**Supplementary material**

**Table 1.** Dairy farmers' perceptions of sources of guidance for using decision support tools (DSTs).

Different letters indicate significant differences among sources ($p < 0.10$).

| Source of guidance | Not enough (1) | No, but I don't need it (2) | Sufficient (3) | Median answer | Significance |
|---|---|---|---|---|---|
| Internet | 18 | 11 | 32 | 3 | a |
| Advisers | 22 | 12 | 27 | 2 | ab |
| Technical documents | 24 | 14 | 23 | 2 | abc |
| Exchanges with other farmers | 28 | 12 | 21 | 2 | bc |
| Initial training | 26 | 17 | 18 | 2 | bc |
| Continuing education | 28 | 17 | 16 | 2 | c |

**Table 2.** Frequency of the structural variables and use of decision support tools (DSTs) among the user types (H-NG: high user no grazing, H-T/TG: high user traditional or technical grazing, L-TG: low user traditional grazing, and M-ORG: moderate user organic), along with the significance of the Fisher test, which was used to test for significant differences in user types between the categories of each variable. Abbreviations are as follows: CONV, conventional; ORG, organic; DC, dairy cows; LTG, low percentage of temporary grassland; HTG, high percentage of temporary grassland; RMS, robotic milking system.

| **Variable** | **Category** | **H-NG** | **H-T/TG** | **L-TG** | **M-ORG** | **Significance** |
|---|---|---|---|---|---|---|
| Sample size | | 8 | 24 | 19 | 10 | |
| Grazing practice | No grazing | 6 | 1 | 2 | 0 | < 0,001 |
| | Traditional grazing | 2 | 17 | 16 | 7 | |
| | Technical grazing | 0 | 6 | 1 | 3 | |
| Farming type | CONV | 8 | 24 | 19 | 1 | < 0,001 |
| | ORG | 0 | 0 | 0 | 9 | |
| Farming experience | < 10 years | 0 | 5 | 3 | 0 | NS |
| | > 10 years | 8 | 19 | 16 | 10 | |
| Herd size | < 40 DC | 0 | 2 | 3 | 2 | NS |
| | > 80 DC | 2 | 11 | 4 | 2 | |
| | 40-80 DC | 6 | 11 | 12 | 6 | |
| Milk production | < 6000 L | 0 | 1 | 1 | 6 | < 0,001 |
| | > 9000 L | 7 | 3 | 5 | 0 | |
| | 6000-7500 L | 0 | 1 | 10 | 4 | |
| | 7500-9000 L | 1 | 19 | 3 | 0 | |
| Percentage of temporary grassland | LTG | 0 | 20 | 12 | 6 | < 0,01 |
| | HTG | 8 | 4 | 7 | 4 | |
| Presence of an RMS | No-RMS | 4 | 23 | 19 | 10 | < 0,001 |
| | RMS | 4 | 1 | 0 | 0 | |
| DST use | High user | 3 | 8 | 4 | 1 | < 0,001 |
| | Moderate user | 5 | 16 | 2 | 8 | |
| | Low user | 0 | 0 | 13 | 1 | |

**Table 3.** Influence of the four user types (H-NG: high user no grazing, H-T/TG: high user traditional or technical grazing, L-TG: low user traditional grazing, and M-ORG: moderate user organic) on the frequency of using decision support tools (DSTs), barriers, incentives, interest in DSTs, and sources of information. The median answer per user type is shown, as is as the p-value of the pairwise Wilkinson test when the Wilcoxon signed-rank test was significant. Different letters indicate significant differences among types. Numbers represent the following answers: for DSTs, 5: "Every day", 4: "Many times a month", 3: "A few times a year", 2: "Almost never", 1: "Never"; for barriers and incentives, 4: "Absolutely", 3: "I think so", 2: "I don't know", 1: "Not at all"; for interest: 4: "Yes, I am already thinking about it", 3: "Yes, why not", 2: "Not really", 1: "Absolutely not"; for guidance 3: "Sufficient", 2: "No, but I don't need it", 1: "Not enough".

| **Category** | **Item** | **Significance** | **H-NG** | **H-T/TG** | **L-TG** | **M-ORG** |
|---|---|---|---|---|---|---|
| Sample size | | | 8 | 24 | 19 | 10 |
| DSTs | Milk analyses online | NS | 3 - | 3 - | 3 - | 3 - |
| | Milk analyses on the dairy invoice | NS | 4 - | 3,5 - | 3 - | 3 - |
| | Management accounting | < 0,10 | 4a | 3a | 3a | 4a |
| | Automatic concentrate dispensers | < 0,05 | 4c | 1,5bc | 1ab | 1a |
| | Soil analysis | < 0,10 | 2,5a | 2a | 2a | 2a |
| | Forage analysis | NS | 3 - | 3 - | 3 - | 3 - |
| | Fodder balance | < 0,001 | 3ab | 3b | 1a | 2,5ab |
| | Milk analysis on the farm | NS | 2 - | 1 - | 1 - | 2,5 - |
| | Ration composition software | < 0,01 | 3b | 3b | 1a | 1a |
| | Grazing calendar | < 0,01 | 1a | 1a | 1a | 3,5b |
| | Work-monitoring software | NS | 1 - | 1 - | 1 - | 1 - |
| | Remote fence monitoring | NS | 1 - | 1 - | 1 - | 1 - |
| | Stock management software | < 0,001 | 2b | 1a | 1a | 1a |
| | Feeding application | NS | 1 - | 1 - | 1 - | 1 - |
| | Automatic fodder dispensers | NS | 1 - | 1 - | 1 - | 1 - |
| | Composition of grassland mixtures software | NS | 1 - | 1 - | 1 - | 1 - |
| | Automatic milk dispensers | NS | 1 - | 1 - | 1 - | 1 - |
| | Plate meter | NS | 1 - | 1 - | 1 - | 1 - |
| | Fertilisation software (geolocated) | NS | 1 - | 1 - | 1 - | 1 - |
| | Grassland management software | NS | 1 - | 1 - | 1 - | 1 - |

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|---|---|---|---|---|---|---|
| | Grazing application | NS | 1 - | 1 - | 1 - | 1 - |
| | Grazing management software | NS | 1 - | 1 - | 1 - | 1 - |
| | Automated GPS herd software | NS | 1 - | 1 - | 1 - | 1 - |
| DST use | Number of DSTs used | < 0,01 | 14b | 15b | 17a | 15,5ab |
| Frequency of DST use by scope | Pasture | NS | 1 - | 1 - | 1 - | 1 - |
| | Grassland | NS | 1 - | 1 - | 1 - | 1 - |
| | Feeding | < 0,01 | 3bc | 2,5c | 1a | 1,5ab |
| | Techno-economic | < 0,01 | 3b | 1a | 1a | 1a |
| Frequency of DST use by level of technical sophisticatio n | Indicator | < 0,05 | 2,25ab | 2,5b | 1,5a | 2,75b |
| | Automated tool | NS | 1 - | 1 - | 1 - | 1 - |
| | Software | NS | 1 - | 1 - | 1 - | 1 - |
| Barriers | The equipment and services are too expensive | NS | 3 - | 3 - | 3 - | 3 - |
| | There are communication problems between tools | NS | 3 - | 2,5 - | 3 - | 3 - |
| | It takes too long to enter information | NS | 3 - | 2 - | 3 - | 2 - |
| | The available tools are not robust enough | < 0,05 | 2,5ab | 2b | 3a | 3a |
| | The available tools are not reliable enough | NS | 2,5 - | 2 - | 3 - | 3 - |
| | There are too many tools and services : I find it difficult to determine which ones to use | NS | 2,5 - | 2 - | 3 - | 2,5 - |
| | I would not use the tools on my farm | NS | 2 - | 3 - | 2 - | 2,5 - |
| | The terrain on my farm is not suitable | NS | 2 - | 2 - | 2 - | 2 - |
| | The available tools are not autonomous enough | NS | 2,5 - | 2 - | 2 - | 2.5 - |
| | Using these tools requires changing my work methods | NS | 2 - | 2 - | 2 - | 3 - |

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|---|---|---|---|---|---|---|
| | The digital tools are too complex to use | NS | 2,5 - | 2 - | 2 - | 2 - |
| | Digital technology weakens the connection with the animals | NS | 1 - | 2 - | 2 - | 2 - |
| | Digital technology is not sold near my farm | NS | 1,5 - | 2 - | 2 - | 2 - |
| | I don't trust the security and confidentiality of the data | NS | 1 - | 1,5 - | 2 - | 2 - |
| Incentives | Modernise the image of agriculture | NS | 3,5 - | 3 - | 3 - | 3,5 - |
| | Avoid losing information | NS | 4 - | 3 - | 3 - | 3,5 - |
| | Decrease costs (e.g. products, inputs, feed) | NS | 3 - | 3 - | 3 - | 3 - |
| | Save time | < 0,05 | 3ab | 3ab | 2a | 3b |
| | Meet regulatory obligations | < 0,001 | 3b | 3b | 2a | 3ab |
| | Improve knowledge of the animals | < 0,05 | 3,5b | 2a | 3a | 3ab |
| | Prevent health risks | NS | 3 - | 3 - | 2 - | 3 - |
| | Make fewer trips | NS | 3 - | 2,5 - | 2 - | 3 - |
| | Decrease the drudgery of work | NS | 3 - | 3 - | 2 - | 3 - |
| | Improve animal welfare | NS | 3 - | 2 - | 2 - | 2 - |
| | Increase respect the environment | NS | 3 - | 2 - | 2 - | 1,5 - |
| | Decrease labour costs | NS | 2,5 - | 2 - | 2 - | 2,5 - |
| | Improve product quality | NS | 2 - | 3 - | 2 - | 2 - |
| | Improve relationships with consumers | NS | 2 - | 2 - | 2 - | 2 - |
| Interest | Feeding | NS | 1 - | 1 - | 1 - | 1,5 - |
| | Pasture | NS | 1 - | 1 - | 1 - | 1,5 - |
| | Grassland | NS | 1 - | 1 - | 1 - | 1 - |
| | Techno-economic | NS | 1 - | 1 - | 1 - | 1 - |
| Sources of information | Internet | < 0,05 | 3b | 3ab | 2a | 3ab |
| | Advisers | NS | 1 - | 3 - | 2 - | 3 - |
| | Technical documents | NS | 1 - | 2 - | 2 - | 3 - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Exchanges with other farmers | < 0,05 | 3a | 2a | 1b | 1,5a |
| | Initial training | NS | 1 - | 2 - | 2 - | 3 - |
| | Continuing education | < 0,05 | 1b | 2a | 2a | 1,5ab |