

## Final recommendations and comments

### Summary

NAHWOA is a network of researchers from 17 different institutes in 13 European countries. All partners work in organic livestock production research and are specialised in animal health and welfare, breeding, feeding and resource management in organic livestock systems. For the past three years, the network activities have been funded by the EU as a Concerted Action project (FAIR6 - CT98 – 4405). This is a summary of the attached recommendations that were produced during the course of the project in 1999-2001.

In summary, the NAHWOA Partnership makes the following points:

- 1) It is important to formulate a philosophical definition and basis for animal welfare in organic farming and to seek to solve potential conflicts between animal welfare and other organic farming aims (environmental protection, sustainability, public health protection etc.).
- 2) Animal health is considered a vital part of animal welfare. It is therefore, of concern, that a growing body of evidence suggests that animal health situation on organic farms is no better than that reported in conventional livestock production systems. Whilst some diseases and conditions appear to be more frequent in organic than in conventional systems, others are found more frequently in conventional systems than in organic ones. Overall, it appears that improvement of health situation has not been adequately in focus to guarantee a clear improvement in animal health and welfare when organic livestock systems have been developed.
- 3) Whilst the development of organic standards should be driven and informed by research that reflects the practice and experience of organic farmers, there is also a need to guarantee that policy makers seek advice from ethologists/other animal welfare experts and from public health and veterinary experts when developing the standards.
- 4) The central feature of EU Regulation 1804/1999, requiring selection of appropriate breeds and strains for particular farm or conditions, should be given more weight in the development of organic livestock systems. There is a need to carry out research that clarifies the suitability of different breeds and breeding aims in organic systems. In particular, there is a need to develop both standards and breeding practices for organic poultry production, in order to avoid the inherent animal welfare problems that are prevalent in conventional poultry systems.
- 5) Animal health management on organic farms should be based on evidence-based and on-going planning that should preferably be produced in written format and should be able to demonstrate a gradual improvement of health and welfare status and decreasing reliance on medicinal therapy and prophylaxis.
- 6) There is a need to develop organic livestock production systems that are fully integrated with other production systems on the farm and that are focused on providing animals access to natural behaviour as part of the system.
- 7) There are specific research needs in all the above-mentioned areas of development. These needs are detailed further in this document.
- 8) In regard to research direction and methodology, the Partnership felt that innovative approach to husbandry system development and participatory approach to research were needed.

## Final recommendations and comments

NAHWOA is a network of researchers from 17 different institutes in 13 European countries. All partners work in organic livestock production research and are specialised in animal health and welfare, breeding, feeding and resource management in organic livestock systems (a list of partner organisations and contacts enclosed). For the past three years, the network activities have been funded by the EU as a Concerted Action project (FAIR6 - CT98 – 4405).

The following recommendations and comments form the final output of the project and have been formulated and collated in five Workshops run during the course of the project in 1999-2001. The recommendations are divided into three subject areas: development of standards, development of systems, training and tools and research needs. Those recommendations that address the development of common European organic livestock standards within the framework of Regulation 1804/99. These recommendations are considered particularly important as the Regulation came into force during the project period and contains several inbuilt review opportunities and needs further development.

### **1. Development of standards/regulations (see also Appendix D):**

#### *Animal welfare*

- ?? Standards should be driven and informed by research that reflects the practice and experience of organic farmers.
- ?? Policy makers need to put more emphasis on the advice and expertise of ethologists/other animal welfare experts when developing standards.
- ?? It is important to formulate a philosophical definition and basis for animal welfare in organic farming.
- ?? Conflict areas between animal welfare and other organic farming aims (environmental protection, sustainability, public health protection etc.) need to be defined and answers need to be sought to these conflicts.
- ?? Organic standards should be sufficiently flexible to allow continuous improvement of animal welfare and to meet the different needs in the different parts of the EU.

#### *Breeding*

- ?? The central feature of EU Regulation 1804/1999, requiring selection of appropriate breeds and strains for particular farm or conditions, should be given more weight in the development of organic livestock systems. In particular, there is a need to develop both standards and breeding practices for organic poultry production, in order to avoid the inherent animal welfare problems that are prevalent in conventional poultry systems.
- ?? For selection, the poultry breeding flocks, and not only the parent stocks, should be kept in free-range systems.

- ?? Organic breeding standards, particularly for poultry, need to be developed and enforced in order to guarantee the development of a sustainable and socially and environmentally acceptable systems and to maintain high standards of health and welfare and public health protection.
- ?? Breeders, who start producing organic stock before the derogation for using conventional animals runs out, should be supported by the certification bodies that need to enforce sourcing from these breeders. The unavailability of suitable stock should be assessed on a similar basis as currently used for the availability of seeds, either by the inspection or certifying body providing an overview of the market situation for that particular year or by the individual producer who would be obliged to supply some proof that enquiries have been made.

### *Feeding*

- ?? Standards on the extent of buffer grazing/cut-and-carry practices should be set.
- ?? Mineral deficiencies were not considered a particular problem as the EU Regulation 1804/99 allows routine supplementation in organic systems. There is, however, a need to emphasise an evidence-based approach on organic farms with appropriate soil, forage and blood analyses in order to avoid deficiencies.
- ?? Minimum forage content of ruminant diets should be maintained at 60%.
- ?? Synthetic amino acids should be continued to be excluded from monogastric diets to support land based systems and to avoid intensification (see separate statement in Appendix II).
- ?? The proportion of home-produced feed required is not stipulated and leaves room for interpretation. Not all regions of the EU can produce cereals for livestock feed locally, so that a continuing degree of derogation to this may be required. It is suggested that clearer guidelines are elaborated as to when such derogations apply.
- ?? The rigid application of a positive feed list could limit further development in the feedstuffs available for organic systems. The network would welcome the development of criteria as to what feeds can be used on organic farms, in order to supplement the current list in Annex II C and assist certification bodies in producing positive lists adapted to national/regional conditions.
- ?? Because of the benefit to animal health, the feeding of young mammals should be based on natural milk, preferably from the same species.
- ?? Recommendation as to what should be done with milk withheld from sale following veterinary treatment should be developed.
- ?? It is suggested that a limited range of feedstuffs from animal origin for monogastric species should be considered in future.

### *Veterinary management*

- ?? The role of bio-security, largely within a closed flock/herd, in maintaining a high health status should be further emphasised in the standards.
- ?? EU regulation should include a requirement for written health/welfare plans (see separate statement in Appendix III).
- ?? The following suggestions were made in regard to the use of alternative/complementary medicine (see also Appendix IV):
  - The standards should require and implement similar recording for complementary medicine as for conventional medicine.
  - There should be a compulsory training in animal health management and the use of complementary medicine for converting farmers.

- The use of complementary medicine should be presented more clearly in the context of preventive measures and health planning, in order to ensure that conversion changes in health management are not limited to a shift from conventional medicine to alternative/complementary medicine.
- ?? The limit on the number of conventional treatments administered to an animal should be reconsidered. The emphasis should be on avoidance of suffering and disease. It was suggested that the number should be based on a maximum average number of treatments per animal in herd/flock.
- ?? The acceptability of coccidial water-administered vaccines in organic poultry hatcheries should be clarified. In layer systems, serious coccidiosis is unlikely to be a problem in adult birds that have acquired immunity, as long as hygiene standards are good, stocking densities are not too high and site rotation is practiced.

## **2. Development of systems, advise, training and tools**

### *Animal welfare*

- ?? A tool to assess and improve animal welfare on organic farms is needed. The tool should be action-orientated, aimed at communication and improvement, rather than assessment and ranking. Whilst the Austrian/German Animal Needs Index (ANI/TGI) was considered a useful starting point for the development of such a tool, several improvements and additions were suggested.
  - All tools should be based on sound epidemiological and ethological understanding.
  - Ecopathological (zoonotic) aspects also need to be considered.
  - The purpose of the tools is to offer practical solutions to identified problems on the farm (i.e. should lead to action).
  - The “tool pack” should be transparent (i.e. it should be clear WHY each aspect is measured).
  - Development and inclusion of practical and accurate animal health parameters (or links to simple health monitoring tools such as Somatic Cell Count in milk, lameness and body condition scoring etc.) into existing assessment tools.
  - Development and better inclusion of ways to measure stockmanship/human-animal interaction on the farm.
  - Development of ways to include transportation and slaughter conditions in the existing animal welfare indices.
  - Development of separate indices for production systems with minimum housing (e.g. Scottish hill farming).
- ?? It is important to develop links between real animal welfare and real animal health. E.g. it should not be acceptable to measure animal welfare against production parameters alone (e.g. good daily weight gain/milk yield does not equal good animal welfare, if the animal is simultaneously suffering from chronic production disease or an infectious disease).
- ?? Consumer education is needed to demonstrate the links between welfare and product quality and the cost of improved animal welfare at farm level.

### *Stockmanship*

- ?? Working with a participatory approach, on the basis of knowledge networks and farmer-to-farmer interactions, was recognised as better than the traditional approach of expert consultation. It was also pointed out that the individuality of the stockpeople involved must be considered. The constraints in regard to infrastructural limitations must be recognised in each farm in order to avoid undue expectations on what “good” stockmanship can do.
- ?? Training and information for farmers, stockpeople, vets and other “co-workers” on husbandry solutions is needed during the conversion process.
- ?? It is important to raise awareness about the fact that observation of the animals and recording of the observations is an important task. Time spent on observation/recording is valuable work – both when carried out by the owner-farmer or by paid staff.
- ?? Attention paid on the development of practical templates and novel methods to record data on farm may pay off in increased motivation. Analysis of recorded data and its presentation in ways that help practical work (e.g. action lists, graphs about trends in production levels or disease incidence) also increase motivation (i.e. “somebody is interested in what I am doing and what the results of my actions are”). The use of recorded and analysed data as a decision making tool can also empower paid staff if used in a creative way (“my data helped them/forced them to change the feeding system” etc.).
- ?? A greater degree of communication and participation between the producer, the researcher and the advisor is required.

### *Breeding*

- ?? Develop suitable breeds and breeding strategies for organic systems before the use of genetic manipulation makes conventional breeding systems inaccessible for organic farmers. The focus should initially be placed on monogastric systems, where the existing breeds and breeding systems are often inappropriate for organic production aims.
- ?? There is a need to establish a relationship/dialogue with breeding companies and societies across Europe. (In a similar fashion with what has been happening on organic plant/seed production).
- ~~??~~ It may be advantageous to draw upon the breeding experience/expertise within Eastern Europe, as many breeding programmes in that region have maintained local breeds and in so doing maintained a wider genetic pool.
- ?? It is suggested that education and empowerment of farmers in the identification of breeding goals in organic systems may be important. This could be particularly important for establishing breeding goals that put more emphasis on female selection criteria and avoided the limitations of a ‘total index system’.
- ?? It was also suggested that breeding for clear and concise animal health targets should be practiced where possible and where management has already been optimised. E.g. if breeding for worm resistance, select on a whole herd/flock basis rather than on an individual basis. It was, however, pointed out that care should be taken in using this strategy at the expense of other breeding targets and in situations where the benefits of genetic resistance are not well established.

- ?? The following specific points were made in regard to poultry breeding:
- There is a need for breeds that are flexible and can adapt to variability of surroundings:
    - The animals should show normal behaviour in large groups.
    - Fattening poultry should grow slowly (81 day).
    - Facilities common in organic farming, like free range and perches, should be used in breeding facilities.
    - Birds should be able to adapt to regional characteristics, like local climate.
    - Birds should be able to cope with changing food composition.
    - Birds should show resistance against diseases and parasites, even if selecting for a certain trait means poorer performance in another area.
  - It was concluded that, whilst it may not be an easy task to find suitable lines, pure lines and local breeds should be tested on organic farms and direct acceptance of existing commercial breeds should be avoided unless tested in free-range and organic conditions.

### *Feeding*

- ?? It was suggested that full utilisation of existing know-how on grassland management and conservation of forage combined with 24-hour access to forage at *ad libitum*-basis should be the basis of organic milk production. Data from Austria and Sweden suggest that relatively high yields are possible on forage-based diets without any concentrates.
- ?? Training and advisory materials on poultry ration formulation for home mixing should be developed. It was also suggested that poultry could be allowed to practice choice feeding where they choose their own rations.

### *Veterinary management*

- ?? Facilitate a greater and more rational use of alternative therapies and meet the legislative requirements for veterinary medicines use in some member states.
- ?? Develop and implement animal health plans that guarantee maximal public and animal health standards in organic livestock production (see separate statement in Appendix III).
- ?? The following suggestions in regard to the technical aspects of health management plans were made:
- Target setting should be farm-specific and should be based on both short- and long-term targets. It was suggested that setting of “national” or “organic” target levels (e.g. for disease levels) would be counterproductive.
  - It was suggested that a step-wise establishment of health plans would be needed, particularly on converting farms. Existing data may not always be adequate to assess the existing disease situation on the farm and to allow target setting and targeted. In this context, the need to ensure the dynamic nature of health management plans was emphasised. Regular updating and reviewing of the plans should be compulsory.
  - The health management plan should be utilised to help to introduce alternative/complementary therapies on a farm in a way that allows feedback and assessment of the impact of these therapies.

### *Systems development*

- ?? The following suggestions were made to solve the problem of unwanted dairy bull calves: use of dual purpose breeds for dairying, organic veal production, communal/co-operative fattening system for dairy farms, collaboration between organic arable farms and dairy farms.
- ?? It was also felt that there was adequate information on the influence of castration on growth rates, meat quality and other aspects of beef production. It was considered important to weigh the animal welfare implications of castration against other welfare-related aspects of management on individual farm basis (e.g. if castration would make finishing by grazing possible, whereas entire animals would need to be kept housed, castration might be considered a lesser breach of welfare than housing).
- ?? It was suggested that organic beef production needs higher profile as a sustainable part of organic systems. Simultaneously, environmental problems related to the use of marginal land for beef production on organic farms need to be solved in order to maintain customer confidence.

## **3. Research needs**

### *General*

- ?? Research should reflect the practice and experience of organic farmers, i.e. participatory research and action orientated research should be encouraged by the funding bodies

### *Animal welfare*

- ?? There is a need to identify and clarify the problem areas in animal welfare specific to organic farming systems. This research should particularly address the areas where there is a potential conflict between animal welfare and other aims of organic production.
- ?? There is a need to develop holistic quantification methods for animal welfare on organic farms and to quantify the impact of organic management on animal welfare at farm level in order to maintain consumer confidence and to help organic farmers to maintain high welfare standards on their farms.

### *Stockmanship and housing*

- ?? It was suggested that further research into what is and creates good stockmanship/husbandry is needed. It was also recognised that in this area, there was likely to be very little difference between conventionally managed and organic systems; i.e. research in conventional systems could benefit organic systems and *vice versa*. The following questions need to be answered:
  - What is a definition of good stockmanship?
  - Which and whose values are represented in definitions?
  - Is there a need for a special definition of good stockmanship in organic farming?
  - How can the learning of stockmanship be best studied? Do we need social science methodology, and which of the methodologies are most appropriate?
- ?? The impact of changing housing and husbandry systems on stockmanship, e.g. the welfare implications of automated or free-range systems with less human-animal interaction, needs to be studied.

- ?? There is a need to quantify the benefits of good stockmanship to the farmers, e.g. financial benefits, reduced disease incidence etc.
- ?? Research is required into the development and application of “codes of practice” for organic livestock producers;

### *Breeding*

- ?? Research is needed to define organic breeding goals. This research should be based on the experience and expertise of existing organic farmers.
- ?? There is a need to carry out research into poultry breeding in order to set sustainable standards for poultry breeding systems. Again, this research should draw on the experience of existing organic breeders and they should actively be involved into this research.
- ?? There is a need to correlate existing data, in the first instance from the dairy sector, to see how well organic cows perform in comparison to their genetic potential in order to help to set organic breeding targets.
- ?? There is a need to document what breeding strategies are used and adopted by organic breeders in different European countries.
- ?? There is a need to carry out specific research into organic pig production in regard to meat quality (proportion of subcutaneous and intramuscular fat), boar taint/need for castration, leg problems, mothering ability etc. in order to establish to what extent breeding can address these problems.
- ?? Identification of suitable crosses for “production” of desirable dairy bull calves. This research would need to take into consideration the varying conditions in different production systems and individual farms.

### *Feeding*

- ?? Identify natural sources and feeding regimes in order to replace synthetic vitamins and amino acids in the rations, particularly for monogastric animals and synthetic vitamins for organic dairy cows in the northern parts of the EU.
- ?? Research into the long-term effect of early lactation energy deficit in organic dairy cows: health and welfare monitoring, including post mortem findings.
- ?? Research into the biological efficiency and environmental impact of feeding systems.
- ?? Research into innovative feeding and rearing systems for young stock in all organic livestock systems.
- ?? Development of advice based on existing information on clover management, grassland management and forage conservation adapted to organic system.
- ?? Development of advice based on existing knowledge on the formulation of feeding rations adapted to organic systems.
- ?? Development of systems that allow young animals to stay with their dams as long as possible.
- ?? Identification of optimal weaning age for the health and welfare of piglets under specific farm conditions and identification of sow breeds that are capable of suckling to this period and development of optimised system at weaning: adequate control of parasite burdens, management of salmonella etc.

### *Veterinary management*

- ?? It was suggested that there is little need for more knowledge on the general epidemiology of endoparasites in ruminants. However, understanding of local situation at farm level in regard to parasite dynamics is vital for effective control.
- ?? There is a need to establish a better understanding of internal parasite epidemiology in monogastric animals and how these parasites affect animal welfare under free-range conditions.
- ?? It was suggested that collaborative European projects on parasite epidemiology and control in pigs and poultry were needed to ensure adequate and representative data.
- ?? There is still a great need to research and identify alternative therapies and systems level strategies for parasite control in all species.
- ?? It was also suggested that there is a need for controlled field trials in parasite control to produce data for simulation models that could eventually be used as decision support tools.
- ?? There is a need to further develop health and welfare indices and to assess their usefulness to all stakeholders.
- ?? Animal health planning research should be innovative and participative: demonstration farms, study groups, socio-psychological studies (e.g. to establish what makes farmer willing to accept and adopt advice).
- ?? There is a need to further explore the research needs and methodologies in complementary/alternative medicine.

### *Systems development*

- ?? Identification of constraints to collaborative approach to fattening of store cattle (including dairy bull calves) and development of systems that have minimal impact on health and welfare (e.g. minimal travelling time and distances, herd health safety procedures).
- ?? Research into the practicalities of producing non-castrated bulls for organic beef.
- ?? Research into fully integrated (at farm level), land based poultry systems and combination of monogastric livestock systems with orchards/agro-forestry.
- ?? Research into the management and husbandry of dairy goat and sheep systems under organic standards.
- ?? There is a need to develop livestock production systems that are fully integrated with the other production systems of the farm (e.g. poultry combined with horticulture, forestry or dairy production) and where animal behaviour (such as foraging) becomes an integral part of the system.