

# **Ecological Aspects of Food Demand: The Case of Organic Food in Germany**

by Reimar v. Alvensleben  
Institute for Agricultural Economics, University of Kiel

## **1. Introduction**

This paper reports on recent results of our research in the organic food market in Germany

- the long-term development of attitudes and behaviour 1984 - 1989 - 1994
- the image of organic food among youths in Kiel (Germany) and Toulouse (France) and
- the relative importance of ecological motives for buying organic food.

## **2. Long-term development of attitudes and behaviour**

### **2.1. The survey**

Three consumer surveys were conducted in 1984, 1989 and 1994 in Germany. The first step of the project was to develop an instrument for measuring attitudes. The main characteristics of the studies are an interview sheet that remained for the most part unchanged, constant five-year intervals between inquiries and constant locations. These locations are: Hannover (n=1500) with a more progressive, protestant and urban population and Meppen and Lingen in the Emsland (n=500), small towns in the countryside near the Dutch border with more conservative, catholic populations. The polarity of respondents might show the potential differences in attitude and behaviour between the inhabitants of a large city and those of provincial towns. The research design guarantees a high comparability of longitudinal data and allows the application of a cohort analysis. Preliminary results of the study have been presented on the AIR-CAT plenary meeting in Rome (Fricke, v. Alvensleben, 1997). A comprehensive report in German language has been given by Fricke (1996).

### **2.2. Buyer types**

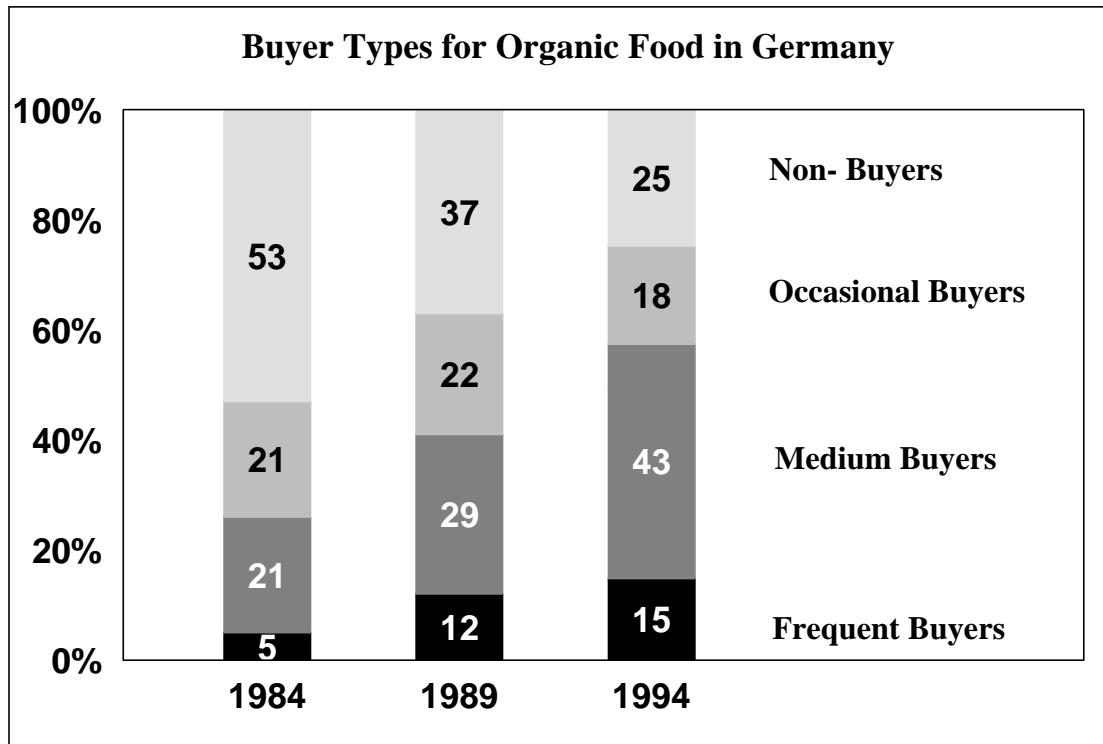
We divided the total sample into four segments according to their buying frequency:

- frequent buyers
- medium buyers
- occasional buyers
- non-buyers

Chart 1 shows the shares of these types over the observed period. The share of the frequent buyers increased from 3% (1984) to 14% (1994), the share of medium buyers increased in the same period from 21% to 43%, while the share of the non-buyers decreased from 53% to

25%. These figures demonstrate the dynamic development of the market, however there is some indication that the respondents tend to overestimate their buying frequency.

**Chart 1**



### 2.3. Relevant attitudes

To measure attitudes and values, test consumers were confronted with a catalogue of 29 items (57 items in 1984) concerning organic food. These items were reduced to eight factors by factor analysis<sup>1</sup>. The interpretation of these factors results in the following attitudes:

- Attitudes:
- E1: Confidence in conventionally produced food (resp. distrust in food)
  - E2: Importance of a healthy diet (health consciousness)
  - E3: Better quality of organic food in comparison to conventional food
  - E4: Positive purchase experience in health food shops
  - E5: High willingness to pay for quality
  - E6: Fashion to consume organic food
  - E7: Calm and trusty shopping atmosphere
  - E8: Convenience aspects of food preparation

- Values:
- W1: Confidence in the social order and in economic growth (system confidence)
  - W2: Environmental concern and criticism of economic growth.

<sup>1</sup>The item set was reduced by two separate factor analyses, one for attitudes and one for values. Method: principal components, rotation varimax by SPSS

The most important attitudes are „Confidence in food“ and „Health consciousness“. The development of some of the attitude variables indicates a changing trend. For example, between 1984 and 1989 confidence in conventional food declined, but in the last survey it has increased again. A crosstab analysis of consumer types and E1 detects a negative correlation between the confidence in food and organic food consumption, but the E1 value associated with the group of frequent consumers increased significantly from 1989 to 1994. E2 „health consciousness“ is positively correlated with organic food consumption, but the importance of a healthy nutrition for the frequent consumers declined severely between 1989 and 1994.

The most interesting variable is „system confidence“. This value fell distinctly in the second half of the 1980s, probably due to several food scandals and environmental catastrophes, especially the accident at Chernobyl. Following German reunification and the recession of the early 1990s, other subjects are now of greater concern. Hence, system criticism has declined and the importance of economic growth, the willingness to work and trust in the social order has risen.

#### **2.4. Attitude - behaviour - relations**

A multiple regression analysis with the factors (attitudes) as independent variables and a consumption index for organic food as a dependent variable revealed the major determinants of the organic food demand. The results of the regression analysis is shown in table 1. The most important determinants of the organic food demand are

- distrust in food
- health consciousness
- positive purchase experience in health food shops.

#### **Table 1**

#### **2.5. Cohort analysis**

The cohort analysis tries to answer the following questions (v. Alvensleben, Plöger, Fricke, 1994):

1. Are changes of demand caused by

- a change of behaviour of the total consumer population? (= period-effect)
- a cohort succession, a substitution of old consumers by young consumers with a different behaviour in the generational change? (= cohort effect).

2. Are differences of demand between age groups caused by

- the aging of the consumers, age specific behaviour patterns?  
(= age or life cycle effect)
- by the specific conditions of socialisation of the age groups?  
(= cohort effects)

We conducted a cohort analysis with respect to

- . distrust towards conventional food (chart 2)
- health consciousness (chart 3)
- organic food consumption index (chart 4)

The main results can be summarized as follows:

1. **Distrust in conventional food:** Young people are more critical than old people, however young people of today are less critical than young people ten years ago. Thus the conclusion can be drawn: The confidence in food is recovering.
2. **Health consciousness** is growing with increasing age. We observe a slight increase over time.
3. **Demand for organic food:** The average age of organic food consumers is increasing. The market growth in the young age groups is below average. Thus it can be concluded: The growth rates of demand are slowing down.

The main conclusions which can be drawn from the cohort analysis are

- The impulses from the demand side are becoming weaker
- Further market growth relies more and more on push measures of the suppliers (price, distribution, product policy, communication).

### 3. The image of organic food among youths in Germany and France

Another more recent study analysed the attitudes of young people towards food in Germany and France. Special attention was given to organic food. Young people of today are the consumers of the future and for this reason a target group of particular interest. The test persons have been youths between 14 and 17 years. The survey has been conducted in winter 1996/97 in schools in Kiel (n = 107) and Toulouse (n = 123). The complete results are reported by Schuler (1997) and Schuler, v. Ziehlberg, v. Alvensleben (1998).

The major result of the survey can be summarized as follows: Organic food is regarded to be healthy (chart 5), but does not taste (chart 6) and makes less fun to eat (chart 7). There are only small differences between Kiel and Toulouse.

Chart 5: What keeps you healthy?

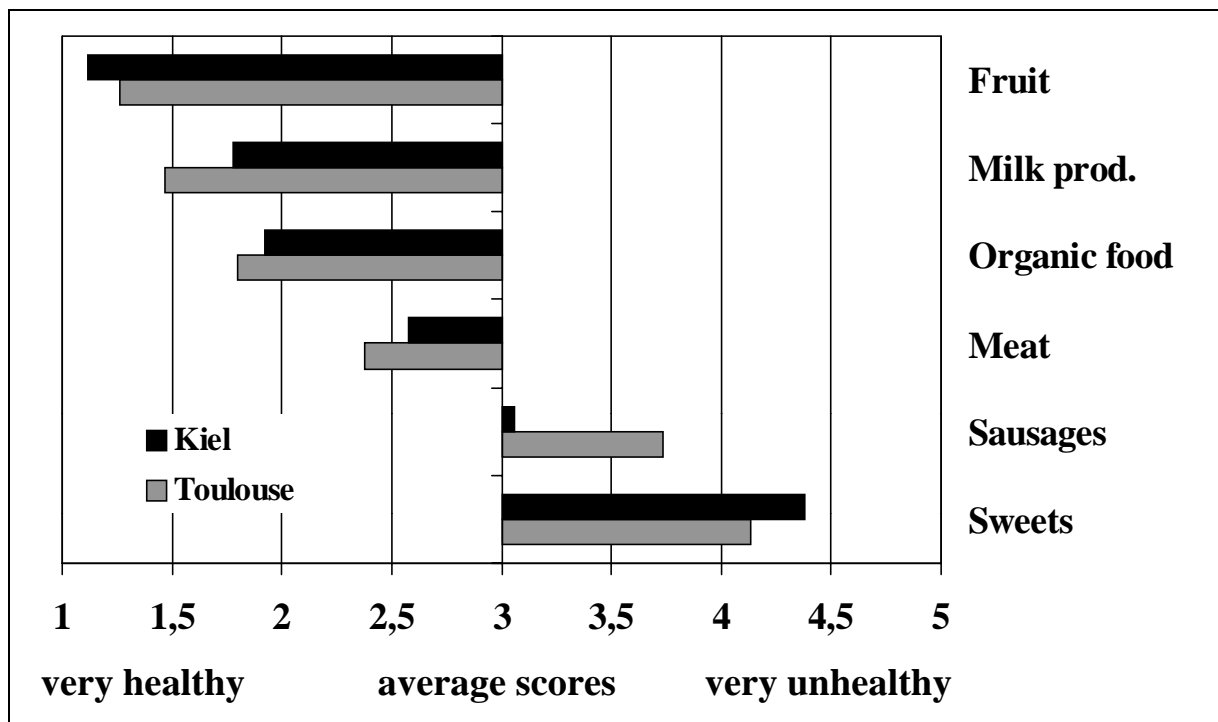
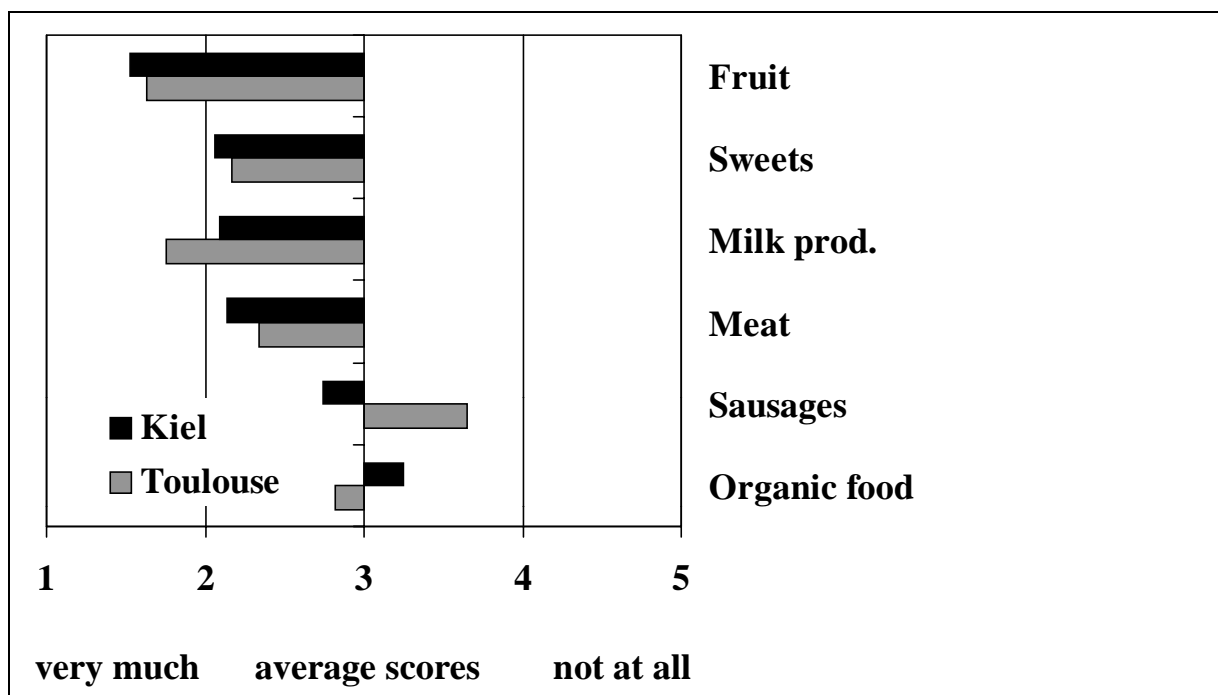
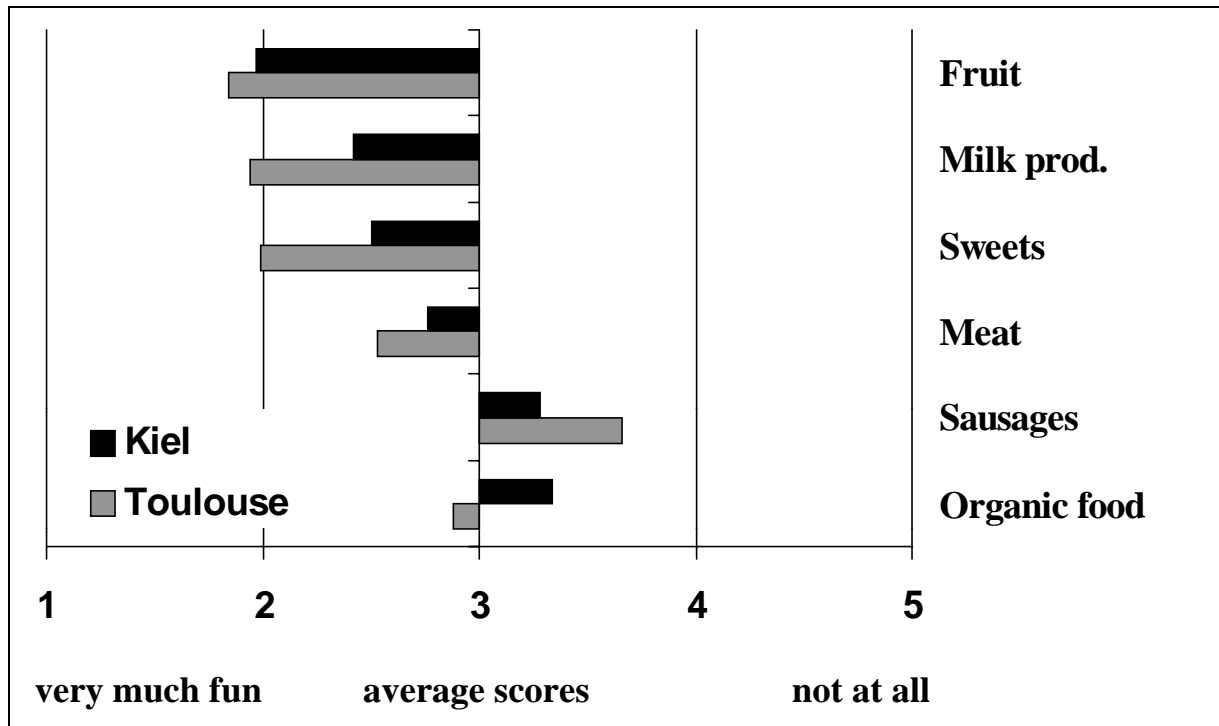


Chart 6: What tastes well?

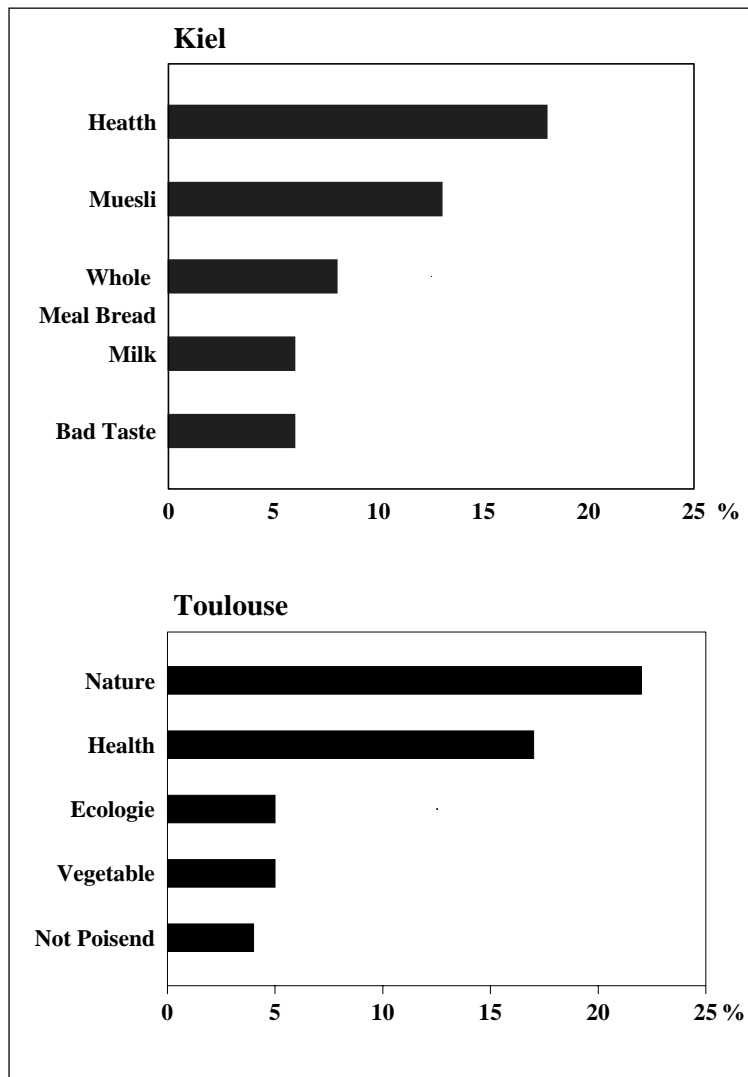


**Chart 7: What makes fun to eat?**



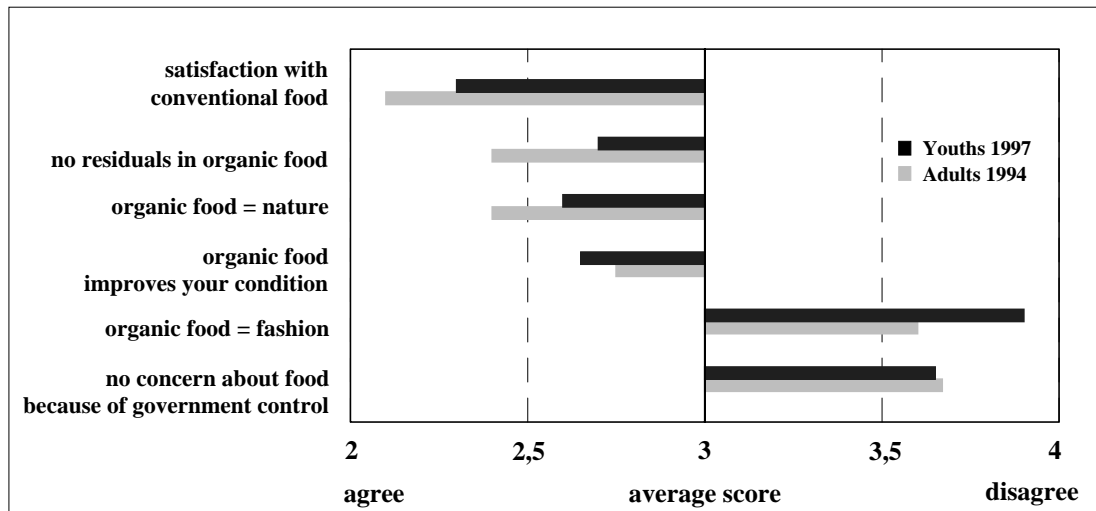
Very interesting are the results of an association test (chart 8). In Kiel the most frequent associations with organic food have been: „Health“, „Muesli“, „whole meal bread“, „milk“, „bad taste“. In Toulouse the most frequent association with organic food is „nature“, followed by „health“, „ecology“, „vegetable“, „not poisoned“.

**Chart 8: Spontaneous associations with organic food**



Do the attitudes towards organic food of young people differ from the attitudes of adults? We used in the survey a set of statements, which has already been part of the survey of 1994 and compared the results (chart 9).

**Chart 9: Attitudes towards organic food - comparison between youths and adults**



As can be seen in chart 9 the agreement resp. disagreement to seven statements representing the attitudes towards organic food do not differ significantly between adults in 1994 and youths in 1997. These results seem to confirm the findings of the cohort analysis.

#### **4. Relative importance of ecological motives for buying organic food**

To answer the question „What is the relative importance of ecological motives to buy organic food?“ we can refer to the results of two tests

- an association test conducted in winter 1996/97 (n = 30)
- a ranking test conducted in 1989 and 1994 (n = 2000).

##### **4.1. Spontaneous associations**

In table 2 the results of an association test are shown. The test persons were asked: „What goes through your mind, if you hear the word ...?“ In addition sentence-completion tests have been applied. The answer were put into the categories „positive“, „neutral“ and „negative“ associations. We find that products, which are bought direct from the farmer, are regarded very positive. The same applies to products of German origin. The words „veal“ and „beef“ are causing more negative than positive reactions. The reactions to the word „organic food“ are rather mixed: 13 positive, 7 neutral and 10 negative associations.

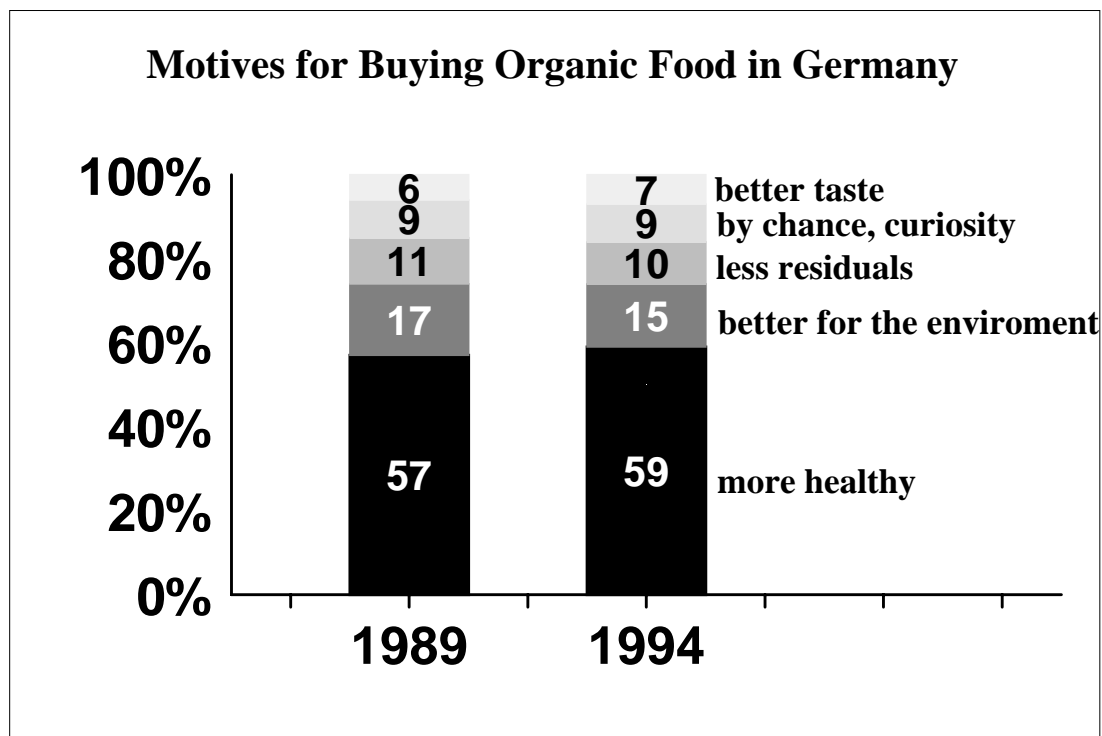
Table 3 presents a list of the original associations to the word „organic food“. If you look at this list, you will rarely find ecological issues. The health aspect is dominating among the positive associations. These findings correspond to the results of the association tests with youths in Kiel (chart 8).

##### **4.2. Ranking the motives for buying organic food.**

Within our longitudinal study (chapter 2) we asked the test persons to rank their motives to buy organic food. The motives were presented to the test persons on a given list. Chart 10 shows the distribution of the first-order rankings for the years 1989 and 1994.



Chart 10



The predominant motive is the health aspect (59 % of first order rankings) followed by the ecological aspects (15 %), the residual aspect (10 %), curiosity (9 %) and taste (7 %). The differences between 1989 and 1994 are very small. These findings correspond to the results of numerous other studies in Germany and other countries as well (Plüger, Fricke, v. Alvensleben, 1993). We estimate that the ecological motives for buying organic food are important in a segment of 10 - 20 % of the population. Ecological motives may be decisive for the buying decisions, if the trade-off with respect to the price, the convenience and taste is not too big.

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