

Health Risks of Bracken

Extracts from Nibbler online discussion group October 2006

As we have been on the topic of bracken control, I have been reviewing what we do on the Beeches and I have been having difficulty finding the answer to one particular question. What are the health risks when controlling bracken? I have all the info about spraying, driving tractors, quads etc.. I am struggling to find information about bracken itself. It is clearly poisonous if eaten and but what about the risks of inhaling spores? Is this a myth or is there an actual risk and does anyone have any evidence. I have checked out the H&S web site and couldn't find anything and I don't have access to medical journals or the time to trawl through them.

Any help appreciated

Mark Cleaver,
Keeper, Burnham Beeches

I don't have references, but I understand that the spores are carcinogenic, and can possibly cause throat cancer if inhaled, which can happen when they are released in late summer. Also, apparently the fronds are eaten as a delicacy in Japan where again it is thought to lead to throat cancer.

Sorry I don't have references for this.

Sarah Kessell

It is an increase in the risk of getting stomach cancer you get from eating it, and there is some relationship with drinking water from areas where there is much bracken also resulting in a higher risk of stomach cancer.
Penny Anderson

See extract below from organic gardening website.
www.organicgardening.org.uk/factsheets

" There has been concern about possible human health risks associated with using bracken. It does contain several toxic, and possibly carcinogenic, substances that have been shown to cause problems in grazing animals. Most recently, reports in the media have suggested that inhaling bracken spores may cause cancer.

What are the facts?

We have contacted scientists working in this area and have been assured that any risks to humans are extremely small, and that there is no conclusive evidence of human health problems due to handling or close contact with bracken. Of course, it is poisonous, and eating it would not be a good idea!

Publicity on this issue has sometimes exaggerated the dangers and has been unnecessarily alarmist on the subject. Having said this, however, we do believe that it is important for people to be aware of the risks, however small, so that if they choose to use bracken they can do so in the safest possible way.

What is the danger from bracken spores?

The spores of bracken are carcinogenic. Work done with mice has indicated that, taken into the body, they can induce stomach cancer. This is not conclusive evidence of a serious risk to humans who inhale spores, but it does suggest a need for caution.

We would suggest that anyone collecting or handling bracken should avoid doing so when plants are producing spores, or that they wear a simple face mask (the type builders wear to exclude fine dust) if spores are present.

Avoiding sporulating plants should not normally be difficult – bracken rarely produces any spores under British weather conditions and it is only exceptionally hot dry summers that trigger large scale spore release. When such conditions occur, huge numbers of spores are released intermittently between July and September; the timing of this will vary in different localities depending on precise conditions, but there are likely to be 2 or 3 'danger' periods during a hot summer."

Dr F.W. Kirkham
Ecological Research & Consultancy

Forest Research (part of Forestry Commission) have produced an information note showing how composting bracken (if carried out in the correct conditions) breaks down ptaquiloside, the carcinogen people worry about.

Available to view/download at [http://www.forestry.gov.uk/PDF/fcin3.pdf/\\$FILE/fcin3.pdf](http://www.forestry.gov.uk/PDF/fcin3.pdf/$FILE/fcin3.pdf)

Henry

There is a lot of technical information about the carcinogenicity of bracken in the publications listed below, although I'm not sure how easily these can be obtained now. I have both copies and despite being published in 1994 and 1999, I still find them very useful when it comes to the science behind these issues. They were published by the International Bracken Group and the main contact I have for this body now is Rob Marrs at Liverpool University. I don't believe the books specifically address Health and Safety issues re. working in bracken environments however.

Regards,
Sue

1. Bracken: An Environmental Issue (Contributions to an International Conference) Bracken 94, University of Wales, Aberystwyth 18 - 21 July 1994. Edited by R. T. Smith and J. A. Taylor.

2. Bracken Fern: Toxicity, Biology and Control - Proceedings of the International Bracken Group Conference. Bracken '99, IV International Conference University of Manchester 20 - 23 July 1999. Edited by J. A. Taylor and R. T. Smith.

Thank you for your comments Francis, that are very good. I have been searching (without success) for some references that I have on the subject.

Some years ago I was approached in Guernsey to take part in some trial work on bracken regarding its carcinogenic properties. This was being undertaken by someone from the medical Department of Birmingham University who had worked in the field for many years (I believe that it was a Dr O'Connor but could easily be mistaken). Unfortunately I have mislaid all the various papers that he gave me. He had scientific papers from work in Wales on the

carcinogenic effect of bracken on water (from the breakdown of roots and fronds) and said that breathing in spores from the fronds was also a risk. He had found that water that was collected from hillsides where bracken was a problem contained carcinogens and they had detected higher cancer rates in people drinking the water. He was interested to see if we had higher rates of some cancers in Guernsey, but we have very little bracken in the water catchment.

The only personal experience I have is that some years ago one of our horses that had been previously kept in a paddock where there was a lot of bracken developed a large stomach cancer and died. I am also aware of cattle that were kept locally in a paddock with very little grass, and had consequently started to nibble bracken fronds, started to urinate with redish urine.

All very unscientific I'm afraid, but have always been very wary of bracken.

Andrew Casebow
Agriculture & Environment Advisor
