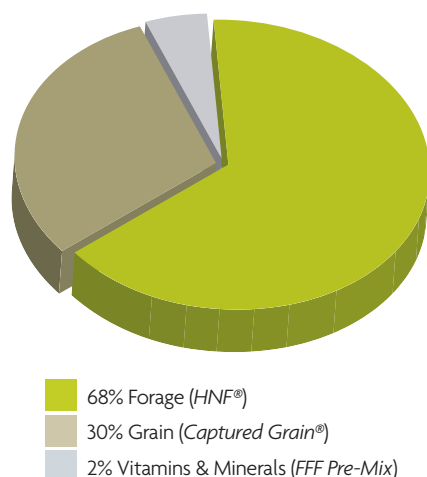


Total Mixed Rations – A new concept for feeding horses

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Total Mixed Rations (TMRs), are a logical new concept in the way we feed our horses. The term TMR has been described as a single diet that supplies all of the nutrients and forage the horse requires in the correct amounts and proportions, providing the horse with a complete and balanced meal. TMRs take away the need to try and balance your horses diet yourself with countless feeds and supplements and replace these with one complete feed that is also balanced for forage, something that is often overlooked in diet formulation for horses. TMRs are used extensively in production animal industries overseas; however, this concept may be foreign to many horse owners in New Zealand. One way to understand a TMR is to look at the foods that we feed our cats and dogs. Through extensive nutritional research, these prepared feeds have been designed to provide our beloved pets all the nutrients they require in one convenient sachet, can or pouch. Why then can't we do the same for our horses? Total Mixed Rations (TMRs), provide horse owners with a logical new concept in the way we feed our horses.

Composition of a typical Total Mixed Ration



It is important to note that 'TMRs' and 'Complete' feeds are different. Many feed companies market their feeds as being "complete and balanced", however one crucial point that prevents most of these complete feeds also being TMRs is the fact that they are NOT balanced for the horses forage requirement. To optimise digestive health, forage should make up at least 50% of the horses daily feed intake. Horses have evolved as grazing animals and their digestive tracts have therefore evolved to be suited to a high forage diet. However, as our demands on horses have increased over the years, we have had to look at other, more concentrated energy sources such as cereal grains and more recently fats to fulfil energy requirements. This is where the term 'concentrate feed' has evolved from and from there, the term 'complete feed' has also evolved. Most complete feeds are concentrated, cereal-based feeds and are now balanced for the mineral and vitamin requirements of the horse. However they lack any, or sufficient essential forage to be classified as a TMR, meaning supplementary forage must be fed alongside these feeds.

Many of the gastric health issues (such as Gastric Ulceration and Colic) can be caused, at least in part by feeding large quantities of cereal-grain based feeds, and/or a lack of sufficient forage in the diet. The effectiveness of TMRs for horses have recently been investigated in America by World Renowned Equine Nutritionist Dr. Sarah Ralston and others. They have concluded that Equine TMRs not only provide more efficient feed conversion for growing horses but also minimise sudden peaks in blood glucose and insulin associated with feeding conventional concentrate feeds. Researchers in both New Zealand and America have found that vices such as wood chewing (and windsucking), that are often seen in stabled horses, and health problems such as gastric ulceration and colic, can be reduced in horses with more consistent and continuous access to forage provided by TMRs as they are more slowly consumed than conventional pelleted and textured cereal-based feeds (Waldron 2010, Ralston 2012).

Fiber Fresh Feeds' programme of nutrition research has developed two feeds that can be fed to horses not only as primary (base) feeds, but also as a sole feed or TMR. *FiberEdge®* and *FiberSure®* are the only two examples of equine TMRs in New Zealand. In addition to the benefits of conventional TMRs these two feeds also feature moist high energy HNF Fiber® and fresh Captured Grain®. The high energy HNF® present in all Fiber Fresh feeds provides a superior form of forage suitable for all horses. Captured Grain®, when fed in conjunction with HNF®, maximises the nutrient and energy potential of grain.

The advantage of a TMR is that it is nutritionally complete, and balanced for essential forage. Each 1kg of *FiberEdge®* and *FiberSure®* fed provides the correct proportion of forage, energy, protein and all vitamins and minerals needed by the horse. These forage dominant feeds can be fed

“FiberEdge® and FiberSure® have been developed as equine TMRs that can fulfil all of your horses' requirements, INCLUDING their requirement for forage, with a single feed.”

either as the primary feed in the ration, or as the sole feed to satisfy 100% of the daily nutritional requirements of the horse. If used as a sole feed the daily feeding amounts will be higher, however, other feeds including forages such as hays and chaffs (or even pasture) would no longer be necessary. TMRs can be effective feeds for all horses but are especially useful if your horse is being boxed for long periods at a time, or where pasture quality is variable. *FiberEdge®* is formulated as a high energy TMR especially for horses in the highest level of competition, while *FiberSure®* has been prepared as a TMR for growing horses, stallions and pregnant and lactating mares with elevated nutrient and energy needs. When used as a sole feed, TMRs provide racehorse breeders, owners and trainers an exciting new alternative to existing feed options.

FiberEdge® and *FiberSure®* have been developed as equine TMRs that can fulfil all of your horses' requirements, INCLUDING their requirement for forage, with a single feed*.

*Although Fiber Fresh feeds are moist and rehydrating horses must always have access to clean fresh water.

It is important to note that 'TMRs' and 'Complete' feeds are different

Complete Feed – Grain based	Total Mixed Rations (TMRs) – Forage based
Concentrated nutrients do not meet forage requirement	Balanced for all essential nutrients and meets the horses' requirement for forage
Should be fed in small quantities and alongside additional forage to prevent digestive upsets	Can be fed without the need for additional forage to prevent digestive upsets and maintain optimal gastric health
May lead to gastric ulceration, colic and laminitis in prone horses or if fed in large quantities	Helps maintain gastric health and prevent the onset of digestive upsets associated with feeding large quantities of grain based feeds
Consumed faster than TMRs leading to increased risk of digestive disturbances associated with rapid feed intake	Consumed slower than concentrate feeds, leading to greater retention of nutrients, increased feed efficiency and prevention of digestive disturbances associated with rapid feed intake