Safe Habitus

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TECHNICAL NOTE 4

# Germany

## Responding to Priority Needs: Enhancing Safety – Optimising Handling Practices, Facilities, and Human-Animal Relations in Livestock Farming

# Framework

Three central fields of action were identified within the German Priority Needs Register, identified in the Technical note 3 (PA3). Against this background, this practical report deals with the first category: Cattle husbandry.

The majority of livestock farming is insured with the Social Insurance for Agriculture, Forestry and Horticulture (SVLFG). Cattle farming is likely to be fully insured with the SVLFG, so that the accident figures here reflect the work-related accident history in Germany. More than a fourth of reportable accidents at work are documented in the field of animal husbandry, according to the accident statistics of SVLFG.

Steadily growing herd sizes and shortened oestrus phases with increasing labour shortages mean that dairy farmers are increasingly resorting to the "tried and tested" method of natural service (NS). Cows that are inseminated naturally (NS) have a 15% higher conception rate than cows that are inseminated artificially (Lima et al., 2009). On the other hand, the aggressiveness of bulls rises with heat (increasingly important due to climate change) significantly, especially with increasing age (Balic et al, 2012; Toosi et al, 2013; Vince et al, 2017, Schenk, 2018; Morrell, 2020). Due to the stress of birth and hormonal influences, a cow's pronounced protective instinct towards her newborn calf can also result in aggression towards humans (Landwirtschaftliches Zentrum Baden-Württemberg Aulendorf, 2005).

Most risky work situations in the handling of suckler cows concern the loading and separation of young animals from their mothers (Zähner et al, 2011). Moving cattle is also a risky moment in the daily operation. Cattle avoid strong light contrasts (from light to dark or vice versa), light-reflecting surfaces (shiny metallic loading ramps, reflections in puddles of water, etc.), unfamiliar ground conditions or loud or high-frequency noises (squeaking of metal parts, loud drive by the driver) (Grandin, 2010).

Stress, fatigue and time pressure are recurring factors in cattle farming and at the same time risk factors for accidents, especially when handling animals (Bayerisches Landwirtschaftliches Wochenblatt, 2022). Certain risk factors should be emphasised as particularly critical. Accidents are also facilitated by "instinctive animal behaviour", which is often unpredictable for farmers who often do not have the necessary attention due to time pressure. As a result, animals can respond to unusual hectic movements or being frightened with flight or defensive behaviour in animals. This makes everyday situations on the farm particularly hazardous and accident-prone for cattle farmers: e.g. milking, herding and handling cattle.

# Germany

## Location

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# Accident Statistics in the field of Cattle Husbandry

Table 1. Accidents in the agriculture sector (animal husbandry)

| Key figures | 2021 | 2022 | 2023 | Average 2021-2023 |
|---|---|---|---|---|
| **Reportable accidents** | 16 782 | 15 415 | 14 838 | 15 678 |
| **Fatal Accidents** | 27 | 23 | 22 | 24 |

The decline in the number of accidents shown in table 1 is a consequence of structural change in agriculture. As in the EU as a whole, the number of animals and farms is also declining in Germany (Statistisches Bundesamt, 2021). Fewer but larger livestock farms implement more organised work processes, better technical stable facilities and automatisation that lowers general work risks.

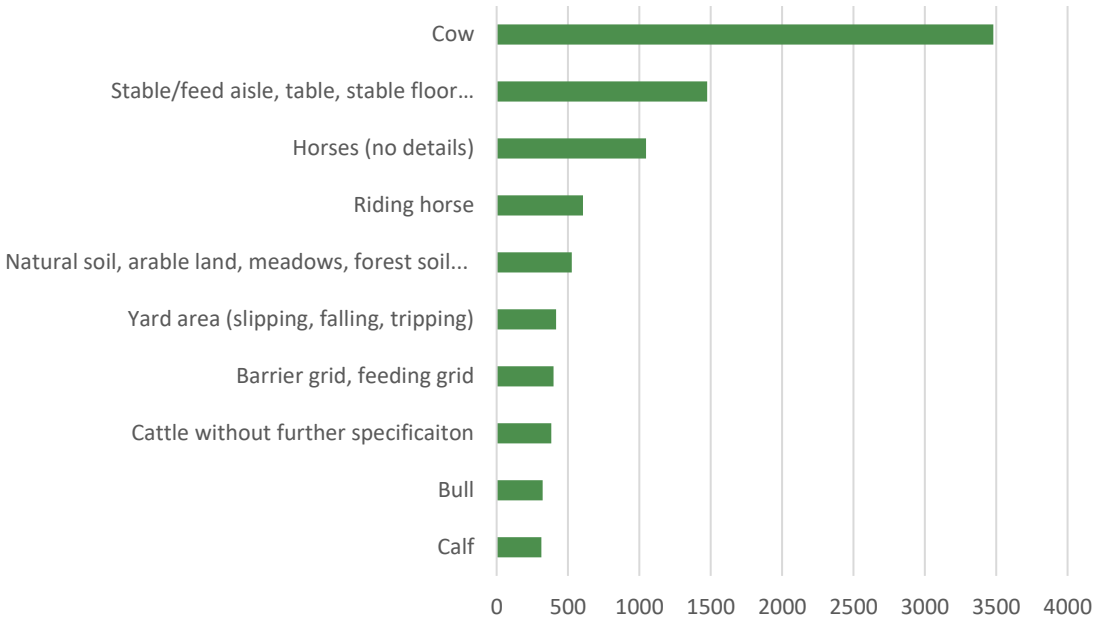


Figure 1. Average values of the top ten by object of accident for the years 2021-2023

In the past three years, an average of 4,500 accidents per year involving cattle were registered in the SVLFG's insured area. Cattle are involved in around a third of all accidents in animal husbandry.

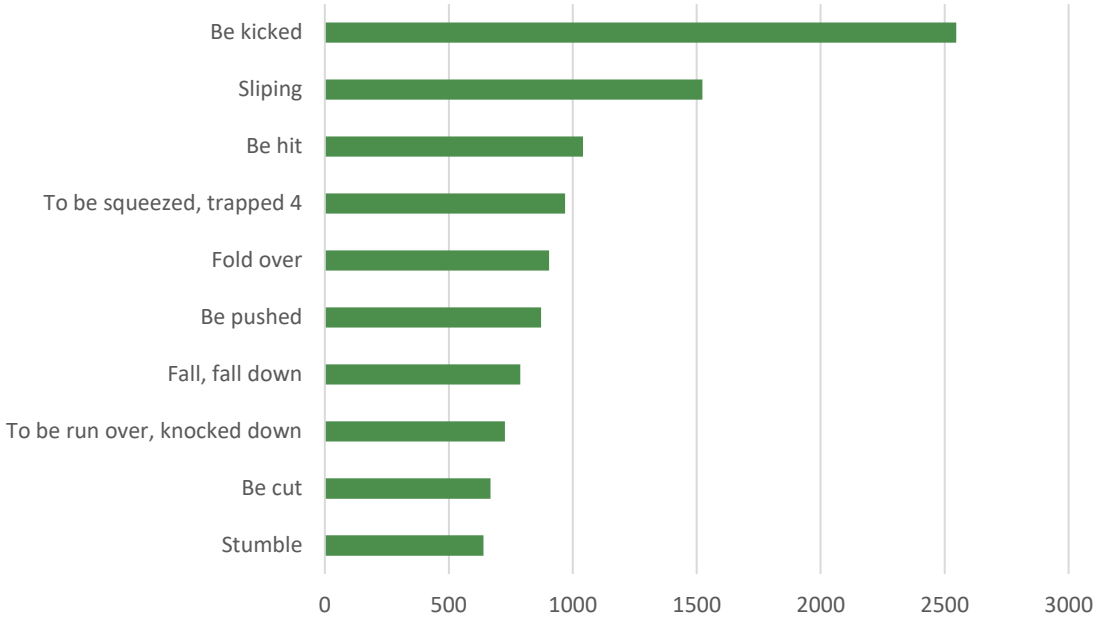


Figure 2. Average values of the top ten injury-causing process for the years 2021-2023

As figure 2 shows, being kicked, hit, pushed and squeezed are the main injury-causing processes of accidents with animals especially with cattle. Direct contact with animals in unsafe situations is therefore usually the cause of accidents.

Table 2. The first three objects of fatal accidents in the agriculture sector (animal husbandry)

| Object of accident (Top 3) | Fatal accidents | | | | |
|---|---|---|---|---|---|
| | 2021 | 2022 | 2023 | Average 2021-2023 | Diff. 2023 to 2022 |
| **Bull** | 6 | 4 | 4 | 4,7 | 0 |
| **Yard loader** | 4 | 1 | 2 | 2,3 | 1 |
| **Cow** | 1 | 4 | 2 | 2,3 | -2 |

Table 2 shows the fatal accidents in animal husbandry over the last three years. In line with Table 1, a quarter of fatal accidents in animal husbandry are related to cattle.

## Critical Issues

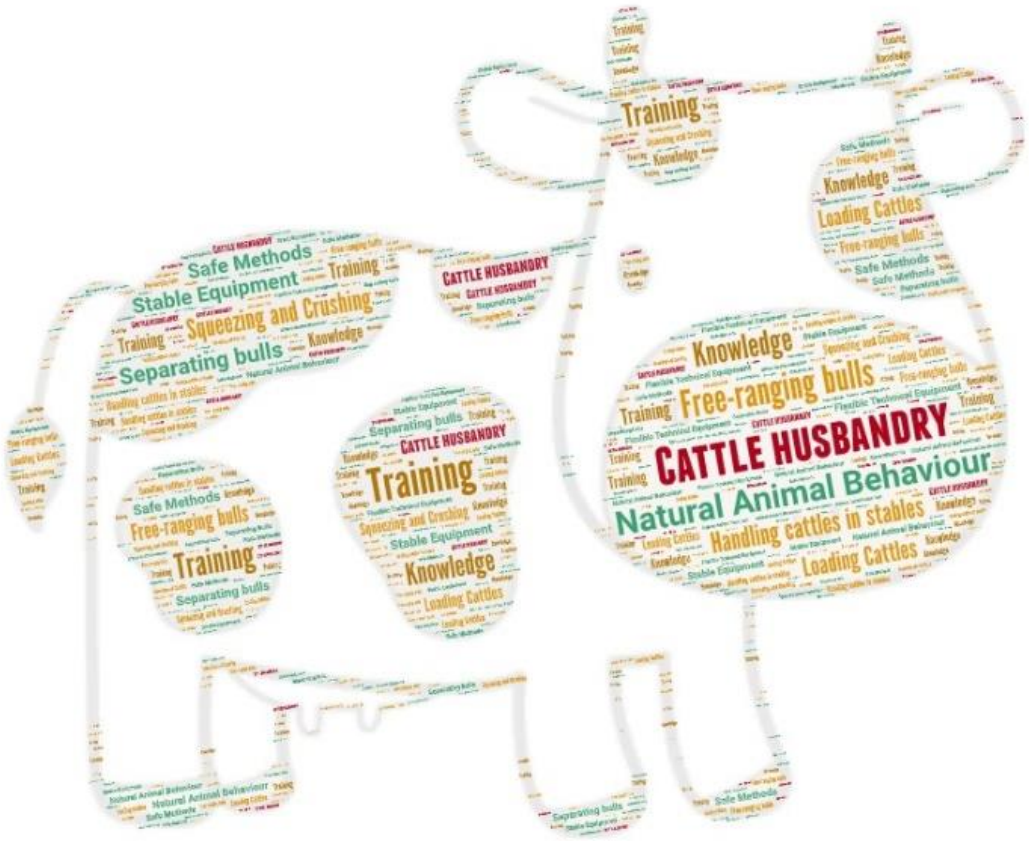


Figure 3. Cattle Husbandry, Critical Issues and Challenges

Figure 3 illustrates the problems and challenges in cattle husbandry, determined within the framework of the German Needs Register. The combination of technical solutions and knowledge of natural behaviour makes it possible to optimise measures to protect against hazards on a situation-specific basis.

**Pasture farming**
Two factors often lead to accidents in pasture farming: first, there is a lack of suitable technical and structural equipment and facilities. Second, a lack of knowledge about the natural behaviour of cattle and their sensory perceptions plays a significant role. In addition to suckler cows, stud bulls that are also on the pasture are particularly dangerous as their behaviour is difficult to calculate**.**

**Cattle stable**

Poor lighting, no escape routes and a lack of technical options for separating, catching and fixing the animals make this work hazardous. The same applies to loading cattle, which is far too often carried out in a technically unregulated manner.

**Bulls and calving**

Keeping bulls is always associated with an increased risk of accidents. Serious or fatal accidents are regularly reported in which a bull has attacked a person. The situation is similar after calving, when the risk of accidents is particularly high due to the strong maternal instinct.

With regard to the three aspects mentioned above, the following factors can cause accidents:

- Natural animal behaviour: In general, it can be seen time and again that there is a lack of knowledge about the correct handling of cattle. Situational behavioural expressions are not recognised or cannot be interpreted. In particular, the behaviour of calving cows changes and the danger of bulls is also not recognised, as the animals are also on the farm from an early age and changes in behaviour are only noticed when it is too late due to an accident.
- Stable equipment: The day-to-day handling of cattle in the stable often lacks the technical facilities for herding, separating, fixing and loading. This results in unsafe contact with the animals, which automatically causes accidents when animals move spontaneously.
- Stable design: Dark, cramped and poorly air-conditioned stables increase the stress levels of the animals, which means that problems are inevitable when handling cattle. Ignoring animal welfare is one source of unsafe working conditions.

## Potential Solutions

We propose the following solutions based on the accident structure described above and the associated problems outlined.

**Training in the safe handling of cattle and natural animal behaviour**
People can reflect on and change their behaviour; animals cannot. Cattle farmers must therefore adapt their behaviour so that dangerous situations do not arise when dealing with their cattle. This requires knowledge of how cattle perceive their environment and how they usually behave. Figure 4 shows that it is necessary to familiarise yourself with the nature of cattle.


Figure 4. Graphic used in prevention work that shows that knowledge of natural behaviour is essential (translated dog: do you know how escape and hedge animals behave!?, translated man with newspaper: accident prevention regulations for animal husbandry)

**Use of technical equipment to avoid direct animal contact or to limit contact.**
Figure 5 shows the situation as it is and as it could be from the user's point of view. The medium of cartoon is used to link the information with an emotional feeling. This increases the likelihood that the information provided will be remembered and therefore more likely to be translated into an active action.


Figure 5. Cartoon to illustrate the topic of technical stable equipment (translated terms are: separating, fixing, treating)

Figures 6 and 7 also show how ear tags can be safely applied to calves in the pasture and how free-range bulls can be avoided in the stable.


Figure 6. Safe handling calves in the pasture (translated caption: sometimes... you have to stand in the way of maternal happiness!)


Figure 7. Safe handling of bulls in the stable with a bull pen (translated caption: controlled passion...)

To summarise, it can be said that the knowledge and methods for the safe handling of cattle are available and have proven their worth. The challenge is to create incentives and programmes, especially for small family farms, so that the prevention measures are implemented as voluntarily as possible.

# References

Balic, I. M., Milinkovic-Tur, S., Samardzija, M., Vince, S. (2012): Effect of age and environmental factors on semen quality gluthatione peroxidase activity and oxidative parameters in simmental bulls. Theriogenology 78: 423 – 431

Bayerisches Landwirtschaftliches Wochenblatt (2022) : Rinderhaltung: Fünf Minuten können Leben retten. URL : https://www.wochenblatt-dlv.de/feld-stall/tierhaltung/rinderhaltung-fuenf-minuten-koennen-leben-retten-569728 (Retrieval date 25.07.2024)

Grandin, T. (2010): Improving animal welfare: a practical approach. ISBN 9781780644677. Chapter 5: How to Improve Livestock Handling and Reduce Stress: 64-87

Landwirtschaftliches Zentrum Baden-Württemberg Aulendorf (2005): Liebevolle Mütter sind mit Vorsicht zu genießen! Was ist beim Umgang mit Mutterkühen zu beachten? URL: https://ltz.landwirtschaft-bw.de/pb/site/pbs-bw-mlr/get/documents_E271610795/MLR.LEL/PB5Documents/lazbw_rh/Umgang%20mit%20Mutterk%C3%BChen.pdf?attachment=true (Retrieval date 27.05.2024)

Lima, F. S., Risco, C. A., Thatcher, M. J., Benzaquen, M. E., Santos, J. E. P., Thatcher, W. W. (2009): Comparison of reproductive performance in lactating dairy cows bred by natural service or timed artificial insemination. Journal of Diary Sience 92 : 5456 – 5466

Morrell, J. M. (2020): Heat stress and bull fertility. Theriogenology 153: 62 – 67

Schenk, J. L., (2018): Review: Principles of maximizing bull semen production at genetic centers. Animal 12(s1) : 142 – 147

Statistisches Bundesamt (2021) : Viehhaltung im letzten Jahrzehnt: Weniger, aber größere Betriebe. Pressemitteilung Nr. N 043. URL : https://www.destatis.de/DE/Presse/Pressemitteilungen/2021/07/PD21_N043_41.html (Retrieval date 27.05.2024)

Toosi, B. M., Gratton, G., Mccorkell, R. B., Wynne-Edwards, K. E., Woodbury, M. R., Lessard, C. (2013): Effects of pipothiazine palmitate on handling stress and on the characteristics of semen collected by electroejaculation in bison bulls. Animal Reproduction Science 138, 55 – 63

Vince, S., Zura Zaja, I., Samadrazija, M., Majic Balic, I., Vilic, M., Duricic, D., Valpotic, H., Markovic, F., Milinkovic-Tur, S. (2018): Age-related differences of semen quality, seminal plasma, and spermatozoa antioxidative and oxidative stress variables in bulls during cold and warm periods of a year. Animal, 12(3): 559 – 568

Zähner, M., Steiner, B., Keck, M., Klarer, F. (2011). Mutterkühe betreuen, sicher fixieren, treiben und verladen. Forschungsanstalt Agroscope Reckenholz-Tänikon, ART-Bericht 741 : 1-12

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