

## PEANUTS AND THE HEALTH OF WILD BIRDS: DO FUNGAL TOXINS CAUSE THEIR DEMISE?


A range of common moulds grow readily on poorly stored or preserved foodstuffs and may produce compounds (mycotoxins) highly toxic to man and animals. Tiny amounts of mycotoxin, just trace levels, can have a devastating affect on livestock metabolism and development very quickly indeed (see *Mycologist*, 8, (1994) p. 91). It has been recognised for many years that quality control and the monitoring of human and domestic animal feed is vital in protecting against potential mycotoxin damage. Legislation has tightened with increased awareness of possible problems. Much more recently however, it has been acknowledged that wild birds also need our protection from mycotoxins.

Many of our usual wild birds have a great love for peanuts (tits, greenfinches, siskins, sparrows, robins, wood pigeons – depending on how the peanuts are offered) and many of us buy bird nuts to serve on tables and in feeders, providing the birds with food and ourselves with excellent entertainment. About 10% of the peanuts imported into the UK annually are used for bird feeding. We are most likely to provide this extra nourishment in snowy and icy conditions when food is obviously scarce but it is clear that to maintain their population, wild birds need our contribution to their diets at all times of the year and the British Trust for Ornithology have recently issued guidelines to that effect.

Peanuts (groundnuts) are the seeds of the groundnut plant and are formed below the surface of the soil in which the plants

favour rich soils and grow best in warm climates. When the nuts are unearthed and harvested it is important that they are dried out as rapidly as possible and then stored under dry, cool, conditions. Potential toxin-producing fungal species are often present in soil so that fungal contamination and growth must be minimised as quickly and effectively as possible. Efficient drying and appropriate storage will maintain the quality of the crop. However, only one or two contaminated nuts can give rise to problems in poorly dried and badly stored batches. The largest and most palatable peanuts will be screened and used for human consumption. Smaller and lower quality peanuts are often sold as bird food, providing important sources of protein, oils and fibre.

It is therefore important to be very aware of the quality of the nuts we provide for our feathered friends. When natural food sources are limited small birds (blue tits, siskins) may eat up to 30% of their body weight a day in peanuts and are therefore highly vulnerable to toxins. The most common sources of mycotoxin in poor quality peanuts are the aflatoxins, difurano-coumarin compounds formed by the mould *Aspergillus flavus* which are extremely toxic at very low levels. Aflatoxins give rise to the development of cancers, haemorrhaging and other physiological conditions which can rapidly lead to death in affected birds. Smaller amount of exposure can give rise to poor growth and prevent reproduction. The safest nuts for our birds are therefore those with no detectable aflatoxin.



The Birdfood Standards Association (BSA) has recently been formed by a group of concerned companies involved in birdfood supply and is supported by the Royal Society for the Protection of Birds and the British Trust for Ornithology. BSA has recently investigated an initiative aiming to protect garden birds from aflatoxin poisoning. Nuts approved as 'Superior Safe Nuts' by BSA will have been screened for aflatoxin and have 'nil detectable' levels. Additionally, to be sold as such the aflatoxin certificate must be less than 3 months old. These nuts must also conform to standards of quality, moisture content and hygiene laid down by BSA. For a 'Safe Nuts' seal

of approval the level of aflatoxin, if present, will not exceed 5ppb (parts per billion).

Hopefully the introduction of these standards together with increasing public awareness will hope to protect our birds from dangerous fungal products through the use of standard food supplies. By offering potentially harmful nuts to our birds we may well be inadvertently and unintentionally killing them through kindness.

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