Menter Moch Cymru
Developing the pig sector in Wales
Datblygu'r sector moch yng Nghymru

Plants toxic to pigs

Pigs that are reared outdoors in woodland or on areas of rough land may be at risk from eating the roots and foliage of common plants that are toxic to them.

The most reported plant toxicities for pigs are caused by bracken and hemlock, however other plants are also known to be toxic. Identifying which plants are poisonous to pigs is important in order to protect them and this factsheet provides a summary of the most common plants that are known to be toxic to pigs if eaten.

If your pigs have been turned out in a new pasture or previously un-rooted woodland, it is worth identifying if there are any potentially toxic plants present.

Figure 1 Bracken ferns

Bracken (Pteridium aquilinum)

Bracken is a fern found commonly throughout the UK, except in very wet or limestone areas. It contains more than one toxin creating problems for several different species if ingested. For pigs the toxin of importance is thiaminase which is an enzyme that breaks down thiamine causing the pigs to become deficient in vitamin B1.

Bracken poisoning can affect all ages of pigs that have experienced exposure to the plant for periods in excess of 6 weeks.

The rhizomes and young leaves of bracken plants contain a higher concentration of thiaminase than older leaves and therefore access to areas of growing bracken and the natural rooting behaviour of the pigs increases the risk of them

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eating these highly toxic parts of the plants. The toxicity and palatability of bracken can vary with season, growth and locality.

Pigs can also develop bracken poisoning if it is used as a bedding material and is consumed.

Clinical signs of Bracken poisoning:

- Acute heart failure
- Breathing difficulties
- Appetite loss
- Vomiting
- Occasional incoordination
- Sudden death

If bracken toxicity is suspected then pigs should be removed from areas where they can ingest bracken. **The area should be cleared of the bracken before re-introducing pigs.** Affected animals can also receive treatment with injectable Vitamin B1 (Thiamine) however severely affected pigs may require euthanasia.

Prevention focuses on avoiding exposure to bracken plants and not using bracken as a bedding material. When moving pigs to a new grazing area it is advisable to check for the presence of bracken.

Protecting food safety

It is important to note that bracken poisoning is reportable to the Food Standards Agency as it is potentially a food safety issue.

Pigs destined for human consumption must be removed from exposure to bracken for at least 15 days prior to slaughter.

Figure 2 Pigs grazing close to bracken

The Animal and Plant Health Agency (APHA) have produced a guide to bracken poisoning in pigs which can be found on their **website.**

Figure 3 Hemlock flower

Figure 4 Hemlock foliage

Hemlock (Conium maculatum)

Poison hemlock is a biennial weed that is toxic to both livestock and humans, if enough is consumed.

It grows throughout the UK and can often be found along roadsides, at the edges of cultivated fields, on stream banks and in field fence rows. If eaten, all parts of the plant can be fatally toxic to pigs. There are several alkaloid compounds in hemlock which cause the toxicity.

These substances are most potent in fresh plants but do retain some toxicity when dry therefore contaminated bedding should be avoided and care should be taken when making hay. The potency of the toxin in the plants is dependent

upon the species of plant and the stage of growth, the season, moisture and temperature levels, the time of day and geographical region. The seeds of hemlock plants are a source of poisoning if they're able to contaminate grain.

Hemlock poisoning in pigs falls into two categories:

Acute poisoning, which is rapid, affects the nervous system and often results in death.

Sub-acute poisoning, which if it occurs in the first trimester of pregnancy can cause foetal abnormalities such as crooked legs, deformed neck and spine and occasionally cleft palates.

Clinical signs of Hemlock poisoning:

- Nervous signs – trembling, weakness, incoordination
- Excessive salivation
- Pupil dilation
- Temporary blindness
- Appearance of deep sleep
- Musty, mousy odour to breath and urine
- Respiratory failure due to the paralysis of respiratory muscles
- Death
- Birth defects – limb and spinal deformities and cleft palate

There is no treatment available for hemlock poisoning, however if pigs are not acutely affected then they can recover fully.

Figure 5 Giant Hogweed (Heracleum mantegazzianum)

Figure 6 Hemlock water dropwort (Oenanthe crocata)

Other Hemlock related plants (Umbellifera)

These relatives of Hemlock include some familiar food plants including parsnips, carrots, celery, parsley, fennel, dill, coriander, caraway and cumin as well as more recognizably toxic plants such as Giant hogweed and Hemlock water dropwort. The most toxic part of these plants are usually the top leaves.

Clinical signs of Umbellifera poisoning

Photosensitisation which exhibits the following symptoms in pigs:

- Enhanced sensitivity of the skin to the sun's UV rays
- Areas of red and inflamed skin
- Blistering of the skin
- Often lesions seen around the mouth and belly region

Parsnip poisoning

Parsnips would be the most documented of the Umbellifera for causing toxicity in pigs, mostly through ingesting the leaves but effects can be seen following ingestion of the roots themselves.

In parsnip poisoning specifically, in addition to photosensitisation the following signs have been reported:

- Blindness
- Unusual behaviour
- Screeching as if in pain
- Abortion

There is no specific treatment for pigs affected by any of these clinical signs. The most severely affected animals would require euthanasia on welfare grounds. Some symptomatic treatment could be provided to pigs suffering from mild photosensitisation signs. The best action is to avoid exposure in the first instance by checking paddocks for the plant species and avoiding grazing pigs on ground where parsnips may remain from a previous crop. Do not intentionally feed parsnips to pigs.

Figure 7 Parsnips

There are many other plants that can pose a risk to pigs …

Deadly nightshade (Atropa belladonna) poisoning in pigs is a rare occurrence but symptoms to look out for are acute bloody gastroenteritis, salivation, trembling, paralysis, coma and death.

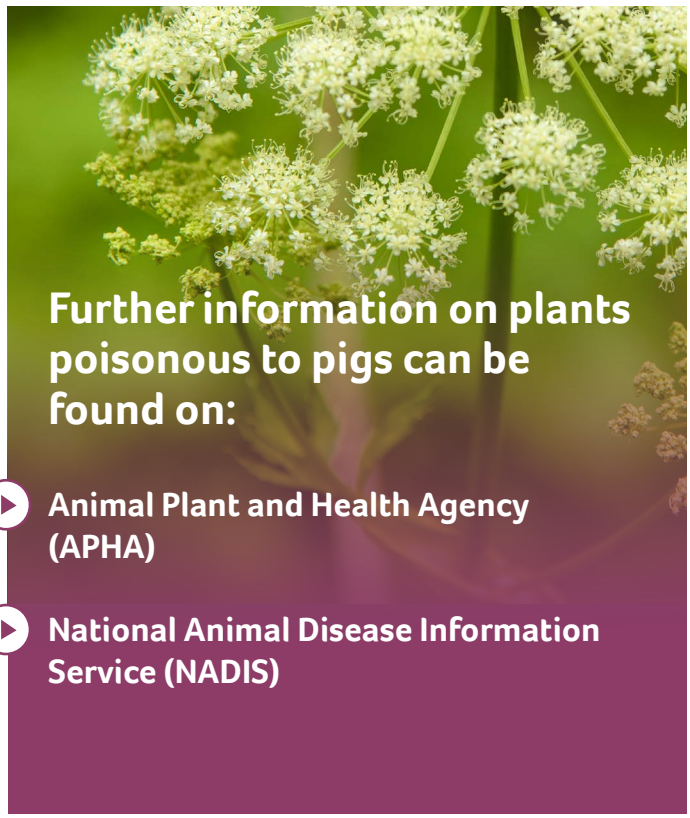
Red clover (Trifolium pratense) if infected with a fungus (Rhizoctonia leguminocola) when eaten releases the toxin Slaframine. This is found in cool wet conditions during spring and autumn. The symptoms are excess salivation and slobbering, tearing in the eyes, diarrhoea, bloating, frequent urination and photosensitisation of the skin.

Foxgloves (Digitalis purpurea) have an unpalatable taste and therefore poisoning is infrequent. The symptoms to look for include drooling, nausea, vomiting, abnormal heart rate, dilated pupils, seizures and death.

Laburnum (Laburnum anagyroides) if eaten by pigs will result in loss of appetite, convulsions and death.

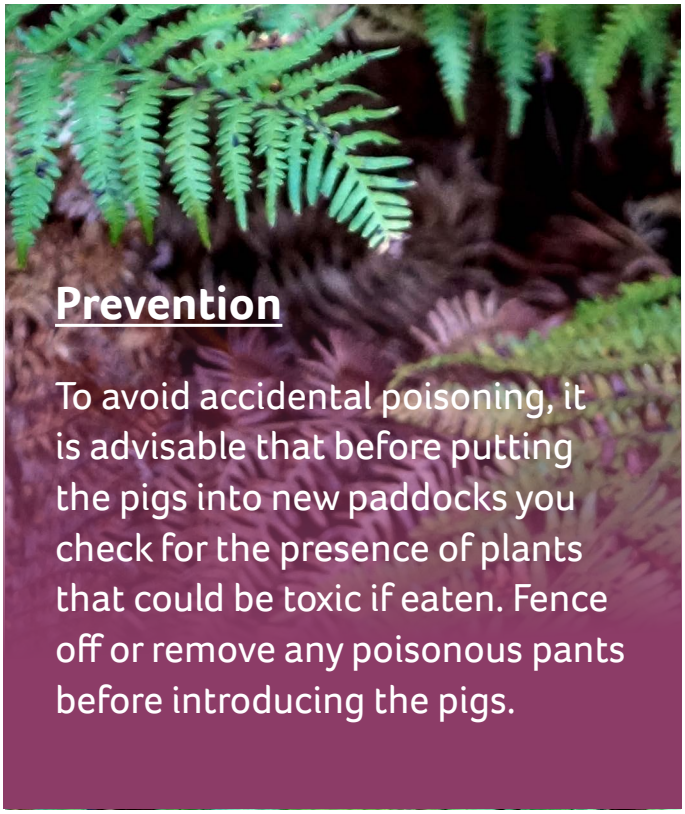
Yew (Taxus sp) poisoning in pigs is usually acute with death from heart attack 1-3 hours occurring after ingestion.

Young oak leaves and green acorns when eaten can result in abdominal pain, constipation and in rare cases kidney disease. Mature acorns are however less toxic.



Further information on plants poisonous to pigs can be found on:

- **Animal Plant and Health Agency (APHA)**
- **National Animal Disease Information Service (NADIS)**



Prevention

To avoid accidental poisoning, it is advisable that before putting the pigs into new paddocks you check for the presence of plants that could be toxic if eaten. Fence off or remove any poisonous pants before introducing the pigs.

Menter Moch Cymru Resource Hub

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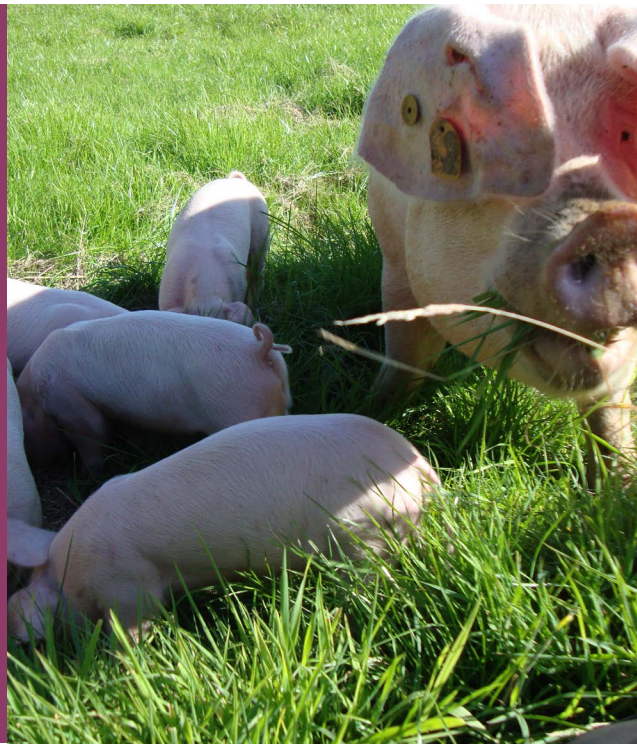
www.mentermochcymru.co.uk



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