

Comparison of the organic farming sectors in Germany, Italy and Russia

agri benchmark Organic

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Introduction

Based on the contributions of its partners, the *agri benchmark* Organic network makes special data on organic farming in various countries available by combining farm-level knowledge with the analysis of international commodity markets and value chains. In this way, unique data sets are created which serve to compare selected countries.

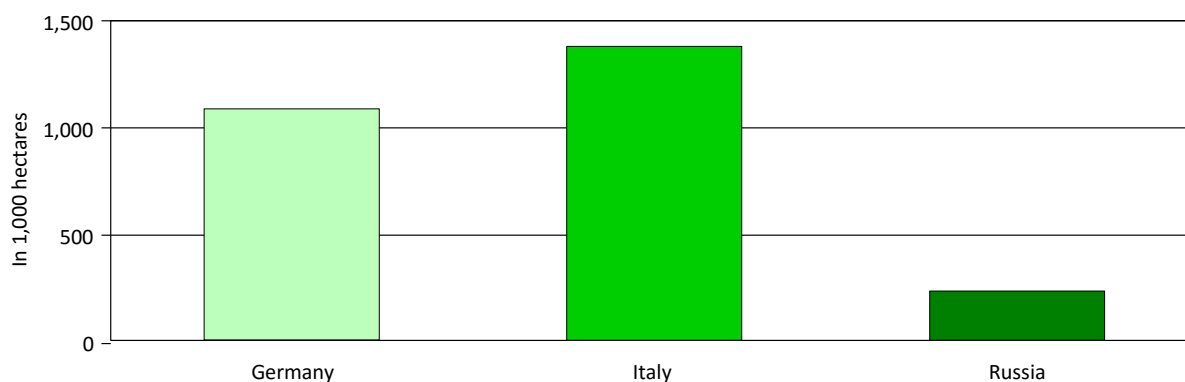
By comparing different countries, the *agri benchmark* Organic data base provides relevant information to experts who want to do research on organic agricultural topics, who aim at strengthening organic farming in their countries and who want to build up strategic cooperation – a free service based on the agricultural data contributions of the *agri benchmark* Organic network community.

Furthermore, a comparison of organic sectors in different countries helps to identify and to understand the driving forces of future trends and developments in organic agriculture in selected regions. In this way, scientifically consistent answers to strategic questions can be provided to decision-makers in policy, agriculture and agribusiness.

As an illustrative example, the organic sectors in Germany, Italy and Russia are compared in the following report. Apart from these three countries, additional countries are welcome to join the *agri benchmark* Organic network. An overview is given on organic cereals, pulses and oilseeds as typical field crops of the organic crop rotation, and on organic milk as a widespread organic product. Besides data on organic production, information on prices for organic products, on markets and trade, and on organic area payments are presented.

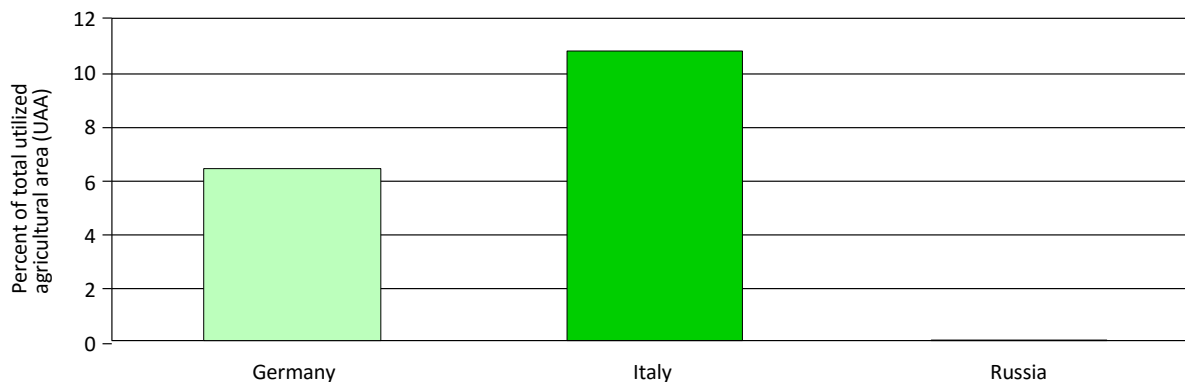
1 Key data on organic farming in Germany, Italy and Russia

Figure 1.1: Organic area 2014/2015 in hectares



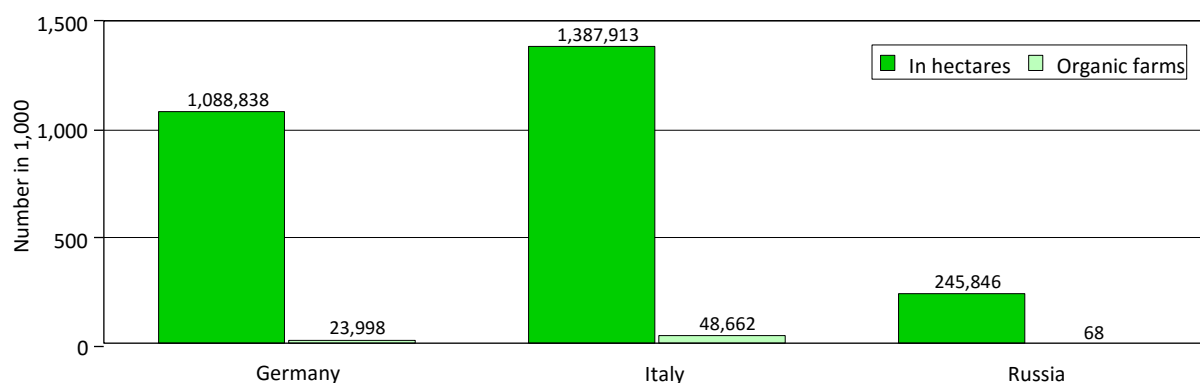
Source: BLE (2015), Thünen Institute (2016 a, 2016 b).

Figure 1.2: Organic area 2014/2015 in percent



Source: BLE (2015), Thünen-Institut (2016 a, 2016 b).

Figures 1.1 and 1.2 provide an overview on organic hectares and percentages of organic areas out of all utilized agricultural areas in Germany, Italy and Russia. Italy has, with 1,387,913 ha, the highest number of hectares under organic management followed by Germany (1,088,838 ha) and Russia (245,846 ha) (Figure 1.1). This corresponds to a share of 10.8% of all utilized agricultural areas in Italy, and to shares of 6.5% in Germany and 0.1% in Russia of all utilized agricultural areas (Figure 1.2).

Figure 1.3: Organic farms and areas 2014 (including farms / areas in conversion)

Source: BLE (2015), FiBL & IFOAM (2016).

Figure 1.3 shows both organically managed hectares and the number of organic farms in Germany, Italy and Russia.

Table 1.4: Organic operators 2014

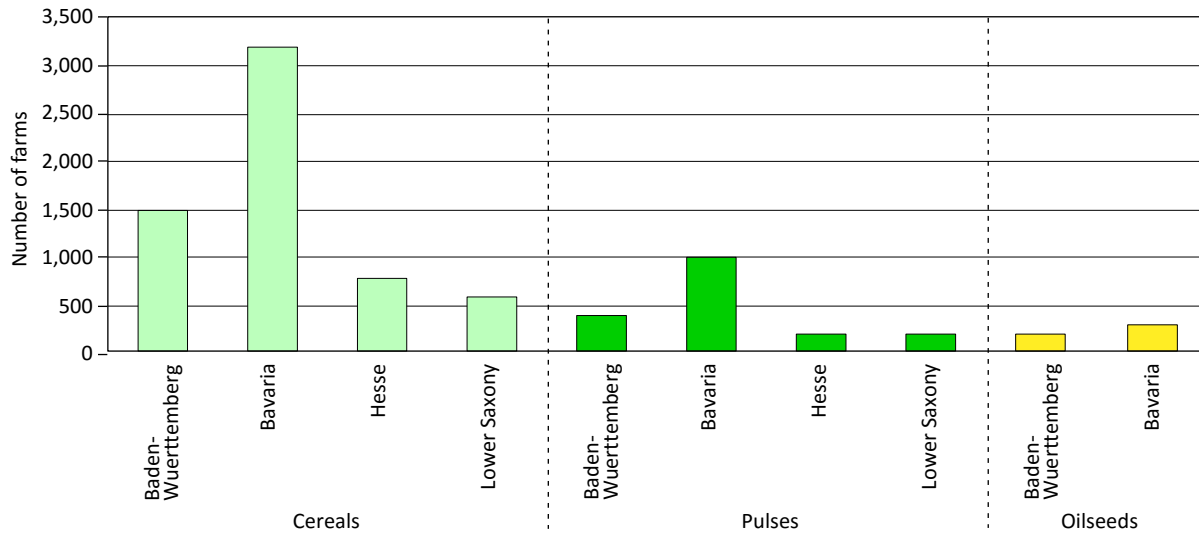
	Germany number	Italy number	Russia number
Producers	23,398	48,662	68
Processors	8,293	12,641	36
Importers	309	259	n.a.

Source: FiBL & IFOAM (2016).

As shown in Table 1.4, Italy disposes over the largest number of producers (48,662) and processors (12,641) of organic products as compared to Germany (23,398 producers and 8,293 processors) and to Russia with 68 producers and 36 processors (Table 1.4). On the other hand, in Germany more importers (309) exist than in Italy (259), which points to the fact that Germany is a net importer of organic goods (Table 1.4). For Russia, 2 exporters of organic products were identified (Table 1.4).

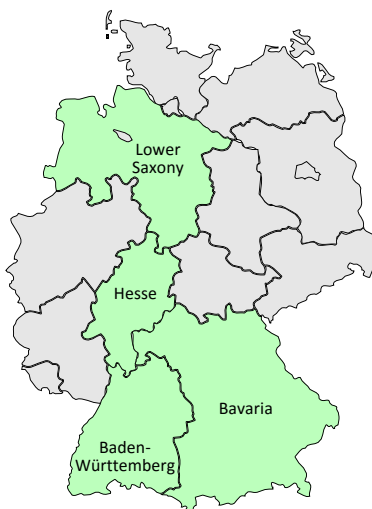
2 Main production regions of organic arable farming

Figure 2.1: Main production regions of organic farming in Germany 2016



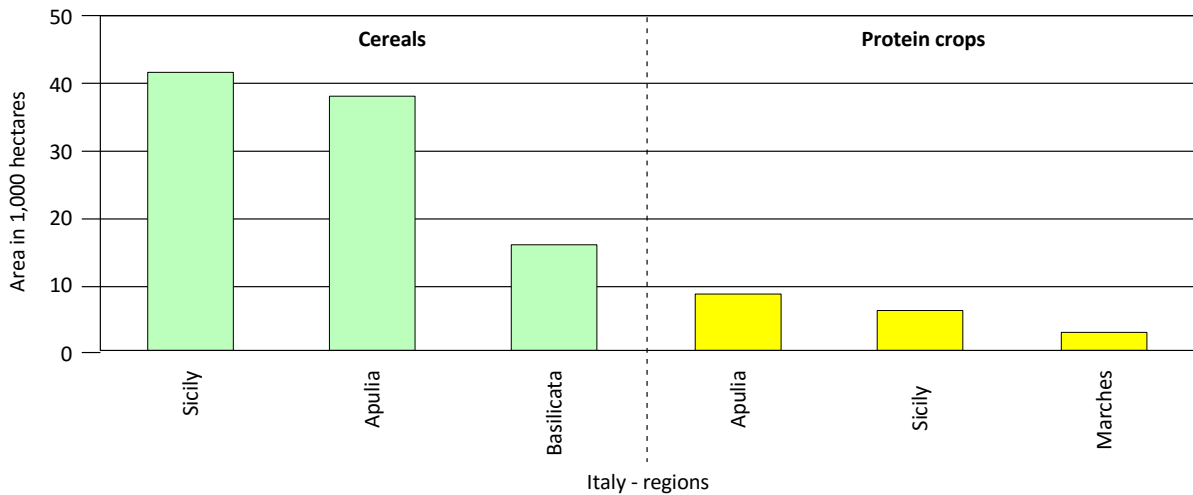
Source: Destatis (2014), AMI (2016).

Map 2.1: Main production regions of organic farming in Germany 2016

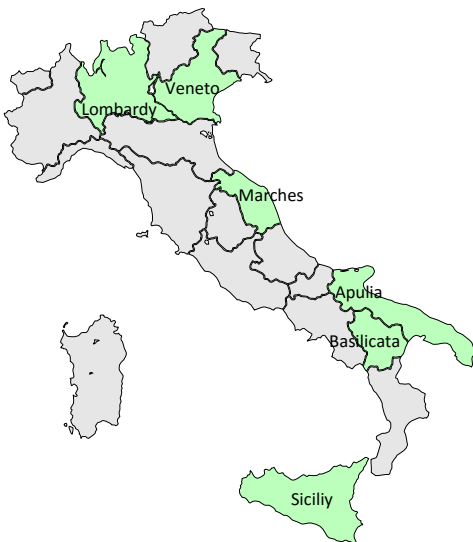


Source: Own presentation based on data of Destatis (2014) and AMI (2016).

In Germany, the main production regions for organic cereals, pulses and oilseeds are situated in the southern federal states of Baden-Wuerttemberg and Bavaria, which have the highest numbers of organic farms with this production focus (Figure 2.1 and Map 2.1). Organic cereals and pulses are also grown on a larger scale in the federal state of Hesse located in central Germany and in Lower Saxony, a northern federal state (Figure 2.1 and Map 2.1).

Figure 2.2: Main production regions of organic arable farming in Italy 2016

Source: Own presentation based on Thünen Institute (2016 a).

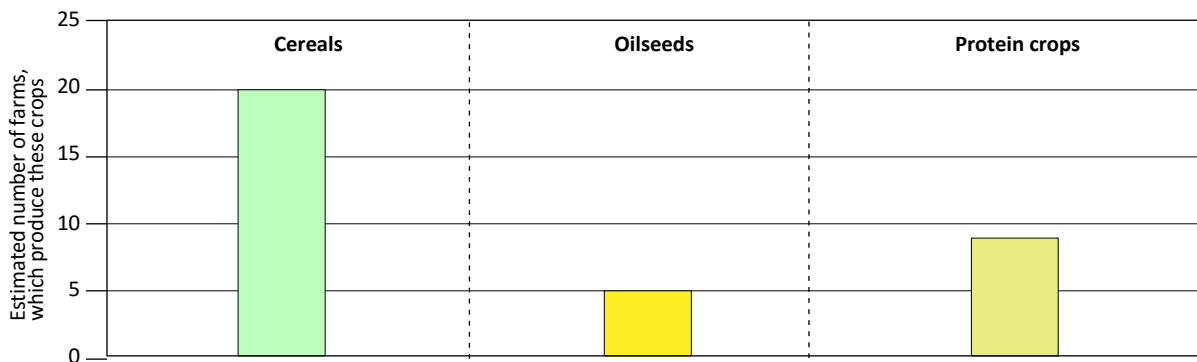
Map 2.2: Main production regions of organic arable farming in Italy 2016

Source: Thünen Institute (2016 a).

With respect to Italy, the main production regions of organic cereals are located in the south of the country in Sicily, Apulia and Basilicata (Figure 2.2 and Map 2.2). Even though no data for organic oilseeds exists for the areas, the main production regions are known. They are located in the middle and northern parts of Italy in the regions of Veneto, Lombardy and Marches (Figure 2.2). Organic protein crops or pulses are predominantly grown in the southern region of Apulia and in Sicily, and in the region of Marches in the central part of Italy. In comparison to the other

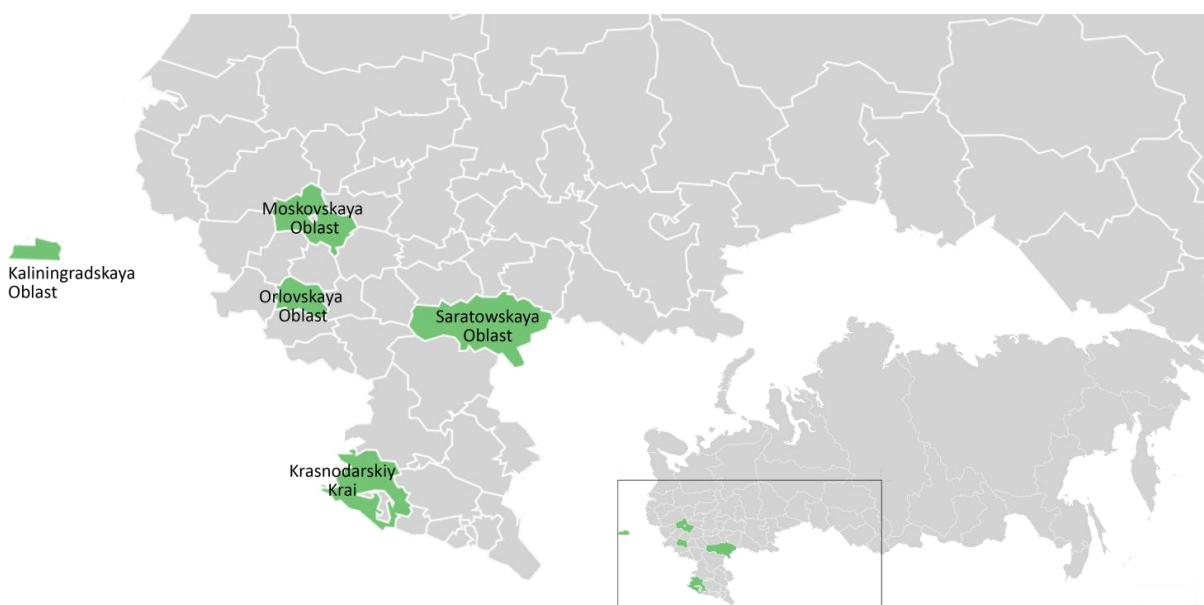
organic regions on the mainland of Italy, Sicily has the largest organic areas for growing cereals and pulses (Figure 2.2).

Figure 2.3: Farms producing organic cereals, oilseeds and protein crops in Russia 2016



Source: Own presentation based on Thünen Institute (2016 b).

Map 2.3: Main production regions of organic arable farming in Russia



Source: Thünen Institute (2016 b).

A look at the map of Russia reveals that all of organic cereals, oilseeds and legumes/pulses are grown in the European part of the Russian Federation, which means west of the Ural Mountains (Map 2.3). The main organic cereal regions are Moskovskaya Oblast around Moscow and

Krasnodarskiy Krai (located at the Sea of Azov and the Black Sea) with 20 farms producing this crop (Figure 2.3). Organic oilseeds are grown by five farms in Saratovskaya Oblast (located at the border to Kazakhstan) while protein crops/pulses are produced by nine farms in Moskovskaya and Saratovskaya Oblast and in Orlovskaya Oblast (the latter one is close to the Ukraine) (Figure 2.3). Some organic arable farming areas are also located in the exclave of Kaliningrad, the Kaliningradskaya Oblast, which is surrounded by Poland, but no production details were available for this Oblast (Map 2.3).

Table 2.4: Organic land use 2013

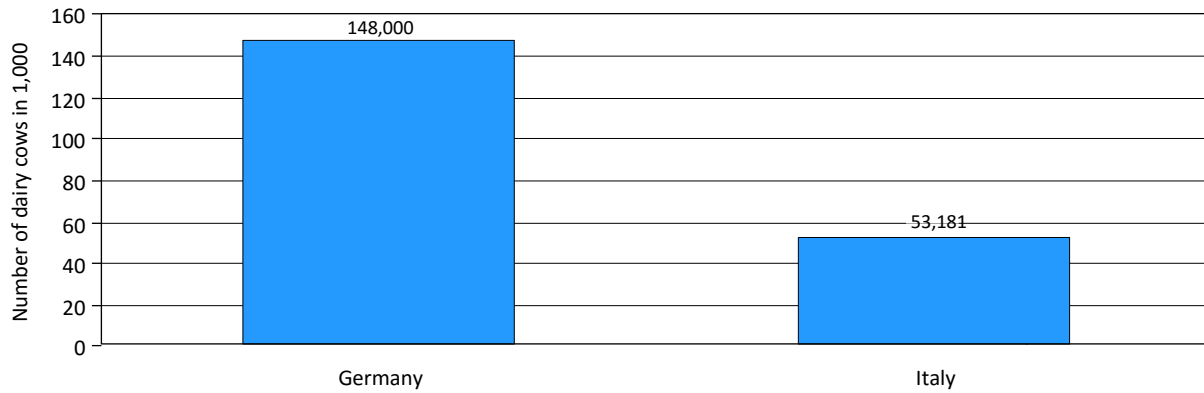
	Germany area/ha	Italy area/ha	Russia area/ha
Arable organic area	440,000	509,686	94,555
Wheat and spelt	69,500	98,358	1,867
Buckwheat	n.a.	n.a.	700
Rye	59,000	312	237
Barley	23,500	30,332	729
Oats	25,500	20,632	733
Grain maize	5,500	6,575	99
Triticale	24,000	n.a.	5,467
Rice	n.a.	9,528	58
Rape and canola	1,800	979	4
Sunflower	2,400	5,626	125
Soybeans	2,000	3,887	41
Linseed	520	250	n.a.
Protein crops	25,500	26,909	850

Source: AMI (2016), Thünen Institute (2016 a, 2016 b).

Table 2.4 shows that the majority of the Italian arable organic area is used to grow organic wheat and spelt on 98,358 ha, followed by Germany with 69,500 ha and Russia with 1,867 ha for wheat and spelt. Out of the three countries, only Russia grows organic buckwheat (700 ha), which is a widely consumed pseudo-cereal in the country (Table 2.4). All other organic field crops are grown to a lesser extent in Russia as compared with the production in Italy and Germany, which is due to Russia's smaller organic agricultural land surface. With respect to organic rye, oats, triticale, rape and canola, and linseed, Germany is the largest producer followed by Italy and Russia. Both Italy and Russia also grow organic rice on 9,528 ha (Italy) and on 58 ha (Russia) (Table 2.4).

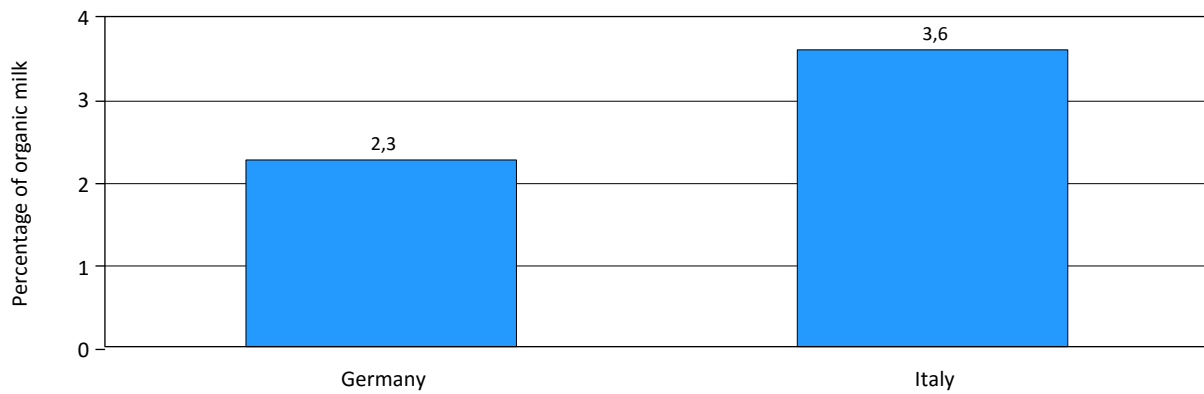
3 Organic milk production

Figure 3.1: Organic dairy cows 2014

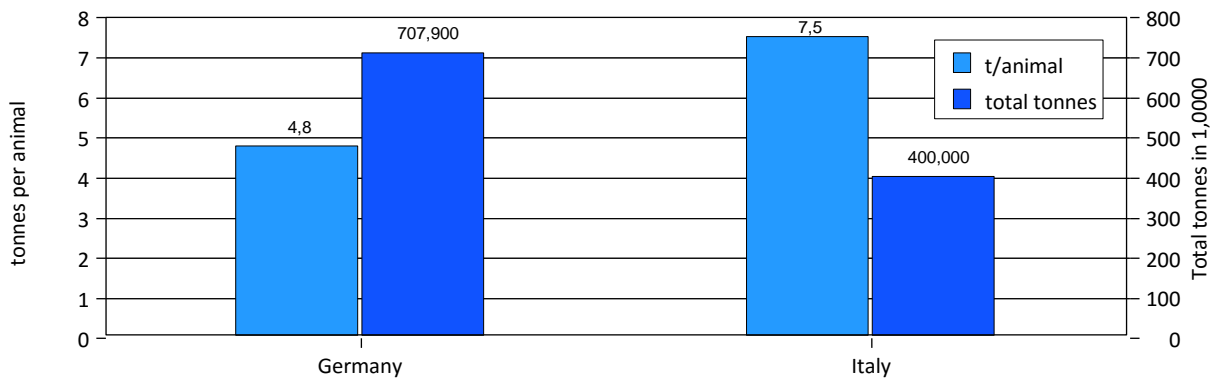


Source: AMI (2016), FiBL-AMI survey.

Figure 3.2: Share of organic cow's milk in total cow's milk production 2014



Source: Own calculation based on FiBL-AMI survey.

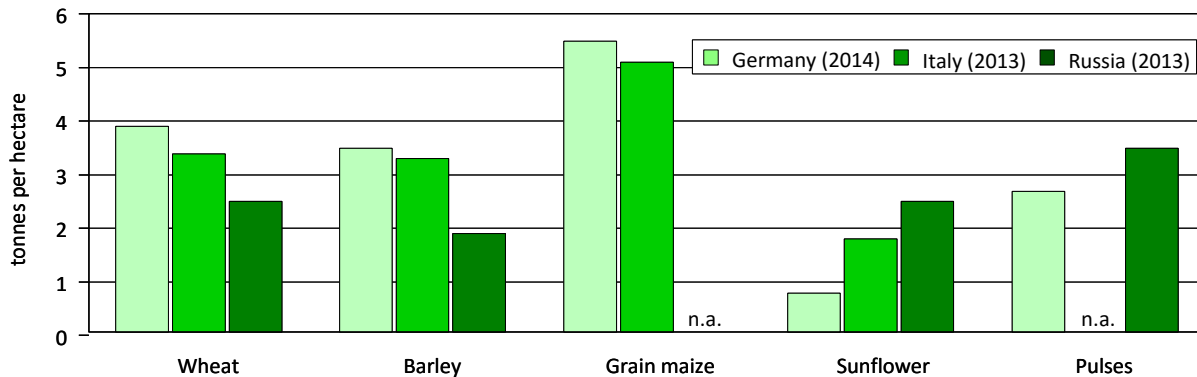
Figure 3.3: Average organic milk production 2014

Source: Own calculation based on FiBL-AMI survey.

With 148,000 organic dairy cows, over two thirds more animals live in Germany compared with Italy (53,181 dairy cows) (Figure 3.1). No data was available for Russia. In contrast to the higher number of organic dairy cows in Germany, the share of organic cow's milk in total cow's milk production is, with 3.6%, higher in Italy than in Germany (2.3%) (Figure 3.2). In 2014, German organic dairy cows produced 707,900 tons of organic milk, which corresponds to 4.8 tons of milk per dairy cow (Figure 3.3), while Italian dairy cows account for an average of 7.5 tons of milk per animal. The average Italian organic milk production per dairy cow is thus more than 36% higher as compared with the German average organic milk production per dairy cow. No production data were available for Russia.

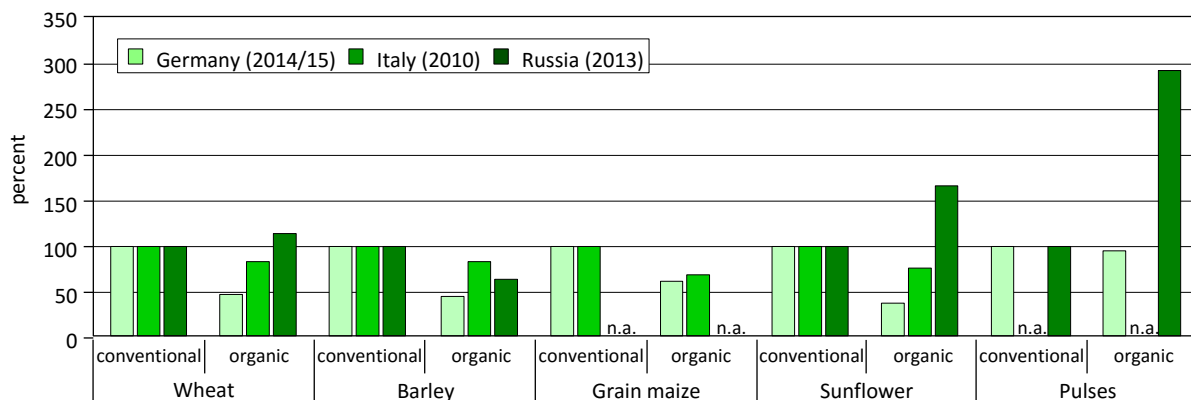
4 Average yields of organic and conventional field crops

Figure 4.1: Average yields organic field crops 2013/2014



Source: AMI (2016), Thünen Institute (2016 a, 2016 b).

Figure 4.2: Percentages of organic yields compared to 100% of conventional yields in 2010, 2013, 2014/2015



Source: BMEL (2015, 2016 a), Thünen Institute (2016 a, 2016 b), own calculation based on AMI (2016) and FSSS (2016 a), FSSS (2016 b).

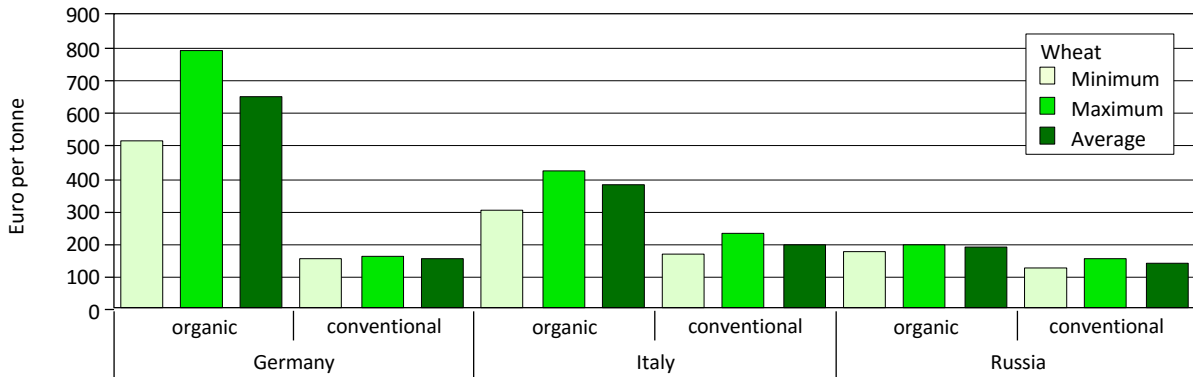
Figure 4.1 shows the average organic yields of field crops in the years 2013 and 2014. If we compare the average organic yields of wheat, barley and grain maize, German organic farmers reached, with averages of 3.9 tons for wheat, 3.5 tons for barley and 5.5 tons for grain maize, the highest yields per hectare compared with Italy and Russia (Figure 4.1). On the other hand, the differences between averages of organic and conventional yields of wheat, barley, grain maize and sunflower are highest in Germany, too, where conventional average yields almost doubled organic yields. One exception is pulses, with organic yields reaching 96% of the conventional yields (Figure 4.2). In Italy, organic farmers realised the second highest average yields for organic

wheat (3.4 t/ha), barley (3.3 t/ha), and grain maize (5.1 t/ha), and attained with 1.8 t/ha higher average yields for organic sunflowers than Germany but less than Russia (2.5 t/ha) (figure 4.1).

The difference between average organic and conventional yields is lower in Italy than in Germany. In Russia, yields for organic wheat and barley were with 2.5 t/ha and 1.9 t/ha respectively lower compared with Germany and Italy (Figure 4.1). On the other hand, organic growers in Russia reached the highest yields for organic sunflower (2.5 t/ha) and for organic pulses (3.5 t/ha) as against Germany and Italy (Figure 4.1). Interestingly, conventional yields seemed to be lower than organic yields in the case of wheat (2.2 t/ha conventional, 2.5 t/ha organic, equalling 114% of the conventional yield), sunflower (1.5 t/ha conventional, 2.5 t/ha organic, equalling 167% of the conventional yield) and pulses (1.2 t/ha conventional, 3.5 t/ha organic, equalling 292% of the conventional yield) in Russia (figure 4.2).

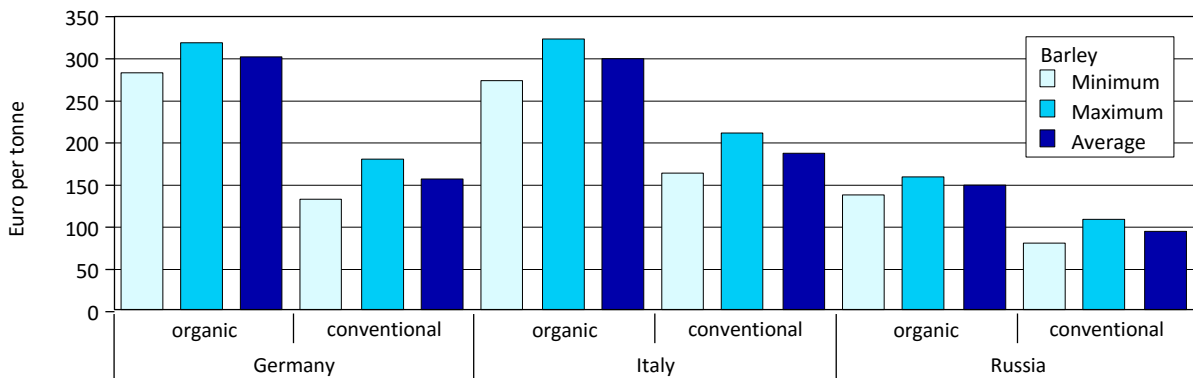
5 Prices for organic and conventional products

Figure 5.1: Organic and conventional farm-gate prices for wheat 2014



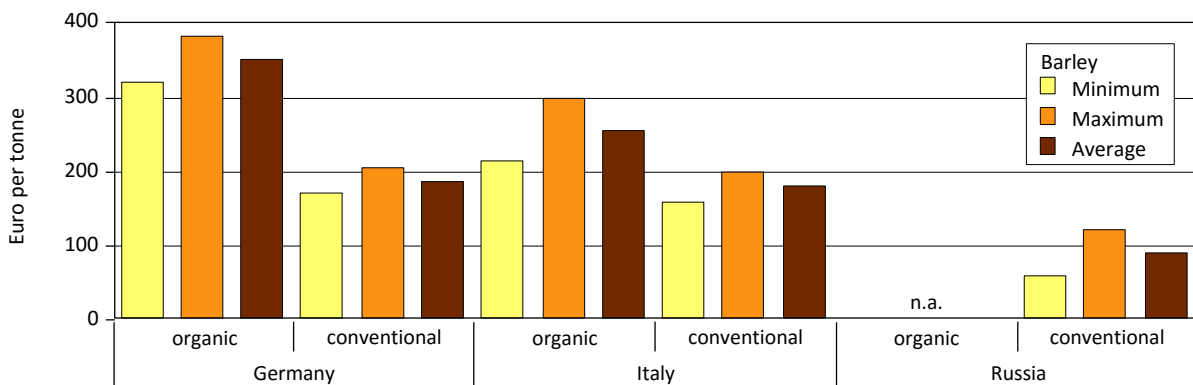
Source: AMI (2016), BMEL (2014), CCIAAB (2014), Thünen Institute (2014), average prices own calculation based on these sources.

Figure 5.2: Organic and conventional farm-gate prices for barley 2014



Source: AMI (2016), BMEL (2014), CCIAAB (2014), Thünen Institute (2014), average prices own calculation based on these sources.

Figure 5.3: Organic and conventional farm-gate prices for grain maize 2014



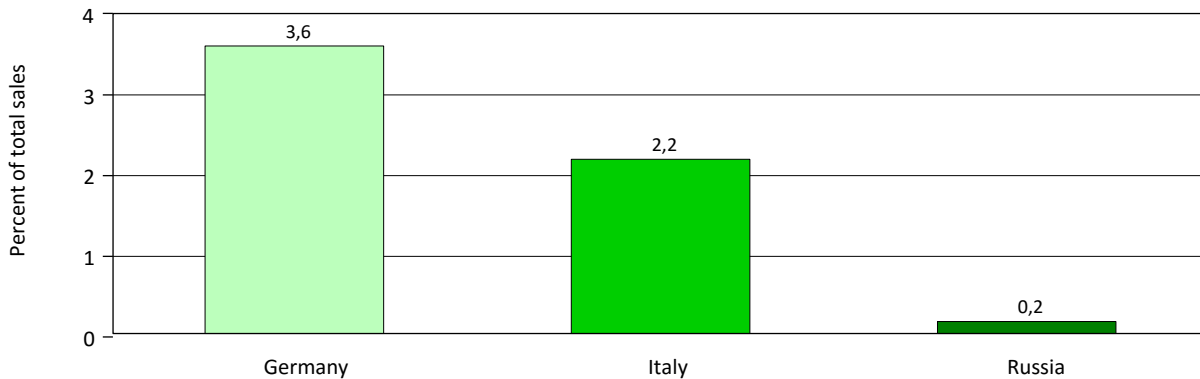
Source: AMI (2016), BMEL (2014), CCIAAB (2014), Thünen Institute (2014), average prices own calculation based on these sources.

Figures 5.1, 5.2 and 5.3 show the minimum, maximum and average farm-gate prices for organic and conventional field crops. Compared with Russia and Italy, organic wheat, barley and grain maize reached the highest average prices per ton in Germany (Figures 5.1, 5.2 and 5.3). Maximum prices for organic commodities are in many cases more than twice the prices for conventional agricultural commodities in Germany: for one ton of organic wheat, the maximum price was EUR 788 in 2014, while one ton of conventional wheat only reached EUR 166 as maximum price in the same year (Figure 5.1).

Italian organic farmers get lower prices per ton for their crops with differences between prices for one ton of an organic field crop and one ton of a conventional field crop being much lower than in Germany. For instance, one ton of Italian organic wheat attained a maximum price of EUR 428 against EUR 236 per ton conventional wheat in 2014 (Figure 5.1). In comparison with Italy and Germany, prices for organic and for conventional field crops are the lowest in Russia. Also, the differences between prices for organic and conventional agricultural commodities are the smallest in Russia (Figures 5.1, 5.2 and 5.3). To stay with the wheat example, Russian farmers got a maximum price of EUR 200 for one ton of organic wheat and EUR 161 per ton conventional wheat in 2014 (Figure 5.1).

6 Organic markets and trade

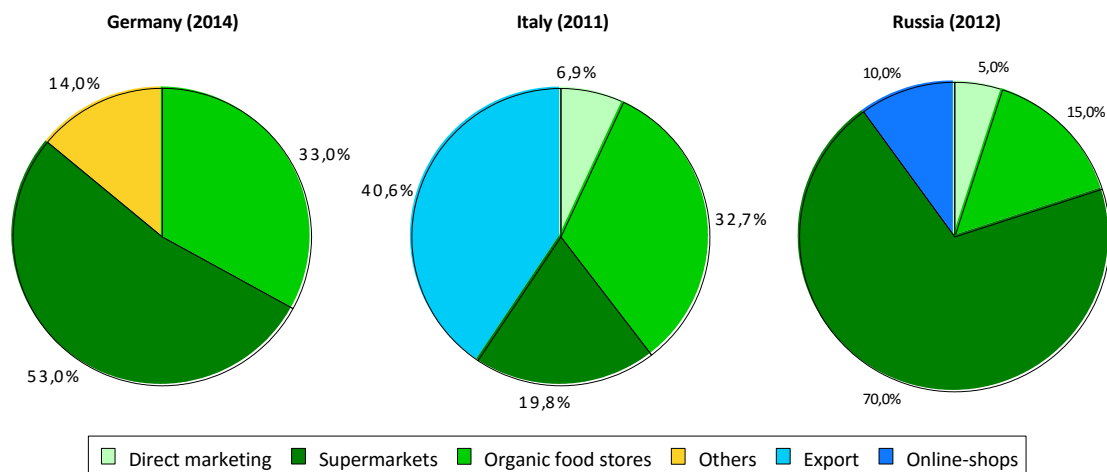
Figure 6.1: Organic markets and trade



Source: OTA (2016), Organic Market Info (2016), Thünen Institute (2016 a, 2016 b).

Percentages of organic sales of total sales are in Russia, Italy and Germany quite small (Figure 6.1). Russia has, with 0.2 percent, the smallest share. In Germany, the shares of organic sales out of all sales are with 3.6% the highest, followed by Italy with 2.2% (Figure 6.1).

Even though the shares of organic sales are small (Figure 6.1), the Italian, Russian and German organic market sizes are relatively large if expressed in euros. Germany has the largest market for organic goods compared with Italy and Russia, accounting for 7,909 million euros in 2015, followed by Italy with 2,784 million euros in 2011, and Russia with 140 million euros in 2012.

Figure 6.2: Organic marketing channels in percent

Source: OTA (2016), Organic Market Info (2016).

Source:Thünen Institute (2016 a).

Source:Thünen Institute (2016 b).

In Germany, more than half of all organic products are sold in organic supermarkets (53%) (Figure 6.2), which also had, with 4,192 million euros, the biggest sales volume of all marketing channels in the country. The second most important marketing channel is organic food stores with 33% of total organic sales (Figure 6.2). They realised a sales volume of 2,610 million euros. Other marketing channels account for 14% of organic sales with 1,107 million euros (Figure 6.2). Direct marketing of organic products does not play a role in the German organic sector.

In Italy, the situation is quite different with the majority of organic products being exported. Exports accounted for 41% (Figure 6.2) of total organic sales and a sales volume of 1135 million euros. In contrast to Germany, Italian customers prefer to buy organic products in organic food stores (33% of total organic sales, 905 million euros sales turnover) over organic supermarkets (20% of total organic sales, 545 million euros sales turnover) (Figure 6.2). Direct marketing plays a minor role with 7% of total organic sales and a sales volume of 199 million euros (Figure 6.2).

As in Italy, in Russia organic commodities were sold to a small extent via direct marketing (5% of total organic sales, 7 million euros sales turnover) (Figure 6.2). Similarly to Germany, the majority of Russian customers buy organic products in supermarkets. With 70% of total organic sales, supermarkets account for the highest share in that marketing channel compared to Germany and Italy (Figure 6.2). They reached a turnover of 98 million euros. On-line shops for organic products only play a role in Russia, with 10% (Figure 6.2) of total organic sales and a turnover of 14 million euros.

7 Organic area payments

Table 7.1: Organic area payments in Germany in 2015

Region (if applicable)	Payment / ha	Unit	Arable land		Grassland		Permanent crops		Vegetables	
			Min	Max	Min	Max	Min	Max	Min	Max
	Conversion	EUR	210	510	190	360	700	2.855	330	1.450
	Maintenance	EUR	180	260	180	270	780	2.855	300	550

Source: Sanders (2015).

Table 7.2: Organic area payments in Italy in 2012

Region	Payment	Unit	Arable land		Grassland		Permanent crops		Vegetables	
			Min	Max	Min	Max	Min	Max	Min	Max
Marche	Conversion	EUR/ha	170	280	110	250	600	780	600	600
	Maintenance	EUR/ha	130	250	100	250	480	690	470	540
Emilia Romagna	Conversion	EUR/ha	156	325	142	418	511	825	469	750
	Maintenance	EUR/ha	142	270	171	363	426	682	426	682
Umbria	Conversion	EUR/ha	308	600	154	166	365	720	600	600
	Maintenance	EUR/ha	190	600	140	152	270	650	600	600

Note: In Italy, direct payments to organic farms are managed by regional authorities, which implement agri-environmental policies at local level. The table above shows the payments for the main three production region for organic arable crops.

Source: Thünen Institute (2016 a).

Table 7.3: Organic area payments in Russia in 2013

Region	Payment	Unit	Arable land		Grassland		Permanent crops		Vegetables	
			Min	Max	Min	Max	Min	Max	Min	Max
	Conversion	EUR/ha	No payments available							
	Maintenance	EUR/ha	No payments available							

Source: Thünen-Institute (2016 b).

As members of the European Union, organic farmers in Germany and in Italy receive organic area payments in euros per hectare. Payment rates differ depending on the land use and are bound to several conditions with which farmers must comply, e.g., to maintain permanent grasslands and to apply especially environmentally friendly agricultural methods on at least 5% of their arable

land (BMEL 2015 a). These payments shall compensate for additional costs and loss of income that farmers have to bear by meeting the above mentioned commitments.

In the figures above, payments are grouped into four land use categories: arable land, grassland, permanent crops and vegetables. If a farmer decides to convert conventional land into organic land, he or she receives higher payments per hectare than for maintaining the organic agricultural status (Tables 7.1 and 7.2). Payments in Germany differ between the sixteen federal states of the country. In Table 7.1 on Germany's organic area payments, minimum and maximum payment levels of all federal states are indicated. Payment rates for the conversion of agricultural land into organically managed land are higher than for the maintenance of organic areas (Table 7.1). Generally speaking, German organic farmers receive the highest amounts of area payments for organic permanent crops, the second highest for organic vegetable growing, the third highest for arable land and the lowest for grassland (Tables 7.1).

Similar to Germany, payments for organic areas differ strongly between the regions in Italy (Table 7.2). This is due to the fact that area payments to organic farms are managed by regional authorities, which implement agri-environmental policies at the local level. This is also true for Germany. As in Germany, higher amounts are paid for the conversion of land into organic land compared with the maintenance of organic land surfaces (Table 7.2). As a rule, also in Italy permanent crops and vegetable producers receive higher amounts compared with those who manage arable organic land or organic grassland (Table 7.2). There is one exception: maximum payments for the conversion of arable land in the region of Umbria equal those for the conversion of vegetable production in the same region and in the region of Marche (Table 7.2).

In Russia, no payment system for organic farmers exists (Table 7.3). Currently (2016), the Russian government is about to prepare a law on organic farming. Whether or not it includes a payment scheme is not yet known.

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