**SUPPLEMENTAL FILE S3:**

**Evaluation of the questionnaire quality**

**Sections**

1. **Comprehensibility of the vignette descriptions of breeding methods**
2. **Overview of results from the pilot-test of the questionnaire**

**1. Comprehensibility of the vignette descriptions of breeding method**

In both the pilot-test of the questionnaire (see section 2) and in the final data collection, we asked the participants to self-rate their understanding of the description of the breeding work that they were presented with as part of the vignette material.

In the pilot-data we did not detect differences between the five breeding method in participant’s comprehension of the text (see section 2). In the actual data (n=2036) we also could not detect substantial difference between the breeding methods. Thus, in Table 1.1 below we see that the share of persons that report to have a “very good” or “ok” understanding is quite similar across methods. The proportion stating that they “don’t understand the principles” or respond “other” is also quite similar.

We also note that the clear majority of participants (91%) state that they have an understanding of the principles (when response 1 to 4 are summed). In Table 1.2 we divide the data into participants that reported to have some degree of understanding of the principles (response 1-4), and those that did not report this (response 5 and 6). There is very little difference between methods, and the modest differences observed is not statistically significant (uncorrected chi2 6.96(4); p=n.s.)

**TABLE 1.1** Stated understanding of the breeding work described in the vignettes – divided into breeding method (unweighted n=2036)

|  |  |
| --- | --- |
| BREEDING METHOD | Which of the statements describes the best how well you understand the principles in the breeding work? |
| **Response 1:** I have a very good under-standing | **Response 2:** I have an ok under-standing | **Response 3:** I didn’t get all the details, but I understand the general principles.  | **Response 4:** I didn’t understand much, but I have an ok sense of the general principles | **Response 5:** I don’t understand the principles | **Response 6:** Other |
| BULL | 6% | 38% | 29% | 14% | 8% | 4% |
| AI  | 10% | 44% | 25% | 11% | 6% | 4% |
| AI+GS | 12% | 44% | 24% | 12% | 6% | 1% |
| AI+OPU/IVP | 9% | 40% | 32% | 12% | 4% | 3% |
| AI+CLONING/GE | 8% | 40% | 29% | 15% | 6% | 2% |
| TOTAL | 9% | 41% | 28% | 13% | 6% | 3% |

**TABLE 1.2** Stated understanding collapsed into two categories – divided into breeding method (unweighted n=2036)

|  |  |
| --- | --- |
| BREEDING METHOD | Which of the statements describes the best how well you understand the principles in the breeding work? |
| **Response 1-4:**  | **Response 5-6:**  |
| BULL | 88% | 12% |
| AI  | 90% | 10% |
| AI+GS | 92% | 8% |
| AI+OPU/IVP | 93% | 7% |
| AI+CLONING/GE | 92% | 8% |
| TOTAL | 88% | 12% |

**2. Overview of results from the pilot-test of the questionnaire**

Before the main data collection on which this study is based, a pilot data collection was carried out in May 2021 (n=201) to check the general soundness and comprehensibility of the questionnaire, and whether the descriptions of breeding methods (presented as part of the vignettes) were clear.

We made a number of follow-up questions that were given to the participants at the end of the questionnaire after the actual questions were completed.

Generally speaking, the piloted respondents thought that the questionnaire was “interesting” or “relevant” (Table 2.1). About 20% found the questionnaire “difficult” – but this was not patterned according to breeding method.

The question formulations and instruction were in general easy to understand, and 76% did not report any problems (Table 2.2). Lack of understanding was not associated with the complexity of the breeding method, as the highest lack of understanding were identified at the opposite ends insofar complexity is concerned (BULL and AI+CLONING/GE). The clear majority (72%) also thought that they were offered response options that gave them the opportunity to answer in a way that was relevant for them (Table 2.4). Again, there was no difference between the breeding methods. Finally, we asked whether the pilot participants felt that there were places where the questionnaire had too many questions (Table 2.5). Generally, participants did not this to be the case, as 83% responded “no” to this.

Finally, in Table 2.5 we report the pilot participant’s comprehension of the text given as part of the vignettes. As can be seen, the response pattern resembles those of the participants in the main study sampled (cf. Table 1.1).

**Table 2.1** General impression/attitude - divided into breeding method (n=201)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **This questionnaire was…****(tick all that apply)** | TOTAL | BULL | AI | AI+GS | AI+OPU/IVP | AI+CLONING/GE |
| Too long  | 12.0% | 7.5% | 20.0% | 10.0% | 12.5% | 10.0% |
| Boring | 8.5% | 5.0% | 5.0% | 12.5% | 7.5% | 12.5% |
| Interesting | 44.5% | 45.0% | 45.0% | 37.5% | 47.5% | 47.5% |
| Repetitive | 8.0% | 5.0% | 7.5% | 7.5% | 2.5% | 17.5% |
| Relevant  | 37.0% | 37.5% | 32.5% | 32.5% | 47.5% | 35.0% |
| Difficult  | 21.5% | 30.0% | 22.5% | 17.5% | 27.5% | 10.0% |
| None of these  | 7.0% | 2.5% | 15.0% | 7.5% | 5.0% | 5.0% |
|  | 138.5% | 132.5% | 147.5% | 125.0% | 150.0% | 137.5% |

**Table 2.2** Comprehension - divided into breeding method (n=201)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Was it difficult to understand instructions or question formulations anywhere in the questionnaire?** **(tick all that apply)**  | TOTAL |  |  |  |  |  |
| BULL | AI | AI+GS | AI+OPU/IVP | AI+CLONING/GE |
| No | 76.0% | 67.5% | 77.5% | 85.0% | 82.5% | 67.5% |
| Yes, the questions about my intake of milk and other beverages.  | 3.0% | 0.0% | 0.0% | 5.0% | 0.0% | 10.0% |
| Yes, the questions about whether I have reduced my consumption of specific food groups.  | 2.0% | 0.0% | 0.0% | 2.5% | 0.0% | 7.5% |
| Yes, the questions about my attitudes to the use of technology and use of animals.  | 8.5% | 15.0% | 7.5% | 2.5% | 7.5% | 10.0% |
| Yes, the questions about my attitude to the dairy sector and dairy production.  | 4.5% | 7.5% | 0.0% | 5.0% | 2.5% | 7.5% |
| Yes, the questions about my knowledge about breeding work in milk production. | 17.0% | 25.0% | 12.5% | 10.0% | 15.0% | 22.5% |
| Yes, the questions about my attitude to breeding work (where there was a presentation about a specific breeding method and breeding goal).  | 12.5% | 15.0% | 12.5% | 7.5% | 10.0% | 17.5% |
|   | 123.5% | 130.0% | 110.0% | 117.5% | 117.5% | 142.5% |

**Table 2.3** Judgement, retrieval, response - divided into breeding method (n=201)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Did you not get the opportunity to answer in a way that was relevant for you anywhere in the questionnaire?** **(tick all that apply)** | TOTAL |  |  |  |  |  |
| BULL | AI | AI+GS | AI+OPU/IVP | AI+CLONING/GE |
| No | 71.5% | 72.5% | 75.0% | 60.0% | 70.0% | 80.0% |
| Yes, the questions about my intake of milk and other beverages.  | 11.0% | 12.5% | 2.5% | 20.0% | 12.5% | 7.5% |
| Yes, the questions about whether I have reduced my consumption of specific food groups.  | 6.0% | 5.0% | 5.0% | 5.0% | 10.0% | 5.0% |
| Yes, the questions about my attitudes to the use of technology and use of animals.  | 8.5% | 7.5% | 7.5% | 7.5% | 10.0% | 10.0% |
| Yes, the questions about my attitude to the dairy sector and dairy production.  | 5.5% | 12.5% | 2.5% | 5.0% | 5.0% | 2.5% |
| Yes, the questions about my knowledge about breeding work in milk production. | 7.5% | 10.0% | 7.5% | 5.0% | 10.0% | 5.0% |
| Yes, the questions about my attitude to breeding work (where there was a presentation about a specific breeding method and breeding goal).  | 11.0% | 10.0% | 10.0% | 12.5% | 15.0% | 7.5% |
|   | 121.0% | 130.0% | 110.0% | 115.0% | 132.5% | 117.5% |

**Table 2.4** Risk of response fatigue - divided into breeding method (n=201)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Was there anywhere you thought that there were too many questions?** **(tick all that apply)** | TOTAL |  |  |  |  |  |
| BULL | AI | AI+GS | AI+OPU/IVP | AI+CLONING/GE |
| No | 83.0% | 82.5% | 67.5% | 87.5% | 92.5% | 85.0% |
| Yes, the questions about my intake of milk and other beverages.  | 2.5% | 0.0% | 10.0% | 2.5% | 0.0% | 0.0% |
| Yes, the questions about whether I have reduced my consumption of specific food groups.  | 2.0% | 0.0% | 7.5% | 0.0% | 0.0% | 2.5% |
| Yes, the questions about my attitudes to the use of technology and use of animals.  | 5.5% | 7.5% | 10.0% | 5.0% | 2.5% | 2.5% |
| Yes, the questions about my attitude to the dairy sector and dairy production.  | 4.5% | 7.5% | 7.5% | 2.5% | 2.5% | 2.5% |
| Yes, the questions about my knowledge about breeding work in milk production. | 9.0% | 5.0% | 20.0% | 7.5% | 5.0% | 7.5% |
| Yes, the questions about my attitude to breeding work (where there was a presentation about a specific breeding method and breeding goal).  | 11.0% | 10.0% | 20.0% | 7.5% | 5.0% | 12.5% |
|   | 83.0% | 82.5% | 67.5% | 87.5% | 92.5% | 85.0% |

**TABLE 2.5** Stated understanding of the breeding work described in the vignettes – divided into breeding method (n=201)

|  |  |
| --- | --- |
| BREEDING METHOD | Which of the statements describes the best how well you understand the principles in the breeding work? |
| I have a very good under-standing | I have an ok under-standing | I didn’t get all the details, but I understand the overall principles.  | I didn’t understand much, but I have an ok sense of the overall principles | I don’t understand the principles | Other |
| BULL | 7.5% | 32.5% | 20.0% | 22.5% | 17.5% | 0.0% |
| AI  | 12.5% | 50.0% | 15.0% | 10.0% | 10.0% | 2.5% |
| AI+GS | 12.5% | 50.0% | 15.0% | 12.5% | 5.0% | 5.0% |
| AI+OPU/IVP | 2.5% | 47.5% | 20.0% | 10.0% | 15.0% | 5.0% |
| AI+CLONING/GE | 17.1% | 39.0% | 34.1% | 7.3% | 2.4% | 0.0% |
| TOTAL | 10.4% | 43.8% | 20.9% | 12.4% | 10.0% | 2.5% |