

The most reported plant toxicities for pigs are caused by bracken and hemlock, however other plants are known to be toxic. It would be beyond the scope of this article to cover every potentially toxic plant, therefore the focus will be on the most common.

Bracken (*Pteridium aquilinum*)

Bracken is a common fern found 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 (vitamin B₁) causing deficiency. Exposure to the toxin is through ingestion of both the rhizomes and leaves for 6 weeks or more. Young leaves have a higher concentration than adult leaves. Incorporation of bracken into bedding can also lead to ingestion.

Clinical signs of Bracken poisoning

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

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.

If bracken toxicity is suspected then pigs should be removed from areas where they can ingest bracken. 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 incorporating bracken into bedding materials.

APHA have produced a guide to Bracken poisoning in pigs which can be found via this link:

<http://apha.defra.gov.uk/documents/surveillance/diseases/bracken-poisoning-pigs.pdf>

Hemlock (*Conium maculatum*)

Like bracken, hemlock grows throughout the UK. It is found along road and waterways, the base of fences and in pastureland. There are several alkaloid compounds in hemlock which cause toxicity. These substances are most potent in fresh plants but do retain some toxicity when dry therefore contaminated bedding should be avoided. The potency of the toxin in the plants is also dependent on stage of growth, season and several other factors. Poisoning in pigs is either acute, which is often rapidly fatal, or sub-acute, causing foetal abnormalities, if ingestion occurs in first trimester of pregnancy.

Clinical signs of Hemlock poisoning

- Nervous signs – trembling, weakness, incoordination
- Excessive salivation
- Pupil dilation
- Temporary blindness
- Appearance of deep sleep
- Respiratory failure
- 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.

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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 Hemlock water dropwort and Giant hogweed. The most toxic part of these plants are usually the top leaves.

Of these, parsnips would be the most documented as causing toxicity in pigs, mostly through ingesting the leaves but effects can be seen following ingestion of the roots themselves.

Clinical signs of *Umbellifera* poisoning

- **Photosensitisation**
 - ⇒ 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 ventrum
- **In parsnip poisoning specifically, these signs have been reported in addition to photosensitisation**
 - ⇒ 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.

There are many other plants that can pose a risk to pigs e.g. Deadly nightshade, red clover, foxgloves, laburnum, yew and more. Further information can be source via APHA, NADIS and a good article that covers plant toxicity can be found at:

<https://www.yoursmallholding.com/pigs/plants-poisonous-to-pigs/>

