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Potentials for increasing food quality

Summary

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The present report comprises one of the three parts of the final TAB reporting on the TA project »Trends in food supply and demand and their consequences«, carried out at the suggestion of the Committee for Food, Agriculture and Forestry (now the Committee for Consumer Protection, Food and Agriculture). The two other parts are »Potential for expanding the regional food supply« and »Potential for improving consumer information«.

OBJECTIVE AND KEY TOPICS OF THE REPORT

With the BSE crisis and resulting reorientation of the German Federal Government's agricultural policy, the issue of food quality has acquired significantly higher priority. The aim is to ensure the quality of our food throughout the entire food chain (»from the feed bin to the plate«). The increasing fragmentation and complexity of processes in food production, processing and marketing make it difficult to get an overall picture and raise the question how quality can be assured and improved under these conditions. At the same time, there is a wide range of activities in quality concepts, management and assurance.

Discussion to date has focused strongly on the aspect of food safety. However, equating food safety with quality falls well short of the mark. It is accordingly important to clarify the concept of food quality, specify criteria for quality evaluation and formulate standards in evaluating food quality.

The present report seeks to formulate possibilities for and limits to improving food quality, as knowledge of these is a necessary basis for elaborating options for political action. The TAB study accordingly was not concerned with supplying a rationale for or opinion in favour of or against stronger quality orientation in food production. Its mandate was to investigate the following questions:

- > What does quality mean in connection with food?
- > What quality dimensions are important, apart from food safety?
- > What quality approaches and programmes are there besides organic farming?
- > How do the growing complexity and task-sharing in food processing and marketing affect quality?
- > What potential is there for improving food quality, and what obstacles are there to realising this potential?



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- > What interactions between various actors along the food chain are relevant?
- > What possibilities are there for political influence and structuring?

To begin with, various definitions of the term »quality« are presented and their context explored (section II). Important distinctions are introduced – such as objective and subjective quality, characteristics of search, experience and trust, quality dimensions, horizontal and vertical product differentiation and quality requirements in the food chain. This also establishes important basics for the discussion of development trends and areas for action.

Next, development trends and areas for action are investigated for selected aspects characterising or influencing quality (section III). In selecting thematic issues, an attempt was made to identify developments which are particularly important at present, as it was not possible to investigate all facets of quality in this TA project. Specifically, the following priority areas are covered.

Quality programmes: state and private sector programmes aiming at achieving better quality in the food available and making possible greater added value for farms or companies in the food chain are presented and analysed, taking the example of meat production. These are concerned with various quality dimensions. Among other things, the issue is to elaborate the heterogeneity of the programmes, quality concepts and obstacles. At the same time, this offers an insight into which actors in the food chain are important in developing quality production.

Quality assurance and management: private sector systems for quality assurance or management are becoming increasingly important throughout the food chain. The emphasis in these is on the quality dimension »food safety«. The description of the general development trends and problems is supplemented in parts by examples from the meat industry. The central question is what quality assurance systems covering the entire food chain should look like, and how they can be implemented.

More animal-appropriate meat production and quality differentiation: based on the changes in livestock farming, the focus here is on the quality dimension »animal protection«. This issue is highly topical, due to the social debate in Germany and international and European developments. The definition and assessment of animal welfare are a matter of dispute, and there is a lack of uniform and protected standards for more animal-appropriate livestock farming systems.

Quality of enjoyment and vertical product differentiation: The rapid technological change over the past 50 years in food production and marketing has led to an almost overwhelming diversity of products of widely differing qualities and prices, while at the same time steadily reducing the consumer's ability to monitor and follow the relationship between the quality of the final product and the elements of the production process which influence this. The product groups wine, sparkling wine and fruit juice are used as examples for discussing the relationship between the quality dimension »quality of enjoyment« and vertical product differentiation. In the process the question is investigated whether current quality equals what can be achieved with optimal processing systems and high quality of raw materials.

Food processing and marketing channels: The development of the processing systems is closely connected with innovations in distribution and marketing channels. Processing systems and marketing channels have a substantial influence on the quality of a food, and specifically the quality dimensions »food safety« and »quality of enjoyment«. These relationships are discussed using the example of bread, pastry goods and cakes.

Legal framework: In covering key regulatory areas with relevance for the quality of food, both international regulations and important European and German legislation are addressed. A distinction is made between statutory regulations on product quality and process quality. Knowledge of the legal framework is an important basis for developing options for political action.

Possibilities for action to utilise potential for improving food quality (section IV) are described in the context of three scenarios for the food sector which pull together the possible longer-term lines of development of all three parts of the TA project (i.e. including regional aspects and information and labelling): »polarisation«, »convergence« and »differentiation«.

RESULTS OF THE STUDY: OVERALL ASSESSMENT, GUIDELINES

The issue of »food quality« is defined by the fact that it involves not just one quality but many quality aspects, dimensions and goals. These are characterised by different scientific access, varying quality goals of the actors in the food chain, and different consumer quality requirements. Food quality is accordingly determined by processes of social negotiation, which change over time. Summarising, the overall assessment is as follows:



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- > There is some conflict or competition between quality dimensions or criteria. First, in some cases biological or technical restrictions do not permit simultaneous or balanced achievement of different quality goals. Second, given the limited nature of resources, efforts towards high quality standards in one dimension are at the expense of other dimensions or quality goals.
- > There are private sector initiatives in the various product groups and industries which develop and offer specific qualities as a combination of different (verifiable) criteria or dimensions. These initiatives may originate with individual farmers, producer cooperatives, processors and in some cases even the retail sector and associations. Associations with producer brands in particular are in a position where they can achieve substantial market shares. The study of private sector quality programmes for meat shows that (ongoing) further development is needed, including the trend towards industry-wide introduction of quality controlled by a quality assurance system. Private sector quality programmes often benefit from support from state seals of origin and quality.
- > Quality differentiation and improvement are hampered by a range of obstacles. First, there are the low prices for »standard« foodstuffs. Inadequate quality signals are in some cases due to EU market regulations (such as commercial grade classification or the system of subsidies for EU animal premiums). Inadequate regional collection and processing structures (e.g. abattoirs, dairies) may also be an obstacle. Finally, in many cases there is inadequate focus on quality aspects in the knowledge of and advice to producers, processors, sellers and consumers.
- > In recent years there has been a considerable increase in efforts to improve food safety and introduce quality assurance systems into the food industry. One development path leads to integrated value-added chains coordinated and controlled by a dominant marketing leader, as for example in the German poultry industry. The other development path aims at creating broad certification standards which make possible a neutral review of quality while preserving the economic independence of the various companies. A typical example is the QA system introduced in the meat sector. Possible points of conflict in quality assurance systems with certification of individual establishments are the rigorousness of control criteria and requirements going beyond food safety, qualification and independence of the certifiers, frequency and scope of control of the audit, traceability and feedback in the event of problems, and penalties for established violations.
- > The introduction of private sector quality assurance systems in Germany and the EU means a trend towards shifting the focus in primary responsibility for food safety from the state to the private sector. However, for this private sector quality assurance systems need a corresponding state framework conditions.

Specifically, skilled and efficient (state) control of (private sector) controls and a severe system of penalties for infringements of statutory requirements are needed. Improved consumer information policy is another element in achieving a high level of safety.

- > More complex and segmented processing systems with a high degree of division of labour are leading to a situation where problems in food safety have particular potential to affect many people. Quality management systems and traceability are accordingly gaining in importance. Traceability means that production of an item must be documented and trackable throughout the entire added value chain.
- > There is no clear and undisputed definition of animal-appropriate livestock farming. One side regards current minimum standards as sufficient and animal-appropriate. The other side regards animal welfare as inadequate due to intensive stock raising – increasing in intensity from young bull fattening through raising pigs to intensive poultry farming. Central problems are seen as the small space available and high occupancy densities, lack of stimulation and high nutrient concentration in the feed. The one-sided focus in breeding on fast weight gain and inadequate contact between humans and animals are also criticised.
- > Potentially, many consumers are interested in more animal-appropriate production. In recent years, individual producers have introduced more animal-appropriate livestock farming systems, often within the framework of quality programmes. However, the market share for meat from »animal-appropriate production« is still vanishingly small. There is no uniform and protected standard for »animal-appropriate« or »particularly animal-appropriate« livestock farming. For consumers, this means inadequate market transparency and verifiability with the quality criterion »animal welfare«.
- > At least to some extent, obstacles in market development can be reduced through a combination of quality goals. One important combination is animal-appropriate production and quality of enjoyment of meat products. Other breeds, sources or lines, slow growth and overall more extensive raising conditions, which can also be a requirement in terms of animal welfare, are also prerequisites for producing meat with a greater quality of enjoyment. A different classification in the commercial grading regulations for beef and pork could also contribute towards enhancing the rating of meat with greater quality of enjoyment.
- > Quality of enjoyment essentially describes a subjective quality which different consumers can perceive in different ways. Enjoyment is closely connected to the sensory properties of food. It is not possible to give a uniform definition of quality of enjoyment for different foods, as specific aspects are relevant for quality of enjoyment for each food.



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- > For the wine, sparkling wine and fruit juice product categories, we see that besides a trend to low-price standard qualities, where the emphasis is on low-cost production, there is increasing differentiation in the middle and upper price and quality segments. In the upper quality segment of all three categories, regional suppliers in particular have a growing chance of successfully marketing products with higher quality of enjoyment. The development of the eco-segment represents a further facet of qualitative differentiation. This process of vertical product differentiation probably also applies to many other food categories. A key aspect of vertical product differentiation is producing higher qualities of enjoyment, and specifically individual aromatic variants. The possibilities of vertical differentiation depend particularly on the quality and individuality of the raw materials and the availability of craft or manufacturing processing methods.
- > High demands in terms of stability and reliability of quality favour large-scale production processes. Where high-technology production processes have clear quality, input and cost advantages, e.g. in preserving, this promotes concentration of product development and production in large companies. Where there are no competitive technologies for smaller-scale producers, vertical differentiation runs into difficulties. The available production technologies shape the industry structure, and conversely. Among the industry structures, major differences in suppliers, ranges and purchasing outlets, such as are found in the German wine industry, favour vertical product differentiation and increasing focus on higher quality of enjoyment. By contrast, where a few large companies predominate or suppliers have a strong position, as for example in sparkling wine or fruit juice production, the emphasis is on branded article concepts and horizontal product differentiation. These result in standardisation of taste and growing remoteness from raw materials.
- > Labelling regulations establish a legal framework for product differentiation. Labelling regulations are what enable consumers to recognise production differentiation and quality of enjoyment. Basically, labels should be distinguished by truth and clarity, and be understood by consumers. This is not always the case.
- > The development of processing systems for bread and baked goods has made possible geographical and temporal separation of what were originally inseparable stages in production and marketing. The development of refrigeration and freezing processes laid the basis for developing new outlet systems (e.g. in-store bakeries) and new marketing channels (e.g. frozen goods). These technologies enable craft bakeries and bakery chains to separate geographically or even give up production of their own dough and shift to baking centrally produced or bought-in products directly before sale. The development in the bread and baked goods market overall is in the direction of further division of

labour. In parallel, greater variability and diversity in the range of products has been made possible.

- > The structure of suppliers and sales channels for bread and baked goods has become more diversified over time. In food retailing currently we see shop-in-shop systems (upstream of checkout), self-service shelves, self-service chill trays and in-store bakery units, often side by side. They compete with each other, and overall take market shares from the craft bakeries and bakery chains. The concentration in food retailing is leading to increased cooperation between the strongest partners.
- > On the one hand, we see a polarisation of the market between the up-market premium and niche products and the low-price bulk goods. Among the latter, discount bakers and sales through food retailing discounters are growing. On the other hand there are trends towards uniformity. These are supported, for example, by the dominant role of the large bakeries as suppliers of deep-frozen dough products to their own branches, to the food retailing industry and the bakeries and baked goods industries generally as suppliers of intermediate products through to flour mixes.
- > The study of the manufacture of bread and baked goods shows that food production and processing is becoming more and more remote from consumers' traditional ideas and experience. The more complex production processes and marketing channels present new challenges to consumer information and education. This applies to both private sector and state actors.

Based on these assessments and the overall view of the TA project, eight guidelines for realistic analytic and critical assessment of the political goals and possible demands for the quality of foods as such are formulated. These guidelines are important for policy at both Federal level and other political levels and actors.

MULTIDIMENSIONAL CONSIDERATION OF QUALITY

The idea of quality covers a range of dimensions. It is not one-dimensional. Generally, it is not enough to follow a single quality goal. Instead, it is important to aim for several quality dimensions at the same time. In the process it is important to reduce or avoid tensions (goal conflicts) and promote and exploit synergy effects (goal harmonies). For example, with more animal-appropriate livestock farming systems it is possible to combine the target dimensions of animal protection, environmental compatibility, quality of enjoyment and regional origin. Product quality today is no longer sufficient, as process quality is becoming increasingly important. The goal should accordingly be to use selected process qualities to achieve specific product qualities. In the process, the focus should be



primarily on quality from the point of view of the consumer. For each product group, and often even for each food, the following quality goals need to be specifically defined and updated.

GUARANTEEING FOOD SAFETY

Food safety is a basic requirement for protecting consumer health. However, it is not synonymous with quality – in fact, it represents just one aspect of quality. Numerous food scandals and the BSE crisis have put food safety in the spotlight recently. However, one-sided concentration on food safety is inevitably at the expense of other quality dimensions, as attention, options and financial resources are necessarily limited. Greater food safety is not possible without rising costs to producers and rising prices for consumers. Another problem is that undifferentiated demands for a general increase in food safety do not do justice to differing risk potential, and can in part be at the expense of craft food production. Improvements in documentation and traceability for reasons of food safety can, however, also provide a foundation for pursuing other quality goals. Even very high demands in terms of food safety cannot completely prevent recurrent problems and »scandals«. Rapid response, transparency of measures and credibility of the institutions involved are important prerequisites for retaining or creating consumer confidence. The requirements here are not so much individual measures but institutional learning and cooperation between the actors.

RAISING MINIMUM REQUIREMENTS

If, as a result of social demands, minimum standards for food production and processing – e.g. in the areas of animal protection, environmental protection and nature conservation or hygiene – then the production costs of »conventional« production will rise, narrowing the gap between »standard« products and products with special qualities. The present large price difference is a major obstacle to quality programmes and resulting high-quality food. However, it must be borne in mind that the level of minimum requirements is a matter of social and political controversy, and raised demands generally initiate vigorous disputes. As these generally involve regulatory measures, i.e. laws and statutory bans, issues of implementation and monitoring are particularly important in designing these. The open markets here also impose tight limits on national unilateralism. Even EU regulations involve external protection, and can conflict with WTO rules.

ELIMINATING OBSTACLES

Raising food quality and developing new approaches are complicated by a range of obstacles. Examples include defining commercial grades, the web of subsidies in EU animal premiums, and rigid rules in the craft and trade codes. A systematic review is needed here in order to create new scope for quality production. This includes eliminating distortions caused by the agricultural market regulations.

DEVELOPING QUALITY SYSTEMS

Individual measures are less important than system development for raising food quality. For example, animal welfare is not solely a matter of space; it covers the entire livestock raising system, including the human-animal relationship. Special qualities in agricultural production have to be combined with appropriate processing systems. Quality systems in the sense used here should include not only technical requirements for production but also common quality goals and cooperation and coordination in the food chain. As we have seen in the past, there are numerous private sector initiatives here. State policy is only responsible for providing favourable framework conditions and possibly promotional funding. It is important that the specific qualities should be capable of communication, through terms and images which are generally understandable, supplemented by extensive and archived information.

PROMOTING VERTICAL DIFFERENTIATION

The food supply is characterised in many segments by prevailing horizontal differentiation. This means that e.g. different brands or flavours have roughly the same quality. Exceptions are, for example, the wine segment, which has strong vertical product differentiation. To achieve higher food quality while meeting differentiated consumer wishes, vertical differentiation is a central approach. However, there are limits to vertical differentiation in agricultural production. There is already differentiation with the coexistence of conventional production, products based on genetically modified organisms, organic farming, and particularly animal-appropriate production processes, and only a limited number of further differentiation is possible down the food chain to the consumer. Specific processing techniques, particular regional origins, special quality of enjoyment and combinations of these are accordingly the most important points for vertical differentiation.



MAKING QUALITY CHARACTERISTICS TRANSPARENT AND COMMUNICATING THESE

Efforts to improve food quality can only succeed if the new or improved characteristics can also be communicated. Consumers must be easily able to identify and understand specific qualities. As these are characteristics which must be taken on trust, specifically with process qualities, communicating them poses particular requirements in terms of competence and credibility. The bio-seal for products of organic farming will probably serve as an example of how to communicate successfully the specific quality of an entire production system. A quality policy is dependent on corresponding improvements in food labelling and consumer information by both the state and private sector actors (TAB 2003b). Measures in food policy generally, such as nutrition advice and education or conveying information on foods can help quality characteristics to be recognised and acknowledged.

PROMOTING COOPERATION BETWEEN DIFFERENT ACTORS

State policy, whether at EU, federal or Land level, cannot by itself bring about higher food quality. Politics is just one of many actors. Quality orientation requires horizontal and vertical cooperation. Producer cooperatives, quality cooperatives, integrated systems and other forms are possibilities. Readiness to cooperate is an essential prerequisite, but cooperation necessarily involves a loss of autonomy. Possible gains, on the other hand, include identifying and exploiting new market opportunities, saving on investment and exploiting economies of scale, participation in new technologies and production processes and access to specialist knowledge and skills. Increased cooperation is not only needed between producers along the added value chain, but also between producers and social groups and political decision-makers. This is required because the quality of food is a matter for ongoing social negotiation (i.e. it changes over time). Other partners in dialogue are, for example, scientists or educational and extension institutions. An important function of politics in this is to encourage and support cooperative ventures.

OPTIONS FOR ACTION – PACKAGED BY SCENARIO

In the TA project, three scenarios are postulated for the future development of the food sector: polarisation – convergence – differentiation. Various options for action to utilise the potential of increased food quality can be assigned to these

scenarios. The options are alternatives, which would need to be operationalised through specific steps.

POLARISATION

The »polarisation« scenario assumes a long-term crystallisation of the two primary qualities »conventional« and »organic«. Approaches to »internal differentiation« between conventional foods have little success in this scenario, with organic foods dominating the higher price segments.

Growing demand, state promotion and more effective marketing (e.g. bio-seal) lead to a growing market share for organically-grown food. At the latest when the dominant distribution channel becomes food retailing (specifically supermarkets and hypermarkets, but also discounters), organic foods are no longer niche products. Convenience products and industrial processing are becoming increasingly important in organic products as well.

While demands in terms of food safety are rising for products of conventional agriculture (e.g. as part of the QA system), there is little pressure otherwise to raise quality standards. Environmental and animal welfare requirements are not being significantly raised for (conventional) food production. Rising demands under hygiene regulations and QA systems with certification will increasingly force smaller farms and smaller enterprises in food processing out of business.

This continues the past trend of a declining market share in the middle price segment for food. This scenario has the following options:

- > Primary responsibility for food safety: mixed system – which here means that despite continuing state responsibility, there should be increased private sector responsibility. The focus is on introducing and developing private sector quality assurance systems, both as integrated systems and for individual stages in the added value chain. In addition to continuing existing state monitoring, state control of private sector monitoring also has to be established.
- > Quality differentiation: »twin standards« includes continuing the German Government's current policy. The focus is on the statutory bio-seal and the private sector QA seal. The aim is to define two quality levels and make them transparent. The underlying assumption is that only a limited number of differentiations can be communicated. A common feature of the two seals is that they define and guarantee certain process qualities – in the case of the bio-seal, specifically the dimensions of environmental protection, nature conservation



and animal welfare, and in the case of the QA seal the dimension of food safety. There should be ongoing further development of the two standards, with requirements for the QA system not moving too far from statutory minimum requirements, in order to ensure widespread participation, although QA is probably not relevant for all product groups.

- > **Fleshing out the Common Agricultural Policy:** Even greater priority to promoting specific production processes, and particularly organic farming and other eco-friendly methods of cultivation, would further strengthen the organic segment. These measures promote specific process qualities in agricultural protection, particularly in the area of environmental protection and nature conservation. Greater incorporation of requirements from the field of animal welfare would be conceivable. Because of the specific labelling, this specific quality is also recognisable for consumers – a unique feature in organic farming.

CONVERGENCE

The »convergence« scenario assumes that demands for the various production systems will move together, ranging from aspects of food safety to standards for environmental protection and animal welfare.

Food from organic farming will again win a significant market share. Growing use of conventional processing and marketing channels will enhance market success, but will also result in blurring differences. Retailing will increasingly use international procurement markets to obtain organic foods as well. Organic farming will continue to try and make the greatest possible use of advances in production technology, and EU requirements will remain unchanged at their present level.

By contrast, requirements for various quality criteria will rise in conventional farming. Besides introducing quality assurance systems to improve food safety, it is assumed that minimum requirements for environmental protection and animal-appropriate livestock farming will be significantly raised. Attention to quality criteria such as enjoyment and health and nutritional values will also increase among all actors in the food chain.

The general convergence of the quality standards will mean a decrease in the importance of individual product characteristics. By contrast, the convenience factor will become increasingly important. This scenario has the following options:

- > Primary responsibility for food safety: In strengthening state primary responsibility it is assumed that protecting health will remain a vital primary state responsibility. For this, state definitions for food safety standards (e.g. hygiene, residues) which are as precise as possible are needed. However, these only make sense if compliance is also monitored, so that state controls would also need to be expanded.
- > Quality differentiation: Raising the minimum standards applies inter alia to environmental protection and animal welfare requirements, leading to a general raising of the quality level for food. The primary emphasis here is on process quality, with the focus inevitably on statutory regulation. Suitable access points for environmental policy requirements need to be located along the added value chain, and for regulations on raising, transporting and slaughtering animals in the field of animal welfare. These can also be expected to affect product quality indirectly. Under this option the QA system will probably develop primarily towards ensuring compliance with statutory standards.
- > Fleshing out the Common Agricultural Policy: The combination of promotion with quality requirements responds to the proposal of the EU Commission as part of the mid-term evaluation of Agenda 2000 on Cross Compliance, under which direct payments are to be linked to compliance with requirements for environmental protection, nature conservation, animal welfare and food safety. Under this, the amount of direct payments would depend on the level of standards maintained in production. This would also promote specific process qualities in agricultural production. However, it would also create a dynamic incentive to raise quality standards in agricultural production in order to continue receiving full direct payments. Potentially, this option (compared to polarisation) could offer greater incentive to increase production quality. The process qualities promoted are, again, only apparent to consumers in the case of organic farming products.

DIFFERENTIATION

The »differentiation« scenario describes growing segmentation of the food market in which growing differentiation of consumer wishes is reflected in definition, labelling and advertising of different quality criteria, ranging from animal welfare to environmental conservation to enjoyment, nutritional and health value and convenience.

Organic products are here just one quality product among others. Their growth potential is accordingly limited. Products from animal-appropriate, extensive production processes which conserve landscapes or the environment could rep-



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resent other lines of quality. Additional quality differentiation continues to be introduced at the level of food processing, i.e. vertical product differentiation increases in many product categories. Issues of food safety become subordinate and lose importance.

The differentiation also applies to marketing channels for foods. Direct marketing, farmers' markets, regional supply systems (»from the region, for the region«), regional specialties with supraregional distribution, supraregional and national processors and marketers, and European and global products will all play a role. There will accordingly be market segments ranging from largely unprocessed products through to convenience products with a high level of processing. This scenario has the following options:

- > Primary responsibility for food safety: Successful and general introduction of quality assurance systems over the entire value added chain will ensure private sector responsibility in future. The creation of multistage quality management systems, self-policing and documentation at all added value stages, and the creation of private sector certification systems are prerequisites for this. For state control, the impact will be to shift away from control of the operational stages towards control of private sector quality assurance and control systems.
- > Quality differentiation: the promotion of vertical quality differentiation aims at supporting development of products with different characteristics in different quality dimensions, to satisfy more fully the differentiation in consumer wishes. The regional quality and individuality of agricultural raw materials should play an important part in specific product groups. Vertical product differentiation aims to contribute towards expanding the supply of up-market food, with a positive impact on food quality generally. Special attention should be paid to combining quality goals, in order to exploit possible synergies. There are particular opportunities from emphasising quality of enjoyment, leading to direct benefit to consumers. This will probably mean that QA will develop into a basic system for food safety and traceability, with various quality modules, e.g. »animal-appropriate and particularly animal-appropriate raising«, »regional origin of animals and feed«, »direct marketing and promotion of farm structures«, or »slaughtering and processing near farms«.
- > Fleshing out the Common Agricultural Policy: the aim is to achieve significant expansion of integrated rural development specifically through additional funds in the framework of mandatory modulation. Under the proposal of the EU Commission on the mid-term evaluation of Agenda 2000 direct payments above a given amount are in future to be reduced by an increasing percentage each year, and the funds released by this used in part to strengthen the second element, i.e. promoting rural development. The principles for the agricultu-

ral investment promotion programme to improve production and marketing structures under the joint programme on farming structure should be expanded and developed further with regard to more eco-friendly and animal-appropriate production processes and other quality dimensions, such as quality of enjoyment. New promotional possibilities should also be created for quality programmes with different orientations and for vertical integration along the food chain.

FRAMEWORK CONDITIONS FOR QUALITY PRODUCTIONS

How far the potential for improving food quality can be realised depends on a large number of other factors. Studies show that different obstacles are relevant, depending on the food group and quality goal involved, and that specific approaches to action are needed in each case. The following conditions in particular need to be considered:

- > Consumer education and information: this contributes generally to knowledge of food quality and helps shape consumer attitudes. These include addressing food and nutrition at school, information and advice on nutrition, general educational efforts and much more. These options for action were not studied as part of this TA project.
- > Consumer information: so that specific qualities can be easily recognised in purchasing, a central approach is the use of quality seals or labels based on defined standards. However, a range of other information on quality is potentially interesting for consumers. Problems and options for action in labelling and other approaches to consumer information are covered in detail in TAB Working Report No. 89 »Consumer information« (TAB 2003b).
- > Consumer information: so that specific qualities can be easily recognised in purchasing, a central approach is the use of quality seals or labels based on defined standards. However, a range of other information on quality is potentially interesting for consumers. Problems and options for action in labelling and other approaches to consumer information are covered in detail in TAB Working Report No. 89 »Consumer information« (TAB 2003b).
- > Market regulations: the specification of commercial grades and marketing standards is a major contribution to deciding which product and process qualities are favoured, and what producer prices can be obtained for them. This can also apply to the detailed implementation of premium payments. In principle, these regulations should be reviewed at EU level for all food groups where the quality of agricultural raw materials plays an important role. Commercial grades and marketing standards are also closely linked to labelling.



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- > Regulatory codes: these can affect the potential for quality improvements in various areas. This is particularly important for craft producers. The example of meat production has shown that these include – inter alia – emission and construction laws for animal housing, the hygiene laws for slaughter and meat processing, the craft and trade code for craft meat processing and regulations on shop opening hours and external advertising. Here again, it is necessary to establish where the specific obstacles lie for each product segment.
- > Research: for a long time, research focused on further development of agricultural production methods and the development of new technologies in food processing. In recent years, however, quality aspects have become increasingly important. Assuring and improving product and process quality in food are now primary goals for the research division of the BMVEL (German Federal Ministry of Consumer Protection, Food and Agriculture). However, there are still gaps in research on e.g. more animal-appropriate raising systems, quality management systems and hygiene requirements for craft establishments and quality of enjoyment. For agriculture and the food industry with its primarily SME structure, state-funded research is particularly important, as most companies are unable to do their own research for cost reasons. Research and development work with quality orientation should accordingly be expanded as far as possible.
- > Training and qualification: the introduction of quality management and self-regulation in farms and craft establishments and SMEs in food processing requires corresponding training and upgrading for managers and employees. Quality aspects need to be more strongly rooted in not only vocational training and university education, but also in upgrading for producers and processors.

Communication: quality efforts must be communicated down the food chain, between state agencies and private sector actors and to consumers. The availability and preparation of information, suitable communication channels, coordination of information and communication of credibility and confidence in information providers are important aspects which require ongoing work.

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