The New Zealand Warmblood Association takes our responsibility as an International Stud Book seriously. We recognize and value the role we play in maintaining our Social License and Equine Welfare and ethics are very important to us. We are aware of the role we can play in the education of breeders and riders in New Zealand.

It was therefore an obvious choice for the NZWA to support the recently held conference for the International Society for Equitation Science which was held in New Zealand for the very first time at Lake Karapiro, Cambridge.

The overarching theme of the conference was “A Good Life for Horses” and the section sponsored by the NZ Warmblood Association was “The Impact of Life Experiences”. This section opened with a plenary talk from Associate Professor Janne Winter-Christensen whose talk is summarized below.

Janne is the Associate Professor at the Department of Animal and Veterinary Sciences at Aarhus University in Denmark. She has conducted a number of research projects on equine behaviour, stress reactions and welfare. Her PhD and post doc projects were focused on fear reactions in horses and how to avoid them via appropriate desensitization techniques and the social transmission of behaviour. Her other areas of research have looked into the effects of social isolation of horses in stables, and the stress effects on the horse of various riding techniques such as rollkur. One of her current research project focusses on the maternal influence on the development of behaviour and stress sensitivity in foals, whilst another is looking at conflict behaviours in sport horses.

**Setting Up Horses for a Good Life**

This plenary was all about setting up the foal and young horse for an emotionally and mentally balanced life from the beginning. It covered aspects of the young horse’s life before birth (the influence of genetics and pre-natal effects), as a foal (post-natal effects), and as a youngster growing up. It was clear that there are many factors that influence their behaviour and their ability to handle potentially stressful situations. I am sure we can all agree that a well-adjusted youngster is likely to be easier to start in its ridden career and will be a healthier athlete both physically and mentally – which of course has a large impact on their life as a sport horse.

**Genetic Effects**

* Studies have shown that stallion choice can have some influence on the learning ability of the foal. (Bonnell & MccDonnell 2016)
* There is correlation with each mare as well, and it depends on what stallion she is mated with as to the potential learning ability of the foal.

*Take home message : \*\* The choice of Sire and Dam matters! If you are wanting to produce an easy-to-handle horse who copes well in various arousing environments.*

**Pre-natal Effects**

* Studies in rodents and humans have shown if the pregnant mother is stressed the brain of fetus can be damaged, with less learning capacity. It can also lead to a high propensity for stress or sensitivities. More study is needed with horses but this is well documented in other species.

*Take home message: \*\* The mare’s stress levels during pregnancy matter!*

**Post-Natal effects**

* Studies have shown that an offspring from a very caring and nurturing mother will have less fear, better socialization etc. Again, this has been well documented with other animals but not so much has been done with horses – more study is needed. Factors influencing the foal may include proximity, social grooming, how often the mare breaks the suckling and so forth.
* It is not just post-natal care that is an influence but also the time humans spend with the mare when the foal is at foot. Henry et al (2005) looked at mares handled 15 mins a day for 5 days post foaling and found this had a positive effect on the foals who were easier to handle and showed less fear than those in the control group.
* Christensen (2016) studied 28 pregnant mares who were habituated to potentially fearful situations (walking on tarps, being close to umbrellas, having objects rubbed on their bodies whilst eating etc). Once the foals were born the mares were once again exposed to the same situations with the foals at foot. At 8 and 20 weeks old foals were tested on fear tests, using the same stimuli and also new stimuli. The study showed lowered stress responses in comparison to the foals whose mothers were in the control group (ie were not previously habituated).
* Neonatal (Forced) handling (ie the once popular “Imprint Training” and similar) cannot be recommended. Studies have found it doesn’t work and may be detrimental to the young foal’s future development.

*Take home message: \*\* Having a well-handled mare matters! A mare that is well handled and habituated to potentially frightening stimuli can pass this calmness onto her foal by showing them that there is nothing to be fearful of.*

**Weaning:**

* Natural Weaning normally occurs around 9-10 months of age and it’s a phenomenon that starts gradually from 8 months of age. In a feral herd situation, any fillies stay within the group and a filly may remain attached to her dam for life.
* 2 definitions of weaning, the first being the ceasing of suckling from the dam and the second is when the social attachment to the dam ends… A foal will still bond with the dam long after suckling has ceased.
* Malmkvist et al (2014) showed that later weaning leads to lower stress response compared to early weaning.

When we look at regular domestic weaning situations, most foals are weaned somewhere between 4 to 7 months. Their time with their mother is often ended very abruptly which can lead to long lasting behavioral and physiological stress responses. Early and abrupt weaning has been proven to be associated with development of stereotypic behavior in horses.

Why do we wean early? Sometimes it is to control the nutritional intake of the youngster. It can also mean the weanling may be able to be sold earlier, and some people believe an earlier weaning will make a foal more focused on the human – however none of these factors are proven to be in the horse’s best interest and are therefore not welfare centered.

The fewest stress responses appear to occur when foals are:

1. introduced to a fat and fiber-rich diet prior to weaning.
2. weaned gradually (repeated short-term separation, progressive removal of one mare at a time from the mare and foal herd).
3. allowed social contact with other foals and/or older horses at weaning.

*Take home message: \*\* The way we wean a young horse matters! The most likely lowest stress approach will be natural weaning, but if this is not possible, there are ways we can help make weaning as stress-free as possible.*

**Adolescence:**

* Young horses should preferably be kept in mixed age groups, or at least with 1-2 older horses which is beneficial for their social behavior. A study by Bourjade et al., 2008 showed that this led to fewer agonistic and more affiliative interactions.
* All horses, particularly foals and young horses need free movement, social contact and play for normal physical development.
* Play is also important (Cameron et al 2008): youngsters that play more have higher survival rate, become more adaptative.

During the phases of weaning and adolescence we need to be careful as these can be very sensitive periods of life for the young horse. The affiliative qualities of human-horse interactions are likely more important than at which exact age these interactions occur. It will be most beneficial to establish clear and consistent interactions using techniques that fully align with learning theory (the science of how mammals learn).

Young horses are easier to handle if their social needs are met, which includes being allowed to play. This provides the additional benefit of allowing horses to express their naturally motivated social behaviours.

*Take home message: \*\* The way we keep and handle our young horses matters!*

**Summary – Setting horses up for a Good Life**

Consideration must always be given to the basic needs of every equine – social contact, space to express free locomotion and play behaviour, along with a roughage-based diet.

Habituation to humans, handling, and to various potentially frightening situations needs to take place, and ideally this can be achieved through maternal transmission.

Preparing the young horse for its adult life can improve both equine welfare and horse and human safety.