



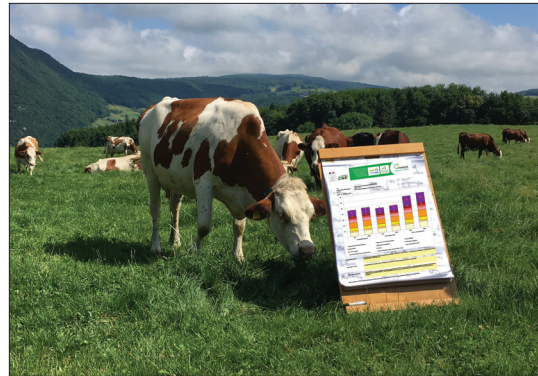
French results



COLLECTION THÈMA

THE NATIONAL METHOD TO CALCULATE PRODUCTION COSTS IN LIVESTOCK FARMING

Guiding principles and indicators



The production cost approach suggested by the French Livestock Institute (Institut de l'Élevage) has been developed thanks to a close partnership with the Chambers of agriculture within INOSYS, the French livestock network of reference farms.

First of all, this method enables to determine a calculation suited to the characteristics of French farms which are very often diversified. It allows the comparisons with other countries, by building on the methods used by the two global research

networks IFCN (International Farm Comparison Network) for dairy production and agri benchmark for beef and sheep meat production. The national method of calculating production costs is nowadays made available to the stakeholders of the livestock farming sector who wish to use it. It is also carried out within an advice tool named COUPROD intended for breeders and advisors.

AN ENTERPRISE-LEVEL APPROACH

The production cost is related to the whole enterprise taken into account, i.e. the breeding stock as a whole and the young animals designed for its replacement: cows and heifers, ewes and ewe lambs, goats and kid goats, including also bulls, rams or billy goats when appropriate. All the areas used for feeding the herd/flock are considered: the main forage area and the crops area used for livestock feeding.

If the farm is made up of several enterprises, overheads and opportunity costs are allocated by using keys defined on a national level (see pages 9 and 10). These keys depend on the type of cost to be allocated, as well as the nature of the enterprise.

THREE MAJOR KINDS OF COSTS

The production cost of the enterprise results from an "accounting" approach of the farm. It enables to measure the costs of the enterprise aside from the self-financing level or ownership of the means of production. The first step of the production cost calculation leads to the distribution of all the costs in various cost categories (see table next page). Three cost categories can be distinguished:

- **Cash costs** concern expenses, which bring about monetary flows during the financial year, excluding the farmer's social contributions; each item is adjusted to inventory changes. On-farm produced grains for livestock feeding are included on the basis of their production cost.
- **Depreciation** matches with the wear and tear, the obsolescence of the farm machinery, buildings, facilities and land improvements.
- **Opportunity costs** enable to remunerate the factors of production made available by the farmer for his business: owned land (remunerated at the average rental price of the farm or the region), equity capital (remunerated at the interest rate of a saving account), and the labour dedicated by the farmer to the enterprise. The farmer's labour is paid on the basis of a 2.0 French gross minimum wage per annual worker unit (AWU). This amount includes the farmer's social contributions that are not taken into account in the cash costs. This flat-rate remuneration of the farmer's labour and the invested capital is used to draw up the production cost references. It can also be adapted to the farmer's objectives in the context of an individual advice.

Example of a meat sheep enterprise production cost calculation (Source: INOSYS, the French livestock farm network, 2018)

This meat sheep enterprise is part of a 55 ha lowland farm, of which 9 ha with cereal crops for sheep feeding, and 450 ewes producing 840 lambs
Marketed lambs: 13,100 carcass equivalent kg.

Labour: 1.0 farmer's AWU (100% for the sheep enterprise)

Production cost of the unit	€8.91
> Cash costs	€5.00
Procurement for animals	€0.94
Purchase of concentrates and minerals	€0.94
Purchase of forages	€-
Land procurement	€0.72
Fertilisers and soil improvements	€0.36
Seeds	€0.23
Other plant charges	€0.13
Livestock costs	€0.84
Veterinarian costs	€0.28
Other livestock costs	€0.56
Machinery (excluding depreciation)	€1.01
Farming activities carried out by third parties	€0.47
Fuel and lubricant	€0.22
Equipment maintenance	€0.29
Purchase of minor farming equipment, leasing	€0.03
Farm buildings (excluding depreciation)	€0.12
Water	€-
Electricity and gas	€0.07
Building renting	€0.05
Management miscellaneous costs	€0.58
Transport, insurances, management costs	€0.58
Land charges and capital	€0.79
Tenant farming and land charges	€0.54
Financial costs	€0.25
Labour	€-
Wages and social contributions	€-
> Depreciation	€1.05
Equipment	€0.35
Buildings and facilities	€0.57
Land improvements	€0.03
Other depreciation	€0.10
> Opportunity costs	€2.86
Owned land profit	€0.05
Equity return	€0.07
Farmer's labour return	€2.74
> Unit returns	€8.50
Lamb prices	€6.17
Other incomes	€0.30
Granted subsidies	€2.03

RETURNS ALLOCATED TO THE ENTERPRISE

The way the returns of the livestock enterprise are taken into account depends highly on the production. Nevertheless, three major types of returns can be distinguished:

The main return of the enterprise is obviously the milk return in dairy farms, i.e. the quantity of milk sold multiplied by the average price of the milk. For meat sheep, the main return is here linked with the sale of lambs; as for beef cattle, it matches store and finished cattle. For meat sheep and beef cattle, stock changes related to enrolment gaps between the beginning and the end of the accounting year are taken into account; cattle procurement is deducted from the main return of the unit.

Other returns represent a more or less considerable part of the returns depending on the sector. For dairy farms, this item includes the sales of cull animals and calves/kids/lambs; for meat sheep flocks, cull sales; and for all the sectors, miscellaneous returns assigned to the unit (sale of hay, manure, wool, ...).

Finally, the item « **subsidies** » includes all the subsidies that are allocated to this enterprise. First of all, it concerns CAP coupled subsidies that are specific to the enterprise: dairy cow subsidy, beef cattle subsidy, sheep or goat subsidy, as well as the CAP decoupled and second pillar subsidies, generally allocated in proportion to the land used.



THE PRODUCTION COST, AN INDICATOR PER UNIT PRODUCED

Whatever the production, it is necessary to know what is produced to assess a production cost. The answer to this question is easy for the dairy sector for which the major production is the quantity of milk marketed (possibly processed). For beef and meat sheep production, it is less straightforward due to the range of animals sold: live lambs sold, on a carcass basis or as breeding animals; cull cows sold as lean or fattened, calves, weaners, lean or fattened heifers. Precisely, the production cost indicators are expressed per 1,000 liters of milk marketed for the dairy sector, per carcass equivalent kg. for lambs marketed in the meat sheep sector and per 100 kg. of live meat produced in the beef cattle sector.

How the unit production must be calculated in the meat production sector...



For meat sheep:

Lamb production in carcass equivalent kg

- = [sales amount of lambs (live or in carcass)
- amount of lambs purchased for fattening and breeding
- + asset value of the lambs retained on the farm at the end of the accounting period
- asset value of the lambs retained on the farm at the beginning of the accounting period]
- / [average price per kg. of the lambs sold in carcass]



For beef cattle:

Gross live weight production per 100 kg.

- = [weight of the animals sold alive]
- + [weight of the animals sold in carcass /carcass yield]
- [weight of the animals purchased for fattening or breeding]
- + [weight of the animals retained on the farm at the end of the accounting period]
- [weight of the animals retained on the farm at the beginning of the accounting period]



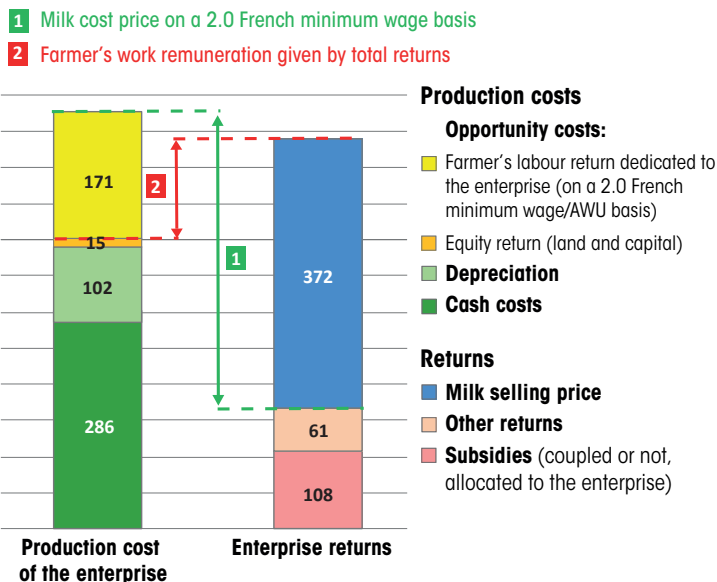
THE COST PRICE AND THE FARMER'S WORK GIVEN BY TOTAL RETURNS

The **cost price** of the milk or the meat fits in with the selling price which enables to compensate all the costs incurred by the farmer (cash costs, depreciation costs), as well as opportunity costs (factors of production remuneration), considering subsidies and other returns.

The **farmer's work remuneration** given by total returns enables to measure the part of the incomes allocated to the enterprise which remains for the farmer's labour return once all the other costs have been covered (cash costs, depreciations, and land and capital opportunity costs). This profit is expressed per 1,000 liters of milk, per 100 kg. of the live weight produced or per kg. of the lamb carcass sold, and as a minimum wage equivalent per farmer's labour unit allocated to this enterprise.

Various indicators of the production cost approach
(Source : INOSYS, the French livestock farm network, 2018)

This dairy unit is part of a 113 ha farm located in mountain area, of which 5 ha of cash crops, with 49 dairy cows and 41 suckler cows.
Marketed milk: 300,000 liters
Labour: 2.0 farmer's AWU and 0.1 hired worker's AWU (of which 1.4 and 0.1 AWU for the dairy unit)



example of the above figure

The major indicators of the production cost method

Cost price for a 2.0 French minimum wage/AWU expressed in €/unit

- = The production cost of the enterprise
- Other returns
- Subsidies

Farmer's work remuneration given by total returns expressed in €/unit

- = Total returns of the enterprise
- The production cost
- + Farmer's labour remuneration (on a 2.0 French minimum wage)

Farmer's labour remuneration given by total returns expressed in minimum wage/AWU

- = Farmer's labour remuneration given by total returns expressed in €/unit
- x Number of items produced/sold per farmer's AWU dedicated to the enterprise
- / French annual net minimum wage multiplied by 1.3

$$574 - 61 - 108 = \text{€}405 / 1,000 \text{ liters}$$

$$541 - 574 + 171 = \text{€}138 / 1,000 \text{ liters}$$

$$138 \times [300 / 1.4] / [14,120 \times 1.3] = 1.6 \text{ minimum wage / farmer's AWU}$$

Units: 1,000 liters of milk, lamb carcass equivalent kg., 100 kg. of beef live weight

SOME KEYS TO DISTRIBUTE NON ALLOCATED COSTS

In order to calculate the production costs of a mixed farm (i.e.: dairy cattle, beef cattle, and cash crops), distribution keys have been determined from the INOSYS French livestock farm network data in order to divide costs between the various enterprises of a single farm.

These allocation keys represent cost ratios between enterprises. They are shared with all the herbivore sectors. Based on physical units (LU or ha), they have been obtained by a statistical data processing of the farms monitored within the framework of INOSYS, the French livestock farm network.

Table hereunder shows an extract of the allocation keys fixed for overheads and labour costs. The baseline of these keys is the livestock unit (LU) represented by a lowland dairy cow. Other farming systems (counted in LU), as well as cash crop or forage crop areas (counted in ha, except grasslands which have still been included through LU) are compared with this baseline. Precisely, compared with lowland dairy farms, machinery costs per LU are 18% higher for mountain dairy farms (see line 3 of table) and 33% lower than mountain cow-calf producers (line 5).

Example of allocation keys use

Let's look into the dairy cattle as in the previous example (graph 4), of which the machinery cost (with depreciation) is €45,300 for whole farm. Its characteristics are the following:

- Mountain dairy cattle: 72.8 LU

- Mountain beef cow-calf producers: 55.1 LU
- Mountain cash crops: 5 ha, of which 4 ha used by dairy cattle
- Mountain forage crops: 3 ha used by dairy cattle

Using allocation keys enables us to calculate first of all the number of weighted units for the whole farm, here for machinery:

$$[\text{dairy LU} \times \text{dairy key} + \text{beef cattle LU} \times \text{beef cattle key} + \text{cash crop areas} \times \text{cash crop area key} + \text{forage crops} \times \text{forage crop key}] = [72.8 \times 1.18 + 55.1 \times 0.67 + 5 \times 1.10 + 3 \times 0.36] = 129.4$$

Secondly, let's calculate the number of weighted units for the dairy enterprise:

$$[\text{dairy LU} \times \text{dairy key} + \text{dairy cash crops} \times \text{cash crop key} + \text{dairy forage crops} \times \text{forage crop key}] = [72.8 \times 1.18 + 4 \times 1.10 + 3 \times 0.36] = 91.4$$

Let's finally calculate the part of the machinery cost to be allocated to the dairy enterprise:

$$[\text{Dairy weighted units} / \text{farm weighted units}] = [91.4 / 129.4] = 71\%$$

The amount of the machinery cost to be allocated to the dairy enterprise is consequently:

$$[\text{Machinery costs}] \times [\text{Dairy weighted units} / \text{farm weighted units}] = €45,300 \times 71\% = €32,200$$

Please note: grassland is not taken into account for the cost distribution as its effect is statistically mostly combined with the grazing animals LU one.

Allocation keys of overhead and labour costs between farm enterprises (table extract)

(Source: the French Livestock Institute [Institut de l'Élevage] from INOSYS, the French livestock farm network)

Enterprise	Machinery costs	Buildings costs	Capital costs	General costs	Labour costs
Lowland dairy cattle	1.00	1.00	1.00	1.00	1.00
Dairy cattle with a milking robot	1.06	1.65	1.11	0.90	0.78
Mountain dairy cattle	1.18	1.18	1.28	1.05	1.41
Lowland beef cow-calf	0.62	0.41	0.77	0.68	0.51
Mountain beef cow-calf	0.67	0.37	0.84	0.71	0.77
Intensive meat sheep	0.50	0.32	0.36	0.62	0.67
Grassland meat sheep	0.59	0.37	0.57	0.84	0.85
Lowland forage crops	0.58				
Mountain forage crops	0.36				
Lowland cash crops	0.89	0.25	0.67	0.65	0.44
Mountain cash crops	1.10	0.12	0.30	0.53	0.24

FOR A TECHNICAL ANALYSIS OF PRODUCTION COSTS

Even if they are not necessarily of the same type (cash costs, depreciation, opportunity costs), the costs which are included in the production cost of the livestock enterprise may be gathered in thematic subsets: feeding, machinery, labour...

Height major expense items can usually be distinguished:

- **Purchased feed:** procurement of concentrates and forage and summer mountain pasture fees,
- **Area procurement:** fertilizer, seeds, pesticides and other supply,
- **Livestock costs:** veterinarian costs, breeding, identification, performance recording...
- **Machinery:** contractors, fuel and lubricant, equipment maintenance and depreciation,
- **Farm buildings and facilities:** water, gas, electricity, building maintenance and renting, building and facility depreciation,
- **Management miscellaneous costs:** insurances, management costs ...
- **Land charges and capital:** tenancy farming, land charges, land improvement depreciation, owned land and capital investment remuneration, financial costs
- **Labour:** wages and social contributions, farmer's labour remuneration

Some items may be gathered, as for example for the **feeding system cost** which gathers the items

purchased feeding + area procurement + machinery + land charges. In the example given in the graph opposite, the feeding system cost is equal to: $69 + 25 + 108 + (19 + 10) = \text{€}231$, i.e. 40% of the total production cost.

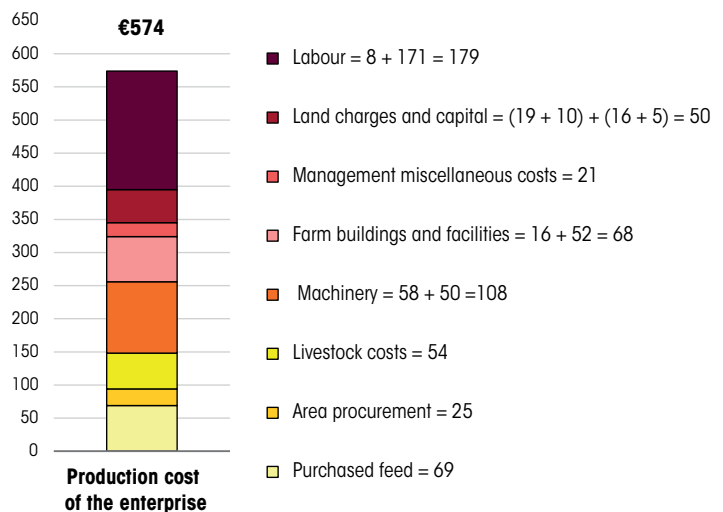
Technical distribution of the production cost

(Source: INOSYS, the French livestock farm network, 2018)

This dairy unit is part of a 113 ha mountain farm, of which 5 ha of cash crops and a herd made up of 49 dairy cows and 41 suckler cows.

Marketed milk: 300,000 liters

Labour force: 2.0 farmer's AWU and 0.1 hired worker's AWU (of which 1.4 and 0.1 AWU for the dairy unit)



On which bases can the farmer's labour be appraised and allow returns?

The farmer's work time is expressed in annual labour units (AWU) for lack of being able to measure it on the basis of hours really spent in the livestock enterprise. Someone working at full-time on the farm counts for 1 AWU. On the other hand, the **employee's work time** is evaluated on the basis of the information stated in his employment contract (1,607 hours per year for a full-time job).

For diversified farms, the part of the labour force which can be assigned to an enterprise is evaluated by using the distribution keys suggested by the French Livestock farm network references (see table page 9, column "workforce"). Thus, it enables to judge the labour productivity assigned to the enterprise, in liters of milk per AWU assigned to the dairy unit, in kg. live weight (LW) per beef cattle AWU or in lamb carcass equivalent kg. per sheep AWU.

The farmer's labour remuneration does not take into account nor the salaried workforce (wages and social contributions are included at their real cost in the cash costs), neither the volunteer labour.

By convention, nor the wages paid to the shareholders (within corporate structures) neither the farmer's social contributions are directly taken into account in the production costs. The farmer's labour is paid on the basis of a 2.0 French gross minimum wage per AWU. In order to make it easier and depending on national multi-year estimates, the French gross minimum wage is obtained by multiplying the annual net minimum wage by 1.30.

INTERESTS AND LIMITS OF THE PRODUCTION COST APPROACH

The major interest of the « production cost » approach lies in enabling a basic representation of the enterprise economic results. Costs and incomes are there expressed in the same unit (€ per 1,000 litters of marketed milk, per 100 kg. of live weight or per kg. of lamb carcass equivalent). Being able to compare the value of the various indicators between farms, groups of farms or references is also interesting as long as the methods used for the calculation are properly the same.

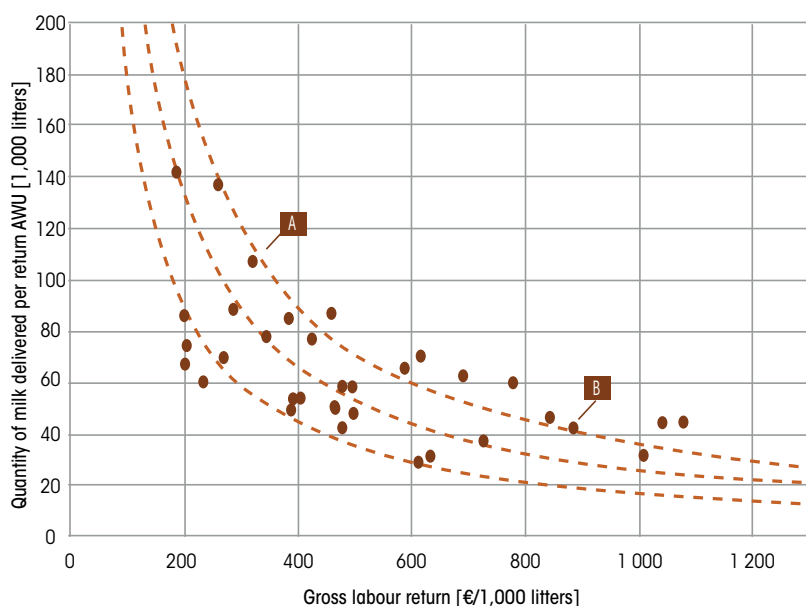
Nevertheless, such an approach is not enough to appraise the economic efficiency of the farm in the whole, especially because it partly hides the effect of the labour productivity. In fact, it is necessary to multiply the level of the return enabled per unit produced by the amount of milk or meat produced per AWU allocated to the enterprise (workforce productivity) in order to calculate the annual workforce

remuneration. A weak remuneration per unit produced may be counterbalanced by a high labour productivity, and conversely. As illustrated in the graph below, the two farms [A] and [B] are characterised in a different way: the first one shows a high labour productivity, the second one shows a better output valuation and a stricter cost management. Finally, the farmer's labour remuneration is quite the same, about a 2.0 French minimum wage per AWU. Moreover, a low production cost does not always mean that the farm is so healthy. This may in fact hide investments at their end of life which can jeopardize the sustainability (or the take-over) of the farm.

Finally, in case of a mixed farm, all the interactions between enterprises are not taken into account.

Productivity and labour remuneration (related to dairy sheep farms, the French Occitanie area)

(Source: INOSYS, the French livestock farm network, 2017)



Farms managed with hired workforce

Labour productivity of farms managed with hired workforce is calculated by dividing the amount of milk or meat produced by the total number of workers, the farmer and employed workforce. In order to appraise the impact of this productivity on the labour remuneration, the gross labour remuneration related to the whole workforce, farmer and salaried, is calculated. It can be expressed in euros per 1,000 litters of milk, 100 kg of gross live weight or kg. carcass of lamb sold and in French minimum wage equivalents per labour.

Gross labour return = total returns of the enterprise – total production costs + farmers' labour remuneration (based on a 2.0 French minimum wage) + employed labour costs (wages and social contributions).



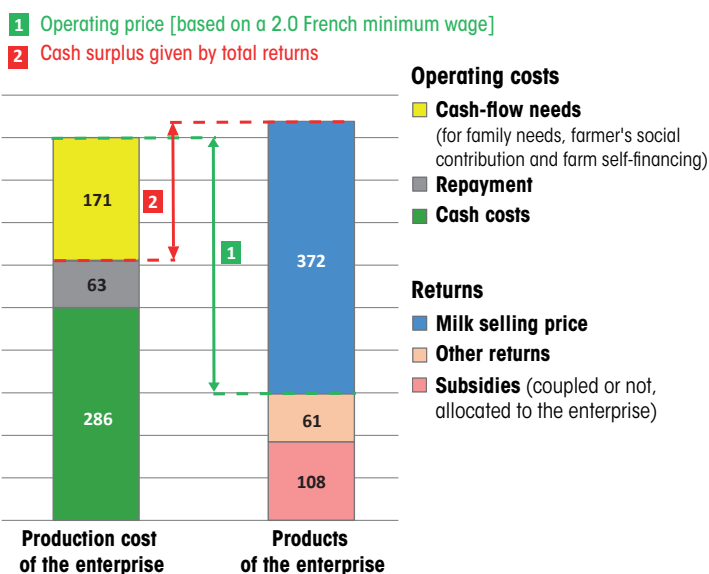
FARM CASH ANALYSIS: OPERATING PRICES AND CASH SURPLUS GIVEN BY TOTAL RETURNS

This methodology section wouldn't be complete without presenting the second approach related to cash surplus which can be implemented in case of individual advice. In that case, depreciation is replaced by loans principal repayment and, for the sake of simplification, capital investment and owned land remuneration are not taken into account. The farmer's labour remuneration is replaced by the cash-flow for family needs (based on 2.0 French minimum wage), the farmer's social contributions and the farm self-financing. The production cost, the cost price and the farmer's work remuneration given by total returns are replaced by the **operating cost**, the **operating price** and the **cash surplus given by total returns**.

Indicators of the farm cash approach

(Source: INOSYS, the French livestock farm network, 2018)

This dairy unit is part of a 113 ha farm located in mountain area, of which 5 ha of cash crops, with 49 dairy cows and 41 suckler cows. 300,000-litter marketed milk
 Labour: 2.0 farmer's AWU and 0.1 hired worker's AWU (of which 1.4 and 0.1 AWU for the dairy unit)



COUPROD, an advice tool for farmers

This advice tool has been developed by the French Livestock Institute (Institut de l'Élevage) from a proven method enabling each farmer:

- To calculate production costs of his various livestock enterprises, the cost price and the farmer's work remuneration given by total returns,
- To make strategic decisions by comparing his enterprise results to others.

This software can be used either through an individual advice or focus groups. It makes it possible to the largest number of producers to analyse their results, to identify improvement levers and to simulate the impact of a new environment on their farm.

COUPROD is well adapted to all the livestock farms (dairy and beef cattle, dairy and meat sheep, dairy goats); it makes it possible to dissociate livestock costs from those related to crops.

The **Web option** allows farmers to learn how to calculate the cost of production and to take better control of the management of their farm. For students, using Couprod based on the results of a farm is a good way to learn about the method.



For more information: couprod.fr

This software has been funded by the Confédération Nationale de l'Élevage (CNE) and FranceAgriMer (Agriculture and Seafood Board)



Allocation keys of overheads between enterprises

(Source: the French Livestock Institute [Institut de l'Élevage] from data of the French INOSYS livestock farm network)

Enterprise	Machinery	Buildings and facilities	Capital charges	General costs	Labour
Lowland dairy cattle	1.00	1.00	1.00	1.00	1.00
Dairy cattle with a milking robot	1.06	1.65	1.11	0.90	0.78
Mountain dairy cattle	1.18	1.18	1.28	1.05	1.41
Dairy cattle with on-farm cheese processing	1.61	1.68	1.09	1.38	1.63
Organic lowland dairy cattle	0.89	1.17	1.07	1.21	1.08
Organic mountain dairy cattle	1.28	1.24	1.53	1.41	1.71
Lowland beef cow-calf	0.62	0.41	0.77	0.68	0.51
Mountain beef cow-calf	0.67	0.37	0.84	0.71	0.77
Lowland cow-calf and beef finishing	0.59	0.34	0.77	0.61	0.46
Mountain cow-calf and beef finishing	0.81	0.42	0.96	0.73	0.82
Dairy young bulls	1.06	0.52	1.28	0.78	0.32
Beef young bulls from weaners	0.63	0.36	1.21	0.54	0.38
Dairy steers	0.27	0.15	0.14	0.77	0.46
Organic lowland beef	0.69	0.37	0.62	0.82	0.89
Organic mountain beef	0.97	0.52	0.89	1.64	1.27
Dairy sheep delivery	1.24	1.15	1.35	1.24	1.71
Dairy sheep with on-farm cheese processing	1.25	1.31	1.24	2.22	3.02
Organic dairy sheep delivery	1.06	1.07	1.03	1.24	1.71
Meat sheep	0.50	0.32	0.36	0.62	0.67
Grassland meat sheep	0.59	0.37	0.57	0.84	0.85
Pastoral meat sheep	0.47	0.37	0.30	0.69	1.07
Organic meat sheep	0.66	0.27	0.30	0.86	0.96
Lowland dairy goat	1.03	1.14	0.84	1.30	1.77
Mountain dairy goat	1.10	1.73	1.33	1.63	2.09
Dairy goat with on-farm cheese processing	1.80	2.19	1.60	3.29	5.01
Organic dairy goat with on-farm cheese processing	1.47	2.38	1.29	3.41	5.42
Draught horses	0.20	0.35	1.11	0.54	0.28
Other horses	1.65	2.03	2.48	4.37	4.13
Lowland forage crops	0.58				
Mountain forage crops	0.36				
Lowland cash crops	0.89	0.25	0.67	0.65	0.44
Cash crops with industrial crops (> 5%)	1.24	0.32	1.12	1.22	0.43
Organic lowland cash crops	1.69	0.45	1.10	0.98	0.36
Mountain cash crops	1.10	0.12	0.30	0.53	0.24
Irrigated land	0.22				

Allocation keys of area operational costs between types of cultures

(Source: the French Livestock Institute [Institut de l'Élevage] from data of INOSYS, the French livestock farm network)

Enterprise	Fertilizers and amendments	Seeds	Pesticides
Lowland forage crops	1.24	2.49	0.56
Mountain forage crops	1.45	2.50	0.53
Lowland temporary grassland	0.33	0.18	0.02
Lowland permanent grassland	0.22	0.02	0.01
Mountain temporary grassland	0.41	0.26	0.02
Mountain permanent grassland	0.19	0.03	0.01
Lowland cash crops	1.00	1.00	1.00
Cash crops with industrial crops (>5%)	1.08	1.23	1.37
Organic lowland cash crops	1.00	1.00	1.00
Mountain cash crops	0.95	1.09	0.43

Allocation keys of animal operational costs between enterprises
(Source: the French Livestock Institute [Institut de l'Élevage] from data of INOSYS, the French livestock farm network)

Enterprise	Livestock costs	Veterinarian costs
Lowland dairy cattle	1.00	1.00
Dairy cattle with a milking robot	1.11	0.79
Mountain dairy cattle	0.95	1.02
Dairy cattle with on-farm cheese processing	1.00	1.00
Organic lowland dairy cattle	0.70	0.56
Organic mountain dairy cattle	0.91	0.59
Lowland beef cow-calf	0.25	0.80
Mountain beef cow-calf	0.26	0.72
Lowland cow-calf and beef finishing	0.22	0.72
Mountain cow-calf and beef finishing	0.26	0.71
Dairy young bulls	0.07	1.30
Beef young bulls from weaners	0.11	0.97
Dairy steers	0.05	0.40
Organic lowland beef cattle	0.26	0.45
Organic mountain beef cattle	0.28	0.41
Dairy sheep delivery	0.90	0.64
Dairy sheep with on-farm cheese processing	1.03	1.89
Organic dairy sheep delivery	0.64	0.39
Meat sheep	0.36	0.56
Grassland meat sheep	0.34	0.73
Pastoral meat sheep	0.32	0.40
Organic meat sheep	0.39	0.58
Lowland dairy goat	1.17	0.52
Mountain dairy goat	1.15	0.59
Dairy goat with on-farm cheese processing	1.33	0.54
Organic dairy goat with on-farm cheese processing	1.09	0.60
Draught horses	0.05	0.23
Other horses	2.00	2.16

FOR FURTHER INFORMATION

- Livestock economy file, number 501 (october 2019)



- The results of the French livestock network of reference farms (INOSYS)



Report published by the French Livestock Institute (Institut de l'Élevage)
149 rue de Bercy – 75595 Paris Cedex 12 – www.idele.fr - May 2020 – Idele Reference Idele : 0020 502 041
Layout: Corinne Maignet – Photo credit: Corinne Maignet - IDELE/CRAPDL
Translation: Michèle Boussely

Contributors:

Vincent Bellet - Institut de l'Élevage - tél. +33 5 49 44 74 94 - vincent.bellet@idele.fr
Mylène Berruyer - Institut de l'Élevage - tél. +33 2 49 71 06 25 - mylene.berruyer@idele.fr
Nicole Bossis - Institut de l'Élevage - tél. +33 5 49 44 74 94 - nicole.bossis@idele.fr
Thierry Charroin - Institut de l'Élevage - tél. +33 4 77 92 12 31 - thierry.charroin@idele.fr
Emmanuel Morin - Institut de l'Élevage - tél. +33 5 61 75 44 35 - emmanuel.morin@idele.fr
Yannick Péchuzal - Institut de l'Élevage - tél. +33 4 43 76 06 82 - yannick.pechuzal@idele.fr
Christèle Pineau - Institut de l'Élevage - tél. +33 4 43 76 06 83 - christele.pineau@idele.fr
Benoît Rubin - Institut de l'Élevage - tél. +33 6 22 94 04 03 - benoit.rubin@idele.fr

INOSYS – French livestock network of reference farms

A partnership approach involving farmers and engineers of the French Livestock Institute and the Chambers of Agriculture in order to provide references on livestock farming systems.

This report has been drawn up with a funding from the Special Appropriation Account Allocated to Agricultural and Rural Development run by the French Ministry of Agriculture and from the Confédération Nationale de l'Élevage (CNE). The responsibility of the funders shouldn't be engaged for the analyses and comments developed inside this report.

