

RAFT BREEDING

NEWS

research | advanced breeding | food futures | training



Summer 16

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Are you making the most of genomics to breed a better herd?

Genomic testing is changing the way dairy producers make management, selection and breeding decisions on farm. To date, the major focus of genomic testing has been the benefit in identifying high quality young bulls early. However, the ability to use the exact same power of prediction for female young stock is now a cost effective management tool for any dairy farmer.

Using genomics, a heifer's genetic potential is revealed early in life, genetic progress can be accelerated with confidence and herd profitability is enhanced by capitalizing on improved performance across a number of traits.



Together with our partners Zoetis we are delighted that we can now offer clients access to the highly regarded Clarifide® genomic test. Clarifide® has been developed and used extensively across the world. Testing is conducted on a hair sample and is available for Holstein, Jersey and Brown Swiss animals. UK/US figures are returned 6-8 weeks after submission for the core selection index (PLI £), production, type, health, management and fitness traits. Parentage confirmation and actual/future inbreeding figures are returned. Genetic recessive conditions and haplotypes that can cause significant losses are also included.

This exciting NEW service ensures that maximum return from investment in genomic testing is achieved. This veterinary genomics package aligns genomic testing with herd health goals to rapidly maximise your herds potential.

Before testing is conducted an appraisal of your herd's current genetic base is made. Breeding objectives specific to the farm are set and a testing strategy is put in place, help to carry out sampling is available as necessary. Animals are ranked using a ranking that is bespoke to your farm focusing on those areas where an improvement through breeding would help to improve performance and productivity on your farm. The results are then presented in an easy to understand format so that the predefined action plan can be implemented easily.

Speak to one of the vets today to learn more about how the Clarifide® genomics package can provide a cost effective solution to optimising genetic progress on your farm.

Speak to your
vet for
further
information
on genomic
testing



A bit about the team...



Jonathan
Statham



Jon
Reader



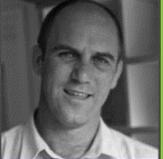
Neil
Eastham



Mark
Spilman



Dr. Andre
Northey



Andy
Adler



Rachel
Hayton



Dr. Katie
Burton



Becky
Gage



Gareth
Foden

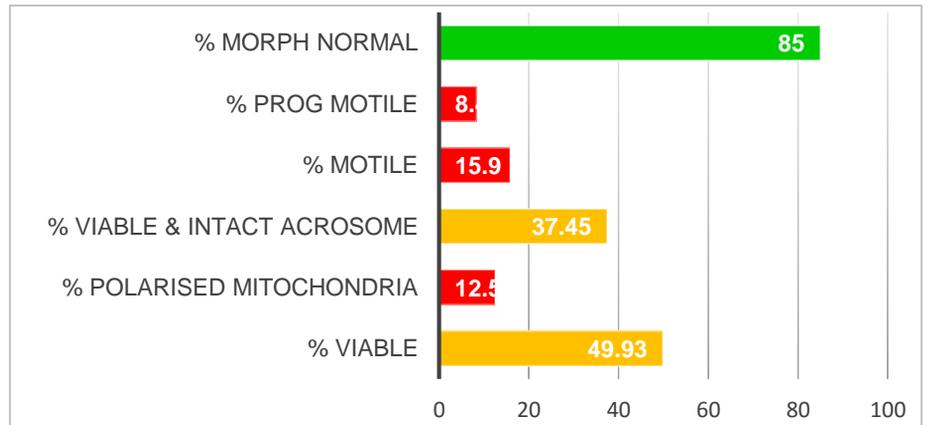
Services we offer:

- Embryo Collection and Embryo Transfer
- Repeat Breeder
- Ovum Pick-Up (OPU)/IVF
- Bull Breeding Soundness Examinations
- Semen Collection
- SemenRate Evaluation Service
- Dye Testing
- Deep Uterine Horn Flushes
- Day Centre/ Livery for Bespoke Programmes
- Semen and Embryo Storage

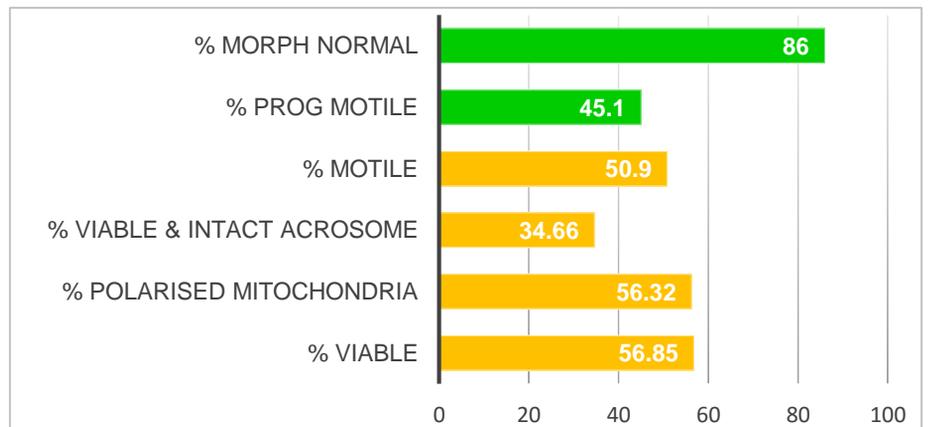
For more information contact us on 01765 645893

Seasonal Breeding Activity – SemenRate Case Study

Using SemenRate, we have been working with clients to try and improve their chances of producing fertilised embryos during embryo collections. An example below shows an initial report for sexed semen and the report for conventional semen from the same bull that a client decided to purchase after receiving the initial results.



Sexed SemenRate Report



Conventional SemenRate Report

As you can see, the motility rate for conventional semen is a lot higher than that of the sexed semen. When semen is sexed it is processed through a flow cytometer this can result in damaging effects and also reduce the concentration by 50%.

This particular client decided to use both batches of semen resulting in 2 fertilised embryos.

For more information on any of our breeding services speak to your vet or contact the office now!

Tup Testing – are your tups fit for purpose?

Tupping time is upon us so ewes are getting flushed and raddle colours are getting chosen but are your tups fit for purpose? The ewes get 'teeth and bagged' as well as flushed and scanned to ensure their performance so we should also thoroughly check the other half of the equation; the tups. Scanning results are a little late to learn of poor performance of a tup. Once tups are in the flock they are often used until they are considered too old but we should be more objective about this. Just because a tup seemed to do his job last year does not guarantee him for this year.

Tup testing should be thought of a bit like an MOT; an annual check of the whole animal to make sure he is functioning well, as he makes up half of the equation after all. Below is the list of checks we perform to make an assessment of the tup:

Tone: tups need to have a good covering at this time of year at Body Conditioning Score 3.5 – 4.0. They need to have plenty of reserves so they can cope with the increased work load. However, tups should not be fat as this can make them lazy. The rest of the body will also be checked for sores and lumps. Anything causing pain or irritation can affect performance.

Ticker: The chest will be listened to in order to ensure the heart and lungs are working well.

Teeth: tupping ewes is an energetic activity and so good teeth are important to ensure the tup can eat properly to maintain his vigour!

Toes: hopefully, the tup will spend a lot of his time on his back legs doing his job so ensuring good foot health is so important. He will also need supple joints for the job so arthritic tups are no good.

Testicles: if all of the above are adequate we can then assess the organs in question. Testicles produce the sperm so need to be looked at closely. The testicles should be freely moving within the scrotum and should be uniform in texture and shape. The testicles should have a similar texture to a tensed bicep. Size does matter. Scrotal circumference is closely related to sperm quality so we use a scrotal measuring tape to make sure he measures up!

Finally, providing everything is in working order we can perform semen analysis. We routinely use an electro ejaculator probe. This probe is firstly inserted into the rectum to massage the accessory sex glands. An electric current is then passed through the probe to stimulate ejaculation. The sample is then visually assessed, first grossly by eye then on a microscope. The movement of the sperm is looked at under a microscope on farm at the time. The shape of the individual sperm cells is then assessed under a more specialised microscope at the practice.

True infertility is rare, but sub fertility is more common. Performing thorough pre breeding examination on your tups will allow objective decision making about whether or not to use a tup and how much work he is capable of.

Why not speak to one of our vets to find out more!



Our vet Kath carrying out a tup test



Collecting cup

On-Farm Semen Collection

There are several reasons why on farm semen collection for use in artificial insemination might be a useful consideration for a herd – **in case of injury, for insurance purposes or to sell domestically**. There is also the possibility to extend the genetic contribution of a bull to the herd outside his natural working life or for bulls to contribute to herds a great distance away without ever leaving the farm. On farm semen collection also provides the opportunity to collect semen from a bull without sending him to stud, allowing his continued use as a natural sire on the farm during the collection period.

In order to collect semen on a farm, it is necessary to **apply for a licence**. This is a relatively straight forward process that takes approximately **one month** from enquiry to receiving the licence and includes testing for **TB, EBL and Brucellosis**. The stud also requires testing for **IBR and BVD**. Once a licence has been approved it is possible to collect from the named bull for three months from the date of issue and there are no restrictions on the number of times a bull can be collected from during this period.

It is usually preferable to collect semen using an **artificial vagina (AV)** – a warmed hollow receptacle attached to a collection tube. This method requires the synchronisation of empty cows/heifers so that they are in standing heat when the collection is due to take place. When the bull attempts to mount the standing cow the vet intercepts using the AV to collect the ejaculate. In instances where there are no cows in heat or the temperament of the bull is such that collection by AV is unsafe for the bull, the collector, or both, collection by electro-ejaculation can be used instead. This requires the bull to be restrained in a crush and the collection is carried out by electrostimulation using a rectal probe resulting in ejaculation.

Collected semen is **assessed on farm** by light microscopy for gross and progressive motility. Samples that are deemed motile enough to survive transport overnight to the stud are mixed with a diluent that provides protection in transit. These are cooled slowly and then transported in an insulated box to the stud. When the semen arrives at the stud it is reassessed for motility and a decision is made as to whether the sample is good enough to freeze. Semen is frozen in a controlled manner in doses of **20 million per ¼ cc straw**. Semen that is frozen will then be subjected to further post-thaw examination. The stud will not release semen that falls below the cut off point for use after it has been thawed.

Any frozen semen that passes the tests for release will be **kept in quarantine for one month** after freezing. These straws are then ready to be used in artificial insemination programmes or to be kept in storage for use at a later date.

For more information on this service including pricing, contact us in the office!



Our vet Phil carrying out a Semen Collection



Morphology screening after a semen collection



Subjective check of semen



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www.twitter.com/RAFTtraining

