Feeding Older Horses

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The oldest horse recorded in the Guiness Book of Records was 'Old Billy' who was born in 1760 in England and died on November 22, 1822 at the age of 62. The oldest Thoroughbred was a 42 year old chestnut gelding named 'Tango Duke' who lived in Victoria. The greatest age reliably recorded for a pony is 54 years for a stallion who lived in France and for a Moorland pony named 'Joey', 44 years.

A horse at 6 months of age is equivalent to a 6 year old child, at 12 months it is equivalent to a 12 year old child, at 2 years an 18 year old child and thereafter 1 year of a horses life is equal to 3 years of humm life. A 20 year-old horse is equivalent to a 60 year old person.

The table below shows the equivalent human and horse years:

Horse Age compared to Human Age	
6 months = 6 years	24 years = 72 years
12 months = 12 years	30 years = 90 years
2 years = 18 years	40 years = 120 years
3 years = 21 years	Tango Duke = 126 years
10 years = 30 years	Joey = 132 years
20 years = 60 years	Old Billy = 186 years

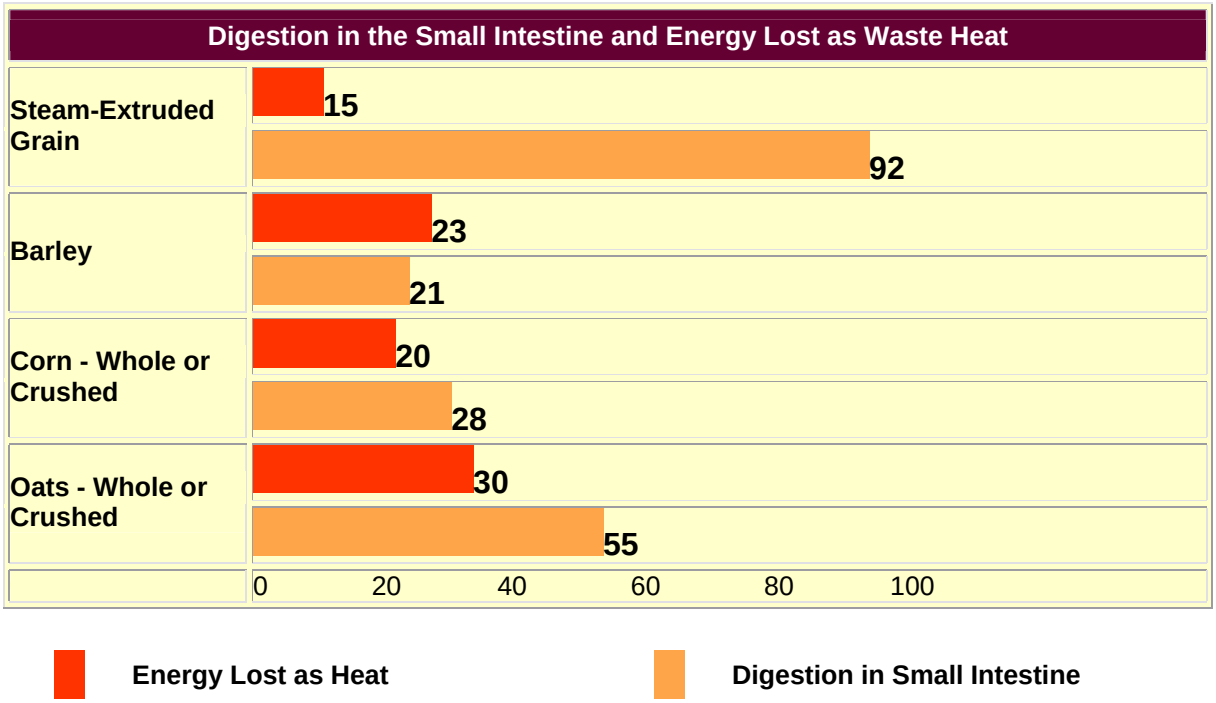
Although the average life span of the horse is often said to be 24 years, many well cared for horses age gracefully and usefully, continuing to be ridden and have foals. These horses can make ideal 'school masters' for those learning to ride, The more inexperienced the rider is, the older and more experienced the horse should be - there is a saying that: the combined age of the horse and rider should exceed 20 years.

Older horses are usually very sweet, have kind natures and will be gentle with young riders -- making them valuable and deserving of being well looked after. And those that have given much during their riding years, are healthy and enjoying life, but can no longer be ridden, can continue on for many years if a few small adjustments are made to accommodate their changing requirements.

The physical changes that accompany aging include greying of the coat, swaying of the back, prominence of the backbone, arthritis, anaemia, susceptibility to respiratory and skin conditions, changes in the teeth, reduced salivation, and a 20% reduction in the ability to digest and absorb certain nutrients.

Because of these changes, horses from late teens onwards require a balanced diet that is highly digestible. Raw grains are not well digested by the small intestine - over half the amount fed passes into the caecum where it ferments - yielding acid, heat, gas and ammonia, Low digestibility in the small intestine predisposes horses to loss of appetite, colic, diarrhoea and laminitis - as well as reducing fibre, energy, protein and mineral absorption.

Recent veterinary research has found that processing of grains by crushing or cracking does little to improve digestion but that ***steam extrusion*** - an advanced process that improves, advances and supercedes older methods of grinding, boiling and pelleting - increases digestion to 92%. The graph below shows that oats - whether whole or crushed - are only 45% digested in the small intestine; whole, cracked or crushed corn only 29% digested and barley only 21% digested. *Steam extruded* grains are over 90% digested.



Of the energy in oats, 30% is lost as waste heat; 20% of corn energy and 23% of the energy in barley. As well as losing this energy and not being available to use it for body weight maintenance, the heat produced adds significantly to heat stress in hot weather. Although raw grains are traditional feeds for horses, they were first used in the cold climates of England and Ireland and are not necessarily appropriate for hot and/or humid countries.

International veterinary nutrition research has consistently found that steam-extrusion of 'complete' formulations (containing grains, protein meals, high oil levels, heat- stable vitamins, minerals and salts) increases protein, mineral, fibre and energy digestibility and releases nutrients that were previously unavailable.

This is because steam extrusion promotes and supports the natural functions of the horse's system by shifting the site of feed digestion back to the small intestine - where nature intended it to be.

The untangling of nutrients during wet steam-extrusion allows digestive enzymes in the small intestine to work up to 100 times faster - increasing nutrient availability and reducing acid, heat and gas production.

Increased digestibility of *steam extruded* feeds improves feed conversion efficiency so a lower weight of *steam extruded nuts* is required than if feeding pellets or unprocessed feeds.

Veterinary researchers have found that blood test results, coat condition, level of physical activity and body weight are superior when older horses are fed steam extruded nuts. Horses that were in light condition gained 0.36kg per day on *steam extruded nuts* and those on sweet feed actually lost 0.1kg per day. *Steam extrusion* also improves mineral absorption - especially phosphorus whereas pelleted feeds were shown to reduce calcium and magnesium absorption.

Other studies comparing *steam extruded* and pelleted feeds found the horses ate slower, chewed for longer and produced more saliva with *steam extruded nuts* - and that this led to a reduction in the incidence of choke and colic, steam extruded nuts also offer advantages for dental care because they are low density, gentle on teeth and can be readily softened to a mash for horses with mouth discomfort.

Steam extruded feeds are clean and dust-free, preventing respiratory irritation and the low moisture level (8% compared to grains which are 11 to -13.5%) reduces mould spores which are known to irritate the repiratory system.

Steam extrusion is a complex and sophisticated process requiring considerable investment. The combination of heat and moisture aids in the gelatinization of starches, untangling of proteins and elimination of bacteria. Dry-extrusion is a less advanced process and because of reduced moisture levels, dry extrusion can result in reduced acceptance of feed, loss of vitamins and destruction of amino acids.

All the studies done on the benefits of extruded feeds for horses have used steam extruded feed and the conclusions of these studies cannot be applied to feeds produced by dry-extrusion.

Omega 3 oils have been found to benefit blood oxygen leveis and reduce the incidence and severity of arthritis and inflammatory skin conditions in both humans and animals. A small amount of **Omega 3** oil per day could provide benefits for the blood and immune system in older horses. The advent of *steam extrusion* has enabled the inclusion of high oil levels in *complete* feeds. With older methods of processing, such as pelletiog, oil could not be included at more than about 4 - 5%.

It is because of the many difficulties associated with meeting all the differing needs of older horses that Mitavite has developed a specially formulated, fully pressure cooked and extruded, nutritionally complete, clean, dust-free feed - **Mitavite Gumnuts** - to assist owners in the care and maintenance of ageing horses.

Body System	Changes in Older Horses	Effect of Changes
Teeth	Wear down, reduced saliva	Chewing and swallowing problems
Digestive System	Reduced digestion and absorption	Need 20% more feed or a 20% more digestible feed
Coat and skin	Dryness and dermatitis	Need oils and correct Omega 3 to Omega 6 balance
Blood Glucose	Cannot tolerate raw grains well	Need highly digestible fibre and higher oil diet
Anaemia	Red blood cell production changes	Trace mineral, vitamin and iron intake must be optimal
Vitamins	Less able to synthesize vitamins C and B	Vitamins in feed must be readily absorbed
Calcium & Phosphorus	Reduced absorption and ratio must be correct	Mineral absorption is reduced
Joints	Arthritis and chronic wear and tear	Softer bones, lameness
Hooves	Increased risk of lamimitis and weak hooves	Diet needs adequate protein, biotin, zinc
Respiratory System	Prone to allergic conditions	Feed should be clean and dust-free

The result of careful study and research, **Mitavite Gumnuts** combines time honoured basic principles with the latest in manufacturing technology and the most recent veterinary research. it is part of the next generation of feeds for horses, making available all the benefits of international veterinary and nutrition research - so that horses benefit.