

IMPORTANCE OF MARKETING FOR APPLE PRODUCERS IN CROATIA

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Key words: *Price, Market research, Marketing, Sales and distribution, Product, Promotion*

Since apple producers' management results depend on business success at the market, that is the only way to realise their product and by so doing renew and increase their production. Regarding this, producer is reluctant to produce exclusive sorts of apples which he can offer to consumers who can make payments i.e. those which he can sell. Apple producer should know what is sold at the market, in order not to produce and offer such apples that do not satisfy anybody's requirements (by characteristics, quantity or price).

Market research is essential for real marketing, and it is impossible to imagine modern economy without marketing.

By analysing elements of marketing mix, certain measures are suggested to improve position and competitiveness at the market.

Sales and distribution: introducing networks of ULO cold stores as guarantee for presence at the market throughout the whole year, and impulse for enlargement of offered quantities.

Price: differential approach towards prices, requiring higher prices for specific sorts, higher phase of finalization, and greater participation in gastro and tourist offers.

Product: positioning towards autochthon and ecological sorts, and consumer taste research in the segment.

Promotion: organizing networks of specialized fares, education of consumers and emphasising nutritional and health aspects of apple. Upon marketing mix analysis, the conclusion is imposed: if the process of identifying requirements is performed properly, the market rewards the producer for efforts made by accepting offered products.

1. INTRODUCTION

Motivation for writing this study was to use the analysis of marketing functions to emphasize the importance of marketing appliance for Croatian apple producers as an important prerequisite for the survival and the competitiveness on Croatian, European and the world apple market.

In the study we are interested in the apple-product which is directly oriented towards the final consumer – buyer. Therefore we are not merely satisfied with perceiving problems in the marketing area, but we are suggesting their solution.

Special attention has been paid to two current market trends: ecologically acceptable sorts of apples and autochthon (old sorts) of apples.

In the study we are trying to initiate Croatian apple producers to apply marketing conception to ensure easier sale. There is no efficient sale unless it is synchronised with the rest of the marketing activities.

That implies that apple sale is effective if the apple market has been researched, that apples are produced in compliance with the demand for them, that the price is formed by the market and the competition and that the promotion has prepared the consumer market.

2. APPLE MARKET IN CROATIA

Since all marketing efforts are oriented to satisfy the market and demand on it, it is logical that certain attention will be dedicated to the market in this study.

It is known that two opposite elements are confronted on the market: supply and demand. Their reciprocated activity forms the price on the apple market. In addition to the influence of the price, the other factors also affect the relations between apple supply and demand and they are also the barriers to apple marketing:¹

- seasonal character of apple supply,
- instability of apple supply,
- different apple quality,
- number of residents and their economic stability,
- uneducated consumers,
- climate and weather conditions; whose influence is little or almost impossible to eliminate.

Apple plantations that use the latest agro-techniques accompanied with adequate logistics, storage and apple sorting technology have the highest market perspective. Presuming that apple is not only aimed for non-commercial consumption but also for the market, we believe that apple production should become an economic activity.

In global market conditions competitiveness in apple production is demonstrated by these parameters: price, quality, quantity for export and versatility of the sort. Exactly these determinants set objectively the position of Croatian apple production on the world market. Therefore we are convinced in the fact that apple producers can cash their efforts only through the market.

¹ Detailed after Meler, M.: Marketing, Faculty of Economics in Osijek, Osijek, 2002, pg. 405-412.

2.2. Apple production in Croatia

Small production and disorganized infrastructure in family farming in the Republic of Croatia where, when speaking about apple, over 55% of the total area is placed on the total of 5 ha of land, does not have the possibility of more serious entrance to the market and competitiveness. In the Republic of Croatia there are just 11, 38% of households with apple area whose sizes are over 20 ha,² and in our conditions, only that size of the land promises the possibility of organizing a household an independent economic subject i.e. technologically and market encircled unit. The table below shows **the size structure of apple plantations**:

Table 1. SIZE STRUCTURE OF APPLE PLANTATIONS IN CRO IN 2003

Class size	Apple area in ha	Structure in %
Total	1.640,13	100,00
Do 0,10 ha	2,23	0,14
0,11-0,50 ha	64,65	3,94
0,51-1,00 ha	108,97	6,64
1,01-2,00 ha	232,19	14,16
2,01-3,00 ha	210,07	12,81
3,01-5,00 ha	289,95	17,68
5,01.10,00 ha	296,31	18,06
10,01-20,00 ha	249,16	15,19
over 20 ha	186,61	11,38

Source: Popis poljoprivrede, DZS RH, Zagreb 2003.

According to the table and the latest information available from National Statistics Office, in the year 2003 there were 1.640,13 ha of apple plantations of the total plantation and non-plantation farming.

The structure of apple plantation farming in Croatia is unfavourable in comparison to the developed fruit countries. Therefore further land concentration for apple production is forthcoming. Regarding the sort, the most represented sorts on apple plantations are the American hybrid sorts: Idared, Golden delicious, Jonathan, Granny Smith etc.

Apple production in Croatia is conducted through the production on individual households and legal economic subjects. The following table shows the total apple production in plantation and non-plantation orchards in Croatia.

Table 2. APPLE PRODUCTION IN THE REPUBLIC OF CROATIA

Year	Total in t	Total and by the owner division	
		Legal subjects in t	Further agriculture economies in t
2002	59.143	19.568	39.575
2003	58.054	22.641	35.413
For the years 2004,05 and 06, the information has not been published	-	-	-

Source: Popis poljoprivrede, DSZ RH, Zagreb 2003.

The table shows annual apple production in the Republic of Croatia in the amount of 59.143 tonnes (year 2002) and 58.054 tonnes (year 2003).

We consider that increase of fruit production, especially apple production is of the utmost importance before entering the EU, because at the time The Republic of Croatia will produce

² Source: Popis poljoprivrede, DZS RH, Zagreb, 2003.

limited quantities and will be exposed to the global market for which, with momentous capacities, is not ready.

2.1. Consumption of consumed apples in Croatia

From climatic and pedological aspects Croatia can be considered as apple production region and diversity of climate zones enables growing different sorts of apples. «Today apple is one of the most growing fruits in the world. There are a lot of sorts that differ by taste, sweetness or sourness, consistency and juiciness»³ Apple attributes like these have influenced a great commercial production on plantations and simultaneously presented apple as an exported-imported product.

The following table presents the average apple consumption per household and also comparison to the consumption of similar fruits:

Table 3. CONSUMED QUANTITIES OF CERTAIN KINDS OF FRUIT PER HOUSEHOLD*

Fruit kind	Measurement unit	2003	2004	2005
Southern fruit	kg	10,1	11,4	11,7
Bananas	kg	9,2	9,2	10,4
Apples	kg	13,4	15,5	15,3
Stone fruit	kg	3,5	4,0	5,0

Source: National statistics office CRO, household consumption questionnaire

* Household consumption only

The previous table shows that apple consumption overcomes southern and stone fruits consumption. It also indicates constant increase during the previous years as it does the fruit consumption in general.

If we monitor trends of fruit consumption in Croatia, the three previously observed years show the increase of apple consumption and other fruits too.

According to Brzica⁴, **annual fruit consumption** is around 70 kg per capita and for complete fulfilment of healthy nutrition requirements 220 kg of fruits is required per year.

2.3. Import – export of apples in Croatia

For better perception of the problem with apple production, consumption and refined apple products it is necessary to analyze **import and export of apples**.

Considering the fact that Croatia has been facing the negative trend of Balance of foreign trade for a few years; for example in 2002 foreign-trade deficit overcame 5, 8 billions of dollars, we are coming to conclusion that due to insufficiency of marketing structure (cold stores, sorting and packing equipment) and poor marketing organisation related to association of consumers, national products are not competitive with the enviable product offer of the surrounding countries (Austria, Italy, ...).

The following table shows the structure of import-export of apples in the Republic of Croatia.

³ <http://www.advent.hr/proizvodi/jabuka.htm>, undertaken 27 Septembre 2006, 10:28 h

⁴ Brzica, K.: Jabuka, Library Selo i hrana, Zagreb, 1995, pg. 259.

Table 4. IMPORT-EXPORT OF APPLES IN CRO

Product	Export 2002		Export 2003		Export 2004	
	tons	USD	tons	USD	tons	USD
Apples	813	86.713	3.386	381.126	2.885	748.149
Product	Import 2002		Import 2003		Import 2004	
	Tons	USD	tons	USD	tons	USD
Apples	33.334	9.540.299	26.234	10.190.594	21.289	9.550.107

Source: Faculty of Agronomy in Zagreb, Agriculture marketing office, Zagreb 2006

The information mentioned above indicates negative relation of import and export which is improving, but import is still better than export; 7, 37 times in natural proportion and even 12, 7 times better in financial ratios (2004). Therefore it is obvious that average import price overcomes the average export price and that makes additional deficit in the world exchange. The biggest apple import countries to Croatia are our neighbour countries with the developed apple production: Italy, Austria, Slovenia, and exporting markets of Croatian producers are traditional markets like Bosnia and Herzegovina, Macedonia, Serbia and Montenegro.

2.4. Ecological apple production in Croatia

Today there are only mere initiations of ecological apple production in Croatia. Such production undertakes very strict rules in compliance with Law from 2001 (OG 12/01) and further regulations. According to available data there are more than 70 hectares of certified ecological apple plantations. Such production is also accompanied with objective difficulties such as: insufficiency of planting materials, biological protection materials and the producers' insufficient education.

Regardless, the increase of ecological apple production is generated by enthusiasm and increasing market demand. Production of autochthon sorts of apples that Croatia had plenty of in the beginning and middle of the last century was reduced to protection and renewal projects of authorized ministries, and does not represent significant data.

3. ABOUT APPLE MARKETING IN GENERAL

Contemporary marketing imposes a business activity that connects production with consumption to fulfil society needs that appear as demand on the market in maximal and profitable way.⁵ Therefore, marketing conception should be considered as a need to adjust producers' and consumers' interests in the best possible way.

Regarding apple producers, they will be interested mainly in sales increase, increase of their share on the market, risk reduction in business and profit make. Apple buyers will be interested in high quality apples, acceptable prices and on time delivery.

Purpose and sense of marketing as a business philosophy can be expressed in different ways, but its essence is summed up as the fact that the buyer-consumer is always the centre of attention and apple producers should orient their efforts and assets towards it, in order to satisfy its needs with simultaneous profit make.

Such principle of placing the consumer before the production is the most logical and the most profitable way of conducting business.

⁵Rocco, F.: Marketing management, Školska knjiga, Zagreb, 1994., pg . 19-20.

Considering the fact that every product is made for the market, so is the apple, marketing intelligence should become necessary for every apple producer in nowadays, competitively marked world where the winners will be those who:

- carefully analyze consumer needs,
- identify own capabilities and
- make product in alliance with consumer needs.

Accepting the previous fact, we believe that after apple market research and by using water supply system, fertilization, protection, rarefying, i.e. cutting, is possible to produce apples of the highest quality. Their size, colour, appearance, scent, taste, appropriate packaging, appropriate price and appropriate promotion will certainly sell them in the country and abroad.

That means that “the real product” should be created in order to offer the consumer the real value for their money. In continuation we will briefly clarify market research and elements of marketing mix, as the most important parts of marketing and we will also review the main barriers to apple marketing.

3.1. Market research

There is no real marketing without proper market research and modern economy is unimaginable without marketing. Apple producers should be aware of market demand in order not to produce and offer such apples that satisfy nobody (by characteristics, quantity or price).

Unsold goods endanger the producers making production costs that cannot be covered and he becomes powerless.

As an example, around thirty years ago due to the European Union market saturation huge amounts of apples were withdrawn. The special market commission of the Union and research institutions determined: “If the composition of the apples characteristics corresponded to the demand, it would not be necessary to withdraw such quantities from the market». The market, that parliament of consumers, was intolerant with the following message: «We do not want mealy apples». So, the power of making newer and newer desires and needs of the consumers is unstoppable and high income ensures demand, i.e. fulfils these needs.

On the other side, an apple producer who sells apples successfully, makes profit that not only does it cover all production costs (amortization of assets, material and energy costs and labour costs) but also makes profit.⁶

To be able to produce quality apples that will be accepted by the market, apple producers must rely on the information they receive:

- by supply research (analytically examine competitors’ product policy) and
- by demand research (identifying the nature of consumer needs, their characteristics, economic status and motivation etc.).

It is of the utmost importance that the product is in compliance with needs, as the consumer is in the centre of the marketing attention and thus all marketing activities are to be oriented towards him.

There is a question imposing; how will consummation habits and priorities of consumers develop, especially regarding:

⁶ Kolega, A.: Tržništvo poljodjelskih proizvoda, Nakladni zavod Globus, Zagreb, 1994., str. 86-87.

- desired apple sorts – nowadays in Croatia dominate Idared with 50-60%, Jonagold with 20%, Golden Delicious and Gloster with 10%, and all other sorts have approx. 10% market share, while this ratio significantly differs on the market of the EU countries,
- what is necessary to undertake to alter the image of national apple and reduce import?
- buying habits – will consumers in the future buy apples on the “black” market or as the life standard rises prefer buying in highly organized retail supermarkets.⁷

Our opinion is that answer to these and similar questions can be provided only by specialized marketing organizations that will conduct apple market research professionally. Such organizations are possible to establish only under assumption that apple production is concentrated where the production already exists and where ULO cold stores will be built. For example certain consumer segments will demand sweeter apples, while certain segments will demand sourer. Regarding the fact that marketing segmentation is the most effective part of consumer analysis aimed to discover reasons of demand, research of apple market segmentation can identify consumer needs for every market segment. It is undisputable that consumer awareness is oriented towards ecologically acceptable products that attribute life quality.

3.2. Product

Marketing activity starts before a product is made and continues long after its sale, constantly informing what is happening on the market and searching for ways to increase consumer satisfaction for which the product has been made.

Shape, appearance, colour, scent and quality of apple under the conditions of undeveloped market hardly caught producers' attention, as the consumers did not show segmented attention either. Under the conditions of increased economy power influenced by income rise, unforeseen interest for apple quality was evident⁸

Apple, as product, is the most important element of marketing mix and we will examine it briefly from the aspect of quality, assortment and packaging.

Quality is the most important market value of apple, related to its characteristics, production place and agro-technical measures. When speaking about the quality there is consumers' order of characteristics: colour, taste, shape and size. Colour accompanied with shape is the most striking quality characteristic of apple and is closely related to consumers' perception of quality of the product. We are aware of the taste when we eat the apple and it comes from its chemical ingredients closely related to the ratio of acid and sweetness. Shape and size follow. Technology **assortment** is categorized by the experts.

The experts have categorized apple assortment as I and II class quality.

Consumer assortment is based on consumer desires. For consumers the sign of quality is a characteristic. Therefore the assortment is also closely related to the characteristic.

Consumers are familiar with the characteristic, choosing the assortment and they determine quality on the basis of their visual experience (colour, shape, size) and moreover by the taste.⁹

To identify our consumers with others' is very popular among us and the same applies to other characteristics even though we have good quality apples. Therefore we suggest the position towards autochthon and ecological sorts of apples.

⁷ Krsnik, Z.: Idejno rješenje projekta izgradnje mreže kondicioniranih hladnjača u Republici Hrvatskoj (ULO projekt), Nacionalna veletržnica d.d., Zagreb 2003., str. 4.

⁸ Kolega, A.: Tržišтво poljodjelskih proizvoda, Nakladni zavod Globus, Zagreb, 1994., str. 85.

⁹ Idem, str. 158.

The aim of **packaging** is to contribute the attractiveness of the product with its designer and construction solutions, maintaining all technical characteristics necessary for product protection and to simultaneously adjust to the needs and demand. In compliance with integration of Croatian market with the European, firmer law regulation for fresh fruit packaging and thus apples is expected.

Due to development of retail and light increase of consumers' standard there are more attractive and more secure solutions in fruit packaging. Most packaging has experienced a transition from wooden to cardboard containers. Cardboard containers enable print, i.e. branding of goods, which imposes a responsibility of producers for packaged goods because the name, i.e. the make of the producer is visually presented on the package. Furthermore, cardboard does not ruin the goods physically. It is easier to manipulate with it and provides more efficient ventilation of goods. In the end its dimensions correspond to the dimensions of the shelves where the goods are sold.¹⁰

We have to emphasize largely increasing demand for ecologically produced apples and autochthon (old sorts) of apples. Ecologically acceptable sorts of apples are the sorts most resistant to diseases and in the conditions of ecological production give best results. According to previous experience and research those are: Prima, Retina, Enterprise, Gold Rush, Boskop, Topaz etc. These sorts of apples are also very attractive and taste good, and thus the balance of health, nutritional, sensor and organoleptic characteristics of the product has been established. Tendency of modern, industrial apple productions is also uniformity. Thus the majority of current production consists of yet several American hybrid sorts. Opposed to that, a great chance lays in renewal of the production of old i.e. autochthon sorts of apples. Somewhat forgotten, but of exquisite qualitative and nutritional characteristics, they may become a hit on the apple market. Croatia has an exceptionally rich fund of old, autochthon sorts out of which we can emphasize the most important ones: Bjeličnik, Slavonska srčika, Zlatorumenka, Carica, Ilinjača, Petrovača, Muškatnica and lots of others

3.3. Sale and distribution

The responsibility of sale is to sell goods to consumers in exchange for money, cover the costs and make profit at market price. In pre-marketing time sales there was the responsibility to sell what has been produced and to achieve the best possible price. Nowadays sales in marketing operates under the assumption that the market has been researched, that products have been produced as they were demanded, that the price is regulated according to the market and the competitors, and that consumer market has been promotionally prepared for the sale.

Distribution is set of activities related to selection of distribution channels and physical distribution of goods from producers to consumers. The most significant distribution channels are: direct sale, retail sale, and wholesale.

Direct sale system presents the most important sale channel. Apple producers sell Gro of their production directly to consumers or resellers i.e. on the "black" market, without evidence, control and out of the VAT system. Such conditions develop distrust among traders which leads to disloyal competence influenced by direct sale.

In apple retailing in Croatia along with retail supermarkets (approx. 50%), retail markets still play a significant role (approx. 40%), while the rest of the sale is conducted by little independent retail shops (approx. 10%). Arrival of international retail chains is also evident as

¹⁰ <http://www.poslovna-znanja.hr/default.aspx?id=826>, preuzeto 21.09.06. u 13:00 sati.

well as the rapid expansion of their new retail supermarkets. This results in faster increase of their market shares, especially in urban areas. Their further expansion is expected, as well as 85% share on the retail market in the final, as it is the situation in most developed EU countries.¹¹

We believe that the share of retail supermarkets on the market will increase in the near future. As life standard is rising consumers will prefer weekly shopping in modern supermarkets and direct sale shares will gradually decrease as in the west. .

On wholesale level, there is a great number of relatively small whole sellers and producers. Many of them are not registered and mainly trade on wholesale markets or so-called green markets. There are a lot of them who trade out of legal channels of sale. They mainly trade with national products and partly with imported; they supply retail markets, independent shops, restaurants and consumers directly. There is an exemption of smaller part of national, good organized wholesale companies (Konzum, Tuti-Fruti and etc.).

3.4. Price

Apple price must not act independently but it needs to be adjusted with other elements of marketing mix. For example, it needs to correspond to the apple quality, must follow the policy of distribution channels, and promotion messages must be appropriate to the price of the offer.

The level of price significantly influences the level of sale. Apple, as separately observed, does not show great price elasticity of sale, due to its possibility of being replaced by other fruits (for example with orange or banana). When observed with orange and banana, we note the highest price adjustment in October, December, February, March, April and August, and less severe in November and May. Unadjusted sale, prices wise, was noted in June, July and January. Explanation for this lays in the fact that apple is replaced by other kinds of fruit, especially season fruit in June and July, when apples and southern fruit despite of price fall and due to higher fresh fruit demand, do not succeed to interest the consumers as in the time when there were not other fruits. With fresh apples arriving to the market in August and at lowered price, the price adjustment is in progress again.¹²

It should be considered that apple price significantly influences sales level. As the price gets higher, the demand gets smaller and as the price gets smaller, the greater is the demand for apples.

Apple prices in Croatia are categorized a lot. The offer at the wholesale markets in December 2006 was good, and the prices ranged from 2-7 kn/kg. The most expensive sort was Golden delicious with the price range between 3 and 7 kn/kg. It was followed by the sort Granny Smith with average wholesale price of 5,5 kn/kg, while the cheapest sort was Idared usually traded for 2 to 5,30 kn/ kg.¹³

We must not forget the role of tourism as a specific way of exporting fruits. From marketing aspect this is probably Croatian export market which is not even closely used, therefore we suggest demanding higher prices for certain specific sorts and greater market share in gastro-tourist offers.

¹¹ Krsnik, Z.: Idejno rješenje projekta izgradnje mreže kondicioniranih hladnjača u Republici Hrvatskoj (ULO projekt), Nacionalna veletržnica d.d., Zagreb 2003.

¹² Kolega, A.: Idem., str. 159.

¹³ Agroglas, dvotjednik za poljoprivredu, proizvodnju hrane, selo i ljubitelje životinja, broj 147 od 10.01.2007., str.12.

3.5. Promotion

According to J. Sudar promotional activities are continuous processes of communicating information and motivations between producers and surrounding with aim to establish acceptable attitude towards the product¹⁴.

Apple producers can conduct promotion in compliance with their business goals, usually by:

- Economy propaganda – media promotion,
- Personal sale - seller is the base of promotion,
- Sale advancement - goods displayed on exhibitions, fairs and samplings,
- Economy publicity - signs in the press, counselling, public grandstands, lectures and articles in various publications help to create better picture of the product and the producer,
- public relations – producer influences public opinion,
- organizing network of specialized fairs and
- emphasizing nutritional and health aspects of apple.

Promotion can be effective only if its performance is synchronized with other marketing functions. For example, if the apple is poor quality with unacceptable market price, unsuitable sale and distribution and does not satisfy consumer needs – promotion activity will be insufficient because it cannot make up limitations of other functions, but can confirm them if they deserve it with their quality.

3.6. Most important barriers in apple marketing

Although we have previously tried to explain that apple producers should be marketing oriented, there are certain barriers for good quality apple marketing activities in Croatia. The most emphasized are:

- insufficient professional surveillance of production – for most orchard owners apple production represents an additional activity and therefore their engagement is not professional. Due to this, appropriate surveillance of the production is missing (from choosing planting materials, to the protection and the harvest), what in the final leads to poor quality product is comparison to the products of neighbour countries;
- apple is stored in storehouses in poor conditions which leads to great residue (up to 20% of the crop), product quality is reduced, potential time limit for storage is shorter and thus the period of sale;
- the problem with shortage of ULO cold stores for keeping apples during longer time period (6- 12 months), and additional logistics equipment;
- disorganised market appearance – producers without appropriate solutions for storage offer the apple immediately after the harvest (IV and I quarter) when the market offer is the biggest and the prices are the lowest, while in II and III quarter (April-August) there is high apple demand and the quantity of national apple is small at high prices and it is traded mainly with imported apple.
- illegal sale as the consequence of the information mentioned above. In such situation producers can survive only if they avoid paying VAT, which presents disloyal competition to all legal distribution channels;
- there is only a small number of professional wholesale traders that know apple marketing and can satisfy high criteria of new retail chains. They can conduct cooperation with producers etc;

¹⁴ Sudar, J. Promocija, Školska knjiga, Zagreb, 1994.

- additional equipment for preparing products for the market is also insufficient (sorting and packing machinery, box pallets etc.). It is exceptionally expensive for the national producers and has too high capacities. Usually they cannot invest in that individually.

We have noted the biggest problem of apple producers in Croatia; the storage of apples after harvest and supply during the whole year because these are necessary conditions for successful marketing and have equal importance for the survival and competitiveness on the global market of apples produced in Croatia. The problem of insufficient ULO cold stores causes continuous shortage of apple supply throughout the year and all relevant subjects in agronomy are familiar with it. Therefore their construction is necessary as they present high technology storage of fresh fruits and vegetables. Inert gas atmosphere enables storage of apples for a few months (6 – 12 months, even longer) and the qualitative conditions remain unchanged.

We believe that it **is possible to solve** the problems of storage and apple supply through whole year **by constructing necessary logistic infrastructure, particularly by constructing ULO cold store**. The possibility of long-term apple storage prolongs trade season and ensures fresh fruit supply throughout the whole year. Apple producers are enabled to achieve significant marketing effects that enable apple distribution in compliance with required standards for wholesale markets and other interested wholesale buyers like: retail supermarket chains, hotels, restaurants, canteens, military, hospitals and etc. But the prerequisite for construction of ULO cold stores is elimination of the black apple market.

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