

How it works:

Firstly, at the highest level, we need to separate wool into a few core types. We take Fleece (F) wool from the body of adult sheep, then we take Oddments (C) including bellies and pieces, but omitting loxs, second pieces and crutchings. Finally, we take Lambs Fleece (L) but don't include lambs seconds. For all types we also ignore wool with major faults like tenderness, stains or excessive vegetable matter (vm), as well as any wool with black fibre.

Next, we need to know how much of our total annual wool production falls into these high-level components. If these three components were 100% of our wool, what percentage would each be?

- Fleece (F): 64%
- Oddments (C): 21%
- Lambs (L): 15%

This is the foundation of our index. The variation in the value of Fleece (F) will only account for 65% of the variation in the price of the index. We tend to zoom in too tightly when assessing the overall direction of the market, and weight different types too high or too low, but normalising our view over the annual production we can remove some of that bias.

The simplest way to think about our index is it is made up of these three core components weighted by how often they appear throughout the year. However, if you're more interested in some of the specific mechanisms we use then keep reading!

How do types have types!?

All Fleece types aren't created equal. Now, within the broad heading of our Fleece (F) component, we need to choose a representative sample of sub-types to give us our Fleece (F) value. We first do this by choosing the 10 most common fleece types we produce across a whole year. More sales equals more data which equals a more robust indicator. We use a style of assessing wool called "NZ Woolboard Valuing". This mechanism communicates a lot about a type of wool which we can use to communicate its physical attributes. It is made of four parts:

35 - F - 2 - D
 Micron Component Style Length

'Micron' is a rounded measurement of the diameter (micrometers) of the fibre. Our 'Component' matches where the wool came from on the sheep: F for Fleece, P for Pieces, N for Necks etc. The 'Style' is a rating between 0 (best) - 5 (worst) relative to other lots of wool within the same component. Finally, the 'Length' is from A - Z with A being the longest and Z the shortest. There are some letters we use a lot more often than others as they match common processing lengths and indicate more clearly what the wool may be suitable for.

So, what's the deal with Fleece (F)?

For fleece we take all types between 35 and 42 micron, lower than 0.3% vm and then group the last three attributes of the woolboard-type. This gives us the lots that match our ten most common types like: F2D, FIG, F3D, F0J etc. However, these types don't all appear at the same rate. For example, F2D makes up 12% of our top ten fleece types, whereas F0J only makes up 8%. This means that F2D accounts for 12% of the variance of our Fleece component, and Fleece (F) makes up 65% of the indicator variance. Therefore, F2D is responsible for 7.8% (12% x 65%) of the entire indicator. It is important that no single type has the ability to overpower the entire indicator, and that the indicator reflects the whole market – not just one type.

We take the same approach for our other two components; Lambs (L) and Oddments (C) where we gather the most common types and used a weighted average of those types to make up their overall component.

But not every type can appear every week?

True! We try and choose types that have the highest probability of occurring every single sale week. Unfortunately, wool is pretty variable and not the easiest thing to predict week-to-week. For the off chance that a type doesn't appear we use a predicted value based on the direction of the other types within the component.

Here is an example of four of our types, across three weeks. For 'Week 3' we can see we had no FIG types to get a price for:

Type	Week 1	Week 2	Week 3
F2D	350	355	400
FIG	345	350	---
F0J	340	345	350
F2L	330	335	340

We can also see that overall, our other types all increase by +5c* between 'Week 2' and 'Week 3', so using this information, we can create a shadow value for our FIG type of [355]. It is important that we utilise types where this rarely occurs, as it doesn't reflect the true value of a type, only the expected value. If a type falls out being common as our national wool-clip evolves, then we may adjust the types that feed into each component to ensure we are using true wool values as often as possible.

*We actually use percentages and not absolute values but for the sake of a simple example we hope this makes sense!