

There is resistance to all but the newest families of drenches on Australian sheep farms, and at some point worm resistance to these new drenches will also develop.



# SHEEPGENETICS



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### Disclaimer:

This brochure is intended as a guide only. Every effort has been made to ensure the information contained within is factual but this cannot be guaranteed.

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WEC



# Resistance to worms (WEC)

## What to look for?

Resistance to internal parasites is defined by genetic differences in faecal worm egg count (WEC). It is quoted at one of four ages :

1. Weaning (WWEC)
2. Post-weaning (PWECC)
3. Yearling (YWEC)
4. Hogget (HWEC)

## How is it measured?

Adult female worms inside the sheep produce eggs which pass out in the faeces. A faecal worm egg count (WEC) is a measure of the number of worm eggs in one gram of faeces. In order to get useable data for WEC, it is necessary to test individuals when the mob average WEC is high enough to be able to measure differences between individuals (>300 eggs per gram and less than 10% of samples with a zero value). Once the mob average is high enough, breeders collect individual faecal samples from all sheep in the mob. These samples are then submitted to an accredited laboratory for individual testing.



## What do the numbers mean?

ASBVs for WEC are quoted in percentages, they are deviations from the average of animals in the database in the 1990 drop. So an animal with a WEC ASBV of -25% will have a 25% lower worm egg count than the average in 1990. A ram with an ASBV of -25% for WEC will pass half of this benefit onto his lambs, that is -12.5%.

The more negative the WEC ASBV the more resistant to worms the animal will be.

## Is there any other way of picking the wormy ones?

No, it is impossible to predict which animals are genetically more resistant to internal parasites. The only way to do it is using ASBVs.

## What's in it for me?

There is resistance to all but the newest families of drenches on Australian sheep farms, and at some point worm resistance to these new families will also develop.

It is therefore imperative to develop more permanent options to deal with worm outbreaks, particularly in areas that have significant worm problems.

In higher rainfall areas, where treating for worms and losses in production are major costs to the sheep enterprise, having animals that are genetically less likely to get a high worm burden can be invaluable.

There are a wide range of benefits including:

- Less drenching
  - less labour
  - less chemical usage
  - lower chance of drench resistance
- Lower losses in production from worm outbreaks
- Lower contamination of paddocks with worm eggs
  - lower challenge for young stock
  - less worms in the following season

## What else changes if I just selected for lower WEC?

These are what we call correlations, generally if WEC goes down:

### THE FREE LUNCHES

Higher muscling

Higher staple strength

### THINGS TO WATCH

BUT remember, you can manage these correlations by selecting animals based on indexes or a balance of traits that you are interested in.