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Do organic consumers oppose genetically modified food stronger than others? Results of a consumer research in Germany

Sind Öko-Käufer stärker gegen gentechnisch veränderte Lebensmittel eingestellt als andere Konsumenten? Ergebnisse einer Konsumentenbefragung in Deutschland

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Keywords: genetic engineering, food quality, consumption, market research

Schlagwörter: Gentechnik, Lebensmittelqualität, Konsum, Marktforschung

Abstract:
The majority of consumers, in particular European consumers oppose genetic modification of food. Although consumers oppose strongly genetic modification of food, genetically modified food production increases world wide. The co-existence of both, genetically modified food production and food production free of genetic modification cannot be ensured. There is always a risk that non-genetically modified food gets contaminated despite safety regulations. Thus, even organic production, which is supposed to be free of genetic modification, is endangered and can maybe not ensure to produce food definitely free of genetic modification. Against that background, this consumer research focuses on organic consumers and their attitudes towards genetically modified food. The findings indicate clearly that organic consumer oppose genetically modified food stronger than others.

Introduction and objectives:
The majority of consumers, in particular European consumers oppose genetic modification of food. Numerous studies indicate clearly, that consumers are concerned about risks connected with genetic modification of food and that they are not willing to buy genetically modified food. But, how can they be sure about it? Some consumers trust on organic food and others just believe genetic modified food is not yet on the market. Although consumers oppose strongly genetic modification of food, genetically modified food production increases world wide. The co-existence of both, genetically modified food production and food production free of genetic modification cannot be ensured. There is always a risk that non-genetically modified food gets contaminated despite safety regulations. Thus, even organic production, which is supposed to be free of genetic modification, is endangered and can maybe not ensure to produce food definitely free of genetic modification. Against that background, this consumer research focuses on organic consumers and their attitudes towards genetically modified food. The main research question is: Do organic consumers oppose genetically modified food stronger than others? In detail, this paper will compare attitudes and purchase propensity of organic and non-organic consumers:

- How do consumers perceive genetically modified food?
- Which attitudes towards genetic modification of food differentiate organic consumers and non-organic consumers?
- How important is the purchase criterion „not genetically modified“ for both consumer groups?
- Does a relatively low price of genetically modified food overcomes consumers‘ inhibitions and make them willing to buy?

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Methods:
The consumer research is based on a consumer survey conducted in Hannover in summer 2004. 603 face-to-face interviews were undertaken focusing on consumer attitudes and purchase propensity concerning genetically modified food. Random sampling with a quota for sex and age was applied. Although the sampling does not claim to be representative of the German population the statistics do indicate that a wide and diverse group of individuals took part in the survey. The data were analysed by means of descriptive and multivariate analysis like a factor analysis. This paper focuses on the comparison of organic consumers and non-organic consumers and presents only a part of the total survey results. The organic consumer was defined as every consumer, who is aware, that he bought organic products in the last two weeks prior the survey. This group includes 43% of the survey, which seems to be sensible compared to other studies concerning the consumption of organic food (STIEß 2005, WIRTHGEN 2003, ALVENSLEBEN & BRUHN 2001, JUNG 1998).

Selected results and discussion:
Looking at consumer attitudes and purchase propensity clear differences could be proven. Organic consumers show stronger negative attitudes towards genetic engineering in general and the food purchase in particular. For the attitude analysis 38 statements were reduced by means of a factor analysis (main component analysis, varimax rotation). Seven statistical significant and meaningful factors could be identified explaining 62% of the variance (KMO = 9.47, Bartlett-test p = 0.000). The main factor is named “risk perception of genetic modification of food” including statements about the general opposition and needlessness of genetic engineering in the food sector, the high risk, danger and fear perceived thinking of genetic modification of food, the unhealthy and ethical not justifiable aspect of genetically modified food as well as the opposition of and missing willingness to buy genetically modified food. The second factor “convenience and disinterest” is based on the not thoughtful disinterest in food production combined with price consciousness and convenience when purchasing food. The third factor “knowledge about genetic engineering” includes clear statements concentrating on felt knowledge or level of information about and interest in thinking about or dealing with genetic engineering and its consequences. Factor four deals with the benefits and advantages resulting from genetic engineering in the food sector, e.g. reduction of world hunger, less pesticide usage and less allergies. Factor five describes the “trust in the food production” in general and factor six the “unnatural different taste of genetically modified food”. The last factor seven consists of only one statement focusing on “satisfying consumer protection concerning genetic engineering”. Comparing now the attitudes of organic consumers with non-organic consumer the following picture results (Fig. 1): Like expected, organic consumers perceive significant more risk, see less benefits although they feel better informed than non-organic consumers. Furthermore organic consumers are generally less convenient and show less trust in food production. The latter agrees well with other consumer research about organic consumption (compare e.g. WIRTHGEN 2003, ALVENSLEBEN & BRUHN 2001).

The findings concerning the perception of genetically modified food in specific show a mainly negative image, although price, lasting time and taste, which are for food quite important purchase criteria, score rather well (Fig. 2). Again, it can be clearly seen, that organic consumers perceive genetically modified food significantly more negative than others concerning food safety, controlling, health as well as environmental and ethical aspects (ibid).

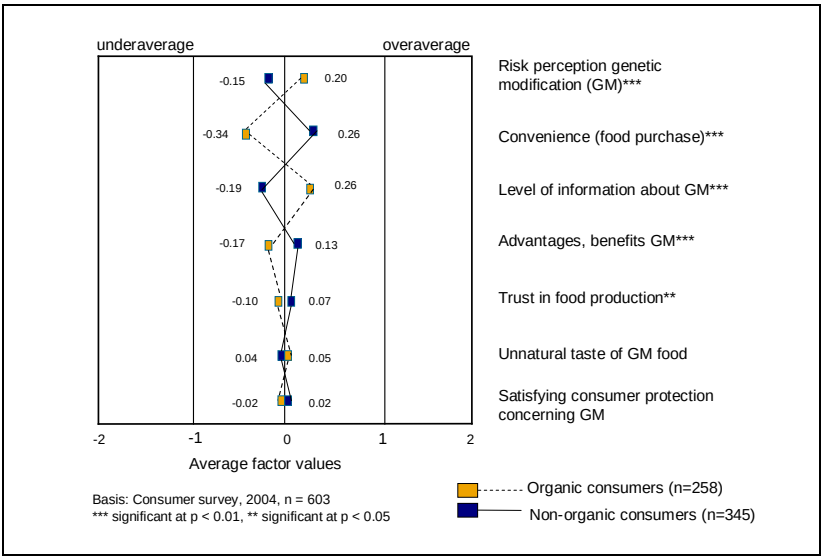

Fig. 1: Attitudes of organic consumers and non-organic consumers towards genetic modification of food.

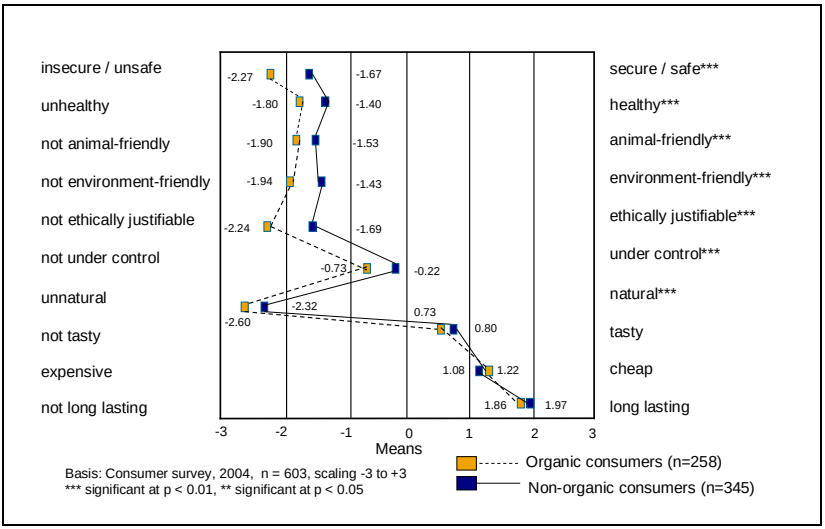

Fig. 2: Organic and non-organic consumers' perception of genetically modified food.

Last but not least consumers' purchase propensity of genetically modified food reflects the stronger opposition of organic compared to non-organic consumers, showing with 72% compared to 50% a much higher resistance to buy genetically modified food even at relatively cheap prices (Fig. 3).

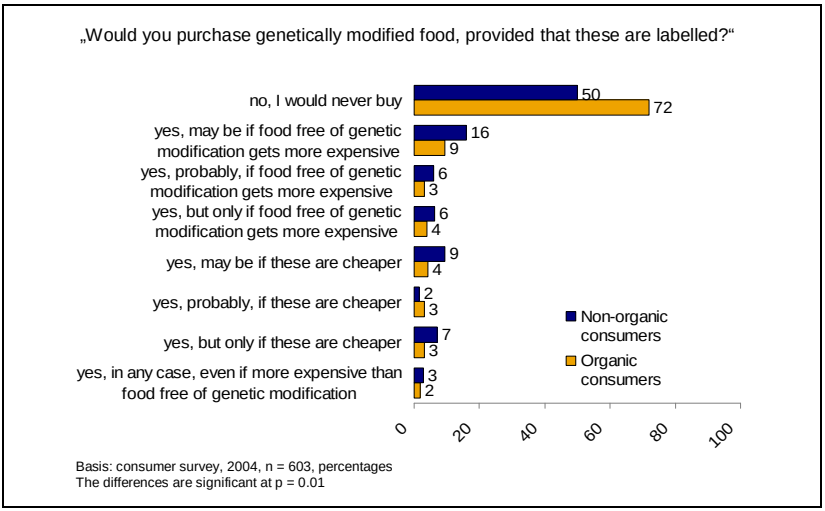

Fig. 3: Purchase propensity of genetically modified food.

This is also confirmed by further willingness to pay analysis by means of a double bound logistic regression, identifying organic consumption as one significant impact factor supporting a high willingness to pay more for food free of genetic modification.

Summary and conclusions:

Summing up the results, this paper clearly shows that consumers in general, but organic consumers in particular are opposed towards genetic modification of food. Thus, this consumer research supports the idea, that politics should ensure the availability of food free of genetic modification in Germany, especially considering possible consequences for the market of organic food.

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