



KNOWLEDGE TRANSFER, RESEARCH AND DEVELOPMENT

INTRODUCTION

1. The BPEX Technical group vision for the 08/09 business plan is to see significant advances in four key areas. Meat Eating Quality; Production Efficiency; Health and Welfare; Environment.
2. The last 12 months have seen significant improvements in the technical efficiency of the English pig industry at the production level. The Agrosoft quarterly trends show significant physical performance improvements for the whole industry that are particularly evident for the top third of producers who are now performing at a rate equal to average European competitors. This has been achieved through many new and ongoing initiatives throughout the industry and through good planning and hard work at the production level.
3. The technical team has spent time seeking the views of the industry through the year with regional BPEX and NPA dinners, discussions at BPEX KT workshops, the November 2007 Funders and Stakeholders event and general consultation with members of the industry. We have also consulted widely with Defra, the Environment Agency and the BBSRC to understand their agendas and policy drivers, and to ensure that they are aware of the current English pig industry needs and priorities. These discussions give us confidence that the direction we set out within the 07/08 plan was broadly correct and by refining the focus and priorities for 08/09 we will have a programme that will deliver positive results.

Progress on the 2007-08 Plan

4. FMD, high feed prices and the increases to environmental legislation have all challenged the industries resolve to continue investing in the future. Despite these challenges, the BPEX KTR&D group have made significant progress with all of their objectives during the year.
5. The technical performance of the national herd needed significant improvement to achieve a competitive position, the most recent Agrosoft quarterly trends show that comparing the third calendar quarter of 2007 with the same period a year earlier the average producer has improved. The top third of producers are now performing at a rate equal with average European competitors with breeding herd performance increased by 1.6 pigs to 23.4 finished per sow per year and growth rates up by 45 grams to 752g/day. Some of this improvement has been due to the knowledge transfer and training initiatives.
6. Environmental sustainability continues to be a major government and society driver. Further increases to environment legislation during the year required significant additional inputs addressing consultations on for example NVZ, WFD and IPPC. A Pig Environmental Partnership is under development with all stakeholders and the target is for this to be consulted upon by the industry and implemented by financial year end.
7. BPHS continues to be an extremely well respected scheme used by producers and the veterinary profession to drive herd health improvements. According to the BPHS data, which now covers over 70% of English assured pig farms, disease prevalence is declining in several areas notably Pleurisy and EP.

8. The ZAP Salmonella Programme has not delivered any reduction in Salmonella prevalence in finisher pigs in England as determined by the Salmonella-mix meat-juice ELISA testing programme. Considerable time has been spent during the year on developing ZAP2 with attention placed with the FSA on database development and on-farm intervention studies. With many interventions coming into place during Autumn and Winter 2007, results are expected by March 08 that will give producers best practice advice for salmonella reduction.
9. Elsewhere the uptake of training initiatives both Certificates of Competence and PIPR has been steadily increasing; a Development grant programme was launched; a substantial consumer research project was undertaken into pork eating quality and the KT workshops have seen production staff representing over 200,000 sows attending workshop events on farrowing house management, service house management and establishing the weaner to improve efficiencies.

Summary of delivery of the 2008-09 Plan

10. The aspiration is to have more than 80% of pig producers (as determined by pig numbers) actively using BPEX services for Research, Development, Demonstration and Knowledge Transfer. They should be actively seeking a higher level of contribution from BPEX in all areas. There will be on-going, useful and understood programmes addressing the four priority areas.
11. There will be a vigorous KT programme through on-farm consultancy, meetings, workshops and a full use of all available and newly developing information transfer media. We will have an applied Research and Development programme yielding producer benefits in the short and medium term. There will be a lively programme of Demonstration and Field Trials conducted by the KT team with PDC (Pig Development Centre) backup.
12. Staffing will be reviewed in the first quarter of the new financial year to be sure we have the appropriate strengths to achieve all of our targets as we plan for BPEX Ltd. The home team will be the managers of projects that will be outsourced.
13. We will increase our ability to deliver particularly in the environment arena. At the same time we need to look to reinforce the applied research base in terms of facilities and funds. This will require political discussion most particularly with Defra, EA and BBSRC through the support of the BPEX board. Without removal of resource and facility hurdles the achievement of plans are at risk.
14. We will look at the possibility of maintaining and extending the fundamentals of Farm Assurance with outputs from projects such as BPHS, PEP, Staff Training, ZAP, Welfare outcomes, and crucially Meat eating Quality in a "Total Quality Management" approach to build on existing Farm Assurance. This could provide the opportunity for health, management, welfare, environment and food safety to be all brought together in one programme.
15. The 08/09 financial year will see us well into the maturity of several key new projects. During the year we will be critically reviewing delivery in three areas.
 - KT – Knowledge Transfer. We have a new KT team that was established in 2006 to address the immediate industry priorities in terms of Best Practice knowledge transfer. There are early signs that this is delivering excellent results in terms of improving KPIs. They have 3 year contracts ending between June 2009 and January 2010.

- PDC – Pig Development Centre. We have outsourced the delivery of production R&D to the PDC with connectivity to KT; they have a 3 year contract ending 2009.
- PCU – Pork Chain Unit. We have outsourced the delivery of improved meat eating quality and consistency to the PCU – with connectivity to KT; they have a 3 year contract ending 2009.

Key Activities for 2008-09 Plan

Health and Welfare. Total Levy Funds £610k inclusive of staff costs

16. PMWS is becoming less of a challenge on a national scale but PDNS is still causing significant late onset mortality of 6 to 10% on many units. With PCV2 vaccines now available and with evidence from Europe and the Americas showing dramatic improvements in performance, English producers have considerable expectation for significant improvements in performance at home. The BPEX Pig Development Centre and the KT team are undertaking an independent study with the Pharmaceutical companies to look at success of PCV2 vaccines. Additionally the team is closely monitoring commercial unit performance as they begin to use both the sow and piglet vaccines. A new BBSRC project looking at genetic and environmental factors that cause wasting disease in pigs has started at the RVC, it will require considerable inputs from BPEX KT and producers in its early stages.
17. Respiratory diseases in general and PRRS in particular are seeing major projects undertaken or considered for eradication e.g. in France (PRRS), Switzerland (EP) and the USA (PRRS). During the year BPEX will be studying these continental programmes and assessing the possibilities for disease eradication here. With new highly pathogenic strains of PRRS getting closer to the UK, with the variable effectiveness of the current vaccines and with the dangers of live vaccines it becomes sensible for BPEX to consider a PRRS eradication programme.
18. BPEX commissioned a review of disease surveillance during Autumn 2007 looking at the roles of BPHS, MHS, NADIS, VLA and ZAP. During the first half of the new year we will look to implement some of the recommendations, e.g. we will be working with the schemes to develop regular joint health reports and a single database allowing for a significantly higher level of epidemiological analysis.
19. Current BPHS funding comes to an end in July 08 and we will be working to ensure that the scheme receives the funding it needs for the future from producers, pharmaceutical companies and Government. The scheme is trialling an extended number of assessment days per abattoir to extend the percentage of units receiving an assessment each quarter and potentially to give the scheme more meaningful data for batch finishers. Opportunities for further scheme development are under consideration for example with cull sow tract testing, serology surveillance and enteric disease scoring. Pleurisy was identified as a specific issue from BPHS data analysis during the year and a new 12 month project will start in January working with large integrated producer groups.
20. To ensure steady and continued improvement of herd health, two Defra sponsored projects 'Farm Health Planning' and 'Pig Herd Health Plans' will be further rolled out to become a routine part of unit management. The means for this to occur may come out of the larger Defra sponsored 'Risk Factors for Pig Disease' project, and will be considered as part of the Surveillance review and BPHS development; funding is available from RDAs specifically for this area.
21. A new direction will be developed the ZAP Salmonella programme. It is likely that new EU regulations will require from 2008 all EU Member States to have Commission

approval of a Zoonoses National Control Plan to achieve a reduction in prevalence of Salmonella in finishing pigs. The intention is that ZAP is used for this. Outputs from on farm intervention studies will see a new series of ZAP Salmonella control leaflets produced appropriate to all situations.

22. Food safety is one of the key issues underpinning both Red Tractor and Quality Standard Mark brand values. The primary objective is risk reduction for consumers from exposure to Salmonella in pigmeat products. This is best achieved through a whole chain approach. We will be working closely with the processing sector through the BMPPA and individual processors to achieve this, there are engineering solutions to be tested on a commercial scale.

Meat Eating Quality. Total Levy Funds £495k inclusive of staff costs

23. This activity will all be driven through the Pork Chain Unit Advisory Group representing the areas seen by the key English processors as being commercially important.
24. Pre-farm gate projects in the area of nutrition to reduce the impact of boar taint and increase the levels of intra muscular fat levels will be completed. We will look to projects using different pig breeds and DNA markers for enhancing meat quality through pH and IMF with commercial partners.
25. Post farm gate we have been undertaking abattoir surveys to understand how the variable product on delivery to the abattoir can be turned into a uniform product per pork range on the retail shelf. We will be looking at chilling regimes, pH testing and maturation to substantially improve the attributes recognised as important by the English consumer ie juiciness, tenderness and flavour.
26. The work outlined above follows on from the findings of the major Consumer Research work undertaken during the year looking at Meat eating quality of British Pork. We will be continuing our work with individual processors to overcome the comments of Pork as 'boring', and add to the information on what to do with it by working with their retail and food service customers. We will look at marinades, cooking times and the thickness of pork chops and loin steaks.

Environment. Total Levy Funds £352k inclusive of staff costs

27. The objective for the BPEX environmental agenda is to reduce the Carbon and Nitrogen footprint per kg of pigmeat produced.
28. BPEX will work with all of the shareholders (Defra, NFU, EA, NE, NPA and producers) to deliver the Pig Environment Partnership. BPEX will provide added resource for the development of a knowledge hub that brings together in one place all of the information that a producer might need to comply with each area of legislation. We will fund the provision of practical advice to ensure that producers have the information they need, when they need it. We shall fund demonstration of environmental best practice as appropriate.
29. We will be initiating win-win projects that address the government priority for lower carbon footprint and lower environment impact overall; and engage the commercial pig producer in delivery of these objectives through increased production efficiencies. Improvements in herd health through for example PCV2 vaccines will see significant improvements in feed efficiency and higher numbers sold per sow per year at a higher average weight. The higher health status herd will allow pigs to reach their genetic

potential with lower protein – therefore lower N diets – delivering lower environmental emissions per kg.

30. We shall continue to fund work to understand the Life Cycle Analysis of English and competitor production methods and will regularly report on the declining environmental footprint per kg of English pigmeat as the BSI PAS2050 standard methodology becomes available.
31. We shall collaborate on new projects for example in Nutrient management and bio-energy production. The RDAs have funding available for the area of nutrient management and we are working with all relevant RDAs to access this.

Reducing the costs of production. Total Levy Funds £1193k inclusive of staff costs

32. The KT team's focus will continue to be on delivering best practice advice to the maximum number of producers. There will be series of regional workshops for individual producers and stockpeople. With the larger integrators this will be increasingly delivered in a 'train the trainer' approach. The team will work with veterinary practices, pig discussion groups, benchmarking clubs and other deliverers of best practice sessions to ensure that activity is coordinated. The KT team will ensure cooperation to maximise uptake and the use of the industries limited resources.
33. We will continue to promote and encourage uptake of Demonstration grants opening them to the processing end of the chain and pushing the need to test environmental options. This is the opportunity for the industry to test innovative ideas with 'pump priming' cash and input from the KT team to assist in measurements, analysis and dissemination to the wider industry.
34. Following from the British Pig Project we will look to deliver on the need for improved growth rates with a renewed focus on 'Facility improvement' to promote investment in grower and finisher buildings and their refurbishment.
35. Communication and Training become the final vital links in the chain.
36. We will continue to publish an annual Technical Report, will publish further titles in the Action for Productivity series and write regular columns for Pig World and other journals.
37. Pig Fair in May 08 is a major opportunity to engage with levy payers and to discover new opportunities, areas for further development and opinions on the current outputs and methods of engagement.
38. The BPEX Website is undergoing a redesign to be launched during the year. This will make outputs easier to access and will allow industry members to easily search and find the appropriate information.
39. The development and recognition of the industry's training strategy is vital. Production staff need to be able to understand and make use of new skills and ideas. Only by attending training sessions both formally as part of the NPTC qualifications and less formally the workshops, meetings and clubs will staff be able to make use of new found skills for business improvement.
40. We will continue to work closely with the NPA. A member of the technical team always attends the NPA Allied Industry Group meetings and outputs from the team e.g. training initiatives, PIPR and Action for Productivity sheets are always communicated to this group for understanding and further dissemination.

41. The BPEX team will attend and present outputs of practical commercial projects at the SFT and PVS conferences during the year.

Outcomes and Targets

42. The outcome of the plan will be improved pig health as measured through BPHS, improvements in industry KPIs as measured by Agrosoft, a reduction in Salmonella contamination on carcasses as measured the national control plan, a fully engaged industry and policy makers in the equitable application of environmental regulation and a flow of information on how to improve pork eating quality.
43. Departmental outcomes, targets and measurement will be presented in an updated 'performance wheel' once the plan is agreed. Individual targets will be set for individual projects.

Risks

The three principal risks in the delivery of this business plan are:

Risk	Probability (low, medium, high)	Control
Inadequate producer engagement	Low	Delivery of interesting producer driven events. Clear promotion in timely and interesting fashion. Engagement via demo grant programme. Work closely with all other training providers.
Declining resource base both facilities and financial	High	Work with Defra (especially the LINK programme), BBSRC to understand their agendas and ensure they understand ours so that we maximise the co-funding opportunities.
Staff recruitment/retention with AHDB changes	Medium	Early discussions with staff at reviews. Early decisions and team building within BPEX Ltd

Budget

Proposed budget for 08/09, inclusive of staff costs, is £2,650k.

Budget Summary

The Business Plan requires financial commitment and support from stakeholders such as Government, the European Commission, and commercial companies.

BPEX Group	Knowledge Transfer, Research and Development
Levy spend of which	
- Projects	£1,363,000
- People and Overheads	£1,287,000
% of net levy spend	31%
Total levy spend	£2,650,000
Non levy spending (Ratio of external funds to levy funds is 3.79:1)	£1,780,000
Total spending	£4,430,000