Interreg NWE

Hemp4Circularity

D1.7.2 Economic model for hemp growers

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Data from 30 farmers in 4 countries

During three consecutive growing years (2023, 2024, and 2025), economic cultivation data were collected from 30 farmers in four countries. These data were collected by the different partners in these countries. The average plot size of the plots monitored was 5.6 ha.

For this analysis we only used the cost data of the farmers whose hemp has been scutched. The cost of scutching, total cost and income (€0) of 2 farmers who have not yet scutched their hemp, was not taken into account. This hemp could not be scutched before the end of this project, because of a shortage of scutching capacity for 1 farmer. The straw of the other farmer was of an insufficient quality to be scutched. Both reasons must be taken into account as growing risks, when growing hemp.

The costs, yields, and working hours were recorded by the farmers involved.

Table 1: Number of farmers from the different countries

	2023	2024	2025
Belgian Farmers	3	9	4
Dutch Farmers	1		
French Farmers	2	9	
German Farmers	1	1	
Total	**7**	**19**	**4**

Cost analysis

Total costs

Figure 1 provides an overview of the costs. It shows that almost half (46%) of the costs for growing fiber hemp are the scutching cost. The second largest cost is harvesting (17%), and the third largest cost is the hemp seed (13%). The other cultivation costs amount to less than 10% of the total costs. General structural costs and the rent cost is not included in this cost analysis.

In this study, the results of which are shown in Table 2, the farmers reported an average cultivation cost of €3722 per hectare for hemp for textiles. This cultivation cost varies greatly, from €2672/ha to €5338/ha.

The main reasons for this wide variation are the significant differences in yields, the location and clustering of plots, and the grower's experience with hemp for textiles.

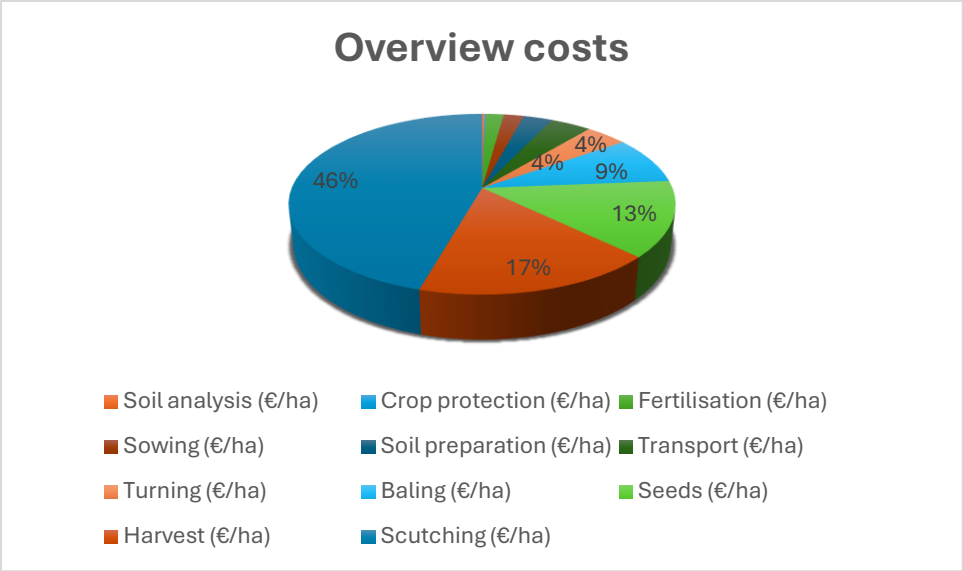


Figure 1: Cost Overview

Table 2: Cost Overview

	Average (€/ha)	Minimum (€/ha)	Maximum (€/ha)
Total Cost	**3722**	**2672**	**5338**
Soil analysis (€/ha)	8	0	42
Soil preparation (€/ha)	109	45	200
Fertilisation (€/ha)	69	0	210
Sowing (€/ha)	77	40	140
Seeds (€/ha)	493	347	638
Crop protection (€/ha)	15	0	280
Harvest (€/ha)	645	450	1247
Turning (€/ha)	153	80	380
Baling (€/ha)	314	170	400
Transport (€/ha)	148	25	352
Scutching (€/ha)	1692	622	2856

Scutching cost

The cost of scutching accounts for 46% of the total cost of growing textile hemp. This cost varies from €622 to €2856. The main determining factor for the cost of scutching is the straw yield of the field. High straw yields result in higher processing costs, which normally also leads to higher income.

The different pricing structures are also interesting, namely price per ton, price per ton with an hourly adjustment, or price per hectare. It is clear that the fixed price per hectare (€1800-1900) reported by French growers can be advantageous in the case of high straw yields, but it can be expensive in the case of low straw yields.

Cost of Hemp seeds

The cost of seed averages €493 per hectare. The minimum is €347 per hectare, the maximum €638 per hectare. These differences can be explained by the following reasons:

• Sowing density, which varies from 70 to 90 kg/ha.

• The variety sown, with prices varying from €4 to €29 per kg of seed.

• The quantity ordered also determines the shipping cost.

• The year in which the order was placed. Prices for hemp seed vary from year to year, with a clear upward trend in the average price of hemp seed in 2025 compared to 2023/2024.

Cost for harvesting, baling and turning

The average costs for harvesting, baling, and turning are €645, €314, and €153 per hectare, respectively. Again, there is considerable variation here. This can mainly be explained by:

- The location and size of the plots in relation to other plots. Clustering of plots can significantly reduce transport costs for harvesting and turning machines.
- The number of times the hemp is turned and the quality of the swath, which greatly influences working time, explain the differences in turning.
- For harvesting, it can be noticed that French growers have lower costs than the average for the four countries. The average French harvesting cost is €523/ha, compared to an average of €645/ha over the 30 growers.

Fertilization

The average cost of fertilization is €69 per hectare. Again, there is a wide variation between €0 and €210 per hectare. Some plots were not fertilized at all, while others were fertilized free of charge by a livestock farmer, resulting in no fertilization costs. Due to the lower nutrient requirements, the cost of fertilization remains low for hemp cultivation for textiles.

Crop protection

The average cost of crop protection is €15 per hectare. The only cost taken into account here is the cost of scaring away and controlling birds and/or snails shortly after sowing. Again, there is considerable variation here. This variation depends solely on the predator pressure that prevails just after sowing. There are no other costs for crop protection in the cultivation of hemp for textiles.

In general, it can be said that the cost of crop protection is negligible.

Transport and storage

The average cost of transport and storage is €149. This cost is probably an underestimate. It is not easy for growers to estimate the exact labour hours and associated costs for loading, transporting, and storing the hemp bales. This is sometimes also done by or in collaboration with the scutcher.

This cost varies between €100 and €352 and depends heavily on who carried out the transport and the distance between the plots and the scutching line. Once again, we can see that French growers have significantly lower transport costs due to the short distance to the scutching line.

It seems important to take this cost into account before sowing hemp.

Soil analysis, Sowing and soil preparation

The results of these questionnaires show no big difference in sowing cost, soil analysis or soil preparation cost compared to other arable crops. The differences between the farmers can be explained by:

- The surface of the field
- The individual mechanisation cost of the farmer, including his labour cost, fuel cost, type of machinery and the size of the farm
- The choice to work with a contractor or the farmer does it himself
- The number of cultivation steps, f.e. ploughing or not

Income analysis

Figure 2 provides an overview of the income generated from the cultivation of hemp for textiles. For the purposes of this study, none of the subsidies granted by Member States for the cultivation of hemp as part of environmental measures within the CAP were taken into account.

The sale of long fibers is the main source of income (66%). However, income from the sale of long fibers fluctuates greatly, as shown in Table 3. With a minimum of €590 per ha and a maximum of €7761 per ha, this difference is very wide. This uncertain income therefore contributes to the greater cultivation risk for the cultivation of hemp for textiles.

However, it is clear that French growers achieve an average long fiber income of €5371.

From this, it can be concluded that experience in cultivation can greatly stabilize and increase yields. For practical cultivation tips and tricks, some other project reports from this project can help to increase the physical yields and experience.

The yields of short fibers and shives also fluctuate, but these are less decisive for the profitability of this crop. Higher short fiber yields can be linked either to high straw yields or to lower long fiber yields.

The average income is quite good, because the selling prices in 2023 were quite high. Also in 2024 and 2025, prices were higher than the average of the past ten years. So the long (flax) fibre market is beneficial at this time, but still hemp needs to find its place in this market and trade.

Table 3: Overview of the revenues

	Average (€/ha)	Minimum (€/ha)	Maximum (€/ha)
Total Income	**6176**	**1700**	**11980**
Long fibre (€/ha)	4080	590	7761
Short fibre (€/ha)	1779	545	4156
Shives (€/ha)	342	0	1013

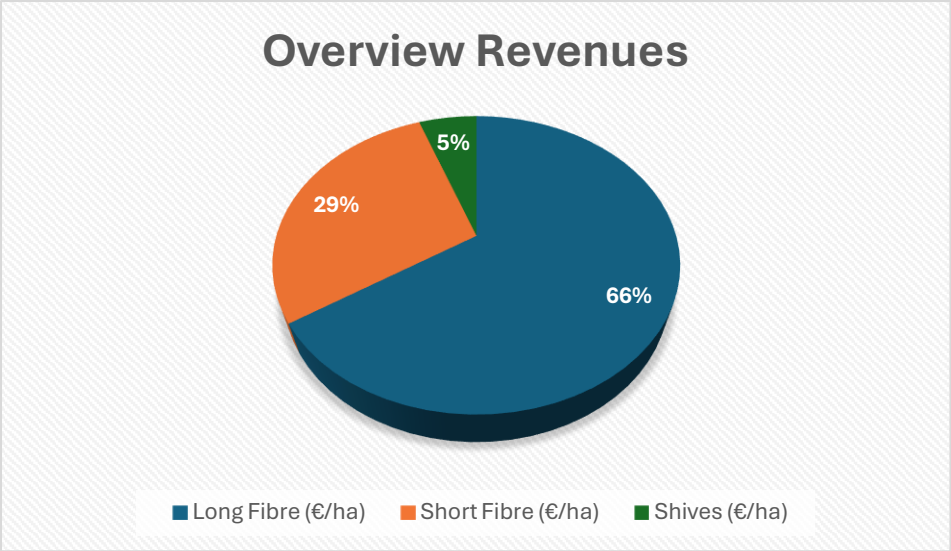


Figure 2: Overview hemp revenues

Profit analysis

Table 4 shows the balance calculation for the cultivation of hemp for textiles. Subsidies are not included in this analysis. Labor costs have already been taken into account in the corresponding cultivation activities. The gross margin was calculated as the difference between income and costs. This gross margin averages €3002. Once again, the high variability is remarkable. The most negative gross profit is -€1106/ha, but is opposed by a maximum gross profit of €8405 per ha, a very good result in arable farming. The median is €1873. This means that half of the growers have a gross balance lower than €1873. A number of growers with very good results are pushing the average up significantly.

If we also take into account a rent of €400 and an average structural cost of €400 per ha (approximate average arable farming from the Flemish Department for Agriculture 2020-2024), we can conclude that half of the farmers in this project have earned less than €1073 from this crop. This remains an important point of attention, especially for the image of the crop.

On average, a grower is left with a net profit of €2202 to make necessary investments. This is higher than for traditional arable crops, but the cultivation risk for hemp for textiles is also bigger, compared to most arable crops.

On the other hand, within this project, one grower achieved a net profit of €7605 per hectare, a result many growers probably dreamt of.

Table 4: Profit analysis

	Average (€/ha)	Minimum (€/ha)	Maximum (€/ha)	Median (€/ha)
Gross profit	**3002**	**-1106**	**8405**	**1873**
Rent	400	400	400	400
Other structural costs	400	400	400	400
Net Profit	**2202**	**-1906**	**7605**	**1073**

Labor analysis

As part of this project, farmers also recorded the time spent on various tasks.

These results appear to be very similar to those for flax cultivation. During harvesting, turning, and baling, the quality and harvesting conditions have a significant impact on the amount of labor required.

Table 5: Labour Analysis Hemp

2023-2025	Hours (hours/ha)
Soil preparation	2.3
Sowing	1.0
Fertilisation	0.6
Harvest	1.4
Turning	1.5
baling	1.7

Conclusions

- Hemp for textiles can be an interesting crop to increase the income of arable farmers in NWE.
- Hemp for textiles is a cultivation which needs some experience and is therefore a crop with a high cultivation risk to start with. There's a huge variability in income and costs. A grower who wants to start with hemp for textiles, must be aware of this risk.
- Still more experience and knowledge is needed for the sowing, harvesting, turning and scutching of hemp for textiles. In this way the costs and the cultivation risk can become lower.
- Clustering of hemp for textiles can help to share experiences and lower the costs for transport of straw and machinery.
- Scutching capacity and market opportunities remain bottlenecks in the processing and trade of hemp for textiles. New markets need to be developed, to facilitate the trade and selling of hemp for textiles.