

# How does Modernity Taste? Tomatoes in the Societal Change from Modernity to Late Modernity

By Lena Ekelund & Håkan Jönsson

## Abstract

The aim of this article is to discuss how changes in tomato food regulation, production and consumption, can be seen as part of a broader societal change from Modernity to Late Modernity. Based on evidence from the Swedish and European food systems we demonstrate how a system, which has been successfully managing development in food production for several decades by stressing rationality, homogeneity and standardization, is being challenged by a system that has adapted to, and also exploited, consumer preferences such as heterogeneity, diversity and authenticity. The article shows how tomato growers develop differentiation strategies, adapting to and cultivating this new consumer interest, and how authorities responsible for regulations of trade and quality struggle to adapt to the new situation. As the products become more diversified, taste becomes an important issue and is associated with a view that traditional and natural are superior to standardized and homogeneous products. The analytical approaches for the discussion come from two study areas: ethnological, and marketing and policy perspective, thus showing a multidimensional picture of a changing food system.

**Keywords:** Food systems, regulation, consumer attitudes, preferences, product differentiation, ethnology, marketing

## Introduction

The experience of buying tomatoes in supermarkets has changed dramatically during the last two decades. Firstly, consumer choice has expanded. Whereas in the past only a few varieties of tomato could be found, today it is common to see between 15 and 20 different types in Swedish supermarkets – a development that has occurred in spite of an embracing regulatory framework. Secondly, the tomato has become politicized. Provocative issues such as the public's health and trade relations have led to detailed industry regulations. While the initial foundation for these regulations were that of standards and homogeneity, the market conditions that supported them have changed. Nevertheless, they now seem to live a life of their own.<sup>1</sup> Market regulations are applied indiscriminately – to all member states of the European Union (EU). By tracing the roots of these regulations, this article shows how changes in regulations, production and consumption of food can be seen as part of a broader societal change from a modern to a late modern state. The empirical basis for our discussion starts with the meetings of European Union's *Management Committee for Fruit and Vegetables* concerning the regulations of new varieties of tomatoes. We then move on to trace the historical roots of those regulations (focusing on Sweden), and combine an ethnological, and marketing and policy point of view to conduct our analysis and address the question of how changes in food production from rationality, homogeneity and standardization, to diversity, heterogeneity and product differentiation also lead to an increasing interest in the taste of food.

## Theoretical Framework

The concepts of Modernity and Late (or Post) Modernity have been two of the most frequently discussed issues in the humanities and social sciences of late. The reading of some of the more influential work (Harvey 1989; Giddens 1991; Baumann 1997; Lash 1999; Jameson 2002) gives the general picture that modernity can be described as a rationality that derives from the industrialist epoch. Attempts have been made to define the emergence of modernity in time and/or space, ranging from renaissance Italy to early 20<sup>th</sup> century. In this article, the latter period is the starting point for our discussion of how modernity influences taste. It should be noted, however, that we use the terms modernity and late modernity in the sense that Scott Lash (1999) have developed; as different *rationalities* rather than defined historical epochs. Some essentials of the rationality of modernity are uniformity, engineering, appreciation of science and technology, and the belief that society is making progress due to these factors. The perception of time is linear, and the future is generally seen as something good, since the belief in progress is one of modernity's characteristics. Late modernity, by contrast, is characterized by diversification and constant changes. In this new stage, which is a gradual continuation rather than an abrupt change, consumption is not only de-

defined as the trade and exchange of goods but an important part of identity and everyday life. A space-time compression occurs as goods, ideas and values travel through long distances in short times, and the increasing amounts of consumer goods make it possible to mix artifacts from different epochs. The belief in science, technology and progress is weakened, replaced by a focus on risks, but also on hedonistic experiences. The perception of time is no longer linear, but consists of a series of “nows”, with no clear connection to history or future. While large-scale projects and rationality have their place in modernity, late modernity is instead characterized by variation and differentiation. The development is from large scale and uniformity to product differentiation where proximity, naturalness and origin receive greater interest.

The concept of modernity in relation to food is developed by, among others, Warde (1998), Beardsworth & Bryman (1999) and Tovey & Michael (2002). It should be noted that late modernity may be seen as a logic continuation of some aspects of modernity. The late modern differentiation in food production and consumption builds upon the advanced systems of production, sales and logistics that were built up by modernity’s principles. The discussion of different stages of modernity in food studies partly overlaps the concepts of different food régimes (Friedmann 1982, 1994; McMichael 1994). Food régime analyses have identified relatively stable periods in the history of food and argue that these different “regimes” are being shaped by geopolitical power, forms of agricultural production and consumption relations, both within and across national spaces. The development of the third food regime from the 1980s onwards, shares many of the characteristics of late modernity, including the increasing contradictions between productive forces and consumption trends (LeHeron 1993). This field of research is mostly focused on production, how food production and foodstuffs have changed over time.

The relation of these changes to the experience in the actual moment of consumption is more rarely addressed, although there is some interesting work on how anxieties and risk perception is developed in the late modern food consumption (Fontes 2002; Östberg 2003). Inspired by this discussion we would like to address the question of how changes in food production also lead to an increasing interest in the taste of food. Previous work on the concept of taste has shown that taste is not a historical constant, but changes from time to time (Falk 1994; Warde 1994; Korsmeyer 2003). In these works taste is discussed in relation to food’s importance as a social competence, or in Pierre Bourdieu’s term, cultural capital (Bourdieu 1986). We will build upon these works to discuss how changes in the taste of food reflect changes in modernity.

## The Case: Tomatoes

The Commission of the European Union has a special *Management Committee for Fruit and Vegetables*, one of the main tasks of which is to assure standardized regulations throughout the Union.<sup>2</sup> The stated purpose of the regulations, which comprise sales through all channels with the exception of growers' own farm shops, is to facilitate trade within the union by establishing standards to assure fair competition and give consumers the opportunity to choose between comparable quality grades. The unstated purpose is to prevent imports of products that do not fit into the regulation system (which many of the producers from the non-EU member states have difficulties with). According to the principle of public access to official documents in the Swedish system, all agendas and minutes of meetings are continuously published by the Swedish Board of Agriculture (SJV), which together with representatives of the Department of Agriculture take part in monthly meetings in Brussels on the standards for fruit and vegetables.<sup>3</sup> In addition, all detailed matters are first discussed in the *Expert Group for Trade Standards*, comprising the same representatives, which usually meet three times a year.

In 2002, the *Committee* faced a problem. Mixtures of different vegetables were being sold in packages, a phenomenon for which new standards were needed. The uniformity requirements stated that neither varieties nor colors and sizes may be mixed. Legal experts were consulted and they concluded that the Council regulation needed amendment by an extra article on mixtures including vegetables not comprised of the compulsory standards. This called for a new appendix. The delegates, whose nationalities are not revealed in the texts, were usually of different opinions, with some countries speaking in the name of the consumer and advocating detailed information on each package and others seemingly acting on behalf of their national producer organizations, using the standards and regulations as a barrier to trade.

The topic of small-sized (mini) products was raised in 2005 and tomatoes became part of that discussion a year later. The standards for tomatoes, stating uniformity in size and color, were violated as new varieties were introduced on the market and different sizes and colors could now be sold in mixed packages. The discussion from the meeting on March 8, 2006 illustrates a vivid exchange of views. Some of the topics were: the maximum and minimum size of cherry tomatoes; the maximum size difference allowed between the biggest and smallest tomatoes in a package; the mixture of varieties in a package; the permitting of defects due to the plant disease mosaic virus and the acceptable size of healed cracks on class II and on cherry tomatoes. The danger in mixing cherry tomatoes and ordinary tomatoes was put forward along with the importance of avoiding the sales of the former as the latter. One country stressed the importance of clear labeling. The conclusions were sent on to CODEX (Codex Alimentarius Commission of the FAO/WHO Food Standards Programme) for further handling.<sup>4</sup> It should be added that standards are not a European phenomenon but part of inter-

national harmonization; for instance, The United States have similar standards for tomatoes (USDA, Agricultural Market Service 2009).

Two months later (May 3, 2006) a new and even more animated discussion followed on proposals for changes in the classifications. The member states had different views on whether damages from mosaic virus were acceptable; one opinion being that they do not affect the fruit texture, another that it is a contagious plant disease. Also the issue of sizes generated detailed debates, but some changes were agreed on and forwarded to the *Management Committee*. The most interesting issue was that of special varieties. One country presented an unusual assortment of varieties of different color, shape and size “very different to those usually on sale”. They suggested that products may be sold if they were of uniform color and origin according to each type of product, but that they need not be of the same size. Another country opposed to the text accompanying the box on the picture attached to the proposal, saying “Wild wonder tomatoes”, arguing that it was misleading since the tomatoes were grown in greenhouses. One country disliked the mixture of sizes; another stated that the mixture is the whole idea of the product. One country claimed that a product that is preferred by the market, and can be expected to fetch a high price (which, one might add, is the idea of the regulation) should not be prevented by the standards. The solution could be to sell them as class II products. The summary is that when a new, premium product was introduced on the market, the only way to sell them, if the standards were to be preserved, was to downgrade them as second class tomatoes!

The ongoing discussions about the regulations are much related to a changing production system, which, in turn, is primarily a response to market changes (Ekelund Axelson 1991; Ekelund, Fernqvist & Furemar 2007). This dynamic process of mass production of tomatoes and innovation in production and marketing is thoroughly described by Harvey, Quilley & Beynon (2002) who analyze the process of tomato variation in capitalism during the twentieth century from an economic, social and cultural point of view. The authors’ perspective is mostly British and the focus more on processed than on fresh products, but the descriptions of production and marketing support our idea that standardization and mass production were eventually challenged by more product differentiation and variety.

Similar conclusions can be drawn from Barndt’s story of the tomato’s trail from Mexico to Canada (Barndt 2008). In her preface to the second edition the author recognizes a shift in public consciousness compared to six years earlier, and a shift towards a more small-scale, local food system offering more variety to the individual. While parallels are found on the market, the intra-European trade does not comprise the same problems of migrating workers, since the highly industrialized production in northern Europe takes place all year round and in technologically advanced greenhouses. The Netherlands is the world’s second biggest exporter of fresh tomatoes (after Mexico and before Spain) and virtually all trade is

Intra-European. Sweden is the third most important market for Dutch exports, receiving 5.3 percent, while Germany and the UK account for 40.8 and 17.7 percent respectively (De Boo, 2010).

As technology developed and production became increasingly rational, with pest resistant varieties, rock wool substrates and CO<sub>2</sub> controlled atmosphere with yield maximization and pest resistance as the main goal in plant breeding and in production, the product itself lost its flavor (Hongsoongnern & Chambers 2007).<sup>5</sup> An early warning came from Graeme Hobson, a horticultural scientist, who described the demands of the large-scale marketing system for high productivity and uniformity with tomatoes “red, round, firm and reasonably priced” (1988: 46), thus pushing growers to sacrifice flavor in the production process. His prediction was that horticultural scientists had solutions but that the possible change towards a really tasty tomato lay in the hands of the supermarkets. The turning point did not prevail until the middle of the 1990s when severe criticism was expressed towards Dutch tomatoes named *Wasserbombe* (water bombs) by the important German consumers (Friedland 2006; de Boo 2010).

Facing challenges from both the consumers’ growing mistrust and low price competitors from southern countries, the major tomato growers in Northern Europe developed new strategies. Instead of relying on a regulatory system, individual producers and producer organizations started on product differentiation to convince the consumer that the product is not a commodity but has a unique selling proposition. A clear example of product development was first presented in spring 2004 when the black or reddish brown tomato named Kumato® hit the market. It was presented by the environment news agency Planet Ark, who quoted Reuters News Service under the slogan “Black is the new red for tomatoes” following the principles for clever marketing introduction. The supermarket chain Sainsbury’s marketed the new super-sweet Kumato after six years of research. The product was said to originate from the Galapagos Islands. “The story goes that seeds were fermented and spread by giant tortoises after consumption of the tomato,” it said. “Moreover, it was said that tortoises eating these tomatoes were mating considerably more than those who didn’t, harking back to the once traditional view that tomatoes are a natural aphrodisiac” (Planet Ark, March 2 2004).<sup>6</sup>

From a marketing point of view, the message is manifold. The color is distinct, the taste is super-sweet and the effect is superior; not only does the fruit contain the usual healthy ingredients, like the antioxidant lycopene, it may also enhance the consumer’s sex life. The product was spread to other outlets and when it reached the Swedish supermarket shelves the message on the package, containing five tomatoes at a premium price, was: “Unique colour and flavour, natural product, grown traditionally.” The black tomatoes were first grown under dry, salty growing conditions in Águilas, southern Spain, for the supermarket suppliers Fresh Link and the seed company Syngenta. As the market developed they spread to “the best tomato fields in Europe” (Syngenta 2008).

While marketing was based on attributes like taste and naturalness, with an added story, the breeding work behind the product was carried out on scientific grounds. It is not clear whether the Kumato was the result of cross-pollination or genetic engineering, but the market story was based on the natural selection method. The Kumato was introduced in the USA and Canada 2006, under the name “rich brown-colored Rosso Bruno™” with high scores on aroma and taste. Syngenta marketed it through its subsidiary Dulcinea “hand picked and vine-ripened” ([www.dulcinea.com](http://www.dulcinea.com)). Although the promotional message is technological, using expressions like “unrivalled technical knowledge, efficient organization and tremendous passion for quality” (ibid.) the reference to naturalness is important since tomatoes have long been associated with genetically modified food. In 1994, genetically modified tomatoes hit the market in the US, as the FlavrSavr tomatoes with delayed ripening became the first commercially available genetically modified crop (GMO Compass 2007). GMO tomatoes never reached the European market, except for a short period in the UK in puree form, and after a few years they disappeared from the market.<sup>7</sup>

As previously stated, all these different types of differentiation of the product led to a conflict between the standards for tomatoes, stating uniformity in size and color, as different vegetables could now be sold in packages. A profound problem was that tomatoes became a highly disparate product, ranging from big tomatoes (for which a separate class existed) to cherry tomatoes, which needed a new class. But the trickiest products were the new varieties of heirloom tomatoes with variability in size, shape and color as the key selling point!

Product diversification and market segmentation is a continuous process. In their report on the UK tomato market Freshinfo concluded: “The 1990s emphasis on prolonging shelf life undoubtedly had a detrimental effect on the flavor of the fruit on-shelf.” But with the emphasis shifting toward the consumer a “greater array of flavours” offered by products from many different sources has been well received (Freshinfo 2006). Classic round tomatoes are losing market shares in Europe and now account for only 20-25 per cent of the market they previously held.

Based on this description it seems fair to argue that the tomato standards were challenged due to the development of agricultural diversification. The question is whether this diversification, driven by an attempt by producers and marketers to increase profit (Porter 1980), stems from changing consumer tastes, or whether it is a way of cultivating consumers’ taste through marketing tactics. Regardless of the causality the result is that, by addressing consumer desires, agriculture has become more consumer oriented.

## The Regulation of Taste and Quality

The market for food, including fresh products, has rapidly become global as technology and demand have changed. According to market theory the development of a free market with many independent actors leads to competitive action between firms and results in falling prices. However, the prevalence of economies of scale may result in higher prices as larger firms squeeze out competition and aim for monopoly profits. The free market can also lead to a limit of choice, as competing firms copy competitors' products in attempts to reach their customers. As Harold Hotelling (1929) put it in his much-cited paper: "It leads some factories to make cheap shoes for the poor and others to make expensive shoes for the rich, but all the shoes are too much alike. Our cities become uneconomically large and the business districts within them are too concentrated. Methodist and Presbyterian churches are too much alike; cider is too homogeneous". To sum up, economies of scale as well as copying behavior by firms inhibit market variation, a situation which will, however, eventually be challenged by the market.

Large-scale transactions in the modern food market called for homogeneity, and EU quality standards were built upon the idea that trade over long distances required standards, a view that is still strongly advocated by the authorities. Because a functioning market relies on the availability of information, the idea of compulsory grading is not necessarily contrary to the idea of a free market. Institutional economists, in addition to promoting free trade and internationalization, stress the role of organized institutions. This includes organizing people's daily lives and educating them to behave rationally in a macroeconomic sense. This view is largely influenced by the work of renowned economist Gunnar Myrdal, who together with his wife Alva, exerted strong political influence on Swedish social and economic life for decades. In an often-cited passage from an article on social policy and housing Gunnar Myrdal opines:

Consumption needs to be regulated in the interest of the consumers. People need getting customized to brushing their teeth and eating tomatoes, before they will begin to appreciate this kind of consumption (Myrdal 1932).<sup>8</sup>

This point of view persists, even in an environment that is focused on individualism and consumption. While the state-sponsored organization "Promotion of fruit and vegetables" (*Svenska grönsaksfrämjandet*), set up in 1966, was abolished with Sweden's entry into the European Union in 1995, other government organizations are involved in the education of the consumer. Authorities such as the Swedish Consumer Agency, the Swedish Environmental Protection Agency and the National Food Administration still aim at directing consumption, by recommending seasonal consumption of domestic field vegetables rather than imports or greenhouse products.<sup>9</sup>

State supported promotion went hand in hand with specific rules on product classification. The European marketing standards for fresh tomatoes comprise several pages (EC Commission Regulation 2007). In Sweden, the development of



these rules started back in the 1940s, when a Horticultural Standardization Committee acted for the specification of common quality standards, guided by international efforts organized by the United Nations.<sup>10</sup> The first European rules were formulated in 1972, as the vegetable sector in the Common Market became regulated (Council regulation EEC No 1035/72)<sup>11</sup>. Economic experts recommended that small-scale domestic production must adopt the rules and adapt to the large-scale buyers (Donelius 1973). When Sweden became an EU member, production fell under the control of the Common Agricultural Policy (CAP) and previously voluntary rules became compulsory. In 1996, it was clear to policymakers that supermarkets were gaining in strength. As a result, regulators developed a common organization of the market in fruits and vegetables (EUR-Lex 1996). With supply increasing and demand stagnating support was given to marketing activities and environmentally friendly production schemes. The quality rules were still considered a prerequisite for large-scale trade. A reform of CAP was commenced in 2003 and in early 2007 the European Commission proposed a reform to streamline the Common Market Organization for fruit and vegetables and align it with the overall policy.<sup>12</sup> The aims were in part to improve the sector's market orientation, simplify rules and reduce bureaucracy. The Swedish Board of Agriculture (2010) still argues that the standards "facilitate trade" and also "make it easier for consumers to compare prices", but it should be remembered that the development of the sector and farmers' incomes remains the main goal of the Common Agricultural Policy

We can conclude that tomato product diversification created complications and generated work for policy makers and organizations. Different EU members have different views on standards; some go for simplification and some have a mission to protect their domestic producers, but detailed tomato quality standards are maintained. At the same time, consumers are increasingly interested in local, organic and small-scale production and a diversification of the products (Ekelund & Tjärnemo 2009). For example, cherry tomatoes, marketed as natural and tastier, are gaining market shares from ordinary round tomatoes.<sup>13</sup>

## **Towards a Late Modern Taste?**

The story of *The Committee for Fruit and Vegetables* may seem quite trivial; the phenomenon of bureaucrats and farmer organizations' ever protecting their vested interests is not unique in any sense. But the story runs deeper than that. What we have seen is how a system, which has been successfully managing development in food production for several decades by stressing rationality, homogeneity and standardization, is being challenged by a production system that has adapted to consumer preferences such as heterogeneity, diversity and authenticity. In this late modern food system, after having been neglected in plant breeding and cultivation as well as in marketing, taste is prioritized and used as a selling argument.

This process is not limited to tomatoes. Striking parallels can be found in the history of dairy products (Block 2009).<sup>14</sup> State promoted consumption, standardization and homogenization once common, are now replaced by increased diversity and a growing demand for supposedly traditional, non-standardized, natural products (DuPuis 2002; Jönsson, 2005a,b; Lyngø 2001, 2007).

This leads us to the conclusion that the changes may be part of a broader societal change. We would like to suggest that the changes we have described in the Swedish/European tomato production can be seen as a result of a societal paradigm shift, from modernity to late (or post) modernity, where homogeneity is replaced by heterogeneity and standardization by differentiation; and from a preference for technological progress to one where a premium is placed on natural attributes and an increased interest in taste.

A critical reader may argue that we are jumping to conclusions. The rejection of Dutch “Wasserbombe” may have absolutely nothing to do with late modernity. It was based purely on the argument that they were not considered tasty, or rather, that they had no taste at all. Therefore we now move on to a closer look at the concept of taste. That the taste of the product was being used as an argument for buying or not buying tomatoes is hardly surprising, since numerous consumer studies show that taste is considered the most important quality criterion. But it is also the most difficult quality criterion to get information on. The flavor of the product is not included in the standards, although amounts of sugar and acid (Brix or per cent sugar or soluble solids) are measured for some fruit as information to the traders. The consumer gets plenty of information on external quality like size, color and packaging, geographical origin and producer or packer and sometimes on production methods used (e.g. organic, fair trade). These quality parameters are often communicated with a label or trademark. Studies show that the labels used are often interpreted by the consumers in ways not intended by the developers of the label. Some examples are that organic is often perceived as a health argument, and that health claims have been misinterpreted and have had limited commercial value in the development of a functional food market (see Heasman & Mellentine 2001). So even though the labels do not intend to contain information on the taste of the product, they might affect the perception of taste at the moment of consumption. Many consumers are genuinely convinced that their special favorite among the trademarks in soft drinks and mineral water have superior taste qualities, although blind tests show that it is extremely hard to tell the difference. For instance tap water is repeatedly taken for exclusive mineral water in such tests (Wilk 2006).

Just like consumers in many other countries (see Verlegh, Steenkamp & Meulenbergh 2005) Swedish consumers express preference in favor of domestic food (LRF 2007).

In repeated experiments (1994, 1995 and 2004) Swedish tomatoes labeled as Swedish were ranked higher by Swedish consumers than identical ones given dif-

ferent country-of-origin labels and production method labels.<sup>15</sup> Imported tomatoes were considered inferior while there was little perceived taste difference between Swedish and Organic attributes (Ekelund 1996; Ekelund et al. 2007; Klintman et al. 2008)<sup>16</sup>.

Taste is not a historical constant (Warde 1994), nor is it purely objective. While consumers' taste preferences for tomatoes have changed, the studies discussed above show the importance of labeling to the perception of taste. But there is also need of digging deeper into the reason for different signaling by different labels. How should the various perceptions of tomatoes with different labels be understood? Since the perception of taste, at least in the case of tomatoes, has changed over time, a historical perspective may shed light on the reasons for this change.

We have already argued that the rejection of *Wasserbombe* can be seen as a reaction towards modernity, where naturalness, diversity and heterogeneity are appreciated and large scale standardized products are being abandoned. During modernity, taste was not prioritized during production, plant breeding and research. Rather, the focus was placed on high yield, pest resistance and a long shelf life. In the era of modernization consumers could be taught to appreciate the new standardized products, as the authorities promoted healthy living. In late modernity, producers and marketers have cultivated peoples' taste for novel products and responded to changes in consumption and consumer preferences.

Claiming that the taste of tomatoes declined during modernity may be an oversimplification. Remember that the very same tomatoes got very different marks on taste in the experiment. Standard tomatoes are still bought in large quantities and all people are not celebrating the unique or authentic. It may, just as the appreciation for organic, be related to class; It is the well-educated middle class that have been leading the organic movement. In order to explain how the same product seems to taste different due to different labeling and how the taste perception seems class differentiated, it can be fruitful to look upon the different meanings of the word taste. In science taste is something registered by the taste-buds and is experienced proportionally as sweetness, sourness, bitterness, salt and umami. Taste is seen as something that can be explained by biology (the taste buds functions) and chemistry (the components of the food).

But there is also another meaning of the word taste, as something a person can possess. "I have *good taste*, but my silly neighbors who watch soap operas and eat greasy crisps have *bad taste*." These judgments of taste can be very important in social life in the creation and maintaining of social classes. As Pierre Bourdieu (1986) has shown in an influential study, the distinctions built upon judgments of taste work as a way of establishing cultural capital, which is important to one's place in the hierarchical structure of society. At first glance, these two meanings of taste seem unconnected. But the tomato experiment showed that the labels Swedish and Organic made the tomatoes taste better than the sign Dutch. Hence it appears as though taste in the Bourdieuan meaning of the word influences the

actual (i.e. biological) taste perception. Therefore, biological taste and cultural taste are not easily disentangled and should perhaps be treated as related phenomena.

## Conclusions

*The Management Committee for Fruit and Vegetables* is illustrative of a system with cracks in the façade. The regulation system, carefully developed over decades, was challenged by changes in production and consumption. The definition of quality for a single food product is still guided by modernist ideals where homogeneity becomes important in marketing, even though the ideals and practices of both producers and consumers have changed. The tomato experiment showed that labeling might affect the perception of taste, which is not a historical constant, but connected to changing values as well as to changing production and distribution systems. The dominant large-scale food system, while now exploiting taste as a marketing argument, faces increased competition from an alternative system of local, small-scale production and direct sales, which seems to respond more readily to consumer preferences. In the contest between these two food systems taste seems to be a key instrument.

We have argued that these examples can be seen as part of a broader societal change. The regulation systems, plant breeding, consumption, the perceptions of labels and the taste experience itself are clearly influenced by shifts in dominating values in society, in this case views on modernity. Seen from this point of view, the tomato example is far from trivial but a symptom of societal change, where the changing views on diversity, nature and taste threaten some of the foundations that modern agriculture and food policies have been built on. In order to gain a broader understanding of how taste is being shaped and perceived we have made an attempt to combine methods from ethnological, and marketing and policy studies. We believe that the findings of studies like this can be used for broader interdisciplinary studies on the concept of taste. Traditional sensory studies can be complemented by knowledge of the cultural constructions of taste developed by the humanities and social sciences. This can certainly lead to fruitful cross-fertilizations that can develop the research on taste.

**Lena Ekelund**, is Professor of Horticultural Economics at the Swedish University of Agricultural Sciences in Alnarp. Her research interest is consumer attitudes and preferences, structural changes on the market for fruit and vegetables and the development of different food chains. Ongoing projects concern consumer value and involvement in organic food and climate certification of supermarkets. E-mail: [Lena.Ekelund@slu.se](mailto:Lena.Ekelund@slu.se)

**Håkan Jönsson**, Associate professor in European Ethnology, is researcher and lecturer at the Department of Arts And Cultural Sciences at Lund University. He has published several works on food culture and consumption and is the coordinator of the inter- disciplinary Food Researcher Network containing more than 160 food researchers in Scandinavia. E-mail: [Hakan.Jonsson@kultur.lu.se](mailto:Hakan.Jonsson@kultur.lu.se)

## Notes

- <sup>1</sup> The regulation referred to here is the EU Council Regulation 2200/1996 on the common organization of the market in fruit and vegetables (EUR-Lex 1996), with an emphasis on Title I: Classification of products.
- <sup>2</sup> The Commission makes the suggestions and the Management Committee votes according to the size of the member nations.
- <sup>3</sup> Information from all meetings is available from the Swedish Board of Agriculture <http://www.sjv.se/ammesomraden/handelmarknad/eukommitteer.4.7502f61001ea08a0c7fff60171.html>
- <sup>4</sup> [http://www.codexalimentarius.net/web/index\\_en.jsp](http://www.codexalimentarius.net/web/index_en.jsp)
- <sup>5</sup> This conclusion is strongly supported by key plant breeders connected to Syngenta and Weibull's in Sweden.
- <sup>6</sup> The news were spread in the British press, see Evening Standard and the Times <http://www.timesonline.co.uk/tol/news/uk/article1094773.ece> The topic received attention and also criticism, e.g. from Wildlife Ecology 12 March 2004, who claimed that "Someone at Sainsbury's is having a tremendous laugh" <http://wildecology.ifcnr.com/article.cfm?NewsID=327>
- <sup>7</sup> The rules for GM products differ between the EU and the US, where the strict regulation of the former has caused disputes within the WTO. The rules are available on [http://ec.europa.eu/food/food/biotechnology/index\\_en.htm](http://ec.europa.eu/food/food/biotechnology/index_en.htm)
- <sup>8</sup> Myrdal, G. (1932) "Socialpolitikens dilemma II," in *Spektrum* 2:4:25, directly cited in a slightly different translation, by Carl Marklund in a paper prepared for Nationella historikermötet, Uppsala University, April 22-24, 2005: [http://www.hist.uu.se/historikermote05/program/Ekhist%201/P15\\_CMarklund.pdf](http://www.hist.uu.se/historikermote05/program/Ekhist%201/P15_CMarklund.pdf) (2006-05-27).
- <sup>9</sup> Joint recommendation by the Swedish Consumer Agency (Konsumentverket), Swedish Environmental Protection Agency (Naturvårdsverket) and the National Food Administration (Livsmedelsverket) attachment to *Råd&Rön* 3/02
- <sup>10</sup> The Swedish Board of Agriculture summarizes: <http://www.sjv.se/ammesomraden/handelmarknad/eusfruktgrontnormer.4.7502f61001ea08a0c7fff101264.html>

- <sup>11</sup> Regulation (EEC) No 1035/72 was repealed and replaced by EU Council Regulation 2200/1996
- <sup>12</sup> The reform proposal in summary:  
[http://ec.europa.eu/agriculture/capreform/fruitveg/index\\_en.htm](http://ec.europa.eu/agriculture/capreform/fruitveg/index_en.htm), New legislation in full text:  
[http://ec.europa.eu/agriculture/capreform/fruitveg/com2006\\_17\\_en.pdf](http://ec.europa.eu/agriculture/capreform/fruitveg/com2006_17_en.pdf).
- <sup>13</sup> Cherry tomatoes held 30 % of the value of tomato purchases 2009, a rise from 22 % in 2006, according to Swedish panel data from GfK (2010)
- <sup>14</sup> The homogeneous product “drinking milk”, is carefully defined and specified in the EU regulation EUR-Lex 1997 according to fat content, heat-treatment, vitamin contents and homogenization.
- <sup>15</sup> Respondents were asked to rate the taste of tomatoes labeled Swedish, Dutch and Organic, all originating from the same Swedish producer. The official label (KRAV) was used on Organic, but no origin. Tomato slices were served on plates and the respondents filled in perceived taste on a scale from 1 (not tasty) to 5 (very tasty).
- <sup>16</sup> A one-way ANOVA test showed no significant difference between Swedish and Organic labelled tomatoes (3.66 vs. 3.54), both with significantly higher average grades than the Dutch tomatoes (2.51).

## References

- Barndt, Deborah (2008): *Tangled Routes : Women, Work, and Globalization on the Tomato Trail*. 2. ed. Lanham, Maryland: Rowman & Littlefield.
- Bauman, Zygmunt (1997): *Post Modernity and its Discontents*. Cambridge: Polity Press.
- Beardsworth, Alan & Alan Bryman (1999): “Late Modernity and the Dynamics of Quasification: The Case of the Themed Restaurant”, *Sociologica Review*, 47:2, 228-257.
- Block, Dennis (2009): “Public Health, Cooperatives, Local Regulation, and the Development of Modern Milk Policy: The Chicago Milkshed, 1900-1940”, *Journal of Historical Geography*, 2009:35, 128-153.
- Bourdieu, Pierre (1986): *Distinction; a Social Critique of the Judgement of Taste*, London: Routledge.
- Coveney, John (2000): *Food, Morals and Meaning The Pleasure and Anxiety of Eating*, London: Routledge.
- De Boo, Marion (2010): “Dutch tomato production depends on technology”, *Wageningen World* 2010:3, 24-27.
- Donelius, Göran (1973): *Den svenska trädgårdsnäringens konkurrensförutsättningar*, Forskningsrapport. Avd.f trädgårdsodlingens driftsekonomi, Lantbrukshögskolan Alnarp.
- DuGay, Paul & Michael Pryke (2002): “Cultural Economy: An Introduction”, DuGay, Paul & Michael Pryke (eds): *Cultural Economy*, London: SAGE.
- Dulcinea (2007): <http://www.dulcinea.com/products/Rosso-Bruno.html> (accessed 11/10/12).
- DuPuis, Melanie (2002): *Nature's Perfect Food: How Milk Became America's Drink*, New York: New York University Press.
- Ekelund Axelson, Lena (1991): *Structural Changes in the Swedish Marketing of Vegetables*, 44, Lund: Lund Economic Studies.
- Ekelund (Axelson), Lena (1996): “Demand and Supply Factors on the Market for Organic Vegetables: the Case of Sweden”, *Acta Horticulturae*, 429, 367-375.
- Ekelund, Lena, Fredrik Fernqvist & Heléne Tjärnemo (2007): Consumer Preferences for Domestic and Organically Labelled Vegetables in Sweden, *Acta Agriculturae Scandinavica*, C; 4: 229-236.
- Ekelund, Lena, Fredrik Fernqvist & Sara Furemar (2007): “Experiences of Quality in the Horticultural Value Chain”, *Acta Horticulturae* (ISHS) 794:107-114.

- Ekelund, Lena & Heléne Tjärnemo (2009): The Competitiveness of Local Food Clusters – Supermarket Strategies Versus Consumer Preferences for Vegetables in Sweden. *Acta Horticulturae* (ISHS) 831:193-200.
- EC Commission Regulation (EC) No 1580/2007, Annex I, Marketing Standards for Tomatoes (2007) available at The Rural Payments Agency (UK): [http://www.rpa.gov.uk/rpa/index.nsf/0/89c9403620d5a8188025712e00465c56/\\$FILE/Tomatoes.pdf](http://www.rpa.gov.uk/rpa/index.nsf/0/89c9403620d5a8188025712e00465c56/$FILE/Tomatoes.pdf), (accessed 11/10/12).
- EUR-Lex (1996) Council Regulation (EC) No 2200/96 of 28 October 1996 on the common organization of the market in fruit and vegetables. Brussels
- EUR-Lex (1997) Council Regulation (EC) No 2597/97 of 18 December 1997 laying down additional rules on the common organization of the market in milk and milk products for drinking milk. Brussels
- EUR-Lex (2007) Proposal 2007/0012 for a Council Regulation laying down specific rules as regards the fruit and vegetable sector and amending certain Regulations [http://eur-lex.europa.eu/LexUriServ/site/en/com/2007/com2007\\_0017en01.pdf](http://eur-lex.europa.eu/LexUriServ/site/en/com/2007/com2007_0017en01.pdf), (accessed 11/10/12).
- Falk, Pasi (1994): *The Consuming Body*, London: SAGE.
- Fonte, Maria (2002): “Food Systems, Consumption Models and Risk Perception In Late Modernity”, *International Journal of Sociology of Agriculture and Food* 10:1, 13-21.
- Freshinfo (2006): FPJ Supplement Tomatoes June 2006, 62 p. Summary available on [http://www.freshinfo.com/downloads/FPJ\\_supp\\_tomatoes\\_06\\_contents.pdf?PHPSESSID=11667e94604ca19a3835995eaa7540a2](http://www.freshinfo.com/downloads/FPJ_supp_tomatoes_06_contents.pdf?PHPSESSID=11667e94604ca19a3835995eaa7540a2), (accessed 11-10-12).
- Friedland, William (2006): “Tomatoes: A Review essay”, *Agriculture and Human Values*, 23, 253-262 .
- Friedmann, Harriet (1982): The Political Economy of Food: The Rise and Fall of the Postwar International Food Order, *American Journal of Sociology*, 88, S248-86.
- (1994): “The International Relations of Food: The Unfolding Crisis of National Regulation”, Hariss-White, Barbara & Raymond Hoffenberg (eds): *Food: Multidisciplinary Perspectives*, Oxford: Blackwell.
- Giddens, Anthony (1991): *Modernity and Self-Identity: Self and Society in the Late Modern Age*, Cambridge.
- GfK (Growth from Knowledge) (2010): Consumer tracking. Data from a household panel of 2000 households. Lund, Sweden <http://www.gfk.com/se/index.en.html>.
- GMO Compass (2007): “Tomatoes”: [http://www.gmo-compass.org/eng/grocery\\_shopping/fruit\\_vegetables/15.genetically\\_modified\\_tomatoes.html](http://www.gmo-compass.org/eng/grocery_shopping/fruit_vegetables/15.genetically_modified_tomatoes.html) (accessed 11/10/12).
- Harvey, David (1989): *The Condition of Postmodernity. An Inquiry Into the Origins of Cultural Change*, Oxford: Blackwell.
- Harvey, Mark, Steve Quilley & Huw Beynon (2002): *Exploring the Tomato: Transformations of Nature, Society and Economy*, Cheltenham: EE.
- Heasman, Michael & Julian Mellentin (2001): *The Functional Foods Revolution: Healthy People, Healthy Profits?*, London: Earthscan.
- Hobson, Graeme (1988): How the Tomato Lost its Taste. *New Scientist*, 29 September 2008, 46-50.
- Hongsoongnern, Pairin & Edgar Chambers Iv (2008): “A Lexicon for Texture and Flavor Characteristics of Fresh and Processed Tomatoes”, *Journal of Sensory Studies* 23:5, 583-599.
- Jameson, Fredric (2002): *A Singular Modernity: Essay on the Ontology of the Present*, London: Verso.
- Jönsson, Håkan (2005a): *Mjök – en kulturanalys av mejeridiskens nya ekonomi*, Stockholm /Stehag: Symposion.
- (2005b): “A Land of Milk and Money. The Dairy Counter in an Economy of Added Values”, Löfgren, Orvar & Robert Willim (eds): *Magic, Culture and the New Economy*, Oxford: Berg.
- Klintman, Mikael, Magnus Boström, Lena Ekelund & Anna-Lisa Lindén (2008): *Maten märks. Förutsättningar för konsumentmakt*. Dept. of Sociology, Lund University. Research Report 2008:1.

- Korsmeyer, Carolyn (ed.) (2003): *The Taste Culture Reader: Experiencing Food and Drink*, Oxford and New York: Berg.
- Lash, Scott (1999): *Another Modernity: A Different Rationality*, Oxford: Blackwell.
- LeHeron, Richard (1993): *Globalized Agriculture: Political Choice*, Oxford: Pergamon Press.
- Low, Valentine (2004) "Black is New Red (for Tomatoes)", *Evening Standard*, 1 March 2004: [www.thisislondon.co.uk/news/article-9410394-black-is-new-red-for-tomatoes.do](http://www.thisislondon.co.uk/news/article-9410394-black-is-new-red-for-tomatoes.do), (accessed 11/10/12).
- LRF (2007): "Konsumenterna ger Sveriges bönder toppbetyg": <http://www.lrf.se/LrfNodeServlet?command=layout&n=4910>
- Lyngø, Inger Johanne (2001): "The National Nutrition Exhibition: A New Nutritional Narrative in Norway in the 1930s, Scholliers, Peter (ed.): *Food, Drink and Identity: Cooking, Eating and Drinking in Europe Since the Middle Ages*, Oxford: Berg.
- (2007): "Ett melkedrikkende folk", *Idehistorisk tidskrift*, 2007: 2-3, 27-41
- McMichael, Philip (ed.) (1994): *The Global Restructuring of Agro-food Systems*, Ithaca: Cornell University Press.
- Planet Ark, 2004 (March 2): "Black is the New Red for Tomatoes", <http://www.planetark.com/dailynewsstory.cfm/newsid/24069/story.htm>
- Porter, Michael (1980): *Competitive Strategy*, The Free Press, New York.
- Swedish Board of Agriculture (Jordbruksverket) (2007): *Kvalitetsnormer för frukt och grönsaker* 24 p. Jordbruksverket, Jönköping: [http://www2.jordbruksverket.se/webdav/files/SJV/trycksaker/Pdf\\_ovrigt/ovr20.pdf](http://www2.jordbruksverket.se/webdav/files/SJV/trycksaker/Pdf_ovrigt/ovr20.pdf), (accessed 11/10/12).
- Syngenta (2008): <http://www.syngenta.com/en/news/tomato.aspx>, (accessed 11/10/12).
- "Säsonganpassad konsumtion av Grönsaker" attachment to *Råd & Rön* 2002:3, Swedish Consumer Agency. Stockholm
- The Times* (1 March 2004): <http://www.timesonline.co.uk/tol/news/uk/article1094773.ece>
- Tovey, Hilary, Michel Blanc (eds) (2002): *Food, Nature and Society: Rural Life in Late Modernity*, London: Ashgate.
- USDA, United States Department of Agriculture (2009) Grading, Certification and Verification <http://www.ams.usda.gov>, (accessed 11/10/12).
- Verlegh, Peeter, Jan-Benedict Steenkamp & Matthew Meulenberg (2005): "Country-of-origin Effects in Consumer Processing of Advertising Claims", *International Journal of Research in Marketing*, 2005:22, 127-139.
- Warde, Alan (1994): "Changing Vocabularies of Taste 1967-92: Discourses about Food Preparation", *British Food Journal*, 101.
- (1998): "What does the Consumer Want?: Articulation of Consumer Interests in Late Modernity", *The Social Construction of Safe Food: Health, Ethics and Safety in Late Modernity*, Centre for Rural Research, Norwegian Technical University, Trondheim, Workshop Report No 5/97, 125-138.
- Wildlife Ecology (2004): Website of the International Foundation for the Conservation of Natural Resources: <http://wildecology.ifcnr.com/article.cfm?NewsID=327>, (accessed 11/10/12).
- Wilk, Richard (2006): "Bottled Water: The Pure Commodity in the Age of Branding", *Journal of Consumer Culture*, 6:3, 303-325.
- Östberg, Jacob (2003): *What's Eating the Eater? Perspectives on the Everyday Anxiety of Food Consumption in Late Modernity*, Lund Studies in Economics and Management 75, Lund: Lund Business Press.