

## WELL DONE TO LOCAL PIG PRODUCERS!

### NORTHERN IRELAND SALMONELLA SCHEME

In January 2003 the Northern Ireland processing industry and pig producers joined the National Zoonoses Action Plan (ZAP) in the United Kingdom to reduce the prevalence of salmonella on the farm and hence the possible incidence to the general public. An industry target was set for an overall 25% reduction in the prevalence of salmonella in slaughter pigs. Northern Ireland pig producers achieved this target in January 2006. The co-operation of abattoirs, pig producers and DARD has made the scheme possible and on-farm hygiene and record keeping are the best in the UK. The number of meat-juice samples found to be positive is less than half of the national average and represents a very small number of producers.

It is important that records including herd numbers, slap numbers, and quality assurance numbers are correct. The Ulster Pork and Bacon Forum which facilitates the scheme has made great progress in preparing a confidential NI database that is updated on a weekly basis.

### Categorisation

Pig holdings can be categorised if more than 15 samples are taken per holding in each quarter.

The ZAP Board and the NISS will be introducing revised ZAP levels on the 1 June 2006. The following table shows current and future categories. From 1 June unassigned producers or Level 0 producers will be encouraged to provide 15 or more samples in the quarter, although it is recognised that this is not always possible with small producers.

#### % Positives

	Current ZAP levels	Future ZAP levels
Level 1	< 65%	< 50%
Level 2	65-85%	50-75%
Level 3	>85%	>75%

In Northern Ireland quality assured producers have the highest ZAP Level 1 allocation at 94.3%. This indicates that the information and the sampling procedures taken at the processor and producer level are excellent.

### What happens to producers in Level 2 & 3?

On categorisation of results each quarter the producer receives a report. If the level of positive samples falls into category 2 or category 3, the producer will receive communication from DARD field staff who will carry out on farm inspections. A follow up and testing of high salmonella positive herds is carried out free of charge to the pig producer, and faeces samples are tested for salmonella. Feedback from the results is then discussed with the producer and an audit drawn up for the farm to control the incidence of salmonella and to help comply with quality assurance programmes and the recent Hygiene Legislation.

### Help pigs help themselves - a self-audit checklist!

A ZAP Salmonella programme control handbook is available from the Ulster Pork and Bacon Forum for producers. This outlines how to reduce and eradicate the salmonella bacteria and illustrates a 13-point control plan. The self-audit checklist is based on good husbandry management and code of practice when sourcing pigs, controlling vehicle movements, pests and visitors to the farm. It also expands on cleaning and disinfection, batch sizes, mixing pigs, implements, water, liquid feed or pellets, personal hygiene and the order of priority work is done on the farm.

For further information on the Northern Ireland Salmonella Monitoring Scheme please contact your processor or the Ulster Pork and Bacon Forum.

## Closing Date for FNMS

Producers are reminded that the closing date for application under the Farm Nutrient Management Scheme (FNMS) is 31 March 2006. The Scheme provides financial assistance to farmers wishing to increase slurry storage capacity on their farm. The Scheme is particularly applicable to pig producers as, under the Nitrates Directive, it is proposed that pig producers would require 26 weeks slurry storage.

### Eligible Items

In addition to the provision of below and above ground slurry tanks other items are eligible for grant and include:

- clean and dirty water drainage systems (including guttering and down pipes, roofing existing middens);
- slurry channels for connecting additional tanks to existing tanks;
- facilities for storing dirty water;
- fixed slurry separators;
- slurry pumps.

Although the main investment for the majority of producers will be slurry tanks, it is extremely important that thought is given to other eligible items, which will assist in reducing dirty water entering tanks, and allow more effective use of slurry storage.

## Closing Date

If you are considering carrying out work under the FNMS you are urged to start the application process immediately. It can take up to six weeks to obtain the necessary quotations and other documentation that may be required. Therefore it is imperative that you start the process NOW. If you require further information on the Scheme please contact Liz Donnelly on 028 9442 6767 or Mark Hawe on 028 9442 6768.

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## Fill Your Empty Days!

Initial indications from this years Benchmarking show that pigs produced/sow/year is unchanged from previous years and is still below potential. Why is the Northern Ireland average consistently below 20 pigs produced/sow/year? The figure in the Republic of Ireland is 21.9, with other European countries achieving even higher levels.

Although litter size is often highlighted as the main problem, and indeed in many herds it is well below target, litters/sow/year is also crucially important. As the length of lactation and gestation are relatively static, it is "empty days" or "non productive days" that have the major influence. In fact for every seven non-productive days, pigs produced/sow/year is reduced by approximately 0.5 pigs.

Areas where management can help reduce non-productive days include:

- Weaning to service interval. Ensuring that the sow is in the correct body condition at weaning by maximising intake during lactation is essential. Offering fresh feed and an ample supply of clean water will help. The minimum flow rate should be 2 litres/minute to ensure sows receive adequate water. Maintaining the correct house temperature will also encourage intakes. Aim to reduce the farrowing house temperature to 20°C when the youngest piglets are over two days old. Also the size of the litter should be adjusted to match the milking ability of the sow, especially with first litter gilts. Correct

feeding and boar contact following weaning is equally important.

- Effective service. Good boar management at service and/or attention to detail when handling semen and inseminating sows during AI will help reduce three week repeats.
- Pregnancy detection. Sows must be routinely tested for pregnancy at least twice during gestation. "Doppler" pregnancy testers or scanners are invaluable and the stage of pregnancy when sows are tested will depend on the type of machine used and the experience of the operator. Don't overlook the use of a boar to identify repeats; this can be of great assistance.
- Remove culls. When the decision has been made to cull a sow, every effort should be made to remove her from the herd as soon as possible. There is no room for passengers!
- Analysis of records. Analysis of accurate farm records is essential to:
  - determine the number of non-productive days/sow;
  - quantify weaning to service interval;
  - identify the stage at which repeats occur.

Good management has been shown to reduce non-productive days on many units and increase pigs sold/sow/year. Small improvements can yield a large payback. Can you honestly say that there is no room for improvement in your herd?

## BUYING REPLACEMENT STOCK

The aim of every pig producer should be to replace stock with those of higher genetic potential. By doing this the performance and profitability of the herd will be increased. Boars and gilts today have greater potential than those five years ago. Producers must keep up to date with this progress in pig breeding to help maximise profit in future years.

### Genetic Potential

All pedigree pigs from herds participating in the Pig Improvement Scheme in Northern Ireland registered with the BPA have now got Best Linear Unbiased Prediction (BLUP) figures. On-farm test results and central test results for the last few years have been collected to produce Estimated Breeding Values (EBV's).

The characteristics monitored include:

- **Average Daily Gain EBV (g/day)**

A negative EBV for daily gain, for example, minus 28, means that the offspring of this boar should perform more poorly in terms of growth rate compared with the average pigs in Northern Ireland. This could lead to up to 28g plus per day less growth in its progeny. Stock with a positive EBV for growth, for example, EBV plus 24g/day are desirable.

- **Back fat EBV (mm)**

A boar with an EBV of, for example, minus 0.62mm for back fat means that his progeny should be leaner than average. A boar with an EBV of plus 0.5mm for example, should give fatter pigs.

- **Feed Conversion Ratio EBV**

A boar with an EBV of, for example, minus 0.02 means that this boar should produce pigs that are more efficient in converting feed to pig meat.

### Male Index

The above three factors are given genetic weightings and are combined with economic importance to produce a single index figure. Boar M Index of 185 for example, is good (average 100). The higher the index; the better the boar.

### Maternal Index

Historically pigs in Northern Ireland have been tested only for male terminal characteristics. This has by and large been successful as growth rates, feed conversion and back fats have been the most influential in generating increased profits for farmers in Northern Ireland. However, now thanks to BLUP, with breeders weighing their pigs at weaning and from year of birth records we can forecast the breeding quality of pigs maternal characteristics by producing EBVs for:

- **Litter weight at weaning**

A plus EBV is desirable

- **Numbers born alive**

A plus EBV is desirable

- **Weaning to conception**

A negative EBV is desirable

The economical value of these factors coupled with daily gain and feed conversion is used to produce a maternal index. A maternal index is a single figure useful in predicting the maternal breeding value of the offspring of that animal. The higher the index the better the pig (average 100).

BLUP analysis resulting in EBV's and indexes for both male and female characteristics is new to Northern Ireland but has been used throughout the world to help breeders speed up genetic progress. BLUP is helping breeders and will also help

## BUYING REPLACEMENT STOCK (continued)

you select better breeding stock to suit your needs resulting in increased productivity and profitability.

### To summarise:

Selection of replacement breeding stock is an economically important decision for pig farmers. Care should be taken to select quality stock with sound conformation.

Now that BLUP has been introduced to Northern Ireland EBV figures are available for all male and female pedigree pigs and these should be used to help you select replacement breeding stock with good genetic potential.

### Breeders in the scheme and who now have stock with EBV's

Dennett Pedigree Pigs  
105 Ballyheather Road,  
Burndennett, Strabane,  
BT82 0LD  
Telephone: 028 7184 1370

Millrace Pedigree Pigs  
5 Station Road,  
Ballyward, Castlewellan,  
BT31 9TU  
Telephone: 028 4065 0455

Glenleary Pedigree Pigs  
Millar Pig Development,  
Glassglen, Glenleary,  
Coleraine, BT31 3QY  
Telephone: 028 7034 2919

Deerpark Pedigree Pigs  
2 Drumane Road,  
Bellaghy, Magherafelt, BT45 8LE  
Telephone: 028 7938 6287

Glenmarshal Pedigree Pigs  
1 Dougan's Road, Kilkeel,  
BT34 4HN  
Telephone: 028 4176 5530

## Wheat or barley for pigs - which is best?

Recent research results from Agriculture Research Institute for Northern Ireland (ARINI) indicate that wheat and barley have similar feeding value when included in diets of finishing pigs.

### Background

There has been much debate regarding the optimum inclusion rate of wheat and barley in diets for pigs. Wheat contains a greater level of digestible energy and therefore has a higher nutritive value than barley and should ultimately result in better pig performance. However, wheat is traditionally more expensive than barley and high rates of inclusion have been reported to cause stomach ulcers and carcass grading problems in pigs. The aim of this research, undertaken at ARINI and funded by the Department of Agriculture

and Rural Development (DARD), was to investigate the optimum levels of wheat and barley in diets for growing and finishing pigs.

### Research

Four experimental diets were produced containing wheat:barley at 70:0, 60:10, 50:20 and 40:30%. The diets also contained the following components: soya bean meal 19.2%; soya oil 3%; molaferm 3%; water 2%; lysine 0.3% and minerals and vitamins 2.5%. These diets were offered ad libitum to a total of 480 pigs from 10 weeks of age until slaughter at 21 weeks and 5 days. Pigs were housed in groups of 20 which were balanced for weight and gender with a total of 120 pigs (6 pens) offered each diet. Average daily

## Wheat or barley for pigs - which is best? (continued)

gain (ADG), feed intake and feed conversion ratio (FCR) was recorded between 10 and 15 weeks, 15 weeks and finish and the overall period between 10 weeks and finish.

As shown in Table 1, there was no significant difference in the performance of pigs offered the diets with different wheat and barley inclusion rates, although pigs offered the 60% wheat diet tended to eat more and have slightly higher average

daily gain than those offered the other diets. These pigs also had higher levels of back fat at the P<sub>2</sub> position, but the differences were not significant and would not affect payment. The pigs offered the 70% wheat diet were more efficient at converting feed into gain and with current cereal prices (£88/tonne for barley and £85/tonne for wheat), the inclusion of 70% wheat, resulted in the lowest feed cost/kg of gain.

**Table 1: The effect of dietary inclusion of wheat and barley on pig performance and feed cost/kg gain (10 weeks of age - finish)**

	70% wheat	60% wheat: 10% barley	50% wheat: 20% barley	40% wheat: 30% barley
Average daily gain (g/d)	857	897	850	879
Feed intake (g/d)	2011	2133	2040	2114
Feed conversion ratio	2.35	2.38	2.40	2.40
P <sub>2</sub> (mm)	12.5	13.0	12.3	12.7
Feed cost/kg gain (p)	26.5	26.8	27.0	26.9

There was no effect of wheat or barley inclusion rate on gut health as assessed by scoring for gastric ulcers. Very mild stomach ulceration was observed in seven pigs over the entire experimental period but this was not associated with any dietary treatment.

In conclusion, either wheat or barley can be used in growing and finishing pig diets and the decision of which cereal to include can be based on current cereal prices at the time of formulation. This study also indicates that high levels of wheat or barley inclusion does not effect grading or cause stomach ulceration in growing and finishing pigs.