Economic aspects of fresh apricot production in Turkey

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Abstract

Apricot production is one of most important activity in total world fruit production. It is important source for increase farmers profit in agricultural economy conditions of Turkey. Located at quite suitable conditions in terms of plant production considering its climate and field conditions. Turkey has ranked first in the world with 811,609 tons of apricot production in 2013 by 16.69%. Main purpose of this study is to analyze the economic aspects of fresh apricot production between 2004 and 2013 in Turkey and to offer solutions for the encountered problems. Statistical data for 2004-2013, used in the study have been obtained from FAO and TurkStat, The Turkish Ministry of Food, Agriculture, and Animal Husbandry. Data obtained have been shown in the tables and graphs issued by the use of percentage and index calculations.

Keywords: fruit, fresh apricot, agricultural marketing, economical analysis, Turkey

JEL Classification: Q1, Q19

1. Introduction

Apricot production is one of major part of agricultural economy which is important source for increase farmer’s profit and countries agricultural economy conditions. Apricot production takes a considerable part in agriculture production in Turkey located at quite suitable conditions in terms of plant production considering its climate and field conditions. Apricot (Prunus armenica) is one of the stone fruits. It is almost cultivated in all over world.

Turkey is one of the world’s major producer countries. According to data of FAO for 2013, there are approximately 811,609 tonnes apricot produced in the world. Countries having the large producing apricot are respectively Turkey (19.74%), Iran (11.12%), Uzbekistan (10.46%), Algeria (7.78%), (Italy 4.82%).

Although the technical aspects of apricot production have been studied extensively, little information is available on the economic aspects of apricot production. In recent years, many studies have been made on the economic side of apricot production (Gezer et.al, 2003, Dellal, 2003; Olgun and Adanacioglu, 2006; Cukur et al., 2008; Ercisli, 2009; Gündüz, 2010; Ucar, 2011, Gündüz, et.al, 2011). One study has been done about input–output energy analysis in dry apricot production (Esengün et al, 2007) and also another study done about investment of apricot (Ucar and Saner, 2013). However, there is still a need for further study, especially at the local level. The main purpose of this study is to economic analysis of fresh apricot production in Turkey.

2. Data and Methods

Statistical data for 2004-2013, used in the study have been obtained from FAOSTAT and TurkStat. Data obtained have been shown in the tables issued by the use of percentage and index calculations.
3. Results and Discussion

3.1 Fresh Apricot Production, Harvested Area and Yields in Turkey

Turkey has important apricot producer country. Apricot has grown almost all region of Turkey. The most apricot producer provinces are Malatya, Mersin, Elazig, Kahramanmaras, Antalya. Although Malatya with 50.74% share of in the Turkey’s apricot production took place in the first line in 2013 (TurkStat, 2015). In 2004-2013 period apricot production increased from 350,000 tones to 811,609 by rising in the rate of 231.89%. Meanwhile, Apricot harvested area increased 57,500 ha to 60,220 ha has rise by 28.46%. Yield reached to 13,477 kg in 2013 (Table 1).

Table 1 Apricot Production, Harvested Area and Yield in Turkey

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (ton)</th>
<th>Index (2004=100)</th>
<th>Harvested Area (ha)</th>
<th>Index (2004=100)</th>
<th>Yield (kg/ha)</th>
<th>Index (2004=100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>350,000</td>
<td>100.00</td>
<td>57,500</td>
<td>100.00</td>
<td>6,087</td>
<td>100.00</td>
</tr>
<tr>
<td>2005</td>
<td>894,000</td>
<td>255.43</td>
<td>60,000</td>
<td>104.35</td>
<td>14,900</td>
<td>244.78</td>
</tr>
<tr>
<td>2006</td>
<td>483,459</td>
<td>138.13</td>
<td>53,400</td>
<td>92.87</td>
<td>9,053</td>
<td>148.74</td>
</tr>
<tr>
<td>2007</td>
<td>589,732</td>
<td>168.49</td>
<td>55,200</td>
<td>96.00</td>
<td>10,684</td>
<td>175.52</td>
</tr>
<tr>
<td>2008</td>
<td>750,574</td>
<td>214.45</td>
<td>58,000</td>
<td>100.87</td>
<td>12,940</td>
<td>212.60</td>
</tr>
<tr>
<td>2009</td>
<td>695,364</td>
<td>198.68</td>
<td>59,000</td>
<td>102.61</td>
<td>11,786</td>
<td>193.62</td>
</tr>
<tr>
<td>2010</td>
<td>476,132</td>
<td>136.04</td>
<td>59,801</td>
<td>104.00</td>
<td>7,962</td>
<td>130.80</td>
</tr>
<tr>
<td>2011</td>
<td>676,138</td>
<td>193.18</td>
<td>59,696</td>
<td>103.82</td>
<td>11,326</td>
<td>186.08</td>
</tr>
<tr>
<td>2012</td>
<td>795,768</td>
<td>227.36</td>
<td>60,732</td>
<td>105.62</td>
<td>13,103</td>
<td>215.26</td>
</tr>
<tr>
<td>2013</td>
<td>811,609</td>
<td>231.89</td>
<td>60,220</td>
<td>104.73</td>
<td>13,477</td>
<td>221.41</td>
</tr>
</tbody>
</table>

Source: FAO (http://www.fao.org.tr)

3.2 Fresh Apricot Marketing in Turkey

2004-2013 period Turkey fresh apricot grower price declined from 821.37$/tonne to 619.31$/tonne by 24.61%. There can be production fluctuations in the some years. The main reason of this is climate conditions. Due to unsuitable climate (frost), apricot production decrease and this situation leads to an increase prices of apricot. In suitable climate years apricot production increase and it leads to an decrease price of apricot (Figure 1).

Generally fresh apricot is consumed domestically. There are some actors in fresh apricot marketing channel, farmer, trader, exporter, retail outlet, middleman (Figure 2). Turkey exported 41,583 tonne apricot and its export revenue has $ 42,444 in 2013 (Table 2). Apricot export to mostly Russia, Bulgaria, Iraq, Germany and Saudi Arabia is performed.
Figure 1. Fresh Apricot Grower Prices ($/ton) in Turkey

![Graph showing fresh apricot grower prices in Turkey from 2004 to 2013. Prices fluctuate with a peak in 2007 and a decline thereafter.]

Source: FAO (http://www.fao.org.tr)

Figure 2. Fresh Apricot Marketing Channel in Turkey

![Diagram illustrating the marketing channel for fresh apricots in Turkey, with nodes for farmers, middleman, trader, exporter, retail outlet, and consumer.]

Source: Firat Development Agency (http://www.fka.org.tr/)
Table 2 Fresh Apricot Export Quantity and Value of Turkey

<table>
<thead>
<tr>
<th>Years</th>
<th>2004</th>
<th>2008</th>
<th>2010</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export quantity (ton)</td>
<td>79,310</td>
<td>22,101</td>
<td>25,845</td>
<td>56,302</td>
<td>41,583</td>
</tr>
<tr>
<td>Export value (1000 $)</td>
<td>95,780</td>
<td>11,043</td>
<td>26,641</td>
<td>41,613</td>
<td>42,444</td>
</tr>
</tbody>
</table>

Source: FAO (http://www.fao.org.tr)

3.3 Government Supports for Apricot Growing in Turkey

There is no direct government support policy for apricot production in Turkey. However, growers benefit from the general support policies pursued in agricultural production. Apricot procedures are supported by agricultural investments, and input and export support within the context of government support policies. The Agricultural Bank of Turkey has provided investment and special project credits to support growers. Furthermore, short-term credit support is provided to growers by Agriculture Credit Cooperatives. Further In 2014, subsidy practises by the Turkish Ministry of Food, Agriculture, and Animal Husbandry for growers are presented in Table 3.

Table 3 Subsidy Practises for Apricot Growers in Turkey (2014)

<table>
<thead>
<tr>
<th>Subsidy practises</th>
<th>Unit subsidy ($/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil analysis</td>
<td>12.01</td>
</tr>
<tr>
<td>Fuel</td>
<td>22.10</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>28.83</td>
</tr>
<tr>
<td>Organic production</td>
<td>336.40</td>
</tr>
<tr>
<td>Good agricultural practices</td>
<td>720.84</td>
</tr>
</tbody>
</table>

Source: The Turkish Ministry of Food, Agriculture, and Animal Husbandry (http://www.tarim.gov.tr)

3.4 Profitability Analysis of Fresh Apricot in Turkey

Variable and fixed cost form total production costs of fresh apricot. The variable costs include costs for labor, fertilizer, electricity, marketing, transportation, and interest on total variable cost. Variable costs are calculated by using current input prices and labor costs. The fixed costs include interest on total variable costs, annual depreciation costs, administrative costs, and land rent. Total costs are subtracted from total gross return to calculate the net return (Engindeniz et al, 2003; Engindeniz et al, 2006).

The results of conducted studies in different regions on profitability of fresh apricot in Turkey are presented in Table 4.
Table 4 Results of Previous Studies on Profitability of Fresh Apricot in Turkey

<table>
<thead>
<tr>
<th>Region</th>
<th>Yield (kg/ha)</th>
<th>Price ($/kg)</th>
<th>Total gross return ($/ha)</th>
<th>Total cost ($/ha)</th>
<th>Net return ($/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malatya *</td>
<td>9020,00</td>
<td>0,78</td>
<td>7035,60</td>
<td>3699,33</td>
<td>3336,27</td>
</tr>
<tr>
<td>Igdır **</td>
<td>12810,10</td>
<td>0,41</td>
<td>5252,14</td>
<td>2555,95</td>
<td>2696,19</td>
</tr>
<tr>
<td>Malatya ***</td>
<td>10000,00</td>
<td>0,62</td>
<td>6200,00</td>
<td>3267,14</td>
<td>2932,86</td>
</tr>
</tbody>
</table>


4. Conclusion

Apricot production takes a considerable part in agriculture production in Turkey. It grows all part of Turkey due to suitable climate Malatya province is provided a significant portion of apricot production. Apricot growing is popular among the farms located suitable climate conditions. However, there are problems associated with fresh apricot production and marketing. Understanding the causes of these problems can indicate the type of research that is needed to improve fresh apricot production. Growers must evaluate circumstances to determine if the lower price usually paid by wholesalers and supermarkets is sufficient to cover production and handling costs and can be get a profit. Most apricot growers do not consider marketing and cost interaction and thus results in economic failure. Some suggestions for improving apricot production in Turkey as follow;

- Suitable planting spaces should be preferred.
- Growers should be informed about Integrated Pest Management.
- Contract farming systems should be developed.
- Irrigation cooperatives should be improved.
- Growers should be informed about crop insurance.

References


* Online full-text paper availability: doi:http://dx.doi.org/10.15414/isd2016.s2.08