# TRANSITION TO SUSTAINABLE AGRICULTURAL PRODUCTION SYSTEMS

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***Abstract.*** *The transition to sustainable agricultural production systems is supported by programmes, strategies and action plans. Funding mechanisms are provided by the Common Agricultural Policy, both through Pillar I and Pillar II. In agriculture, the transition from conventional to organic farming generates costs. These costs vary according to the type of crop, the size of the farm, the existing infrastructure, the level of knowledge and skills of the farmer. The study aims to determine the costs of transitioning from conventional wheat cultivation to organic farming. The study involves a quantitative analysis of secondary data to assess the current situation of organic farming at European level, identification of the types of transition costs, budgeting of wheat activity, comparative analysis of production costs, profitability, etc. The results contribute to understanding the transition costs associated with organic farming and to informing decisions to ensure an efficient, sustainable and durable transition.*
***Key-words:*** *organic land use, organic farming, organic system, production costs, marketing, transition costs, retail market, conventional system*
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**Introduction**. The European Green Pact is the EU strategy created with the aim of achieving climate neutrality by 2050. The European Green Pact initiatives on climate change adaptation have been translated into strategies. A relevant strategy for the present study is the Farm to Fork Strategy which aims to reorient the EU food system towards a sustainable one **(European Council, 2020).** A key policy initiative of the Farm to Fork strategy is the Action Plan for the Development of Organic Production. The Action Plan for Organic Farming has three components: stimulating demand and production and improving the contribution of organic farming to sustainability and environmental challenges **(Official Journal of the European Union, 2022).**

In the EU Action Plan on Organic Farming it is signaled that a three to five-fold increase in CAP spending on organic farming is needed to boost the production component, meaning that up to 15% of CAP spending should be dedicated to the organic sector. **(IFOAM Organics Europe, 2020**). Also in the same document, with IFOAM Organics Europe as a data source, the underfunding of organic farming is

mentioned, in the context that only 1.5% of the total EU agriculture budget is allocated to organic farming which manages 8% of the total EU agricultural area **(Official Journal of the European Union, 2022).** The transition to sustainable food systems is ensured by the CAP through eco-schemes, which are voluntary for farmers. The financial instruments that manage the environmental and climate, organic farming and irrigation schemes are the FEGA (25% for the eco-schemes) and the FEADR (41.32%), **(NSP 2023-2027).** In this context, we propose an estimation of the production costs of wheat, presented in four variants, to define the transition towards sustainable agricultural production systems and to demonstrate whether this transition offers economically valuable prospects. The benefits in terms of social and environmental perspectives are invoked from various studies and publications.

**Literature review**. Events of increasing global intensity (climate change, pressure on resources, etc.) require a transition to sustainable agricultural production systems. Globally the transition towards sustainable agricultural production systems, advanced by the World Economic Forum, can be realized through 7 pathways to accelerate the transition, targeting regenerative practices and nature-based solutions, etc. (WEF, 2023). FAO contributes to the transition to sustainable agriculture and food systems with a model based on agroecology, and the four levels of transition are closely linked to the FAO's 5 principles for sustainable food and agriculture (FAO, 2020). To achieve sustainable transition in agriculture, agroecology requires that farmers and agricultural workers learn how a landscape functions as an ecosystem (Pimbert, 2011; Gliessman, 2014 cited in Carlisle et al., 2019). Replacing non-renewable resources with agroecologically skilled people is the greatest sustainability challenge for agriculture. It is often stated that farmers leave agriculture because labor is unwanted or because modern technology replaces labor (Lobao and Meyer, 2001; Carlisle et al., 2019). The sustainable farmer must be agro-ecologically qualified. In this context farmers can describe their activities using terms such as organic, permaculture, agroecology, agro-ecology, ecological agriculture or regenerative agriculture, distinguishing themselves from industrial farming systems heavily dependent on chemical inputs and fossil fuels (Carlisle et al., 2019).

Regarding the costs of the transition to sustainable agriculture, the Institute for European Environmental Policy (IEEP) notes that there is substantial evidence at farm level that sustainable agriculture can be profitable and provide decent incomes for European farmers, and that it is economically better than conventional farming.

**Research methodology**. The first part of the study consists in summarizing the distribution of data on the situation of organic farming at European level and grouping these data into ranges. The second part of the study presents the substantiation of the operational costs of wheat cultivation in six technological variants and the comparison of the profitability of wheat in conversion with organic and conventional wheat.

**Main results**.The European context of organic farming. *The situation on the production component* - the share of organic farming areas in the European Union. Statistical data presented in this study have been identified at IFOAM Organics Europe, Research Institute of Organic Agriculture (FiBL) and Agricultural Market Information Company (AM). Data compiled by Fibl based on Eurostat and national data sources. The following indicators are presented in the paper, at the level of 2022:

Table 1. **Share of land under organic farming**

| **Grouping of EU countries according to the share of land under organic farming** | |
|---|---|
| Range 46.1% - 36.9% | 1 country: Lichtenstein (43%) |
| Range 27.7%- 18.5% | 4 countries: Austria, Estonia, Sweden, Portugal. |
| Range 18.5% - 9.3% | 12 countries: Italy, Switzerland, Greece, Greece, Czech Republic, Latvia, Finland, Denmark, Germany, Spain, Slovenia, France, Switzerland. |
| Range 9.3% - 0.1% | 24 countries: Lithuania, Croatia, Slovakia, Belgium, Luxembourg, Hungary, Cyprus, Norway, Romania, Netherlands, Poland, UK, Bulgaria, Ireland, Montenegro, Turkey, Serbia, Macedonia, Kosovo, Ukraine, Malta, Iceland, Albania, Bosnia and Herzegovina. |

*Source: own calculations based on IFOAM data*

The data in Table 1 prioritizes and groups EU countries according to the areas under organic farming. Although Linchenstein has an area of 2 thousand hectares, 43% of this area is under organic farming. In this ranking France (2.88 million ha), Spain (2.68 million ha) and Italy (2.35 million ha) have the largest areas in organic farming, although they are in different classes, but the reporting is done on total Utilized Agricultural Area (UAA). One explanation given for the low range in which most EU countries are found is that the transition to organic farming requires a number of structural, economic and educational changes that most countries are not ready to adopt.

Table 2. **Organic producers (number)**

| **EU countries grouped by number of organic producers** | |
|---|---|
| Range 84025 - 63025 producers | 1 country Italy |
| Range 63025 - 42025 producers | 4 countries: Greece, France, Spain, Turkey. |
| Range 42025 - 21025 producers | 2 countries: Germany, Austria. |
| Range 21025 - 25 producers | 33 countries: Poland, Portugal, Romania, Switzerland, Croatia, Hungary, Sweden, Czech Republic, Finland, Bulgaria, Denmark, Latvia, Slovenia, UK, Lithuania, Belgium, Ireland, Estonia, Netherlands, Norway, Cyprus, Macedonia, Slovakia, Serbia, Montenegro, Ukraine, Luxembourg, Albania, Bosnia and Herzegovina, Kosovo, Liechtenstein, Iceland, Malta. |

*Source: own calculations based on IFOAM data*

Organic producers in the EU range from a minimum of 25 producers to a maximum of 84025 producers. The minimum range of 25 - 21025 producers is found in most EU countries. This is explained by the fact that farmers in these countries operate with small plots, avoiding the perceived risk of decreasing income and production. Table 2.

The data in Table 3 ranks and groups EU countries according to the number of organic processors. With the exception of Italy, Germany and France, most EU countries have a small number of processors. This is explained by a complex of economic, technical and logistical factors, but also by the fact that support for the transition to organic farming is given to producers and not to processors, hence the discrepancies. Table 3.

Table 3. **Organic processors (number)**

| **EU countries grouped by number of organic processors** | |
|---|---|
| Range 23607 -17707 processors | 3 countries: Italy, Germany, France |
| Range 5907 - 7 processors | 36 countries: Spain, UK, Austria, Belgium, Greece, Switzerland, Portugal, Denmark, Sweden, Netherlands, Czech Republic, Turkey, Poland, Hungary, Norway, Finland, Bulgaria, Croatia, Luxembourg, Ireland, Romania, Estonia, Lithuania, Slovenia, Serbia, Slovakia, Cyprus, Ukraine, Latvia, Bosnia and Herzegovina, Kosovo, Montenegro, Iceland, Macedonia, Albania, Malta, Montenegro, Iceland, Macedonia, Serbia, Slovakia, Ukraine, Latvia, Bosnia and Herzegovina, Kosovo, Montenegro, Iceland, Albania, Malta. |

*Source:* own calculations based on IFOAM data

Table 4 ranks and groups countries according to the value of organic products sold directly to consumers. France (€ 12076 million) and Switzerland (€ 3855 million) are among the top-ranked countries in terms of quantities of organic products sold. Romania (€41m), Bulgaria (€38m) and Romania (€41m) are at the opposite pole. Hungary (€30 million) and Porutgalia (€21 million).

Table 4. **Organic retail sales in 2022, million euro**

| **EU countries grouped by value of organic products sold directly to consumers** | |
|---|---|
| Value range € 15021 million - € 12021 million | 1 country: France |
| Value range € 6021 million - € 3021 million | 1 country: Switzerland |
| Value range € 3021 million - € 21 million | **23** countries**:** Suedia, Spania, Austria, Danemarca, Germania, Olanda, Belgia, Italia, Finlanda, Polonia, Irlanda, Cehia, Luxemburg, Croația, Estonia, Grecia, Letonia, Lituania, Slovenia, România, Bulgaria, Ungaria, Portugalia. |

*Source: own calculations based on IFOAM data*

Table 5 groups EU countries according to the amount spent per capita on organic consumption. Most EU countries allow low consumption of organic products, with a minimum threshold of €1 per capita. Price, affordability, awareness, income and economic priorities are all factors contributing to choosing organic products over cheaper conventional alternatives.

Tabel 5. **Equivalent spent per capit**

| **EU countries by per capita equivalent spent on organic products** | |
|---|---|
| Value range 451 euro - 301 euro | 2 countries: Switzerland (437 euro), Denmark (365 euro). |
| Value range 301 euro - 151 euro | 5 countries: Austria (274 euro), Luxembourg (259 euro), Sweden (248 euro), Germany (181 euro), France (176 euro). |
| Value range 151 euro 1 euro | 19 countries: Belgium (€ 84), Netherlands (€ 81), Finland (€ 73), Estonia (€ 72), Italy (€ 62), Spain (€ 55), Ireland (€ 46), Slovenia (€ 27), Croatia (€ 24), Czech Republic (€ 22), Lithuania (€ 18), Poland (€ 8), Latvia (€ 6), Bulgaria (€ 6), Greece (€ 6), Hungary (€ 3), Portugal (€ 2), Romania (€ 2), Turkey (€ 1). |

*Source: own calculations based on IFOAM data*

Also from the production component perspective, we present the costs of transition to sustainable agriculture from the perspective of environmental sustainability and economic sustainability of organic wheat compared to conventionally grown wheat.

*Environmental sustainability:* the design of technological variants for low-input wheat, bearing in mind that in order to receive financial support, farmers are obliged to comply with cross-compliance rules. These rules include statutory management requirements (SMRs) and standards for good agricultural and environmental condition of agricultural land **(MADR, 2024).**

**Technological variants method.**

Table 6. **Structure of technological expenditure**

| Wheat | Yield | Technological expenses of which | | Mechanized | | Manual | | Materials | |
|---|---|---|---|---|---|---|---|---|---|
| | kg/ha | euro | % | euro | % | euro | % | euro | % |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Non-irrigated | | | | | | | | | |
| Conventional | 4265 | 871 | 100 | 349 | 40 | 32 | 4 | 489 | 56 |
| Covering/Ecologic | 3212 | 984 | 100 | 339 | 34 | 112 | 11 | 533 | 54 |
| Irrigated | | | | | | | | | |
| Conventional | 5970 | 1205 | 100 | 368 | 31 | 118 | 10 | 719 | 60 |
| Covering/Ecologic | 4015 | 1301 | 100 | 367 | 28 | 241 | 19 | 693 | 53 |

*Source: Own calcualtion, estimates, production year 2023/2024*

***Technological expenses:*** Technological expenses are broken down by categories of works: mechanized works, manual works and materials and materials. In terms of value, the categories of works are presented in absolute values (euro/ha) and relative values (%).

*Expenditures on mechanized work* for conventional wheat are 31% and 40%, and for organic wheat 28% and 34%. **Table 6, col. 6.**

*Expenditure on manual work* accounts for 4% and 10% (for conventional wheat compared to 11% and 19% for organic wheat) of the expenditure categories. **Table 6, col. 8.**

*Expenditure on raw materials and materials* varies according to the production level of the crop and accounts for 56% and 60% of the expenditure for conventional wheat compared to 53% and 54% for organic wheat. **Table 6, col. 10.** (Ursu A & I. L. Petre, 2021, 2022).

Table 7. **Structure of production costs**

| **Grau** | **Yield** | **Total expenditure, of which** | **Variable expenses** | | **Fixed expenses** | | **Unit production cost** | |
|---|---|---|---|---|---|---|---|---|
| | to/ha | euro/ha | euro/ha | % | euro/ha | % | euro/t | euro /kg |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Non-irrigated | | | | | | | | |
| Conventional | 4,265 | 960 | 875 | 91,2 | 85 | 8,8 | 225 | 0,225 |
| Ecologic | 3,212 | 1083 | 913 | 84,3 | 170 | 15,7 | 337 | 0,337 |
| Irrigated | | | | | | | | |
| Conventional | 5,970 | 1327 | 1134 | 85,4 | 194 | 14,6 | 222 | 0,222 |
| Ecologic | 4,015 | 1343 | 1028 | 76,5 | 315 | 23,5 | 334 | 0,334 |

*Source: Own calcualtion, estimates, production year 2023/2024*

*Total costs:* Total production costs are broken down into variable and fixed costs. Variable costs differ according to the production level and cropping system.

*Variable costs* occupy shares ranging from 91.2% to 85.4% for conventional wheat, while for organic wheat variable costs range from 84.3% for non-irrigated to 76.5% for irrigated organic wheat. Table 7, col 5.

*Fixed costs* - occupy smaller shares in conventional wheat, 8.8% and 14.6%, and in organic wheat fixed costs are 15.7% and 23.5%. Table 7, col. 7.

*The gross margin method*: the gross margin is an economic indicator that allows the assessment of a production or an activity, taking into account the level of variable costs required in relation to the level of income that can be obtained **(Oancea, M. 2007)**. Fixed costs are not taken into account in calculating the gross margin, as they do not change in relation to the level of production.

Table 8. **Gross margin on non-irrigated wheat**

| Nr. crt. | Indicators | UM | Non-irrigated wheat | | |
|---|---|---|---|---|---|
| | | | Conventional | Conversion | Ecological |
| **0** | **1** | **2** | **3** | **4** | **5** |
| 1 | Yield | t/ha | 4,265 | 3,212 | 3,212 |
| 2 | Producer price | euro/t | 214 | 214 | 290 |
| **3** | **Total Revenues** | **euro** | **912** | **687** | **930** |
| | Variable costs of which | | | | |
| 4 | Seed certification | euro | 97 | 125 | 125 |
| 5 | Fertilizers | euro | 343 | 135 | 135 |
| 6 | Plant protection | euro | 49 | 52 | 52 |
| 7 | Other materials | euro | x | 221 | 221 |
| 8 | Irrigation | euro | x | x | x |
| 9 | Fuel | euro | 82 | 80 | 80 |
| 10 | Repairs | euro | 35 | 34 | 34 |
| 11 | Tractor salary | euro | 56 | 54 | 54 |
| 12 | Depreciation | euro | 177 | 171 | 171 |
| 13 | Provisioning | euro | 15 | 16 | 16 |
| 14 | Insurance | euro | 22 | 25 | 25 |
| **15** | **Total Variable Costs** | **euro** | **875** | **913** | **913** |
| **16** | **Gross Margin** | **euro** | **36** | **-226** | **17** |

*Source: Own calcualtion, estimates, production year 2023/2024*

For *non-irrigated wheat*, the gross margin is positive for conventional (+36 euro) and organic (+17 euro) and negative for in-conversion wheat (-226 euro). In the three cultivation variants, the gross margin is not high enough to cover fixed costs and make a profit. Table 8, row 16.

Table 9. **Gross margin on irrigated wheat**

| Nr. crt. | Indicators | UM | Irrigated wheat | | |
|---|---|---|---|---|---|
| | | | Conventional | Conversion | Ecological |
| **0** | **1** | **2** | **3** | **4** | **5** |
| 1. | Yield | t/ha | 5,970 | 4,015 | 4,015 |
| 2. | Producer price | euro/t | 214 | 214 | 290 |
| 3. | **Total Revenues** | **euro** | **1276** | **858** | **1162** |
| | Variable costs of which | | | | |
| 4. | Seed certification | euro | 97 | 116 | 116 |
| 5. | Fertilizers | euro | 488 | 85 | 85 |
| 6. | Plant protection | euro | 49 | 83 | 83 |
| 7. | Other materials | euro | x | 221 | 221 |
| 8. | Irrigation | euro | 84 | 113 | 113 |
| 9. | Fuel | euro | 85 | 83 | 83 |
| 10. | Repairs | euro | 37 | 37 | 37 |
| 11. | Tractor salary | euro | 59 | 59 | 59 |
| 12. | Depreciation | euro | 187 | 189 | 189 |
| 13. | Provisioning | euro | 19 | 15 | 15 |
| 14. | Insurance | euro | 28 | 28 | 28 |
| 15. | **Total Variable Costs** | **euro** | **1134** | **1028** | **1028** |
| 16. | **Gross Margin** | **euro** | **142** | **-170** | **135** |

*Source: Own calcualtion, estimates, production year 2023/2024*

BNR: 1 euro=4,9735 lei

For *irrigated wheat,* the gross margin is positive for conventional (+142 euro) and organic (+135 euro) and negative for wheat in conversion (-170 euro). Even under irrigated agro-technical conditions for the three cultivation variants, the gross margin is not high enough to cover the fixed costs and make a profit, but in the conversion variant the difference compared to conventional is -19.7% and compared to organic wheat -25.9%. Table 9, row 16.

*Economic sustainability* is defined in transition terms as those sustainable economic practices capable of delivering the outputs through stable income in the short and long term (Comisia Europeană, 2024).

Table 10. **Outcome indicators for non-irrigated wheat**

| | **Indicators** | UM | **Non-irrigated** | | |
|---|---|---|---|---|---|
| | | | **Conv** | **Conver** | **Eco** |
| **0** | **1** | **2** | **3** | **4** | **5** |
| **1.** | Yield | **t/ha** | 4,265 | 3,212 | 3,212 |
| 2. | Valuation price | euro/t | 214 | 214 | 290 |
| 3. | Revenue/ha without any payment (rd. 1 x rd. 2) | euro/ha | 912 | 687 | 930 |
| 4. | Income/ha + direct payments (rd. 3 + 203,360 euro/ha) | euro/ha | 1145 | 891 | 1133 |
| 5. | Income/ha + direct payments + sM 11 (rd. 3 + 293 euro/218 euro/ha) | euro/ha | x | 1184 | 1351 |
| 6. | Production cost/ha | euro/ha | 960 | 1083 | 1083 |
| 7. | Profit without any payment (rd. 3 - rd. 6) | euro/ha | -49 | -395 | -153 |
| 8. | Profit with direct payments (rd. 4 - rd. 6) | euro/ha | 185 | -192 | 50,6 |
| 9. | Profit with direct payments + sM 11.2 (rd. 5 - rd. 6) | euro/ha | x | 101 | 269 |
| 10. | Profit rate (rd. 7/rd. 6) x 100) | % | -5,1 | -36,5 | -14,1 |
| 11. | Profit rate (rd. 8/rd. 6) x 100) | % | 19,3 | -17,7 | 4,7 |
| 12. | Profit rate (rd. 9/rd. 6) x 100) | % | x | 9,3 | 24,8 |

*Source: Own calcualtion, estimates, production year 2023/2024*

* Decoupled direct payments = Basic Income Support for Sustainability (BISS) + Complementary Redistributive Income Support for Sustainability (CRISS) + Eco-scheme 04 greening (PD-04) = 96,47 euro/ha + 50,61 euro/ha + 56,28 euro/ha = 203,360 euro/ha
**SubMeasure 11.1 - support for conversion to organic farming practices and methods = 293 euro/ha
**Sub-Measure 11.2 - support for maintaining organic farming practices and methods = 218 euro/ha

***Economic sustainability of non-irrigated wheat***

The planned yield of organic/conversion wheat was 3,212 t/ha, 24.7% lower than that of conventional wheat (4,265 t/ha).

The average recovery price of the organic wheat considered was 290 euro/tonne, 35.5% higher than conventional wheat (214 euro/tonne).

*Analysis variant without direct payments*

The estimated revenue from planned yields is 930 euro/ha for organic wheat, 2% more than for conventional wheat (912 euro/ha) and 35.4% more than for in-conversion wheat (687 euro).

The gross profit represents a loss of 346 euro/ha for in-conversion wheat compared to conventional wheat (-395 euro/ha compared to -49 euro/ha), in this case

the gross profit rate is 31 percentage points lower than for conventional wheat (-36.5% compared to -5.1%). Compared to organic wheat, the gross profit for in-conversion wheat represents a loss of 242 euro, a difference of 22 percentage points. Table 10, row 3, row 7, row 10.

*Analysis variant with direct payments*

When direct payments are taken into account, the estimated revenues from average yields are 1133 euro/ha for organic wheat, 1% more than for conventional wheat (1145 euro/ha) and 891 euro for in-conversion wheat.

The gross profit represents a gain of €50.6/ha for organic wheat being 72.6% (€134/ha) lower than for conventional wheat (€50.6/ha compared to €185/ha). For wheat in conversion the gross profit represents a loss of 192 euro.

The profit rate for organic wheat in this case is 4.7%, 14.6 percentage points higher than for conventional wheat (4.7% compared to 19.3%). In-conversion wheat is 37 percentage points higher than conventional wheat and 13 percentage points higher than organic wheat. **Table 10, row 4, row 8, row 11.** (Ursu A & I. L. Petre, 2021, 2022).

*Analysis variant with direct payments + sM 11.1 and sM 11.2*

In this variant the income obtained on wheat in conversion (sM 11.1 = €293/ha) is € 1184/ha and the profit obtained is € 101/ha, which gives a profitability of 9.3%. The income obtained on organic wheat (sM 11.2= 218 euro/ha) is 1351 euro, which gives a return of 24.8%. Tabel 10, rând 5, rând 9, rând 12.

Table 11. **Outcome indicators for irrigated wheat**

| | **Indicators** | UM | **Irrigated** | | |
|---|---|---|---|---|---|
| | | | **Conv** | **Conver** | **Eco** |
| **0** | **1** | **2** | **3** | **4** | **5** |
| **1** | **Producția medie** | **t/ha** | 5,97 | 4,015 | 4,015 |
| 2 | Prețul de valorificare | euro/t | 214 | 214 | 290 |
| 3 | Venit/ha fără nici o plată (rd. 1 x rd. 2) | euro/ha | 1276 | 859 | 1162 |
| 4 | Venit/ha + plați directe (rd. 3 + 203,360 euro/ha) | euro/ha | 1510 | 1063 | 1213 |
| 5 | Venit/ha + plați directe + sM 11 (rd. 3 + 293 euro/ha/218 euro/ha) | euro/ha | x | 1356 | 1431 |
| **6** | **Cost de producție/ha** | **euro/ha** | **1327** | **1343** | **1343** |
| 7 | Profit fără nici o plată (rd. 3 – rd. 6) | euro/ha | -51 | -484 | -180 |
| 8 | Profit cu plăți directe (rd. 4 – rd. 6) | euro/ha | 182 | -280 | 23 |
| 9 | Profit cu plăți directe + sM 11 (rd. 5 – rd. 6) | euro/ha | x | 13 | 241 |
| 10 | Rata profitului (rd. 7/rd. 6) x 100) | % | -3,9 | -36,0 | -13,4 |
| 11 | Rata profitului (rd. 8/rd. 6) x 100) | % | 13,7 | -20,9 | 1,7 |
| 12 | Rata profitului (rd. 9/rd. 6) x 100) | % | x | 0,9 | 17,9 |

*Source*: *Own calcualtion, an de producție 2023/2024*

* Decoupled direct payments = Basic Income Support for Sustainability (BISS) + Complementary Redistributive Income Support for Sustainability (CRISS) + Eco-scheme 04 greening (PD-04) = 96,47 euro/ha + 50,61 euro/ha + 56,28 euro/ha = 203,360 euro/ha

**SubMeasure 11.1 - support for conversion to organic farming practices and methods = 293 euro/ha

**Sub-Measure 11.2 - support for maintaining organic farming practices and methods = 218 euro/ha

***Economic sustainability of irrigated wheat cultivation*** – Economic sustainability of the irrigated wheat crop - compared to non-irrigated wheat, the results obtained in the three analysis variants for irrigated wheat, due to the higher financial effort, have lower economic effects than non-irrigated wheat. In the analysis variant income with area payments the results become positive for conventional wheat (profit rate +13.7%) and organic (profit rate +1.7%) and negative for in-conversion wheat (-20.9%). In the third analysis variant income with direct payments + sM 11. 1 (293 euro/ha), the profit rate becomes positive (+0.9%) ensuring a gain of 13 euro, while for organic wheat in the analysis variant income with direct payments + sM 11.2 (218 euro/ha), the profit rate is 17.9% ensuring a gain of 241 euro/ha.

In addition to the operational costs substantiated in this paper, other transition costs are related to the certification process and conversion to organic farming, and for organic processors are costs related to marketing and distribution, labeling and packaging costs, etc. Costs for training and consultancy are valid for both categories, for organic producers and processors.

**Discussion and conclusions**. Speeding up the transition process requires a sustained financial effort to incentivize producers to adopt practices such as organic farming, intensive sustainable agriculture, precision agriculture, permaculture, agroecology, regenerative agriculture (European Commission, 2024). The comparative study of techno-economic indicators in wheat under conversion compared to conventional wheat reveals the economic inefficiency of the transition period compared to the conventional system, but we can say that the situation becomes stable under conditions of economic efficiency in wheat under organic farming. The efficiency of wheat in the three cropping systems is revealed in the variants where direct payments and support under sub-measure 11.1 and sub-measure 11.2 were taken into account. In order to succeed in the transition process and to reach the strategic target of "*25% of the total utilised agricultural area to be converted to organic farming"* set by the *Farm to Fork* Strategy, the financial effort of the CAP needs to be matched to the effort and risks associated with the transition, but also to the effort that the consumer has to make to cover the production costs of the producer and processor.

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