Dutch Potato business: Production Figures, Prices, Costs and Innovations

Karst Weening, weening@nao.nl

Corné Kempenaar

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Netherlands and China

Potato Area (M.ha) 0.16 5
Production (M.tons p.y.) 7-7.5 70-80
Yield (ware: ton/ha p.y.) 50 20
Professional grower > 99 %
Consumption (kg p.p.p.y.) 75 - 85
### Dutch Potato production

<table>
<thead>
<tr>
<th>Year</th>
<th>Area *1000 ha</th>
<th>Yield tons/ha</th>
<th>Production (mln tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seed potatoes</td>
<td>38</td>
<td>35</td>
<td>1.3</td>
</tr>
<tr>
<td>Ware potatoes</td>
<td>73</td>
<td>52</td>
<td>3.8</td>
</tr>
<tr>
<td>Starch potatoes</td>
<td>49</td>
<td>43</td>
<td>2.1</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td></td>
<td>7.2</td>
</tr>
</tbody>
</table>
### Potato Consumption in The Netherlands

<table>
<thead>
<tr>
<th>Category</th>
<th>Volume (Ktons)</th>
<th>Average consumption (kg/ year)</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional (unpeeled)</td>
<td>350</td>
<td>21</td>
<td>Down ↓</td>
</tr>
<tr>
<td>Peeled and chilled</td>
<td>400</td>
<td>24</td>
<td>Up</td>
</tr>
<tr>
<td>Fries, Chips, Powder, Flakes</td>
<td>600</td>
<td>35</td>
<td>Stable</td>
</tr>
</tbody>
</table>
Export from The Netherlands (tons)
Export of Seed Potatoes from The Netherlands (tons)

- 2012/13: 778,912 tons
International seed potato trade
(avg ‘06-’09)
Worldwide distribution of Dutch Seed Potatoes

Many countries produce Dutch varieties under licence

NL: high quality seed potato production of innovative varieties
Potato processing in the Netherlands (Mtons)
What is secret of Dutch potato growing?

Highly *professional* growers

**Supported by:**

A. Independent seed certification and strong seed industry

B. Cooperation business, education and government

C. Efficient storage, support industry and transparent market infrastructure.

**Result:** *Fully developed potato cluster*
Dutch potato growers
(number & average area)

(Source: NAK, CBS)
Dutch potato grower is allround expert

- Crop grower
- Tractor driver
- Disease & crop protection specialist
- Mechanization expert
- Manager of operation and finance
Strong sense of Cooperation and Coordination

Excellent cooperation between:

- Government
- Private Business
- Growers
- Education
- Research
- Extension
Excellent storage & handling and International centre of trade

Year around:

- healthy potatoes
- reducing losses
- maintaining processing quality
- traceability
Cost price: Basic figures

• High price of land  ->  € 750 per year
  (€ 50,000 per ha)

• High wages       ->  € 20 – 25 per hour

High cost
for
land and labor

Intensive
production
## Ware potatoes: Cost of production Netherlands

*(Euro per hectare)*

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed potatoes (Class C), Fertilizers and Crop protection chemicals</td>
<td>€ 2,200</td>
</tr>
<tr>
<td>Machinery (incl depreciation)</td>
<td>€ 1,000</td>
</tr>
<tr>
<td>Labour</td>
<td>€ 800</td>
</tr>
<tr>
<td>Miscellaneous (Fuel, laboratory test)</td>
<td>€ 400</td>
</tr>
<tr>
<td>Interest</td>
<td>€ 200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>€ 4,600</strong></td>
</tr>
</tbody>
</table>

**Average yield:** 50,000 kgs/ha

**Cost per kg:** € 0,09

- Base Cost price *off-the-field:* Does not include storage cost and grower margin
- Source: LEI-WUR, average of 27 ware potato growers
- Strong variation between growers
Market Price information

• Markets Rotterdam, Wholesale prices
• Market Goes en Emmeloord, Grower prices
• Eurex Future market
EU-5 Potato prices
(free market)

Figure 5-3: Comparison between annual average producer prices of potatoes in Spain, Portugal, Italy and EU-5 (ECU-€/100 kg in nominal terms) [1971–2005]

Note: EU-5 average prices have been calculated as the unweighted average of potato prices in the Netherlands, UK, France, Belgium and Germany.

Source: Eurostat
Average consumer price
Innovation
Innovation topics in potato production

- New varieties, e.g. late blight resistance
- Sensor technology for disease detection with camera systems
- Precision farming / variable rate technology seeding and crop care
- Big data analysis and decision support
- Optimization of storage methods
Potato production and storage

https://youtu.be/iOajJN1-8Zc
Grid treatment: sensor on cabin of tractor, DSS, VRA on the go, as applied map

Acknowledgement: Yara, Homburg Holland, PPO
Grid treatment: based on satellite image, DSS and task map

Acknowledgement: TerraSphere, NSO en Mts Zondag
Grid treatment: sensing UAS, DSS and task map

Acknowledgement:
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P.O. Box 84102
2508 AC Den Haag
The Netherlands
tel: +31 (0)70-3589331
fax: +31 (0)70-3544290
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Thank you for your attention