

Assessing and Improving Animal Welfare on Mexican Dairy Farms

Background and Objectives

Welfare is a multidimensional concept^{1; 2} where animal and human welfare depend on each other^{3; 4}. Furthermore, improving animal welfare improves productivity⁴. Since Switzerland has one of the strictest welfare laws, it serves as a base for a benchmark. The object of this study was to assess mostly qualitative animal welfare and hence recommending how to improve welfare of dairy cows by generating a compendium of best practices for professional use applicable in all climate zones of Mexico.

Material and Methods

- Investigative study⁵ using structured questionnaires
- Indicators⁶ used in questionnaire
 - Structural or input-based
 - Animal or output-based (Figure 1)



Figure 1 Schematic presentation of a healthy and a sick dairy cow⁶, own presentation

- Data collection in 3 representative regions “La Laguna”, “Altos”, and “Trópicos” (Figure 2, Figure 3)



Figure 2 Map of Mexico with climate zones indicating Nestlé's milk collection regions Torreón “La Laguna”, Lagos-Querétaro “Altos” and Coatepec “Trópicos”⁹

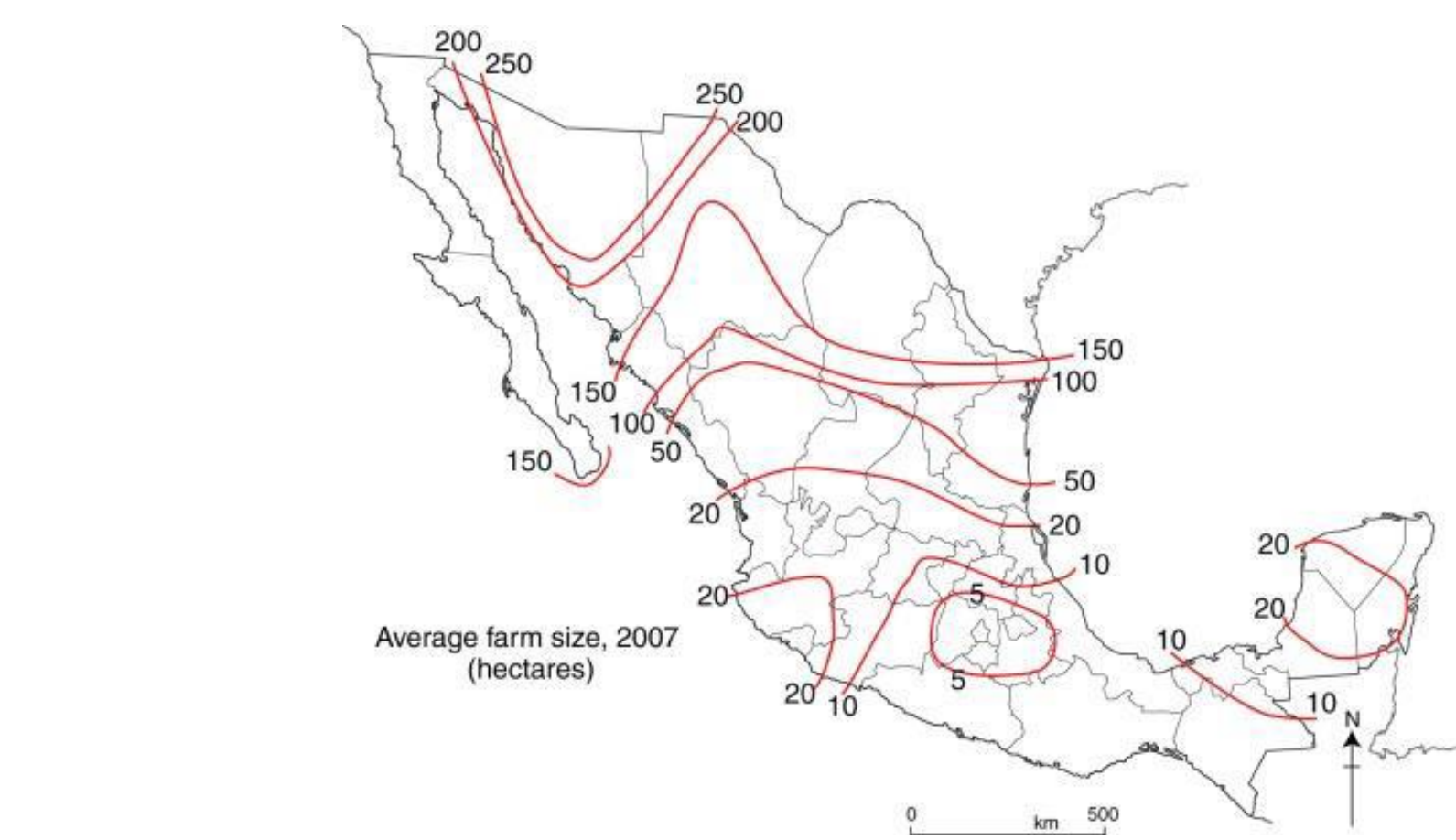


Figure 3 Map of Mexico showing the average farm size in ha in 2007⁹

Results and Discussion

- 61 visited farms
 - Median farm size 30ha cultivated area (mean 131.60ha, min. 0, max. 4.000)
 - Median herd size 133 adult dairy cows (mean 451 heads, min. 16, max. 14.064)
 - Median milk production level 25kg milk per day and cow (mean 22.35kg, min. 7.5, max. 40)
- Animal welfare concerns were found among structural indicators and animal-based indicators or behavioral expressions showing poor animal welfare as listed in Table 1.

Table 1 Detected animal welfare concerns on visited Mexican dairy farms and following recommendations to face them

	Welfare concerns	Recommendations
Input-based indicators	➤ State of topsoil and lack of resting areas	More cleaning; Shaded cubicles or digging diary lying area (concept of mixed manure)
	➤ Risk locations (Figure 4b)	Detect and minimise, respectively avoid them
	➤ Poor water quality and accessibility	Changing installation; More cleaning
	➤ Manner of handling cattle	Calm and without making uncomfortable noises; No beating
Output-based indicators	➤ Heat stress	Implementing (more) natural and/or artificial shades; Adapted genetics and production level especially in (sub-)humid tropical region (Figure 4a)
	➤ Feed selection and rather inadequate structure (Figure 4c)	Checking feed production and processing especially of roughage; Trying to minimise use of puffers
	➤ Poor locomotion (Figure 4e)	Checking claws on a routine basis; Immediate treatment of lame animals
	➤ Lesions	Neck: Checking altitude of neck rail (Figure 4d) ; Hocks: Checking top soil especially in resting area
	➤ Issues in udder health, fertility, and disease control	Use selected and adapted genetic (Figure 4a) ; Improve heard management and machines (e.g. CMT, fertility indicators, and observation techniques)
	➤ Management of calves, heifers and dry cows	Applying same principals as for adult cows (shade, water, feed, top soil, calm handling)



Figure 4 a) Calves with adapted genetic to (sub-)humid tropics (double-propuse and clear morphology of bos indicus); b) Typical risk location: Barely visible border of the banquette can cause claw injuries; c) Feed selection: leftover is high in structure but poorly prepared; d) Example which causes neck injuries: Especially low upper tubes of the feeding ground provoke skin changes and swellings in the neck; e) Neglected claws

- Management would help to improve productivity (fertility rate and productive life)⁷
- Farmers claimed that animal welfare was important to them
- It is not possible to make a statement about whether the detected issues concern all dairy farms selling their milk to the Swiss milk processor

Conclusion

- The found more or less severe welfare issues can be solved or reduced by implementing mostly for the dairy farmers feasible and obvious measures
- Some measures facing the mentioned concerns differ to highly industrialized countries
- Main concerns are similar in all investigated regions

Sources
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