Feature

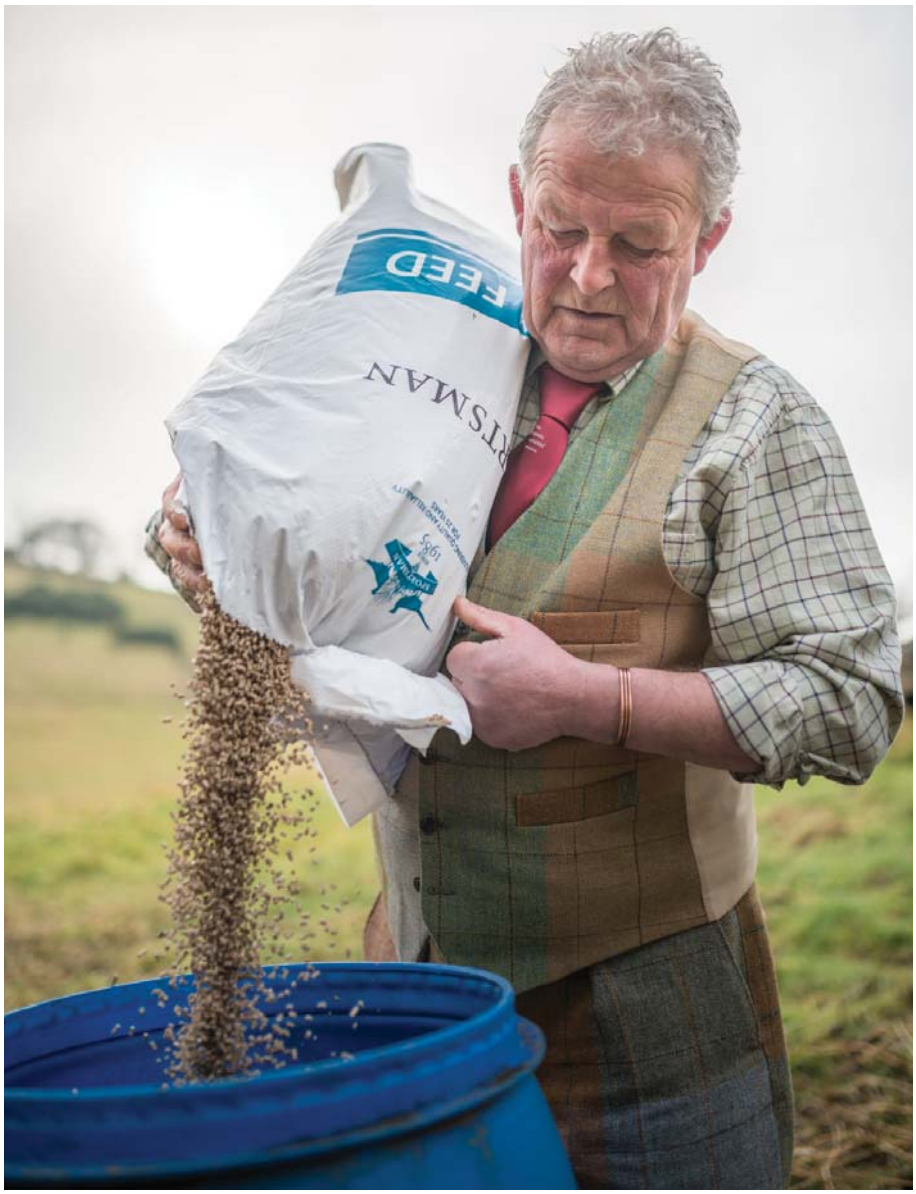
Feeding and the environment

How gamebird nutrition affects the environment is something not often considered. However, there are novel feed developments which aim to minimise the impact, explains John Round, nutritionist with Sportsman Game Feeds.

There are some key areas where improvements in nutrition can help minimise the effect of game feeding on the environment. Now, more so than ever before, environmental issues are high on the agenda, and the key areas to focus on for the game industry are reducing the emissions from manure and litter, and ammonia and odour.

To reduce the effect on the environment from these areas, it is essential to match the nutrition of the bird closely to what is required. It sounds simple to achieve, but realising the optimum balance between providing for the bird but not to excess, and so avoiding the birds simply excreting waste back into the environment, depends on many factors.

Using highly digestible raw materials in the feed reduces the amount wasted through excretion.



FEED DIGESTIBILITY

Designing and formulating feeds with a high level of nutrient digestibility is a key consideration; feeds with a high level of digestibility result in less excretion into the environment.

Different raw materials have different levels of digestibility and using highly digestible raw materials is crucial if the environmental impact of feeding game birds is to be minimised. There are also other ways of improving the digestibility of key nutrients in the feed.

The use of feed enzymes is the most important recent development in gamebird nutrition, and their development has been a massive breakthrough for the feed industry – they are now commonplace.

There are two main types of feed enzymes. One type, NSP enzymes, improves the digestibility of the cereal component of game feed. Ultimately this results in better breakdown of the wheat and barley of the feed so that more energy is absorbed by the bird, as opposed to being excreted into the environment.

The other important type of feed enzyme is phytase. This helps the bird digest calcium and phosphorus better from the plant-based ingredients in the diet, so meeting the birds' requirements with fewer added minerals such as dicalcium phosphate and less mineral excretion into the environment.

From a phosphorus point of view, this has other big benefits, as world phosphorus supplies are limited.

ENERGY AND PROTEIN

The two major nutrients for the gamebird are energy and protein, which together account for about 85% of the cost and performance potential of the feed. So they are a major priority when it comes to formulating diets.

It's not only the level of these major nutrients in the feed that's important, but the balance between them, as without energy the bird can't utilise the protein in the feed.

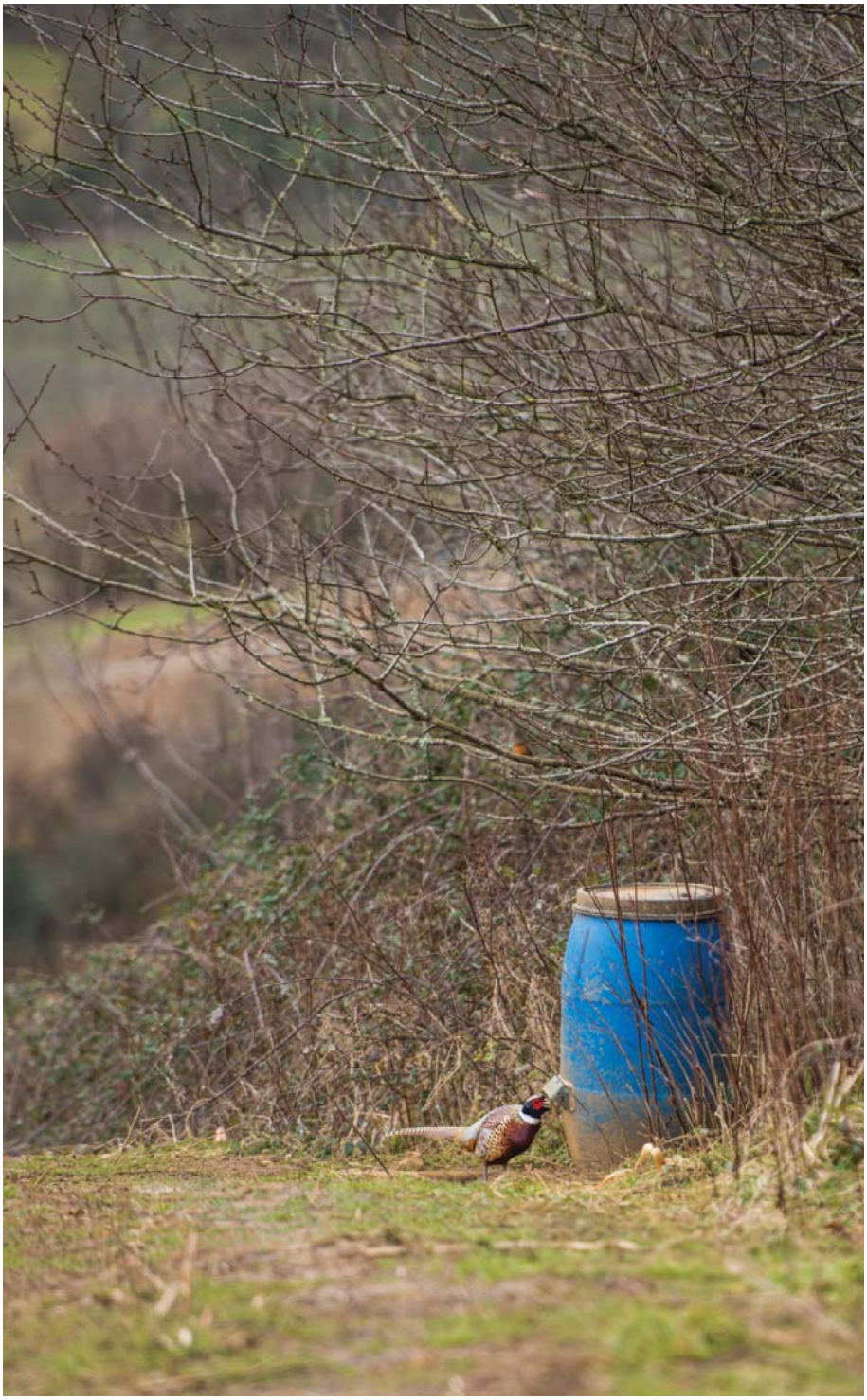
These nutrients are expensive and it makes no financial sense to provide higher levels in the feed than the bird can efficiently utilise, especially if it's only for the birds to excrete the excess back into the environment.

The most important protein source in game feeds is soya. But this comes with its own environmental and sustainability challenges, relating to land use pressures.

Another development within the nutrition world has been the manufacture of synthetic amino acids. The use of synthetic lysine and methionine has been common in game feeds for some time, and now increasing quantities of threonine and valine are being used. These synthetic amino acids have very high levels of digestibility and allow the feed's specifications to be achieved at lower protein levels. This again results in less nitrogen excretion, but with the same growth performance.

We also have to ensure each feed is correctly designed for each stage of the bird's life. From hatch to release, nutritional requirements vary significantly; care should be taken to use feeds over the periods in the bird's life they have been designed for.

There are many areas where nutrition may inadvertently impact the environment. However, by ensuring feeds are formulated to suit the birds' requirements accurately at all stages and using raw materials of high digestibility, some of the negative impacts can be reduced.



Feed can inadvertently have negative impacts on the environment, so keepers need to make an effort to reduce nutrient waste by feeding the correct requirements throughout a gamebird's life.

NOTE IT!

JOHN ROUND AND SPORTSMAN GAME FEEDS

John Round is nutritionist with Sportsman Game Feeds. As sponsors of the NGO, Sportsman Game Feeds are keen to work with NGO members to ensure nutritional developments in gamebird feeds are implemented in an effort to reduce their environmental impact.

For further information on game feed, nutrition and environmental effects, Sportsman Game Feeds can be contacted on 0845 386 4202 or 07802 597030, or visit www.sportsmangamefeeds.co.uk