

HACCP IN MEAT PLANTS

REPORT OF 2001/02 PILOT PLANT STUDY AND 2002/03 REVIEW

**Food Standards Agency
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Management Summary

This Report summaries the HACCP Implementation Pilot Study carried out in seven meat plants in 2001/02 and the independent Review of the Pilot Study carried out in 2002/03.

HACCP Legislation

Commission Decision 2001/471/EC amended Council Directives 64/433/EEC (Fresh Meat) and 71/118/EEC (Poultry Meat) in relation to the requirements for operators to implement and maintain a permanent procedure based on the seven HACCP principles. It also specified certain microbiological checks for red meat. The HACCP approach is a key feature of the Commission's White Paper on Food Safety.

The Decision, which was formally adopted on 8 June 2001 (Official Journal 21.06.2001 L165/48), was implemented through The Meat (Hazard Analysis & Critical Control Point) Regulations 2002 which came into force on 7 June 2002 in England, Scotland and Wales and on 17 July in Northern Ireland. Small meat establishments had until 7 June 2003 to meet the requirements.

Pilot Plant Study

As part of its programme to support implementation of Commission Decision 2001/471/EC, the Agency commissioned a pilot study in a number of small to medium sized meat plants to identify issues that needed to be addressed for implementation of HACCP-based procedures (*hereafter referred to as HACCP* across the UK and to assess the extent of changes to working practices and resource implications.

Review

At the end of 2002 an independent review was commissioned to assess how HACCP implementation had worked in practice and the extent of changes in working practices achieved in the pilot plants. The assessment was based on interviews with the operators, staff and the Meat Hygiene Service at the seven plants.

Overall Benefits

- Taking all parameters into consideration the pilot plants felt that benefits had been achieved.

Overall Difficulties

- The main difficulty experienced across the pilot sites, particularly in the setting up phase but also in the ongoing situation, was the time and resource required to

undertake the work in a small or medium sized business where manpower is necessarily usually at the minimum required to do the job.

- Some operations found the ongoing paperwork burdensome and this problem was exacerbated by the supervision required to get manual staff to consistently record their findings.

Training and Communication

- Few sites required additional training or assistance with the implementation phase beyond that provided as part of the study, which suggests that the basic training and level of support was pitched about right.
- Communication with manual staff and getting this important cohort motivated and to grasp the principles provided the greatest challenge.
- While some sites enjoyed supportive relationships with the MHS, for others this was an area of major difficulty. This may have been due, at least partly, to the way in which the project objectives were communicated to the MHS field staff at the plants.

Working Practices

- Working practices did change at the pilot sites as a result of the HACCP implementation particularly with regard to record keeping and good food safety practices in general. Other examples included temperature monitoring and a better approach to cleaning but, interestingly, “control and selection of suppliers” and “customer confidence” were rated as unaffected.
- The microbiological testing programme was less well received. The additional time and complexity involved was mentioned as an issue at virtually all plants. Many questioned the real value of the results and there was less certainty with regard to the interpretation of results on which to base corrective action. The true cost of such a programme had been calculated by at least two of the pilot plants who felt that such a financial burden would be untenable for their own ongoing situation and that of similar operations as the scheme rolls out. Rapid testing (used at two sites) may be the route forward to allay these fears.

Recommendations

- The provision of training and on-site help would be beneficial in addition to the manual and CD-rom. As provided in the pilot exercise this was of significant benefit in helping to get a HACCP system implemented properly and without too much disruption to the business.
- A PR campaign to encourage the industry in a climate where time and resource constraints appear daunting needs to be considered to combat negative misconceptions. This could point up ongoing support measures in a positive way.

- The objectives of the HACCP implementation programme, and the role of MHS staff in this, needs to be thoroughly and properly communicated to MHS staff in order to prevent misunderstandings and to generate supportive relationships as the scheme rolls out across the industry. The difficulties experienced in the pilot study need ironing out.
- To overcome the undoubted negative feelings that “paperwork is burdensome” for small businesses ways of minimising or reducing the documentation required could be beneficial.
- The microbiological testing programme needs further investment of time to positively communicate the cost and benefit aspects. This is the one area where additional support and training is clearly necessary.

FSA ACTION TO IMPLEMENT RECOMMENDATIONS

From the start of Pilot Plant Study in November 2001, the Agency has taken the following steps to assist in the implementation of HACCP-based procedures in meat plants:

- HACCP Guidelines circulated to meat plant operators and MHS in Spring 2002
- Meat Plant HACCP Manual circulated to meat plant operators and MHS in Summer 2002
- Suggested timeline for small plant implementation by June 2003, circulated in Autumn 2002
- Draft guidance note on microbiological testing and interpretation circulated in July 2002
- Cd-Rom version of the Manual including model HACCP plans, documentation and video clips, including sections on microbiological testing circulated in summer 2002.
- HACCP Workshops organised at six UK venues before Christmas 2002 and seven more in Spring 2003
- Encouraging an advisory role for OVSs and funding of extra OVS time at GB low throughput slaughterhouses and cutting plants and small cold stores.
- Circulation of Newsletters to Plant Operators, along with lists of Laboratories and template letters to obtain quotations for the testing work.
- Issued further guidance to OVSs
- Reviewed and reissued guidance on microbiological testing including that on reduced frequency of carcase testing for small plants
- Circulation of information on microbiological testing requirements to laboratories through the main representational/accreditation bodies
- HACCP information was placed on the FSA website:
<http://www.food.gov.uk/foodindustry/meat/haccpmeatplants/haccpdoc01>

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PILOT PLANT STUDY

BACKGROUND

As part of its programme to support implementation, the Agency commissioned a pilot study to assess the extent of changes to working practices and resource implications in a number of small to medium sized meat plants of the implementation of HACCP-based procedures. Trainers from Food Training International (FTI) were employed because of their unique involvement in the Butchers Scheme.

Selection of Candidate Plants

Industry representatives were invited to nominate appropriate 'small' plants to be involved in the pilot study. It was pointed out that there would be some commercial advantage to the plants involved, in that they would implement HACCP sooner than others and with support including financial support in the form of payment of the costs of microbiological testing for the period of the study. Of the plants nominated, one subsequently withdrew in the early stages and was replaced.

The pilot study started in October 2001 and was completed in July 2002 with seven plants (one in Scotland, two in Wales and four in England). Of these, five were red meat abattoirs, one a red meat cutting plant and one a white meat plant:

1. Low throughput abattoir, slaughtering cattle, lamb and pigs on 2 days per week. Maximum throughput is 30 units per week.
2. Abattoir slaughtering approximately 20-25 cattle, 160 sheep and 20 pigs per week.
3. Abattoir slaughtering 400-500 cattle, 2000 sheep and 200 pigs per week.
4. Contract slaughterhouse and meat wholesaler, slaughtering approximately 80 cattle, 500 pigs and 1500 sheep per week.
5. Abattoir slaughtering approximately 50 cattle, 1500 sheep and 1500 pigs per week. Supplies local butchers and wholesalers.
6. Low throughput cutting plant (under 5 tonne/week) handling beef, lamb and pork, red meat offal and poultry.
7. Low throughput poultry plant (<150,000 birds per year) killing and processing turkey. Slaughter 2 days per week, except in run up to Christmas.

HACCP Training and Support

Each plant was visited to discuss the training strategy, and to help select two suitable candidates for training who would then go on to head the HACCP team in

their plant. These fourteen candidates formed two groups who attended hygiene and HACCP training courses held at Milton Keynes and London. The Meat Hygiene Service (MHS) sent representatives. Following this two-day certificated training programme FTI delivered a half-day HACCP awareness training session on site for up to twelve operatives at each plant. After completion of the training, FTI further supported and assisted each plant with the implementation of the HACCP system with two half-day follow-up visits, and with a telephone help-line.

Review

DNV Consulting were asked to undertake a review in 2002/3 to provide an independent assessment of how the HACCP implementation programme worked in practice and on the extent of changes in working practices achieved. The interviews with personnel at each of the seven pilot study plants, including the OVS were possible, were carried out by auditors with experience of the red meat industry, followed standard audit procedures. The issues reviewed included:

- identification of the extent of any changes to working practices, and whether or not these have been sustained; including HACCP training, planning and implementation, record keeping, microbiological testing and use of rapid testing for surfaces,
- assessment of any difficulties or issues each plant had in implementing the HACCP programme covering all the issues concerned including success or otherwise in their resolution,
- assessment of any benefits that each plant felt they had gained from the HACCP programme, and
- views on the requirements of the draft EU official controls regulation regarding the requirement for production information for animals.

REPORTS

Initials Visits

An initial visit took place to each of the pilot plants between October 2001 and January 2002,

The initial visit to each plant was successful in helping select and enthuse suitable personnel to embark on a training programme and embrace the HACCP concept. From a training perspective this client group were quite apprehensive of what to expect, and it was important to set their minds at rest and allay worries they had regarding training. It was also important to explain the whole project to them and discuss the level of commitment they would need to give to ensure they gained the maximum benefit from the experience. This was achieved, and is underpinned by the positive attitude demonstrated by all candidates, contributing to the excellent training results.

The visits revealed that most Operators felt that their plant already had adequate pre-requisite procedures and relevant documentation in place. With one exception however, the opposite was in fact the case.

- Staff training records were either non-existent or completely out of date.
- Cleaning Schedules out of date, non-existent or not relevant to the plant procedures.

- Lack of adequate filling and retrieval systems were common.
- A number of plants had poor pest control procedures in place.
- Where staff hygiene policies were in place there was little or no evidence that the staff had seen and signed up to it.
- Basic hygiene training for staff in some of the plants was something that had not been addressed or completed for all relevant personnel.

Meat Hygiene Inspectors (MHIs) from four plants were available at the initial visit and, although most were very positive about the project, some raised concerns that reductions in supervision may lead to job losses within the Meat Hygiene Service (MHS). One MHI commented on the lack of trust he had in the plant management being able to carry out HACCP correctly.

Official Veterinary Surgeons (OVSs) from five plants were available at the initial visit. Most were quite positive, they felt that HACCP was needed in meat plants and wanted to be involved, and positive comments were received on the simplicity of the system. Some concerns were expressed over micro testing. Particularly, the lack of information available at this stage about testing protocols.

A number of common issues were raised and discussed by all the operators.

- the Clean Livestock Policy; which had been complicated by FMD, was giving cause for concern,
- the inconsistencies of decisions and individual interpretation of standards by MHS personnel in the same plant,
- complaints regarding the HAS scoring system, and
- conflicts occurring when there are language difficulties with OVS personnel.

It was agreed that the experience of developing and implementing HACCP could be an opportunity to break down these barriers and build a foundation for the future. It was noted however that this would require

- Co-operation, commitment, patience and common sense from all those concerned.
- Good pre-requisite procedures along with sound hygiene practices to form the base on which to build a HACCP based food safety system
- Commitment by management, and a positive attitude demonstrated by staff, MHS personnel to successfully develop and implement HACCP in any plant.

Initial Training - Candidate Profiles and Comments

Three out of the seven plants had previously completed basic food hygiene training with all relevant staff. Training had been started in other plants but not completed, and in some cases staff held certificates that were more than three years old.

The course was developed by FTI using the Chartered Institute of Environmental Health (CIEH) Hazard Principles and Practice Course as a basis to provide the candidates with a recognised qualification. Material from the Meat Livestock Commission (MLC) Meat Managers Hygiene and HACCP Course together with sector specific information and contextualised working HACCP examples were included, to ensure that the training was relevant to meat plant operators. In

delivering this course FTI had an opportunity to test out training material which was later used in producing the FSA Meat Plant HACCP Manual.

Training Courses

The courses were delivered over two consecutive days at off-site venues. The programme was designed to be very participative, and candidates worked in small groups. MHS personnel acting as observers were assigned to each group and became actively involved in a positive way with the groups. Day one focussed on hygiene, food safety, and pre-requisite procedures in meat plants. Basic microbiology was discussed along with an introduction to the HACCP principles, terminology and planning. Day two was devoted to practical group workshop sessions, using a blank HACCP plan template and sector specific example to produce various sections of a HACCP plan. The course ended with each candidate completing a multiple-choice test paper on the day. A work-based assignment was required to be produced by each candidate within ten days for external assessment by The Chartered Institute of Environmental Health.

All but one candidate achieved the pass mark (65%) or higher on the multiple-choice test paper. Thirteen of the fourteen candidates successfully passed the work based assignment, with two attaining a credit pass.

Course evaluation forms indicated that all participants found the course either “good” or “very good”. Candidates commented that they had enjoyed the informal interactive style of the programme. They particularly enjoyed the opportunity to meet and discuss issues surrounding HACCP with others in the industry. Most felt the course covered the subject well, and had enjoyed learning more about meat hygiene and HACCP. Others said they would have liked to have spent more time on preparing HACCP plans. Several MHS personnel observers commented that the practical nature of the course had contributed to a noticeable increase in the confidence of some of the participants. (Only two candidates commented that they felt uncomfortable with the MHS personnel being present at the course).

Training Course Conclusions

- Off site training carries more benefits than on site training
- Simple training materials, relevant to the industry, and the use of plain language was well received
- Provided that the candidates had a good understanding of food hygiene training, and by using the FSA Meat Plant HACCP Manual, this training programme could be delivered as a one-day workshop
- Having two candidates from each plant was to be a key component to successful HACCP implementation. Those who did not take back to their plant this “team ethic experienced difficulty in implementing HACCP.
- MHS personnel made a significant contribution to the group work. This forum provided an opportunity for both the candidates and MHS personnel to have a clearer understanding of each other’s requirements. It would be beneficial if this level of co-operation, mutual respect and understanding could be carried through and replicated in other plants.

The course results, the comments by the candidates and the observers, indicated that the two-day training programme was successful in achieving its aim of delivering the knowledge and understanding required to develop HACCP based food safety systems.

Awareness Session Conclusions

Three-hour 'awareness' sessions were delivered to seventy-three abattoir employees from the seven plants. MHS personnel were present at four sessions. The aim was to introduce the workforce to the concept of HACCP and the rationale behind it. It was also an opportunity to explain to them the work that would be carried out by their HACCP team and to discuss their role in making it work.

Three of the plants arranged for these sessions to take place at a venue nearby. Small plants rarely have suitable facilities for on site training; rooms tend to be cramped and ill-equipped to deliver training sessions. This, and frequent interruptions, contributes very little to a learning environment. Comments on feedback forms reflected the preferred learning style of this client group. Training for this group has to be practical and participative to hold their attention and maximise their learning potential.

As expected, these sessions provided a forum for the workforce to voice their concerns. In some plants there was a strong feeling of resentment by some operatives to new legislation, particularly as they saw it bringing further conflict with MHS personnel. A small number of operatives were very cynical about training and anything related to HACCP. It is an issue that the industry as a whole has to address; quality, meaningful training is an important pre-requisite for HACCP. Successful implementation of HACCP is reliant on the commitment and co-operation of the workforce, and tests the quality of management to the full.

Setting-up phase

The time taken to implement to a point where the system was deemed to be fully "up and running" varied from about six weeks (Plant E) to twenty-six weeks (Plant D). The remainder clustered around thirteen to twenty weeks, reflecting the varied complexity of the operations. At one site (Plant F) there was an impression that the MHS needed to validate their HACCP plans which demonstrates the potential for misunderstandings that can occur with such a project. The point is underlined, however, that interpretation of "completion of implementation" differed between sites.

In the assessment, it was apparent that the major problem experienced by almost all interviewees was the time taken to carry out the work. The pressures of day to day business at small sites mean that there is little slack in the system and most said that they devised the documentation in their own time. "Time is an issue even if the principles are not themselves difficult". A number of proprietors said that getting the principles across to their workforce, especially older employees, was more difficult.

Three sites already had experience of HACCP, one had implemented the MLC Basic HACCP for Retail Butchers, another was in the process of seeking EFSIS BRC Certification and a third had worked with Shrewsbury College on an earlier HACCP

plan and were familiar with the terminology. These operators found fewer difficulties with the present work.

Additional Training Needs

All respondents expressed the view that the training provided on their initial courses had been very adequate in providing them with the necessary skills to carry out the implementation and train their own staff. The view was also widely expressed that the availability of an FSA sponsored consultant to visit the sites and available by telephone was most valuable.

In the main, the view was expressed that little other help was needed. One proprietor (Plant D) brought in an external QA consultant (ex Motor Industry) to get across basic QA principles to his staff as an adjunct to the HACCP work. Another (Plant E) felt that the input from their OVS and the regional POVS was very helpful and supportive in guiding them through the implementation phase. He also felt that earlier availability of the manual and/or cd-rom would have provided a useful input alongside the training course notes and the consultant's input. The consultant's input was somewhat less well received at another plant where the slaughtermen took a negative view about paperwork generally.

Summary of Overall view of Degree of Difficulty in Implementation

As a summary, the degree of difficulty experienced by each of the plants in implementing the HACCP programme was rated on a six point scale from "Very Easy" to "Very Difficult", with the majority finding the implementation "fairly difficult".

Very Easy	Easy	Fairly Easy	Fairly Difficult	Difficult	Very Difficult
1	1	1	4		
Plant A	Plant B	Plant C	Plant D Plant E Plant F Plant G		

Summary comments associated with this scoring included:

- Mentally stretching but not difficult
- Time was the problem rather than inherent difficulty
- Decisions on criticality of controls and hazards to be included were difficult to make
- Older people with less scientific education do find it difficult

Consultancy Support Visits

To assess progress each plant received two consultancy visits.

The first visit was designed to determine existing processes, clarify HACCP Plans required and corresponding monitoring records. Guidance was given to help identify the extent of HACCP Plans required, and Action Plans were left with each business following this visit containing targets needed to enable the implementation of the

HACCP based system. A date for the second, final, visit agreed by the consultant and HACCP team leader.

First consultancy visit

Plants were visited seven to ten weeks after the training course (the busy Christmas period prevented an earlier visit). They needed to produce between two and five HACCP plans each complete with supporting documentation to cover the processes in their plants.

Four of the plants had produced at least one complete HACCP plan by the time of the first visit; most had made a start on their remaining plans. One of these plants had produced three fully completed plans. Most plans required only minor modification or amendments; these were discussed and agreed with the HACCP team/team leader and the consultant. In all the above plants the HACCP team had identified appropriate CCPs for their plans and justified each correctly.

The three remaining plants had each produced partially completed plans at the time of the first visit, whilst they were making steady progress, one team had started preparing their plans without agreeing the scope and flow chart. This resulted in key process steps being missed out and further rewriting of the plans. Although the HACCP teams in the three remaining plants had identified appropriate CCPs for their plans they needed to be correctly justified.

Two of the seven plants had produced and correctly implemented appropriate monitoring documentation for their completed plans. The remaining five plants were in the process of either modifying existing documentation or generating new documents and records using the blank templates provided on the training course. The level of progress in this area was directly related to the existence, absence or quality of pre requisite documentation already in the plant.

All plants were given feedback by the consultant on their progress to date, an action plan was agreed and a realistic target date for the final visit was set.

Second consultancy visit

The second visit, which took place between four and six weeks after the first visit, reviewed the progress the team had made towards completion of HACCP plans and subsequent implementation. Guidance and support was again given where necessary, and those plants that had not achieved full implementation were offered continued telephone/e-mail support if they required it.

Action plans for five of the plants had been successfully achieved, all HACCP plans were in place along with relevant records. The HACCP team had identified appropriate CCPs for their plans and justified each correctly. HACCP had been successfully implemented in these five plants. Monitoring documentation for CCPs has been correctly established, very minor modifications were required in some instances. Two of the five plants had formally validated their plans, the other three were in the process of validation.

The remaining two plants were still some way off completing their HACCP based system, even though they themselves set the final visit date. Although both plants had a history of poor pre-requisite programs, the problem seems to have emanated from trying to short cut the stages in preparing the HACCP plans, resulting in more work to repair the mistakes. In both plants there seemed to be no team culture, in one plant, the enthusiastic plant owner and “team leader” had taken on the whole project himself. In the other, the majority of the workload had “fallen” onto one person receiving neither the time nor the support to develop the plans. In both cases the outcome was the same - slow progress.

Consultancy Support Visit and Pilot Project Conclusions

Structured and planned training is one of the fundamental requirements in developing and implementing HACCP. Most candidates had little difficulty transferring information learned at the training sessions into their businesses, however those that did well and scored high marks did not necessarily have the same success implementing the HACCP based system into their plant. This demonstrates that knowledge alone is not enough to guarantee successful implementation of HACCP. HACCP succeeds when this knowledge can be transferred and applied in the workplace with the support, commitment and positive attitude of everyone involved. It is the management’s responsibility to create this environment. Commitment must start at the top. All the candidates on the pilot project demonstrated a high level of commitment, and most retained a positive attitude throughout the project.

Four of the five plants who have successfully implemented HACCP experienced few problems delegating tasks and involving other members of their workforce in the day to day operation of HACCP. The other plant in this successful group is managing to maintain HACCP implementation because of the “teams” effort, mainly that of one person. The HACCP “team” has experienced difficulty with the negative attitude of some employees. This plant and the remaining two plants yet to implement HACCP have a management style, structure and culture that may have to change if continued success with HACCP is to be achieved and maintained. This is not an uncommon situation in many small and medium businesses. Managing time and people, and creating a “team culture” are important key skills in the successful management of any business.

Adherence to the CCP’s identified in the Training Notes / Manual

The independent assessment found a large measure of agreement amongst the seven pilot plants, in that their own implementation covered more or less the same points as are covered in the training notes. One operator took issue with the concept of acceptance of clean cattle, another felt that this concept was a penalty on his suppliers (which, of course, it is intended to be). The two operators that had a pre-existing HACCP in place amended the implementation slightly to avoid duplication. Minor modifications were made to reflect the high degree of automation in a modern poultry plant. These were the only exceptions to the close adherence to the system as designed.

Communications

Difficulties in getting the message across to staff were rated using the six-point scale and show that there was a shift on the scale towards the “difficult end” as compared with the answers to the basic question on ease of implementation as a whole.

Very Easy	Easy	Fairly Easy	Fairly Difficult	Difficult	Very Difficult
	2		3	2	
	Plant A Plant C		Plant B Plant D Plant E	Plant F Plant G	

Summary comments associated with this question included:

- Getting messages across to staff and changing the mind-set of people with 20 years service was difficult.
- Staff were not keen to read the booklet and this necessitated going over it several times
- Filling in forms can be difficult for those whose skills are manual and job related rather than paperwork based.
- Short lines of communication meant that there were no real problems
- Team were more interested after the consultant’s visit: he enthused the staff.

MHS Involvement

MHS personnel became actively involved with the HACCP teams in four of the seven plants in the pilot study.

Three of the proprietors (Plants A, C and E) commented that they had received a supportive and helpful input from the MHS personnel involved. For example, helpful comments and suggestions were made with regard to simplification of the paperwork towards a practical rather than theoretical basis.

At the other extreme, in two plants (D and F) relationships were so bad as to be virtually those of outright hostility. In one plant there have been no less than seven OVS’s at the plant in six months. This has destroyed any semblance of continuity or efforts to involve the MHS in the HACCP implementation process. MHS personnel had been “of absolutely no help whatsoever”, had shown no interest in the implementation and saw it as a threat to their role. Similar views were expressed at two other plants. At the seventh site (Plant F) there had been little input from the MHS and the opinion was expressed that once MHS staff had validated the HACCP they would no longer issue HAS scores. There appears to be some misunderstanding at this site.

As might be expected, the three sites at which the MHS input was felt to be beneficial reported that they had also felt that they had a positive role to play. At the three sites where problematical relationships had been identified the MHS feedback was indicative of less than effective dialogue.

The Senior MHI at Plant E commented that they had been involved and had informally approved the HACCP plans generated. The MHI at the same site regarded it as important that they should oversee a successful implementation of the HACCP approach in this and similar smaller abattoirs. Similarly at Plant A, the partnership was felt to be beneficial from the MHS side.

At Plant C, while the OVS had been surprised at first by the new approach being taken (as he had not been briefed) there followed a good team approach and he was able to make a positive input, particularly after attending the training course in June. The interview with the OVS at Plant F provided the information that this training was provided by a different organisation from that working with the pilot plants and was on the Enforcement of HACCP. The OVS saw her role as to watch the implementation progress, not to offer any assistance and to be very much in the role of enforcement officer.

The current OVS at Plant D felt that the company operated as a “one-man-band” with no-one else being allowed any input. He had tried to assist staff with record keeping but because they had not been effectively trained in the procedures this was difficult. There was little he could do, he declared, when the proprietor “thrives on a climate of confrontation”.

At Plant G, the MHS inspectors felt isolated from the project and the OVS indicated that he had only been advised to point out deficiencies and that to have done more than this would have compromised his position as an enforcer, this position was supported by the POVS in his area. At Plant B, the General Manager has a good working relationship with the MHS staff but the latter are still holding HACCP at “arms length” and appear not to wish to be involved until the pilot study has run its course.

Other Conclusions

- Documentation

The blank HACCP template, sector specific examples, blank forms and documents provided for the candidates on the training course were a success. Not only were they extremely useful as a training tool, but were used in the workplace to great effect. They assisted in the production of HACCP plans in a structured way, the format was easy to understand, and provided the step by step approach was followed few difficulties were encountered. This material was also provided on floppy disc, allowing plants to customise the plans for their own business, and to generate, and sometimes improve relevant monitoring documents and records. The generic format of the HACCP template, which includes validation, verification and review documents will facilitate easy inspection for those who audit the plan. The provision of the Food Standards Agency Meat Plant HACCP Manual and CD rom, which has been developed from the training material used on this pilot project, is now available to the industry’

- Training

The pilot project identified a noticeable lack of training in plants of this size; even basic hygiene training was not in place in some plants. Persuading senior personnel with their poor perception of training, usually based on their past experience of school, to buy into training is not easy, but it can be achieved if they can see that good training is participative, relevant, and in language they understand. Implementing HACCP into this sector can be achieved easily and quickly given appropriate training - good training costs money, poor training is expensive.

- Changes to Working Practices brought about by HACCP Implementation

The assessment found that in all the pilot plants there were checks already in place but after implementation of HACCP, a tighter approach was being taken to record keeping, particularly of cleanliness of incoming animals, of in-process monitoring, of training, cleaning, temperature of carcasses and of refrigerated areas and of scalding and sterilisation equipment. Most of the proprietors talked about greater awareness of controls in general and the importance of writing up records at the time of measurement. One suggested that his previous approach was one of “writing things up at the end of the day” whereas now he had had to engender an approach of “checking and recording as you go”. At another, where good record keeping was already practised following implementation of HACCP in the retail premises they had merged forms to reduce documentation, strengthened dispatch records and implemented a recall system. In a third the proprietor had strengthened his maintenance records, recognising the high degree of automation in his plant. A fourth had updated existing HACCP paperwork and added in some new parameters such as glass control.

In general, the new practices brought about by HACCP represented an evolution of previous good practice but the following have been singled out as particular changes that had the most impact:

- Improved, structured monitoring and record keeping
- Improved cleaning. In some cases the HACCP study had brought about a change in the type of chemicals used.
- Improved temperature monitoring
- Improved and structured training e.g. induction process
- Improved and clearer criteria for acceptance or rejection of cattle

The main issue raised was the resource required to measure the parameters now demanded and to keep the records up to date.

Overall degree of Difficulty in HACCP Implementation

Plants were asked to rate the overall degree of difficulty experienced in the project. The scores are summarised below and correlate with the answers to the earlier questions.

Very Easy	Easy	Fairly Easy	Fairly Difficult	Difficult	Very Difficult
	2		3	1	1
	Plant A Plant C		Plant D Plant F Plant G	Plant E	Plant B

Key Issues identified in the overall implementation of the HACCP plan were:

- Manpower and time / cost of resource (creation of additional labour requirement)
- Time to follow up issues generated in a small business
- Attitude of the MHS (whether positive or negative)
- Getting staff to do the checks consistently and change approach to job (irrespective of time this takes)

No major areas for additional help were identified, suggesting that for the pilot study at least, the input of the training and the consultancy back-up were pitched about right.

MAINTAINING THE HACCP SYSTEM

As part of the assessment, identification of any ongoing problems being experienced once the systems had been put into place was then considered. In doing this the area of staff involvement, communication problems, training needs etc were revisited but the conclusion was drawn that these issues had been fully explored and elucidated in the earlier questions about implementation.

In truth, it was too early in the overall scheme of things to be differentiating the issues involved with implementation from any issues arising in the “steady state” phase. However some useful points are explored in the following sub-sections:

Staff involvement and identified difficulties

Once a HACCP system is in place one measure of its success is the way staff maintain it and operate to it.

Most operations were only using a limited part of their manpower resource to actually make measurements and keep records. While in larger scale operations a greater spread of involvement would be expected, this limited involvement may be appropriate for small and medium operations provided there is evidence that others in the plants understand what is going on (which appears to be the case). The largest operator had delegated CCP measurement activity to a number of managers from various departments. One operator has a quality system that is colour coded and incorporates HACCP elements and a number of people are involved with monitoring and recording.

Issues raised covered staff flexibility and the need to train everyone in every facet of the job if moving personnel from job to job was going to work. The problems with supervision and getting staff to consistently make measurements and keep records was an ongoing and unresolved issue at Plant G.

No points were raised with regard to additional help which might be useful, this suggests that the ongoing or “steady state” operation of a HACCP system will be “low maintenance” in terms of external inputs and that the initial training provided was probably pitched about right.

Assessment of the Overall Difficulty in Ongoing Operation of HACCP System

Very Easy	Easy	Fairly Easy	Fairly Difficult	Difficult	Very Difficult
2		1	3	1	
Plant A Plant C		Plant E	Plant B Plant D Plant G	Plant F	

The overall degree of difficulty perceived by the seven sites in the ongoing operation of the HACCP system is summarised above. This shifts the emphasis back towards the “easy” end of the scale and provides an optimistic view for the likely success of HACCP systems.

MICROBIOLOGICAL SAMPLING PROGRAMME

The implementation of the microbiological sampling programme was reviewed with the pilot plants under three sub headings, namely *Surface Swabbing*, *Carcase Testing* and *Rapid Testing of Surfaces*. Not all sites were involved with all three.

Surface Testing

All sites appear to have a good understanding of the importance of implementing a swab test regime and most found the training adequate in “how to” take samples. (Plant F found the booklet difficult to understand at first). A number of plants commented on the difficulty of sampling early in the morning before shift work starts and some had problems with working out sample programmes to fit in with cleaning schedules. Some plants had problems in establishing working relationships with the respective laboratories but these appear to have been teething troubles and in virtually all cases arrangements are now working smoothly.

Plant A expressed concern about using the chosen laboratory rather than a nearer hospital PHLS laboratory and the fact that it could take up to four days to get there. There were also problems at most sites with interpretation of results, units, etc and a number of operators are concerned about the high standards to be achieved (Plants D, E and G). Because of these problems with interpretation very little demonstrable corrective action based on the test results was noted. Most operators had not yet established graphical records but most were promising to do so soon. Plant C commented that based on first results he had changed his cleaning chemical regime and was now achieving much better results. He regarded this as the single most worthwhile outcome of the whole project. The major issue discussed was that of cost and time taken to sample. (see below)

Carcase Testing

While the different types of microbiological testing were separated out in the interviews, many of the same points were made for carcass testing as for surfaces. For example understanding of rationales and techniques by personnel, teething problems with laboratory relationships and getting to grips with understanding the results. Time taken and hence the cost of the programme were highlighted by virtually all plants. More manpower is needed per carcass swabbed and this has to be done during the working day, whereas surfaces are swabbed before start-up. Plants A and E raised the question of the real usefulness of the results and the value for money achieved. The manpower and time problems had resulted in Plant B stopping and starting their testing programme (none carried out since July 2002 and no prospect of an immediate restart). Plant A had also stopped but was planning to restart just after the visit.

Rapid Testing of Surfaces

Two plants have been involved with this methodology (Plants F and G) and both were enthusiastic about its use finding it straightforward with no issues about equipment, training or results obtained. Plant F had a concern about the pass/fail results along with a third “warning” category that was treated as a “fail” by the OVS. That plant was pleased, though, that the technique enabled them to identify a need to change a cleaning chemical to good effect. Plant G was showing results graphically and liked the technique because it enabled them to act quickly on results on which they generally had a high degree of confidence.

Issues

Issues around the dialogue between operator and laboratory were mostly of a “teething” nature but will need to be considered in the longer term so those communication problems experienced by the pilot plants are not exacerbated on the national scene. The key issue expressed at most of the pilot plants revolved around the costs and manpower required for the operation of an effective microbiological testing programme (possibly excluding the rapid technique). Plants A and D had calculated the annual cost of such a programme, both in laboratory fees and in their own manpower, and indicated that for businesses which work on such low margins and with many other imposed overheads such additional costs would be crippling.

The point was not lost on the pilot plants that they had had the benefit of the FSA “picking up the tab” for the work to date but doubted they could afford to continue at the required sampling rate after the pilot period. Additional costs are encountered in bringing in staff early in the morning to undertake surface testing and for carcass sampling during the working day; most operations do not have “spare” labour to undertake such work. [FSA Note: This predates guidance on reduced frequency of testing].

BENEFITS ACHIEVED AS A RESULT OF HACCP IMPLEMENTATION

As a final discussion point of the assessment at each plant the overall benefits achieved by the pilot operations in terms of parameters such as improved hygiene of staff, improved microbiological quality of meat etc were considered. The results of this line of questioning are shown in tabular form in each visit report (and also, in

each report, a similar table based on the impressions of the OVS). The overall results are summarised below by scoring the number of times each view was expressed (OVS views in brackets – not all expressed a view on each parameter at each site):

	Much better	Slightly better	No change	Slightly worse	Much worse
Personal hygiene		4	3 (6)		
Premises Hygiene		6 (2)	1 (4)		
Foreign Body Control		2 (2)	5 (4)		
Temperature control	3	1(3)	3 (3)		
Food safety related working practices		3 (4)	4 (2)		
Staff motivation and involvement	1 (1)	3 (2)	2 (2)	1	1
Staff awareness of food safety procedures	1	5 (3)	1 (2)		
Control/selection of suppliers	1	(2)	5 (3)		1
Technical operations - calibration, traceability	1	2 (4)	4 (2)		
Quality of record keeping	4 (2)	2 (2)	2 (1)		
Staff knowledge of food hygiene	3	3 (5)	1		
Customer confidence in your products		1 (1)	6 (3)		

From this table it can be seen that there was quite a good correlation between the proprietor’s own views of the benefits achieved with those of the OVS. Parameters such as record keeping, staff motivation and awareness of food safety procedures have all shown a (desirable) “shift to the left” with the odd exception. However it is interesting to note that by measuring the impact on the basis of the two facets “Control and Selection of Suppliers” and “Customer confidence in your products” both firmly suggest “No change”. It is also worth mentioning that at some sites (eg Plants C and E) changes in practice were only marginal because very good practices were already in place and this was borne out by MHS comments.

It is worth noting that one operator (Plant B) felt that control and selection of suppliers was “much worse”. This was based upon their view that making the requirement for clean animals a CCP means that some OVS’s interpret this by highlighting it as an issue in such a way as to penalise their suppliers thus causing relationship issues. The same operator and one other (Plant F) listed the only other two “shifts to the right” in describing staff motivation and involvement.

GENERAL SUMMARY OPINIONS

The Pilot Plant Operators

As a final stage in the assessment interview, each proprietor was asked to summarise their experience in terms of an overall opinion taking into account all the factors discussed. The following key points emerged:

- Benefits in record keeping and in hygiene improvements were acknowledged as key outcomes by most of the participants. Against the time input some operators such as Plant A believe the benefits to be marginal to businesses which are currently run on best practice lines. Plant B thought that the input was excessive for a low risk part of the food chain.
- Even those operators who had reported benefits and who had not had difficulties with their MHI/OVS relationships expressed reservations about the resources

required and hence the cost to small businesses. Costs and manpower were seen by virtually all participants as major problems.

- Unless the marketing of the benefits is handled very carefully even operators such as Plant C who is passionate about quality will see HACCP as a bureaucratic exercise.
- Those operators who had encountered difficult relationships with their MHS / OVS colleagues stressed that the approach from those quarters has to be modified in order that the implementation of HACCP can be made in an orderly way.

General Summary Opinion by MHS Contacts

Broadly speaking the interviews with MHIs and OVSs reflected the views expressed by the business proprietors. Key messages that emerged were:

- Records had improved which would help the OVS in doing their job. (Plants E and F)
- Records might have improved but at some sites the OVS believed that other hygiene and management practices still need to be addressed as prerequisites for HACCP to be really successful as a management tool. (Plants D, F and G)
- Aware of the time constraints bearing down on the plants but felt that standards had improved (Plant A)
- Very successful implementation – praise to those involved. (Plants C and E)
- Without delegation even the best HACCP system will not deliver benefits (Plant D)