

THE EQUINE LIVER

The liver is the second largest single organ in the horse (the skin being the first), accounting for approximately 1.5% of body weight.

It is contained in the cranial abdomen, entirely within the rib cage, to the right of the midline.

The detoxifying organ of the body for many xenobiotics (a chemical compound; such as a drug, pesticide, or carcinogen that is foreign to a living organism), the liver is the prime organ for first-passage metabolism of many drugs and for excretion of some.

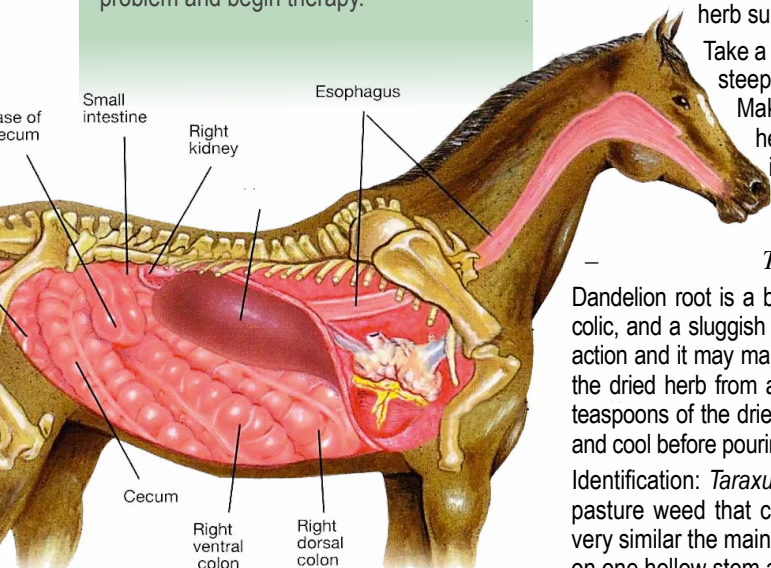
Ten percent of a horse's total blood volume of the body resides in the liver, so any disease can have significant consequences.

Fortunately, the liver is an amazingly regenerative organ and most diseases do not progress to failure as this is relatively rare in horses, in part because at least 70% of the organ must be affected before functional biochemical changes and signs of liver disease occur.

An extremely complex organ, the liver is tasked with so many of the vital functions that maintain and sustain health and life.

Liver disease in the horse can develop as an acute form or persist in a more chronic form. The potential problems that can occur with the liver are many and varied.

Timely recognition of mild clinical signs, followed by biochemical tests, ultrasound, and biopsy, can all help the veterinarian determine the nature of the problem and begin therapy.



Liver Tone/Detox

The liver is a multifunctional organ (over 500 hundred functions have been identified) and is essential for life.

It's the body's chemical factory that has many functions concerned with the processes of digestion, blood cleansing, sugar metabolism – therefore a factor in insulin resistance and metabolic syndrome. It disposes of worn-out blood cells, filters and destroys bacteria and neutralises poisons. It's the chief supplier and balancer of glucose – the basic fuel of the body.

It is therefore very important to help the liver function at it's best. To do this it is suggested that a liver tonic be used to tone before embarking on a detox as, in most cases, once the liver is toned it's own innate detoxification function does the rest. If man or horse was put on an effective detox program before toning the liver then they would experience discomfort or pain as the body goes through the process, whereas a toned liver, if it needs more help in the detoxification process, copes much better and the individual can remain in work without feeling ill.

Detoxification helps eliminate toxins that may lead to decreased immunity and eventual disease. The livers of horses with healthy immune systems, no exposure to new horses, ample clean water, plenty of exercise and grazing on a variety of unpolluted grasses are at minimum risk and detoxification may only be needed after a stressful or traumatic episode eg. accidents of any sort, big frights etc. or after the horse has been sprayed with chemicals eg. imported horses, horses sprayed at state borders, horses sprayed with insecticide. Give after or at the time of any illness or poison; after any side effects from vaccinations, in conjunction with veterinary advice.

Generally it's also good practice to give the horse a liver tonic at the turn of the seasons, particularly at the onset of spring and autumn. Even though the horse may appear to show no problems directly after any of the above indicators, there's every probability that it will exhibit any of the following symptoms in the following months;

*Dull in the coat * Itchy *Temperament changes *Lack-lustre performance * Below par, depressed. *Not quite him/her self.

Clearly these symptoms can indicate all manner of disease and if the horse is sick then it is advisable to seek the services of a veterinarian and a qualified horse herbalist. However, giving a three week course of liver-toning herbs will never hurt and could be considered as good preventative medicine.

ST. MARY'S THISTLE (Milk thistle) – *Silybum marianum*.

Healing herb extraordinaire! This is one of my most frequently used herbs in 30 years of practice. Milk Thistle as a medicine was written about at least 2400 years ago and science today is proving *Silybum marianum*'s ability to protect and tone many organs, primarily the liver, kidneys and pancreas. The dried herb can be purchased from a health food store or from a reputable horse herb supplier.



Take a handful of the herb, add 250-300mls of almost-boiling water, allow to steep and cool, and add all content to your horses feed once daily for three weeks.

Making the dried herb into a tea allows all the water soluble constituents in the herb to be dissolved into the water, therefore your horse's body can utilise it immediately, rather than having to go through the gut for absorption.

DANDELION ROOT (not leaves)

Taraxum officinale

Dandelion root is a bitter tonic, which aids digestive liver insufficiency, flatulent colic, and a sluggish or enlarged liver. Dandelion root does have a mild diuretic action and it may make your horse urinate more frequently for a time. Purchase the dried herb from a health store or a reputable horse herb supplier. Add 2-3 teaspoons of the dried herb to 250ml of almost-boiling water and allow to steep and cool before pouring over the horse's feed once daily for three weeks.

Identification: *Taraxum officinale* is often confused with Flatweed, a common pasture weed that can cause stringhalt. Whilst dandelion and flatweed look very similar the main distinguishing feature is that the dandelion flower head is on one hollow stem and flatweeds have branched solid stems.



When does your horse's liver need help?

Giving a three week course of liver-toning herbs will never hurt and could be considered as good preventative medicine.

About the Author:

ANGELA DAVISON - THE HORSE HERBALIST



Angela was one of Australia's first female jockeys before retraining as a Classical Herbalist, Cranio-Sacral and Equine Bowen Therapist. As well as creating a range of Herbs for Horses (go to thehorseherbalist.com),

Angela pioneered a unique hair assessment system for horses in the 1990's and has formulated many hand-blended proprietary herbal formulas to address the core of most human and horses complaints. Angela is also the author of 'Flower Remedies for Horses, Pets and People'. Find out more at www.thehorseherbalist.com.

TURMERIC – *Curcuma longa*

Tumeric has been used medicinally since time immemorial not only in Indian and Chinese herbal medicine but also in Western Traditional Medicine.

Tumeric has many potential indications including for liver dysfunction. It has been proven to enhance phase 1 and 2 detoxification of the liver so is an excellent herb to give after a course of St Mary's Thistle.

We are lucky here in Australia as fresh tumeric rhizome is easily available at the grocery store. Grate 4-6cm and add to 250ml almost-boiling water and allow to steep and cool before pouring all the content over the horse's feed once daily



Please do not purchase any human liver detoxifying products to give to your horse!!

NB: The above information is not to take the place of veterinarian's or qualified Horse Herbalist's advice.

DEEDS, STEEDS AND WEEDS

WORM TO THE RUBBISH RESCUE



The global plastic bag crisis could be solved by a waxwork worm capable of eating through the material at 'uniquely high speeds', scientists say.

Researchers describe the tiny caterpillar's ability to break down even the toughest plastics as "extremely exciting" and said it could offer an environmentally friendly solution. About a trillion plastic bags are used worldwide each year.

A huge number find their way into the oceans or are discarded into landfill. The waxwork worm, found in

bee hives or harvested as fishing bait, has proved it can eat its way through polyethylene, which is notoriously hard to break down, more than 1400 times faster than other organisms.

GRASSES TO WATCH FOR AT RISK HORSES

Ryegrass, fescues, cocksfoot, brome, paspalum and barley grass pastures, as well as common cereal grain grasses, such as oats, wheat and barley, are most likely to have the highest NSC content as they flush early in spring or after summer rains. These grasses continue to produce fructans and NSCs for growth under favourable conditions.

Many native species of grasses have lower levels of NSCs and sugars, but they are often grazed out or competed with by more vigorous C3 or C4 grasses.

Dangerous C4 Grasses for Grazing

Warm season and tropical (C4) grasses store starch rather than fructan sugars and once the starch content is maximised, they do not produce more starch. These include kikuyu, couch grass, early

growth Rhodes grass, *Setaria* species, panics, buffelo grass and most other tropical grasses. They are most dangerous when rapidly growing after rain, irrigation and fertiliser application (nitrogen). *Note: Clover and medics are high in NSCs and protein during flush period and an excess intake of both NSC and protein may trigger a laminitis episode.*



Many Native grasses are more suited for those horses at risk of laminitis.

BIO SECURITY FROM AN APP

For those struggling to understand just what bio-security measure they need and can manage on their horse property, it's worth having a look at this free, FarmBiosecurity planning app. Watch the video and it will give you some great ideas of what you could be doing. Consider the fact that people - like vets, farriers, trainers, feed merchants etc. - who go from property to property, could be unintentionally spreading disease, or unwanted plant life.

The FarmBiosecurity app is for people on the go who want to bolster biosecurity on their farm or horse property. It's based on the six biosecurity essentials, covering every aspect of your day-to-day activities.

Creating a biosecurity plan on the app is easy. Simply select the actions that apply to you or type in your own actions. Your selections then become a to-do list that you can share with others or email to yourself and print out. And, if you have multiple properties or sites, that's not a problem. You can add as many as you like.

By using the FarmBiosecurity app, you can take your own biosecurity action list with you wherever you go. And, if you do spot anything unusual while you are out and about, the hotline numbers for both crop and livestock producers are at hand. Many horse owners ignore the need for bio-security, perhaps thinking it is relevant only to diseases such as the Equine Influenza (EI) outbreak in Australia in August 2007. While this should have taught us all that there is a need to be prepared, a bio-security plan can also prevent outbreaks of weeds or common contagious horse ailments. Having a plan in place means it can quickly be upgraded at the first sign of any outbreak and it is a positive step to help secure your horse property's future.

For more information about the FarmBiosecurity app go to app webpage on the Farm Biosecurity website <https://www.youtube.com/watch?v=mUcjHn0zo4A>