

FIS (Foal Immunodeficiency Syndrome)

FIS is caused by a recessive gene. It came into the Gypsy cob gene pool via the Fell and/ or Dales ponies (hence its original name of Fell Pony Syndrome). If two carriers of the gene are bred together there is a 25% chance that the resulting foal will inherit two copies of the gene. If a foal has two copies of the gene, it will develop the syndrome- which is lethal.

A Cob with one copy of the gene is completely asymptomatic. Each parent must be a carrier, and both must pass on the gene for the foal to be affected. Knowing which horses carry the gene is important as by avoiding breeding two carriers together there is no chance of a homozygous foal (a foal with two copies of the gene).

The gene is said to be present in approximately 9% of Gypsy Cobs. Clinical symptoms appear 2-3 weeks after birth and include diarrhoea, nasal discharge, poor growth, pale gums and decreased appetite and secondary bacterial infections. Foals deteriorate rapidly with death occurring in 100% of cases by approximately 3 months of age.

NZGCA currently requires all stallions and all new registrations to be tested for FIS. By knowing which horses carry the gene, and avoiding breeding carriers together, we can prevent homozygous foals. There are no issues for the foal with breeding non carrier to carrier and single adult carriers are completely unaffected.

References:

<https://www.animalgenetics.us/product/Equine/FIS.html>

<https://vgl.ucdavis.edu/test/fis>

<https://www.omia.org/OMIA001578/9796/>