

Feature

Rations for a flying start

Keeping the Balance summarises two recent game feed trials.

GAMEKEEPERS WILL BE LOOKING AT THE success of this year's released stock and wonder whether things could be improved next season. The key to maximising the number of fit and healthy birds released onto the shoot is to ensure the best possible start, and the ration provided to young birds is crucial.

HIGH PROTEIN AND A SMALL CRUMB

As a gamekeeper and lecturer in game and wildlife at Newton Rigg near Penrith, Stephen Bragg focuses on the early weeks of partridge and pheasant rearing. "I want as many birds as possible reaching six weeks, and they must be fit and well grown," he says. "It's less about the cost of production at this stage and more about ensuring optimum health and vitality. I believe that in the long run this produces the best results for the shoot."

Stephen believes that the protein content of the feed, the physical presentation, and inclusions in the ration help combat coccidiosis and other diseases which pose a threat in the early weeks. From day-old, he feeds a high protein crumb, replacing this with a 2mm micro-pellet (27.5% protein) at seven to 10 days. He notes "Pellet size plays an important part in the acceptability of food when rearing partridges, as excessive wastage occurs with anything around 3mm." So he uses smaller pellets throughout. He uses a lower protein ration (18-20%) by the time of release, with the actual age at release being determined by the condition of the birds.

"For partridges we aim for nine to 12 weeks, and pheasants five to eight



Stephen Bragg and Adam Jay, who conducted the Newton Rigg feed trial.

weeks," he says, "but we choose the timing carefully to minimise stress."

Stephen advocates feeding a proprietary diet after release, rather than just feeding wheat. "Release is stressful for the birds," he says. "They may be growing feathers as well as bodyweight, so to cut the protein from 18-20% in the pellets to around 12% in wheat would be counter-productive. It is also important to maintain the disease protection component of the ration and ensure that vitamins and trace elements are still available."

A recent Newton Rigg study looked at replacing a proportion of the fishmeal in the ration with Alltech's nutritional yeast extract, NuPro. Derived from a carefully selected strain of yeast, this product provides non-animal protein and nutrients such as nucleotides that help gut development and repair, skeletal development and immune response.

In the trial, 1,200 red-legged partridges were split into four units, and over the initial 16 days two units received their standard ration and the other two received the same ration but with NuPro replacing 2% of the fishmeal. A sample of 50 birds was weighed in each unit at three week intervals up to week nine.

"The NuPro replaced the fishmeal very effectively, resulting in birds that looked healthy and were performing equally to the birds that were being fed on the fishmeal diet. They were also a more uniform sample," reported Stephen. "We believe there is scope to increase the replacement rate of fishmeal and are planning further trials."

As the table of Newton Rigg's results shows, the improved gut development

RESULTS OF NEWTON RIGG'S PARTRIDGE FEED TRIAL

	Weight without NuPro (g)	Weight with NuPro (g)			
Week 3	103.91	103.61			
Week 6	249.33	261.34			
Week 9	355.20	362.70			
Uniformity of birds					
	Hut 2: No NuPro	Hut 4: No NuPro	Hut 1: NuPro	Hut 3: NuPro	
Week 3	102.93	104.88	102.56	104.66	
Week 6	242.94	255.72	258.58	264.10	
Week 9	352.97	357.44	363.35	362.05	

and diet digestibility in the partridges that received NuPro tended to result in heavier birds that were more uniform in weight.

THE IMPORTANCE OF FISHMEAL

Last year the Game & Wildlife Conservation Trust also did a feed trial on the charity's rearing field at Fordingbridge. Commissioned by the makers of Sportsman Game Feeds, it found that both higher dietary protein levels and including fishmeal in the feed improved performance in pheasants. It also showed that the best performance at seven weeks of age was achieved by feeding higher levels of protein in conjunction with fishmeal.

Involving 16 pens and 2,400 pheasants, the trial tested four different feed formulations: high protein with fishmeal; high protein without fishmeal; low protein with fishmeal; and low protein without fishmeal.

The protein levels chosen for the 'high' treatment were typical of those used in the game feed industry (28.5% in the starter and 23.5% in the grower). In the 'low' protein feeds, the starter and grower were formulated to 25.5% and 21.0% protein respectively. The protein levels used reflected differences in the digestible amino acid contents of the feeds, which were reduced by 10% in the low protein feeds. The fishmeal levels used were either typical levels for commercial game feeds or with no fishmeal inclusion at all.

The effects of protein and fish were almost completely independent of each other. Both protein and fish had a positive effect on growth and this was most significant at between 21 and 49 days (see figure right). This suggests it is important not to reduce the protein levels of the feed too quickly as the bird gets older, and not to introduce low protein wheat feeding too soon.

Both treatments increased feed intake from 28-49 days and fish, but not protein, also significantly increased feed intake from 0-14 days. The effect of fishmeal in young pheasants is perhaps not surprising as pheasants are not naturally vegetarian. Getting birds off to a good start and encouraging food consumption is essential for good long-term performance.

In addition, mortality reduced in pheasants on the high protein feeds and



Pheasants on the rearing field at Fordingbridge, where the GWCT's feed trial took place.

there was a small improvement in skin condition at 21 days.

These effects would be very important to both the game farmer and shoot manager. Overall, the best liveweights were obtained on the higher protein feeds with fish and the poorest liveweights were obtained on the lower protein feeds without fish. The birds that were fed

higher protein and fishmeal were more evenly sized and would therefore be easier to rear and manage.

The GWCT trial confirms the important link between protein nutrition, the inclusion of fishmeal and the performance of growing pheasants. Higher protein feeds including fishmeal cost more, but give better performance.

RESULTS OF THE GWCT'S PHEASANT FEED TRIAL

