

VEGETABLE MARKET IN SLOVENIA BEFORE AND AFTER THE ACCESSION TO THE EUROPEAN UNION

SLOVENSKI TRG Z ZELENJADNICAMI PRED IN PO VKLJUČITVI V EVROPSKO UNIJO

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ABSTRACT

The paper describes how the Slovenian accession to European Union (EU) influenced the conditions on vegetable market in Slovenia. Slovenia remains the net importer of fresh vegetables. Annually, it imports larger quantities of vegetables than there are produced by agricultural holdings. The supply balance sheet for vegetables is the basis of an analysis of vegetable consumption on the level of entire country and allows the comparison with other countries. Data have shown that the degree of self-sufficiency varies a lot between years due to weather conditions. Although the conditions for vegetable growing in Slovenia are favourable, domestic production is too low to meet the domestic consumption. Many investigations have also shown that Slovenian people consume too small amounts of vegetables. This statement is supported by the supply balance sheet for vegetables. The human consumption per capita in Slovenia is gradually increasing, but it is still low in comparison with the EU countries.

KEY WORDS: vegetable market, nutrition, supply balance sheet, Slovenia, European Union

IZVLEČEK

Namen prispevka je ugotoviti, kako je vključitev Slovenije v Evropsko unijo (EU) vplivala na razmere na trgu z zelenjavo v Sloveniji. Slovenija ostaja neto uvoznica sveže zelenjave. Letno se uvozi več zelenjave kot se jo pridelava na kmetijskih gospodarstvih. Bilanca pridelave in porabe zelenjave je osnova za analizo porabe zelenjave na ravni celotne države in omogoča primerjavo z drugimi državami. Stopnja samooskrbe z zelenjavo v Sloveniji med leti precej niha (vremenske razmere), vendar je glede na ugodne možnosti za pridelavo zelenjadnic mnogo premajhna. Raziskave kažejo, da Slovenci pojemo premalo zelenjave, kar ugotavljamo tudi na osnovi rezultatov izdelane bilance zelenjave. Poraba zelenjave se sicer postopoma povečuje, vendar je v primerjavi s povprečjem držav EU še vedno nizka.

KLJUČNE BESEDE: trg z zelenjavo, prehrana, bilanca, Slovenija, Evropska Unija

RAZŠIRJENI IZVLEČEK

V prispevku opisujemo razmere na trgu z zelenjavo v Sloveniji pred in po vstopu Slovenije v EU. Stanje na trgu z zelenjavo smo proučevali na osnovi podatkov iz t.i. bilanc, ki so sklop standardiziranih informacij o ponudbi in povpraševanju in se nanašajo na državo kot celoto. Na podlagi izdelane bilance lahko ugotovimo, kakšna je stopnja samooskrbe (v kolikšni meri domača pridelava pokriva domačo porabo) ter kakšna je poraba na prebivalca (količina, ki je na voljo posameznemu prebivalcu v določenem obdobju). Glede na kriterij stopnje predelave ločimo bilanco sveže zelenjave ter bilanco zelenjave skupaj (sveža zelenjava in predelani proizvodi izraženi v ekvivalentu sveže zelenjave). Glede na razpoložljive podatke o površini, pridelku in zunanji trgovini Statističnega urada RS (SORS) so bile bilance pripravljene za obdobje 2000-2008. Porabo zelenjave na prebivalca smo primerjali s povprečnimi porabami v državah EU. V luči pomena zdrave prehrane smo porabo zelenjave na prebivalca primerjali tudi s priporočili o porabi zelenjave, ki izhajajo iz prehranske piramide CINDI [3]. Slovenija kot ena izmed najmanjših pridelovalk zelenjave v Evropi k skupni količini pridelane zelenjave v EU 27 (Slika 1) prispeva manj kot odstotek. V Sloveniji se pridelava med 60 do 90 tisoč ton zelenjave letno, od tega med 55% in 70% pri tržnih pridelovalcih (Slika 2). Nihanja v letni pridelavi so posledica bolj ali manj ugodnih vremenskih razmer, saj se površina posejana z zelenjadnicami med leti bistveno ne spreminja. Slovenija je neto uvoznica sveže in predelane zelenjave, negativna zunanje trgovinska bilanca se po letu 2004, zaradi povečanega uvoza iz EU in tretjih držav, še povečuje (Slika 3). Povečan uvoz zelenjave po letu 2004 je vplival na večjo porabo zelenjave v Sloveniji (+20%) (Slika 4), medtem ko se je stopnja samooskrbe z zelenjavo zmanjšala (v letu 2000 47%; v letu 2008 36%) (Slika 5). Poraba zelenjave na prebivalca se po letu 2000 povečuje, v obdobju pred vstopom Slovenije v EU (2000-2003) je bila povprečna poraba na prebivalca 77 kg, v letih 2004-2008 pa je znašala v povprečju 91 kg (+19%) (Slika 5). V nadaljevanju smo zaradi primerjave porabe zelenjave v Sloveniji in sosednji Avstriji, poleg zelenjave pridelane na kmetijskih gospodarstvih, v bilanco vključili tudi zelenjavo pridelano na hišnih vrtovih (namenjena samooskrbi). Tudi v tem primeru je razvidno (Slika 6) naraščanje porabe zelenjave v Sloveniji, ki je v letu 2007 že skoraj dosegla porabo v Avstriji. Po priporočilih WHO [3] naj bi, glede na določila prehranske piramide, zdrav in uravnotežen obrok v povprečju vseboval 88 kg sveže zelenjave letno. Po podatkih iz bilanc v Sloveniji letno pojemo 75 kg sveže zelenjave, torej kar za 15% manj od priporočene količine. Po posameznih državah EU

je poraba zelenjave, glede na izračune Freshfel Europe (uporabljen nekoliko drugačen metodološki pristop pri izračunu porabe zelenjave kot pri bilancah), zelo različna (Slika 7). V povprečju se na območju EU 27 letno porabi 78.6 kg zelenjave na osebo, največ zelenjave pojedo v Belgiji (167 kg), sledijo mediteranske države in Portugalska, Slovenija pa je s porabo 57 kg zelenjave v zlati sredini.

1. INTRODUCTION

Papers about the situation of vegetable production and the options of Slovenian vegetable sector after the accession of Slovenia to the EU had already been written in the years before the accession [21, 23]. Due to its small size, Slovenia with the total of 40 to 60 thousand tons of marketable or 60 and 90 thousand tons of total annual yield is one of the smallest vegetable producers in Europe and this fact has not changed in the years after the accession. Slovenia is a net importer of vegetables with the tendency of increasing the negative balance in foreign trade after 2004 [2, 22].

Analyzing the situation on the human consumption of vegetables per capita requires the synthesis of data on domestic production together with data on import and export of vegetables. The supply balance sheet for vegetables is therefore a basis for the analysis of vegetable consumption and its development in different years on the level of entire country and allows comparison with other countries. The applicability of vegetable supply balance sheet is many-sided. It is used for the monitoring of market movements and drawing up economic accounts in agriculture (statistics of national accounts). In EU, supply balance sheets also provide data upon which the decisions of the agricultural policy makers are made and therefore are an important information basis at the regulation of individual agricultural markets.

Numerous authors reported about insufficient or small quantities of fruit and vegetables in every day nutrition as being one of the main reasons for chronic non-infectious diseases [1, 8, 11, 14]. These are diseases connected with unhealthy intake and unhealthy life style (obesity, coronary heart disease, type 2 diabetes, some types of cancer, some chronic pulmonary disease, etc.). The report of World Health Organization (WHO) on health in EU from 2005 also indicates that a lot of death cases and diseases were the result of seven principal risk factors, one of them being also the insufficient consumption of fruit and vegetables [18].

Various investigations concerning the nutrition in Slovenia have shown that the nutrition of Slovenian population is unhealthy. According to data of national investigation

entitled »Life Style in Association with Health« from 2001, only 23 % of the Slovenian populations are consuming food in a healthy and mostly healthy way. The number of daily servings and the rhythm of intake are unsuitable, the energy value of average meals is too high, we eat too many fats in total and too many saturated fats in particular, which significantly influence the manifestation of coronary heart diseases and large intestine cancer. But, first of all, there is a lack of fruit and even more vegetables in our nutrition [19].

According to expert and scientific studies healthy food is the most recommendable food from the viewpoint of preservation and health promotion. Healthy food is a combination of well-balanced (prevents the appearance of deficiency diseases, diseases occurring due to lack of essential medicines), safe (does not exceed maximally tolerated quantities of additives and contaminants in food which poison the organism) and protective (protects from the appearance of civilization diseases) food [14].

Since people are increasingly aware of the importance of healthy nutrition and its influence on their health, the importance and availability of sufficient quantities of vegetables in Slovenia were studied in the light of recent data on the consumption of vegetable and the degree of self-sufficiency with vegetables in Slovenia. Our study from a few years ago [13] and different sources of information [5, 7] all point out the fact that the human consumption of vegetables per capita in Slovenia is too small and that it is lower than the average human consumption in the EU (EU 27 level) and way below the human consumption per capita in the Mediterranean countries [6].

2. METHODOLOGY

Data on area and yield of vegetables together with data on foreign trade with vegetables form a basis for the so-called supply balance sheet of vegetables. Until 2003, the preparing of supply balance sheets for fresh vegetables according to uniform methodology [9, 12] was included in regular statistics in all member countries of the EU. In the last few years, in framework of the EU only the supply balance sheets for fresh and processed tomatoes and cauliflower are prepared while the supply balance sheet for fresh vegetables is not prepared any more.

Since the knowledge of the human consumption of vegetables is a factor indispensable for the monitoring of the structure and development of vegetable market and assurance of necessary information for making agricultural policy decisions, in Slovenia, the supply balance sheet for vegetables is still prepared. It is made with regard to the criterion of degree of processing. Thus

we have the supply balance sheet for fresh vegetables and the supply balance sheet for total vegetables. The latter includes a basic (all fresh vegetables as they are presented for the sale) and processed products expressed in the fresh vegetable equivalent. Beside the supply balance sheet for total vegetables, the supply balance sheet for fresh vegetables is also prepared. It includes the basic product, i.e. only the fresh vegetables as they are presented for the sale. Data about area, production and external trade were obtained from the Statistical Office of the Republic of Slovenia (SORS) [4, 10, 17, 20]. With regard to data availability the supply balance sheets were prepared for the period 2000-2008.

Vegetable production means the domestic production of vegetables on agricultural holdings. As regards the specificity of Slovenian vegetable production (we also have considerable extensive production from kitchen gardens intended for self-supply) in some cases (Fig. 6) production from kitchen gardens is added to the supply balance of holdings.

On the basis of vegetable supply balance sheet conceived, the self-sufficiency rate (to what extent the domestic consumption is covered by domestic production) and the human consumption per capita (the quantity of vegetables available to individual inhabitant in certain period) are determined. The average human consumption of vegetables per capita in Slovenia was compared with those in the EU and with the recommendation on daily consumption of vegetables (at least 3 to 5 units) based on CINDI food pyramid [3].

3. RESULTS AND DISCUSSION

Production and foreign trade

In the EU (EU 27 level) about 70 million tons of vegetables (including melons and watermelons) are produced annually. The two main producers of vegetables, Italy and Spain represent about 40% of the EU 27 production. France, Poland and Netherlands are also counted among major vegetable producers in EU. Slovenia is one of the smallest vegetable producers, since it contributes less than one percent to the total quantity of vegetables produced in the European Union. According to FAO data lesser quantity of vegetables than in Slovenia are produced only in Estonia, Luxembourg and on Malta [16].

After year 2000 the total vegetable production in EU varies between years and shows a decreasing trend, which is mainly the consequence of reduced production in Italy and France (Fig. 1).

In Slovenia the extend of vegetables production on agricultural holdings ranges between 60 and 90 thousand tons yearly; the quantity varies between years both due to

area given over to vegetable production as well as due to weather conditions. The total area sown with vegetables is characterized by the increasing trend while the area devoted to market vegetables has been slightly decreasing after 2006. A slight fall was also noted in the production of market vegetables after the year 2000. After the year 2000 the share of vegetables produced and intended for market varies between years (between 55 and 70%) (Fig. 2).

The European vegetable production is characterized by great variety of vegetable species. Tomato is the main vegetable produced in EU followed by carrot and other root crops, cabbage and other brassicas and onion crops. All these cultures together account for a little less than 60% of the EU production.

In Slovenia there are relatively favourable climatic conditions for the production of different kinds of vegetables, nevertheless, the variety of production is a bit lower than on the average EU level. More than one half of vegetables produced in Slovenia are cabbage and other brassica plants followed by salad crops, onion

crops, tomato and pepper. A change in the structure of production noticed after the accession of Slovenia to EU is an increasing production of different types of salad crops and a smaller production of onion crops.

The trend in the foreign trade of the EU with third countries concerning vegetables is increasing both on the level of import and on level of export. After year 2000 the increase of vegetable import was essentially higher than that of export, which is indicated in the negative import export vegetable balance on the EU level [6].

Slovenia is a net importer of fresh and processed vegetables, and the negative import export balance has been increasing after 2004 (foreign trade with EU countries and third countries).

Generally, the major trade partners of Slovenia are countries of the EU which is also true for the foreign trade of vegetables. Among third countries, the import and especially the export to countries on the territory of former Yugoslavia are significant (Fig. 3).

The import of fresh and processed vegetables to Slovenia has been persistently increasing and has risen from 94

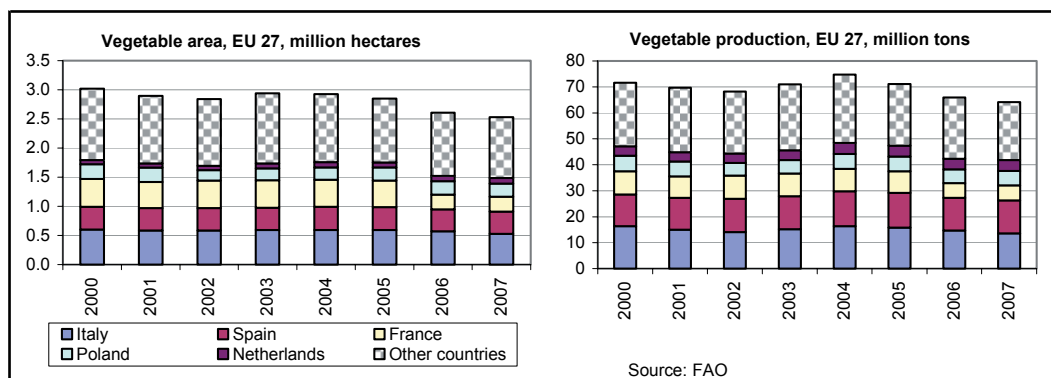


Figure 1: Vegetable area (in million hectares) and production (in million tons) in EU 27 from 2000 till 2007
Slika 1: Površina in pridelek zelenjadnic v EU 27; 2000-2007

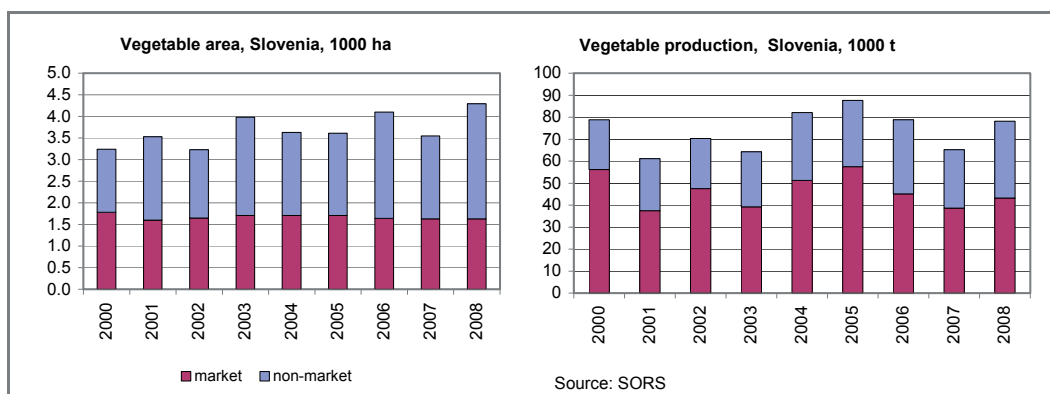


Figure 2: Vegetable production in Slovenia from 2000 till 2008
Slika 2: Pridelava zelenjadnic v Sloveniji; 2000-2008

thousand tons in 2000 by almost one fifth by year 2004 and over the next four years by additional one third, i.e. to 151 thousand tons. The export of vegetables after year 2000 decreased until 2002, when it reached the lowest point, 3 thousand tons, and then started to increase steeply up to 13 thousand tons in 2008. In the last five years the import of fresh vegetables in comparison with the average import in years 2000-2003 has increased for around 30%. Due to increased re-export of vegetables in the period mentioned above also a several times increase of export was noticed. A strong increase of vegetable import after 2004 (after the accession to the EU) definitively has had negative consequences to the Slovenian vegetable sector [2].

Among individual types of vegetables, both on the import and on the export side, the most important is the trade of tomatoes, onions, lettuce, peppers and cucumbers.

Supply balance sheet for vegetables

A gradual increase of human consumption of total

vegetables after year 2000 in Slovenia is evident. The increase is mainly the result of the increased net import since, as it was already mentioned, the domestic production of vegetables, due to the extent of area and the influence of weather conditions, varies considerably among years. In the years after 2000, the lowest human consumption of total vegetables was reached in 2001 (144 thousand tons), and the highest in 2008 (199 thousand tons). If the human consumption of total vegetables in the years before the accession of Slovenia to the EU (2000-2003) is compared with the period after the accession (2004-2008), it may be established that the human consumption of total vegetables after the accession increased on the average by 20% (Fig. 4).

Similar can be found out if the human consumptions of fresh vegetables are analyzed. In the period before the accession (2000-2003) the average human consumption of fresh vegetables was 118 thousand tons, after the accession (2004-2008) it has been 140 thousand tons

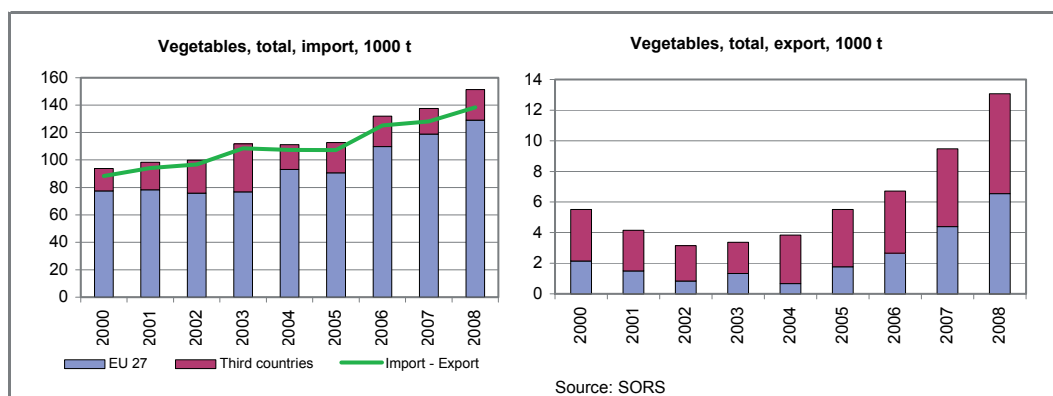


Figure 3: Foreign trade of vegetables, Slovenia, from 2000 till 2008
Slika 3: Zunanja trgovina z zelenjadnicami, Slovenija; 2000-2008

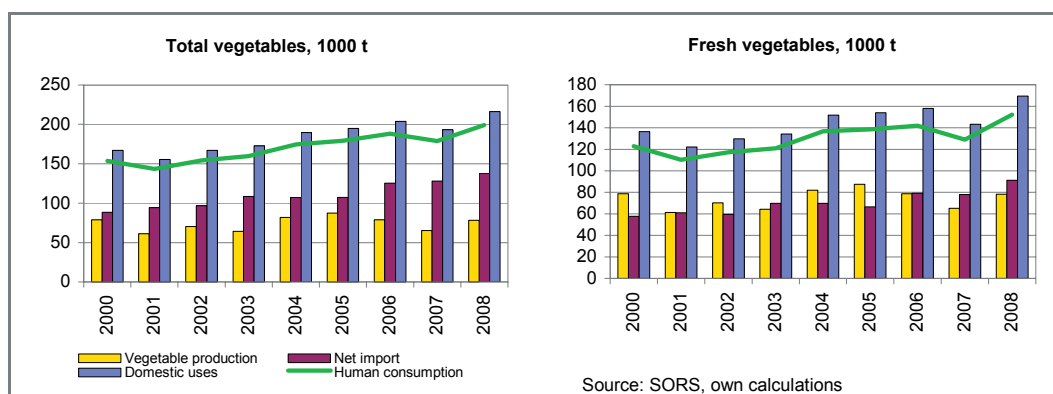


Figure 4: Supply balance sheet for vegetables, Slovenia, from 2000 till 2008
Slika 4: Bilanca zelenjave, Slovenija; 2000-2008

(+18%) on the average.

The prepared supply balance sheet for vegetables presents the basis for determination to what extent the domestic production covers the domestic consumption. From year 2000 on, due to considerable oscillation in domestic production (area and the weather conditions), the attained self-sufficiency rate has also been oscillating. In spite of that, over the past four years a trend of decreasing self-sufficiency rate has been observed, which is, again, mainly the result of the increased net import after the accession of Slovenia to the EU. Consequently, in 2008 the self-sufficiency rate of total vegetables in Slovenia was 36% and the self-sufficiency rate of fresh vegetable was 46% (Fig. 5).

The second important information calculated on the basis of supply balance sheet is the human consumption of vegetables per capita. From year 2000 on, a trend of increasing human consumption of vegetables per capita has been observed. In the period before the accession of Slovenia to the EU (2000-2003) the average human consumption of total vegetables was 77 kg per capita, and after the accession (2004-2008) it has been 91 kg (+19%) on the average. There are not many data on human consumption of total vegetables (fresh and processed) in the countries of the EU. In spite of that, for the sake of comparison, we succeeded in obtaining data on average human consumption of total vegetables per capita in Austria [7]. Our supply balance sheet for vegetables has been completed with the production from kitchen gardens since Austrian supply balance sheet for vegetables besides production of vegetables on agricultural holdings includes also production from kitchen gardens. In Slovenia so as in Austria larger amounts of vegetables intended for self-

supply are produced on kitchen gardens (between 20 and 30 thousand tons).

From year 2000 on, the human consumption of total vegetables per capita in Austria has slightly increased and it was 108 kg in 2007. In 2008 each Slovenian consumed 107.5 kg of vegetables, which is only 0.5 kg less than an Austrian (in year 2007). As can be seen from the Figure 6, the human consumption of total vegetables per capita per year in Slovenia has been increasing from year to year (year 2007 is exception because of unfavourable weather conditions) and has almost reached the consumption in Austria.

The role of vegetables in the nutrition

The World Health Organization has issued recommendations on how to achieve correct nutritional habits and combine a well-balanced nutrition. The main recommendations are summarised in the shape of a healthy food pyramid [3] which presents the groups and the quantity of food which are the most suitable for the combination of well-balanced nutrition.

If we refer only to vegetables, the principal recommendation based on the food pyramid would be to consume at least five units of fruit and vegetable a day or 3 to 5 units of vegetables. This means that the daily amount of fresh vegetables consumed should be at least 240 g or, calculated to yearly consumption, each person should consume at least 88 kg of fresh vegetables per year. In Slovenia, the yearly consumption of fresh vegetables for food calculated on the basis of data from supply balance sheet for fresh vegetables was 75 kg per capita in 2008. According to Freshfel Europe [6] for year 2006 which calculates the consumption of vegetables in a slightly different way¹, the consumption of fresh

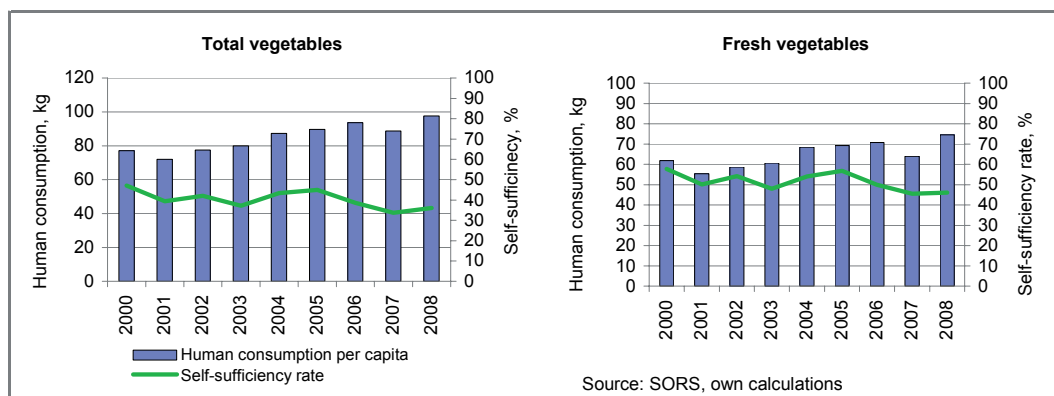


Figure 5: Human consumption of vegetables per capita and self-sufficiency rate of vegetables in Slovenia from 2000 till 2008

Slika 5: Poraba zelenjave na prebivalca in stopnja samooskrbe z zelenjavo v Sloveniji; 2000-2008

¹Consumption per capita = {(production+import-export)-[(production+import-export)*0,2]}/number of inhabitants

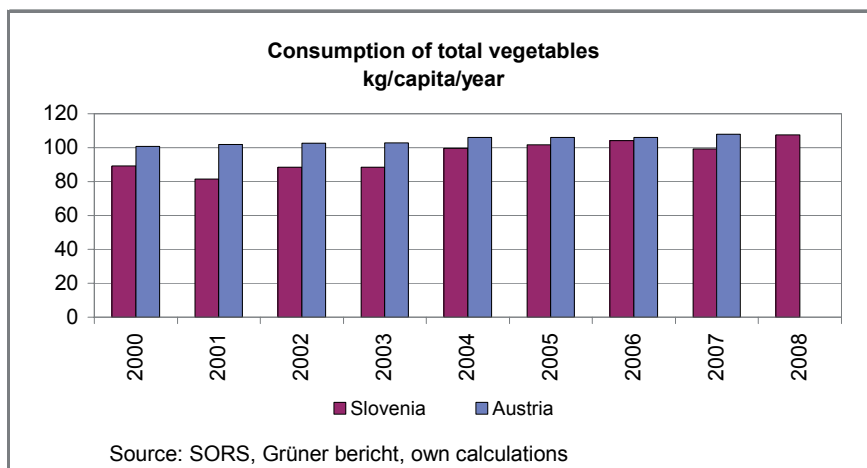


Figure 6: Human consumption of total vegetables (production from agricultural holdings and kitchen gardens) per capita in Slovenia and Austria from 2000 till 2008

Slika 6: Poraba zelenjave (pridelava s kmetijskih gospodarstev in hišnih vrtov) na prebivalca v Sloveniji in Avstriji; 2000-2008

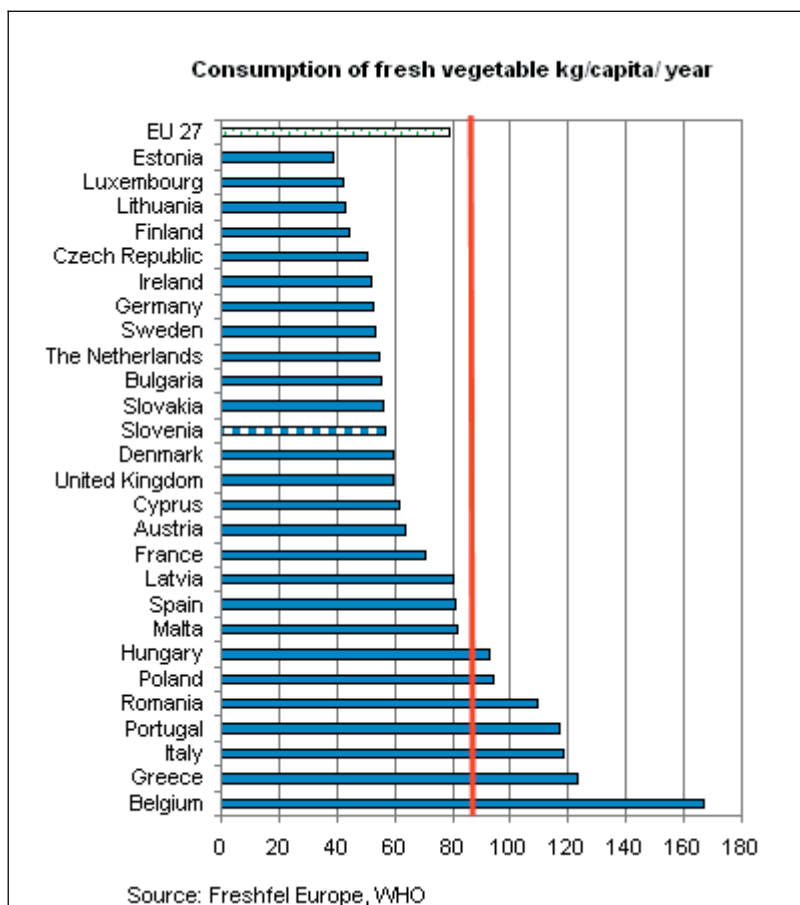


Figure 7: Consumption of fresh vegetables per capita in 2006, by countries EU 27 and recommendation of fresh vegetable intake per capita annually [3]

Slika 7: Poraba sveže zelenjave na prebivalca v letu 2006, po državah EU 27, in priporočila o potrebni letni porabi sveže zelenjave Svetovne zdravstvene organizacije [3]

vegetables per capita in Slovenia was 57 kg. The average consumption of fresh vegetables per capita in EU 27 was 78.6 kg, which places Slovenia in the golden mean.

As can be seen from Figure 7, there are big differences in consumption of fresh vegetables per capita between countries of EU. The highest consumption of fresh vegetables per capita has Belgium, since each Belgian on average consumes 167 kg of fresh vegetables per year. Belgium is followed by Mediterranean countries (Greece, Italy), Portugal and some of East European countries (Romania, Poland and Hungary). In the research mentioned above the least amount of fresh vegetables is consumed in Estonia (39 kg per capita), Luxembourg and Finland. If the consumption of fresh vegetables per capita in Slovenia (57 kg per capita) is compared to countries in our neighborhood it can be seen that Slovenia has low consumption. Annually each inhabitant of Slovenia namely consumes 60 kg less fresh vegetables than Italian, or 36 kg less than Hungarian or 6 kg less than Austrian.

4. CONCLUSIONS

On the basis of analyzed data on the domestic production of vegetables in Slovenia it may be concluded that after the accession of Slovenia to the EU (2004) no essential changes in the production extent have occurred. In spite of that, the fact to be worried about is a slight decrease of production of vegetables intended for selling. Foreign trade with vegetables after the accession of Slovenia to EU has increased on the import as well as the export side. The gap between the import and export has increased after 2004. An increased import covers an increased human consumption since in Slovenia, too, we have become more aware of the importance of healthy food and its impact on human health. However, though the consumption of vegetables per capita has been increasing from year to year, it is still low in comparison with the EU countries. As far as the recommendations (CINDI) are concerned the consumption of fresh vegetables per capita in Slovenia reaches only 85% of the recommended quantity. In spite of the fierce market conditions caused by an increasing offer of imported vegetables and rigorous demands of buyers of agricultural products, growing of vegetables – due to work intensity – still allows growers a relatively high value added also in smaller areas, which is highly important taking into consideration the size structure of Slovene agricultural holdings. Therefore, the governmental and non-governmental institutions ought to stimulate to a greater extent the utilization of financial assets devoted to the organization of production and promotion of vegetable consumption in Slovenia. The key emphasis should be laid on the stimulation of

higher consumption and awareness of the population on the importance of vegetables grown in the vicinity (short period of time from harvest to consumption, well-known origin...), since it seems that the consumers are still not aware enough of the importance of locally grown food.

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