



**Massey University**

# **Veterinary Teaching Hospital**

## **RAGWORT POISONING**

Ragwort poisoning is one of the many causes of liver disease in horses and ponies in the UK. Ragwort is a tall plant with yellow flowers. Its scientific name is *Senecio jacobea* and it contains a poison (toxin) which is also found in some other plants, such as *Lantana* and some *Heliotropes*. The poison is found in variable concentrations in different parts of the plant and at different stages of its growth. The plants are not very palatable and horses will not usually eat them unless pasture is heavily contaminated or there is little other food available. However, the poison is very stable and remains toxic even when the dried plant is incorporated into hay. The most common cause of ragwort poisoning is therefore from chronic (long-term) eating of hay which includes dried ragwort.

### **What are the signs of ragwort poisoning?**

Unless very large quantities of fresh plants are eaten, which is very uncommon in UK, the symptoms of poisoning are usually not seen until 4 weeks to 6 months after eating the plants. Small doses of the poison gradually accumulate in the horse's liver where it causes damage to the liver cells and subsequent scarring, eventually causing the liver to shrink in size. Symptoms of liver disease only develop when the organ is no longer able to compensate for the loss of functional tissue. Symptoms usually develop quite suddenly, although in some horses and ponies slight illness can precede more severe symptoms. Early signs include loss of appetite, depression, diarrhoea, weight loss, photosensitization (excessive sensitivity to sunlight) and mild jaundice. More severe symptoms include abnormal behaviour, which can range from profound depression to compulsive walking, circling and pressing the head against objects (e.g. walls) and blindness, . These behavioural abnormalities are caused by toxic effects on the horse's brain (hepatic encephalopathy).

### **How is ragwort poisoning diagnosed and treated?**

The diagnosis of ragwort poisoning is initially suspected on the basis of clinical signs and laboratory tests. A history of ingestion of ragwort is often unclear due to the time lag between ingestion and the development of clinical signs. Laboratory tests, including the measurement of liver enzymes, bile acids and bilirubin levels in the horse's blood, confirm a diagnosis of liver disease and assess the liver's ability to function. To confirm the diagnosis of ragwort poisoning, a liver biopsy is required to demonstrate the typical microscopic abnormalities (pathology). If these are not found, the biopsy may help to suggest other possible causes of liver damage. Liver biopsy is a quick, simple and safe technique performed under mild sedation and local anaesthetic. Follow-up liver biopsies may help to monitor progression of the condition in horses receiving treatment for ragwort poisoning.

As symptoms often only develop late in the course of the disease, treatment is rarely successful for severely poisoned horses, especially those with behavioural abnormalities. Feeding a special diet to try to reduce the severity of nervous symptoms can help in the short term in some cases. The scar tissue which develops in the liver cannot be replaced by normal liver tissue, but less severely poisoned horses can sometimes be helped to compensate for their loss of liver tissue.

Other in-contact horses should be examined for signs of poisoning so that they can receive treatment and extra care. Blood screening tests for liver damage and abnormal liver function are the first steps.

## How can I prevent ragwort poisoning?

Ragwort is a biennial plant. In the first year a flattish crown of branched leaves is formed. This flat crown is fairly resistant to mowing and is often not noticed. In the second year yellow flowers are produced on stems which are up to approximately 80 cm high. Any plants that are found should be pulled up by their roots and disposed of away from livestock. Impervious gloves should be worn when pulling up ragwort as its toxin can be absorbed through human skin. Do not leave cut or pulled plants in the paddock or they may be eaten when they have dried and are more palatable. Plants on adjacent land should be removed to avoid the spreading of seed back into your paddocks. Always ensure that there is adequate grazing or alternative food sources such as hay, so that your horse or pony is not tempted to eat any ragwort which may have been missed. New weed-killing sprays are now available and manufacturers claim that they are effective in killing ragwort while being safe to use near horses. Individual ragwort plants can be spot sprayed. Do not use pasture which is contaminated with ragwort for hay making because the poison remains active even in dried plants.