

The Dutch button mushroom (*Agaricus bisporus*) producing sector is under great pressure. Revenue is falling, as are the number of growers and the acreage. The Netherlands produces 270,000 tonnes of button mushrooms, of which 110,000 tonnes are sold on the fresh market. This market share is currently decreasing as a result of heavy competition on the domestic and international markets. Further information about the production and trade of Dutch button mushrooms can be found on the 'Button Mushroom Dashboard' on the website of the Fresh Produce Centre (www.groentenfruithuis.nl). This factsheet contains information about recent developments (2010-2015) in the local production and sale of hand-harvested button mushrooms for the fresh market in the three main export countries for Dutch button mushrooms, namely Germany, France and the United Kingdom. Local production is displacing Dutch exports. An increased share of domestic product in consumption is an indicator for studying the preference for local produce in more detail. We have not included tinned button mushrooms or button mushrooms in jars in this fact sheet.

What is Market Intelligence Button Mushrooms?

This fact sheet is published by Market Intelligence Button Mushrooms (MITC), a subsidiary of Market Intelligence Tuinbouw within the Top Sector Horticulture & Starting Materials. The MITC is established at the request of Coöperatie Funghi, C4C Holding, Banken Champignons, ZLTO and the Ministry of Economic Affairs. The MITC gathers information for the Dutch button mushroom industry and makes it available to growers and processing companies. In so doing, the MITC provides support to the button mushroom industry for strategic decisions.

Summary

Germany

There is an indication of a Local-for-Local effect for button mushrooms for the German fresh market. The share of German produce in fresh button mushroom consumption in Germany increased by 6% from 2010 until 2015. This is probably due to lower production and distribution costs, chain efficiency and more trust in locally-produced food. During this same period, the share of Dutch imports fell from 52% to 43%.

France

There is an indication of a Local-for-Local effect for button mushrooms for the French fresh market. The share of French produce in fresh button mushroom consumption in France increased by 7% from 2010 until 2015. Local production has a higher 'goodwill factor' among French consumers. Chain efficiency may also explain the preference for local produce. Imports from the Netherlands decreased from 30% in 2010 to 26% in 2015. In France, the sector has observed a decreasing trend in the industrial market while the fresh market has remained stable. This stabilised trend is attributed to the additional promotion of fresh button mushrooms from 2010 until 2015.

United Kingdom

The share of British produce in button mushroom consumption in the UK fell by 2% from 2010 until 2015. British production increased slightly in absolute figures but the available volume for consumption grew faster thanks to additional imports. Ireland (+8%) and Poland (+7%) in particular benefited from the increased sales of fresh button mushrooms in the British market from 2010 until 2015. Dutch imports decreased from 28% in 2010 to 16% in 2015. There is no noticeable Local-for-Local effect to be deduced

from the production and trading figures as a result of the substantially increased import and consumer quantities of button mushrooms for the fresh market.

What are possible reasons for the Local-for-Local (L4L) effect?

Consumers, retail or both can develop a preference for local products. This can be attributed to various reasons such as: - trust in local producers ('feeling' of food safety)

- quality advantages ('feeling' that produce is 'fresher'/'healthier')
- preference for a specific local quality label
- sustainability benefits ('feeling' that a product is more sustainable)
- goodwill factor ('feeling' that you support local producers)

The local product may also be cheaper to produce and distribute compared with a product that comes 'from further away,' making local products more attractive for the local market. Being able to distinguish local from non-local is a condition for this. If the product is not bought directly from the producer ('the farmer'), then price, origin and a label may indicate that a product is 'local'. Besides market stakeholders, governments and other organisations (e.g. NGOs) can contribute to consumers and retailers developing a preference for local products. How important local products are for consumers depends on each country. German consumers attach more importance to local fresh vegetables than British consumers, whereas British consumers value them more than Dutch consumers do (Van Haaster-De Winter and Ruissen, 2012). In this study we examined the development of the national production in relation to the consumption of fresh button mushrooms. A growing share of production compared to consumption is an indication of an L4L effect.

Germany

From 2010 until 2015, the volume market share of local button mushrooms for the German fresh market increased from 46% to 52% (Fig. 1). From 2010 until 2012, the total quantity of fresh button mushrooms for consumption fell from 112,000 tonnes to 104,000 tonnes. It then increased again to 115,000 tonnes in 2015. This amounts to an increase per capita to 1.42 kilos (+2.4%, 2010-2015). This is an indicator for an L4L effect. Respondents indicated that this is probably due to the lower production and distribution costs, chain efficiency and increased trust in locally-produced food.

Based on the figures for all mushrooms, including button mushrooms, the development is the same. Consumption remained relatively stable, about 1.6 kilos per capita per year and the volume of the market share of German mushrooms slightly increased. In 2014, 76,800 tonnes of fresh button mushrooms were bought in retail (rounded off to 3% of 2.56 million tonnes of purchased vegetables and 65.4 kg of vegetables per household).

In 2014, the average retail prices were about $\in 2.60$ per kg (punnet of 500 g) at Aldi S and $\in 3.93$ per kg (punnet of 400 g) at Edeka (Funghi). In addition to margin for local product, Germany also continues to be a discount country. Poland and the Netherlands are competing in this segment.

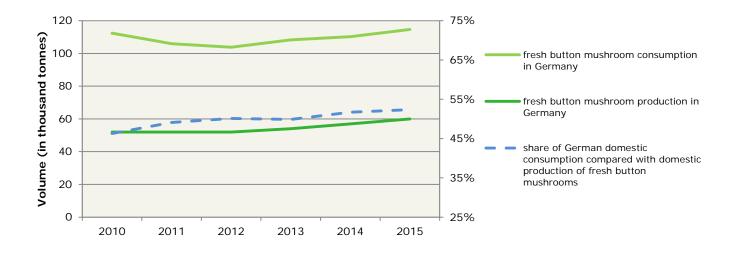
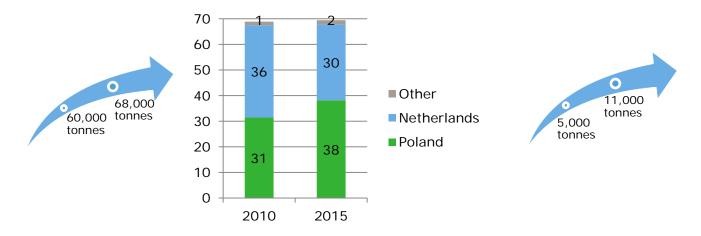


Figure 1. The volume of the German production and consumption of fresh button mushrooms and the market share of local button mushrooms for the fresh market (2010-2015). Source: GEPC, Eurostat Comext. Calculation: LEI.

Total button mushroom market Germany (hand and machine-harvested)



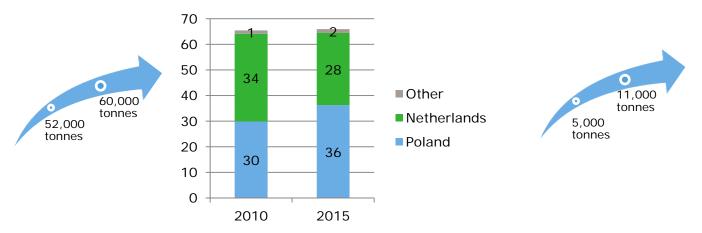
Figures 2 to 4.

Left: German button mushroom production (total) (2010 and 2015). Source: GEPC.

Middle: German button mushroom imports (total) in thousands of tonnes (2010 and 2015). Source: Eurostat Comext.

Right: Total German button mushroom exports (2010 and 2015). Source: Eurostat Comext.

Fresh button mushroom market Germany



Figures 5 to 7.

Left: German button mushroom production for the fresh market (2010 and 2015). Source: GEPC. Middle: German button mushroom imports for the fresh market in thousands of tonnes (2010 and 2015). Calculation: LEI.

Right: German button mushroom exports for the fresh market (2010 and 2015). Calculation: LEI.

Germany mainly produces button mushrooms for the fresh market, with a relatively small production for industrial button mushrooms. The fact that the country is increasingly focusing on its own production for the fresh market is also apparent in the increase in the deliveries of colonised (full-grown) compost from 2014 until 2015 (CNC).

The share of Dutch imports fell from 52% to 43% in 2015, making Poland the largest import country. Poland has also capitalised on the good zloty/euro exchange rate.

France

From 2010 until 2015, the volume market share of local button mushrooms for the French fresh market increased from 55% to 62% (Figure 8). This is an indicator of a Local-for-Local effect. According to respondents in the sector, local produce benefits from a high goodwill factor in France. Chain efficiency is another factor.

From 2010 until 2015, the total quantity of fresh button mushrooms for consumption increased from 44,000 to 49,000 tonnes. This is an increase per capita of 0.69 kg to 0.76 kg (+10%). In 2014, prices in French supermarkets varied from \in 3.91 per kg (punnet of 500 g) at Aldi to \notin 4.85 per kg (punnet of 500 g) at Carrefour (Funghi).

The French mushroom sector is concerned about the tinned products industry and the downward trend in this industry. They also indicated that the frozen market is not developing as expected (ZLTO). Until 2014, the fresh market was stable, and consumption increased by about one per cent every year. According to the ZLTO, this is also due to the promotion of fresh French button mushrooms in France.

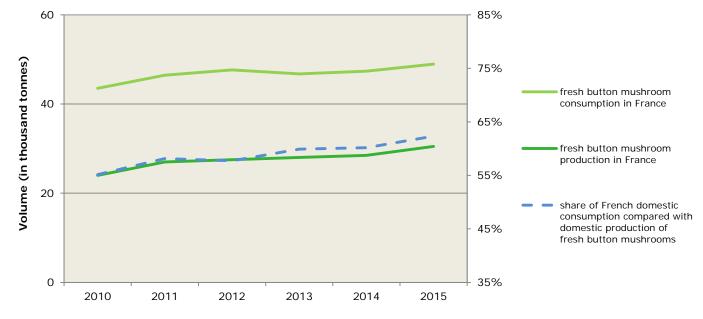
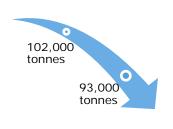
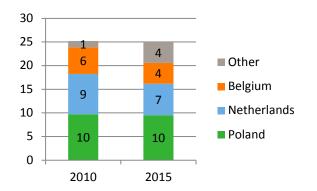


Figure 8. The volume of the French production and consumption of button mushrooms and the market share of local button mushrooms for the fresh market (2010-2015). Source: GEPC, Eurostat Comext. Calculation: LEI.

Total button mushroom market France



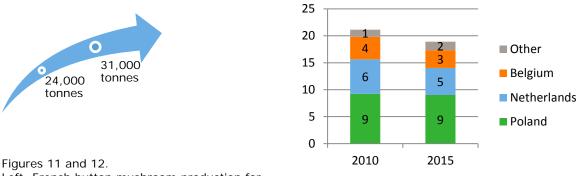


Figures 9 and 10.

Left: French button mushroom production (total) (2010 and 2015). Source: GEPC.

Right: French button mushroom imports (total) in thousands of tonnes (2010 and 2015). Source: Eurostat Comext.

French market for fresh button mushrooms



Left: French button mushroom production for

the fresh market (2010 and 2015). Source: GEPC.

Right: French button mushroom imports for the fresh market in thousands of tonnes (2010 and 2015). Calculation: LEI.

France mainly produces button mushrooms for the industrial market, with a relatively large button mushroom production for industrial uses. There is a noticeable shift to the fresh market although deliveries of colonised compost from the Netherlands remained stable in 2014 and 2015 (CNC). Imports from the Netherlands decreased from 30% in 2010 to 26% in 2015. French exports of fresh button mushrooms are relatively limited and varied from zero to two thousand tonnes between 2010 and 2015.

United Kingdom

From 2010 until 2015, volume market share for local button mushrooms for the British fresh market fell by 2%, from 36% to 34% (Figure 13). From 2010 until 2015, the total quantity of fresh button mushrooms for consumption grew strongly from 117,000 tonnes to 135,000 tonnes. This amounts to an increase per capita from 1.82 kg to 2.09 kg (15%) during this same period. There is no noticeable Local-for-Local effect in the production and trading figures as a result of the substantially increased import and consumer quantities of button mushrooms for the fresh market.

The *Food Research Collaboration* also reported a strong increase in the available quantities of mushrooms for consumption, including button mushrooms for the most part: 20% between 2010 and 2014 (Schoen and Lang, 2016). The Kantar Worldpanel attributed the increase in mushroom consumption, including button mushrooms, to the fact that the British media had emphasised the healthy image of the product. Mushrooms are the third most sold vegetable in the UK (6.8%) (Kantar Worldpanel, 2012; M. Slawski, 2011).

Button mushroom prices in British supermarkets in 2014 varied from \in 3.03 per kg (punnet of 380 g) at Aldi to \in 4.17 per kg (punnet of 300 g) at Waitrose (Funghi).

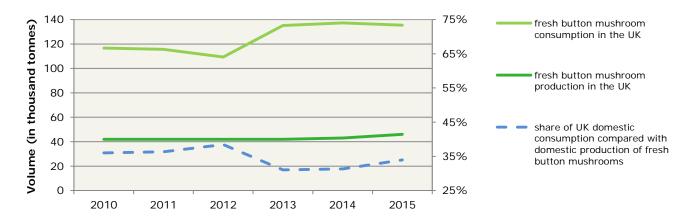
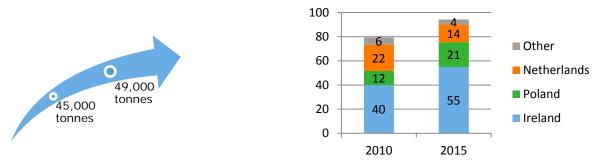


Figure 13. The volume of the British production and consumption of fresh button mushrooms and the market share of local button mushrooms for the fresh market (2010-2015). Source: GEPC, Eurostat Comext. Calculation: LEI.

Total button mushroom market UK



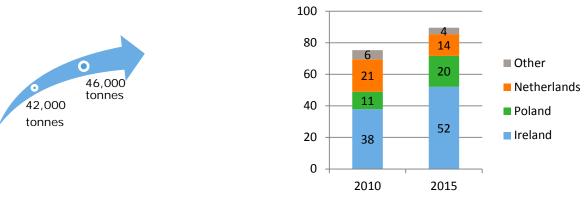
Figures 14 and 15.

Left: British button mushroom production (total) (2010 and 2015). Source: GEPC.

Right: British button mushroom imports (total) in thousand tonnes (2010 and 2015). Source: Eurostat Comext.

From 2010 until 2015, the quantity of exported British button mushrooms was limited, varying from zero to a thousand tonnes.

Fresh button mushroom market UK



Figures 16 and 17.

Left: British button mushroom production for the fresh market (2010 and 2015). Source: GEPC. Right: British button mushroom imports for the fresh market in thousands of tonnes (2010 and 2015). Calculation: LEI.

The UK is mainly a fresh market producer, producing relatively large quantities of button mushrooms for the fresh market. Compared with 2014, less colonised compost was delivered from the Netherlands in 2015 however. Dutch imports decreased from 28% in 2010 to 16% in 2015. Meanwhile, Irish imports increased from 50% to 58% while Polish imports increased from 15% to 22%. Poland capitalised on the good zloty/pound exchange rate. The quantity of British button mushroom exports for the fresh market is relatively limited and varies from zero to a thousand tonnes from 2010 until 2015.

Definitions and approach

Local-for-Local (L4L) effect

Local-for-Local refers to production that is locally produced and distributed for consumption. Production that is not locally produced but is locally processed is not included in this segment. The term 'local' is not fixed: local products can be domestic or regional products (even cross-border). The own perception of what is local is the defining factor. In 2013, for example, 37% of German consumers considered local to be 'grown in my own municipality,' whereas 50% though the product was regionally grown in the 'own federal state' (Van Haaster-De Winter and Ruissen, 2012). The availability of trade and production data and their structure required us to define local as 'within the national borders' in this fact sheet. There is an L4L effect if the volume market share of local produce at the end of the chain. We chose to use this definition because this study examined indications of Local-for-Local effects and the associated back-grounds.

Consumption

The available volume for domestic consumption and processing has been used as an indicator for the actual consumption. This volume amounts to domestic production plus imports minus exports. This quantity is not as divergent from the actual consumer quantities for button mushrooms for the fresh market as there are no fresh button mushroom stocks and the processing industry mainly uses machine-harvested button mushrooms.

Difference between the product flows for the fresh market

The trade data do not distinguish between button mushrooms for the fresh market (hand-harvested) and button mushrooms for the industrial market (machine-harvested). In Germany and the UK, machine-harvested button mushrooms are usually not sold to be processed in another country. Most button mushrooms for industrial uses are grown regionally. This is different for France. France has a relatively large button mushroom processing industry. Dutch and Belgian growers are involved in growing programmes for French companies. Assumptions have been made to estimate the quantities of consumer button mushrooms for the fresh market:

- Germany and the United Kingdom. 95% of all imports and exports are destined for the fresh market.
- France: 75% of all imports from Belgium and the Netherlands are destined for the fresh market, 95% of all other imports and exports are for the fresh market.

