

EFFECT OF HOUSING ON UDDER HEALTH AND MILK YIELD OF DAIRY COWS: A CRITICAL REVIEW

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INTRODUCTION

Dairy industry has changed significantly over the last years:

- Continuous housing has become a common practice
- More herds kept in loose housing or free-stall than in tie-stall barns
- Automatic milking systems (AMS) are increasingly common
- New bedding materials, e.g. recycled manure, are used

Objectives of this study

- to review recent scientific literature on the effect of housing conditions on the udder health and milk yield of dairy cows
- to identify the knowledge gaps where further research is needed

METHODS

Review of literature

- Criteria: peer-review articles published from 2000 forward
- Keywords: dairy cow, housing, milk yield or milk production, udder health or mastitis or intramammary infection
- Search: Pubmed (all fields), and over the reference lists of the relevant papers
- Selection: first, screening the title and abstract and second, the full text
- 97 articles selected: 56 on udder health, 41 on milk yield

Housing & housing conditions examined

- Continuous housing vs. pasture
- Housing design
 - Type of housing: loose housing or free-stall vs. tie-stall barns
 - Stocking density and space allowance
 - Facilities: resting and lying, feeding, and milking areas
 - Environment: climatic conditions (temperature, humidity)

CONCLUSIONS

- No differences found in the risk of mastitis or milk yield between continuous housing vs. pasture.
- Better udder health in loose housing or free-stall than tie-stall barns.
- No clear trend regarding the effect of stocking density on udder health and milk yield due to the low number of studies.
- No apparent effect of different bedding types on udder health nor milk yield.
- Use of AMS was associated with worse udder health, but with an increased of milk yield than other milking systems.

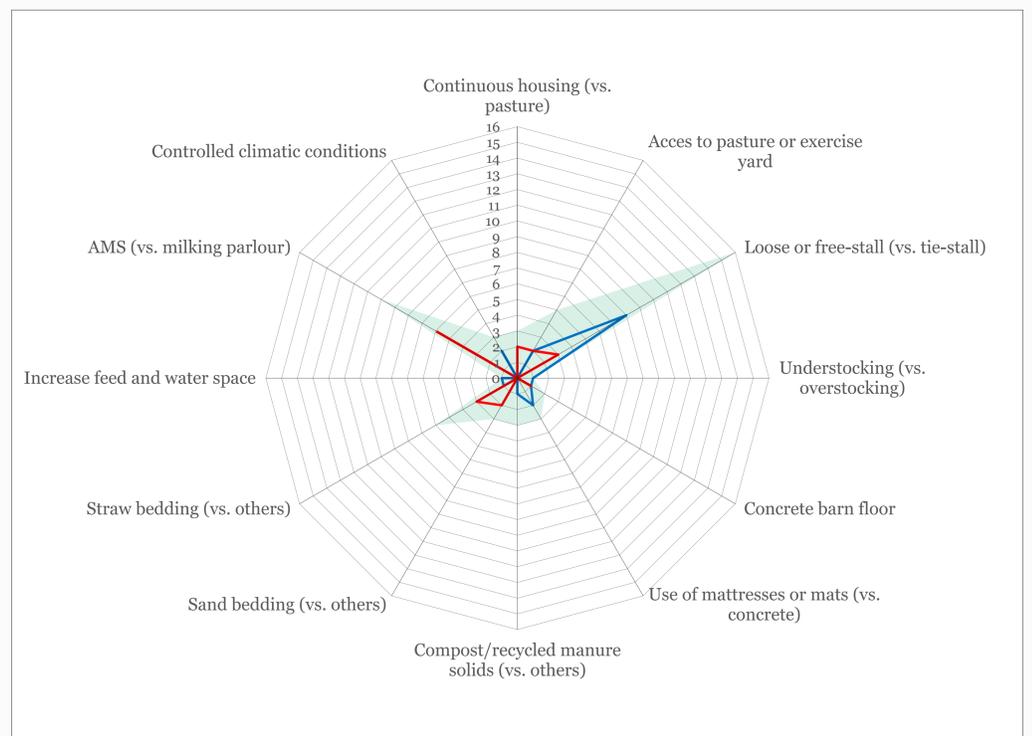
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ARTICLES REVIEWED

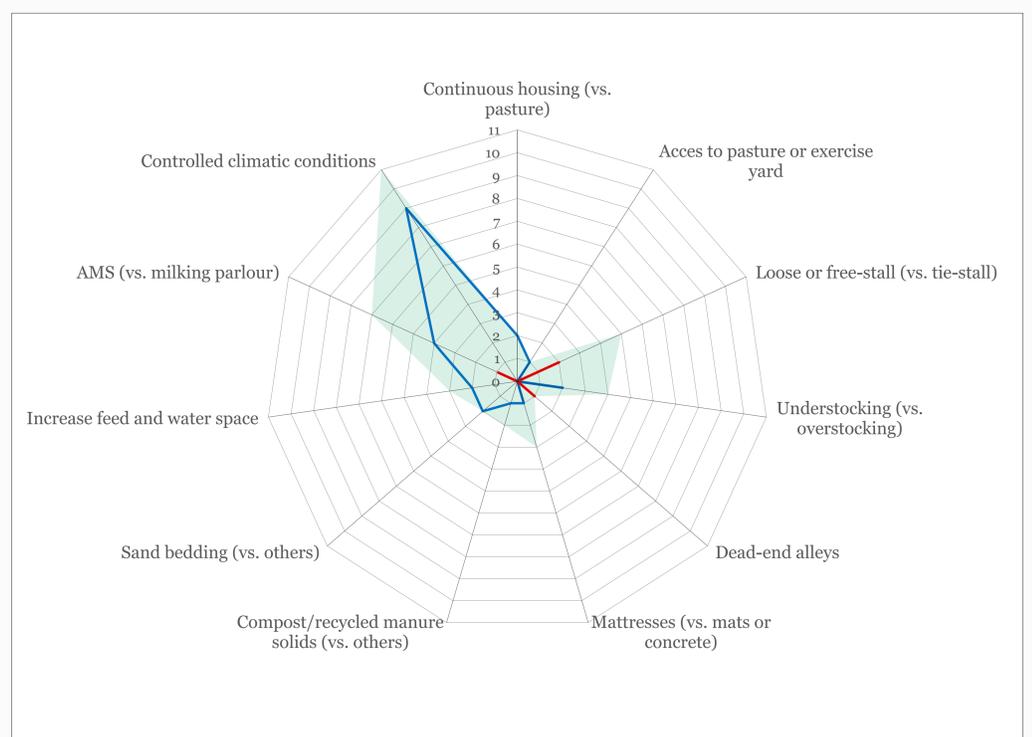
Udder health

Figure 1. Effect of housing conditions on udder health.



Milk Yield

Figure 2. Effect of housing conditions on milk yield.



- Number of articles reviewed per housing condition
- Number of articles where the housing conditions improved udder health or milk yield
- Number of articles where the housing conditions worsened udder health or milk yield