scouring capacity expansion on-shore should be large (200kt greasy equivalent pa). There is currently an industry body study into the feasibility of this. I refer the reader to AWI (Australian Wool Innovation) for detail.
- 5/ There is a profound consumer love for the fibre, which will endure if nurtured. Australian growers and industry must flex their capabilities to ensure one vulnerability does not trap the trade into suffocation. This will manifest in farmers switching acreage to grains in more significant numbers.

## **Conclusion**

The impact of FMD on Australia's wool industry, both Grant and myself believe, is likely to be significant. Still, given the unpredictable nature of China's requirement on buying and protocol and their importance in global markets, it leaves most with an unsettled belief that anything could happen in the future. In short, Australia is vulnerable.

The recommendations by the OIE on what the options are on how to handle FMD wool and the steps to deactivate do not seem to have any market relevance. Scouring seems to be the only valid single option available to wool exporters worldwide who face potential export bans due to FMD.

The cost to Australia has been estimated to be 40% to 50% of the wool clip value, depending on which markets close and the closure period. The longer the period, the greater the costs.

There is a genuine need to become self-sufficient in scouring or at least ensure more than half of Australia's clip can be processed and scoured on-shore. This ensures that Australia's market access is not compromised. It also adds value to the wool, which could bring a higher return to the Australian industry and ultimately gives greater control to Australia's wool industry future.

With the current geopolitical global unrest, particularly with Australia's relationship with the US and Taiwan and the fractured relationship with China, this ability to become self-sufficient in scouring could not happen quickly enough.

The Australian wool industry value of A\$2.8 billion, at a 50% potential cost, equates to A\$1.4 billion, initial discussions on the cost of establishing a scouring

industry are still being determined, but the target of processing at least 50% of Australia's greasy wool clip is a realistic one. Many key industry players regard the potential loss in market value versus building scouring capacity as a simple risk-reward ratio.

The building of scouring capacity on a sizeable scale is likely to occur at a cost that will be significantly less than the potential loss if Australia doesn't become self-sufficient. In other words, the cost of building necessary scouring capacity would be considerably less than the A\$1.4 billion downside potential (50%), as previously estimated. The cost of carrying this investment fallow at 5% gross (maintenance and interest) is well within the industry's capability under the wool levy arrangements. It's very doable solution as an industry. An Australian wool industry report is being prepared on estimating the cost of building scouring capacity.

As stated in previous papers - there are no winners with FMD, and should there be drought and FMD together, it will be the worst of all scenarios. Now is the time to start prepping for what is potentially shaping up to be a challenging 2023 and 2024.

Once again, I would like to thank Grant Hutchins from Merino International for his input and advice when writing this report.

Any feedback is always appreciated.

Regards

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