



Calculating Defined Course Doses (DCDvet) for Antimicrobial Dry Cow Therapy on Conventional and Organic Farms



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Comet K-Projekt ADDA – Advancement of Dairying in Austria



Competence Centers for
Excellent Technologies



FFG



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Advancement of Dairying in Austria



1. Principles of milk production and safety

1.1. Nutritional concepts for high-yielding dairy cows

1.2. Dairy cow reproduction

1.3. Udder health and innovation

1.4. Raw milk quality and food safety

2. Constituents of competitive milk production

2.1. Integrated data management

2.2. Strategies to reduce antibiotic use

2.3. Econometrics



Strategies to reduce antibiotic use



- 17 veterinary practices
- 250 dairy farms
- >6700 cows, >14,000 cattle
- 78% conventional, 20% organic



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Strategies to reduce antibiotic use

- If we reduce the rate of new mastitis infections, we can reduce the use of antibiotics on farm
- Farm management practices play a vital role



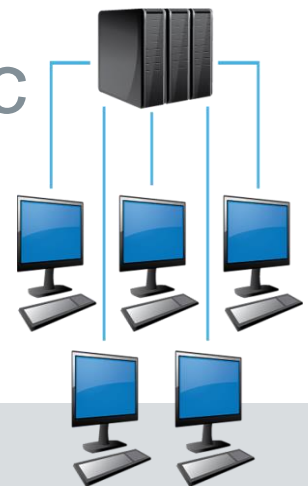
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Data collection: Oct 2015-Sept 2016



- Electronic data collection from vets on ALL medication records: animal ID, diagnoses, dispensed and administered meds
- Individual animal performance data
- Milk samples taken from all mastitic cows – sensitivity testing
- Online surveys



Online surveys and response rates



- Farmers (84.1%)
- Veterinarians (99.6%)
- Milk recorders (99.6%)

Preview Mode
YOUR ANSWERS WILL NOT BE RECORDED

ADDA

You have accessed this survey in PREVIEW MODE. Your answers will not be recorded

✳ Erforderliche Informationen

Bitte geben Sie Ihren Namen und LFBIS Nummer an

Familienname Vorname

LFBIS Nr.

✳ Betriebsart?

konventioneller Betrieb ☐

Zurück zum Ursprung ☐

biologischer Betrieb ☒

Heumilch ☐

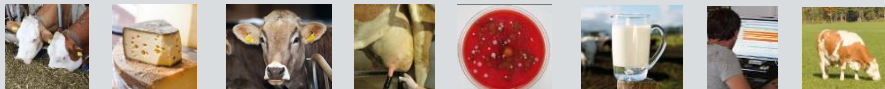
Sonstiges (bitte angeben)

✳ Ausmaß der landwirtschaftlichen Tätigkeit

Vollerwerbsbetrieb ☒

Nebenerwerbsbetrieb ☐

Zuerwerbsbetrieb ☐

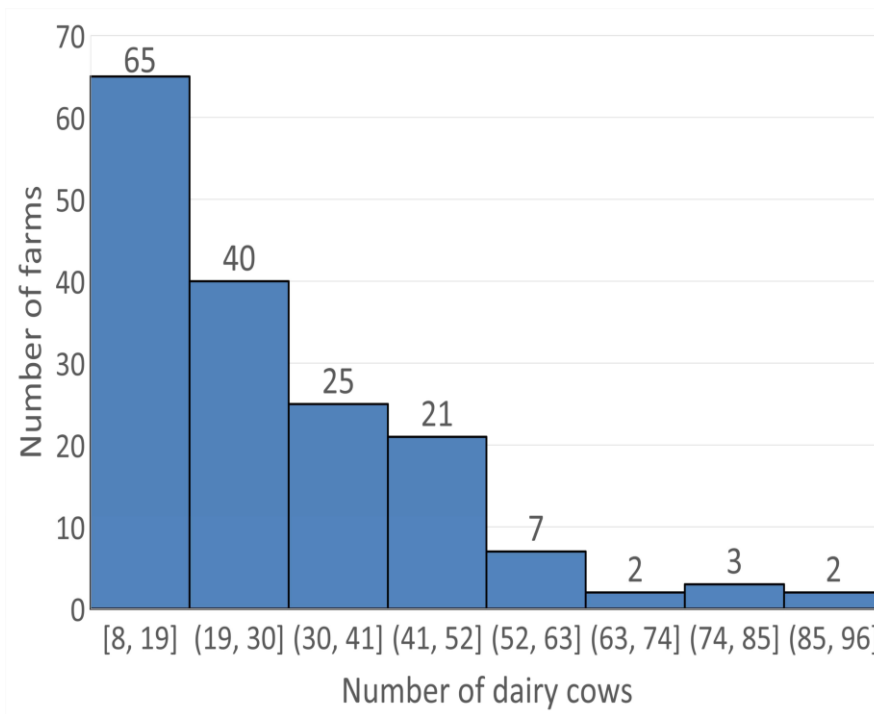


Farm demographics

Conventional farms:

Mean 28.5 cows

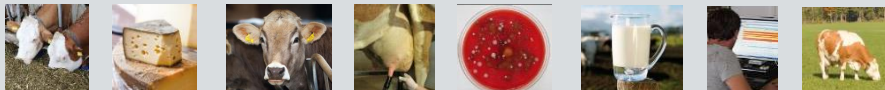
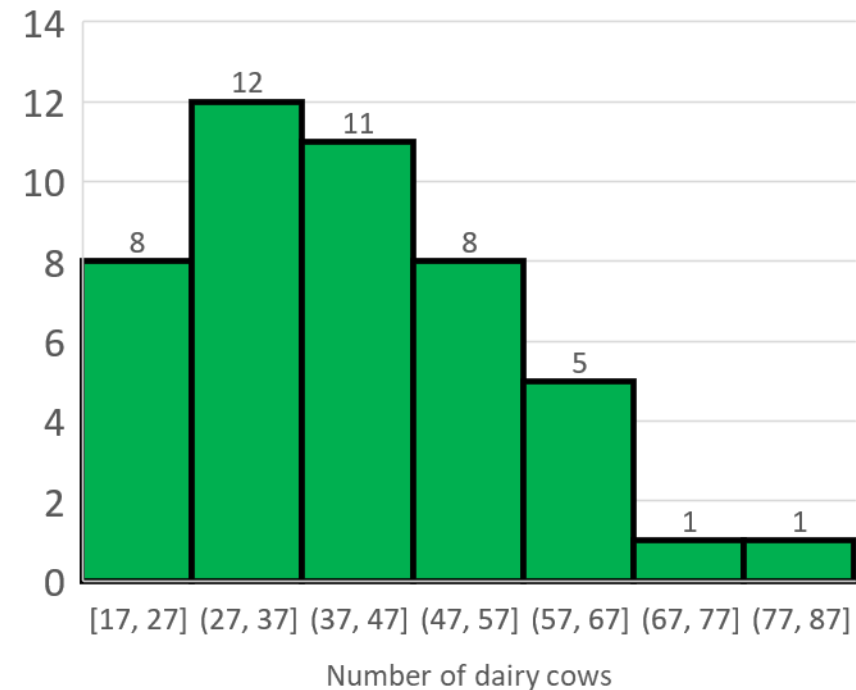
Median 22 cows



Organic farms:

Mean 20.9 cows

Median 19 cows

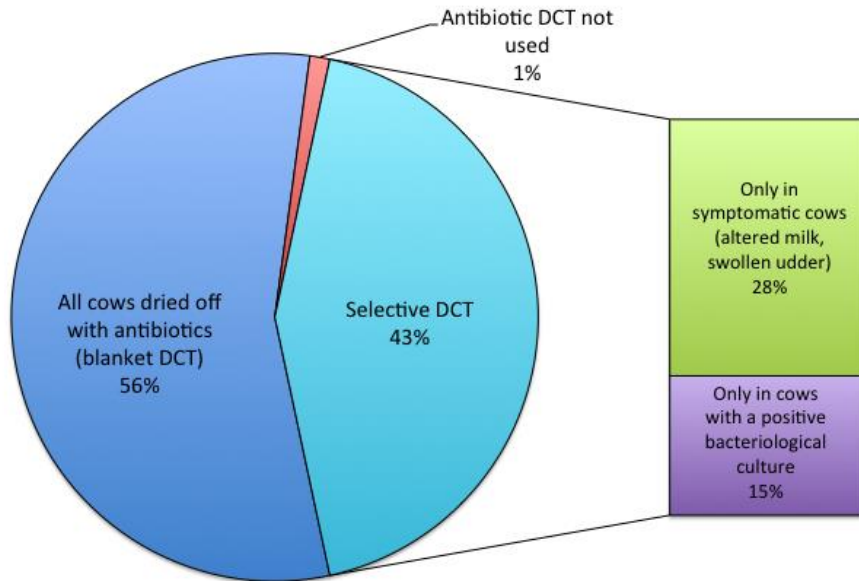


Cattle breeds on dairy farms

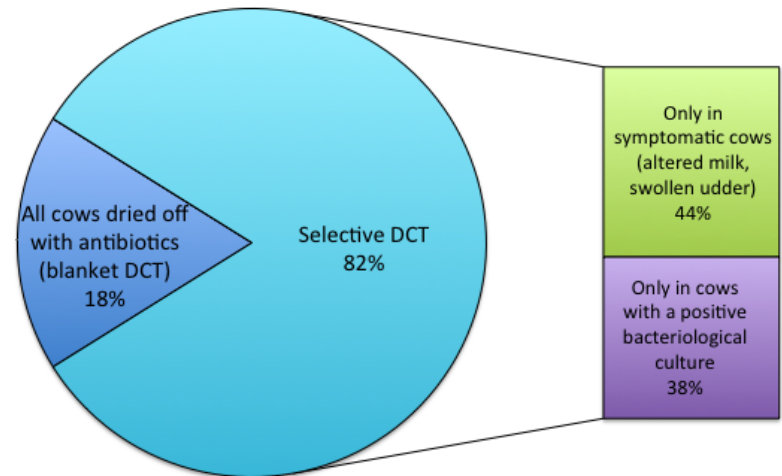


Blanket or selective DCT?

CONVENTIONAL



ORGANIC



Statistical analysis – survey



	Blanket DCT	Selective DCT	Total
Conventional farms	91	71	162
Organic farms	7	35	42
Total	98	106	204

- The difference was statistically significant at the 5% level (Chi² test statistic 20.85; p-value < 0.000001)
- bDCT: 56% conv. vs 17% organic



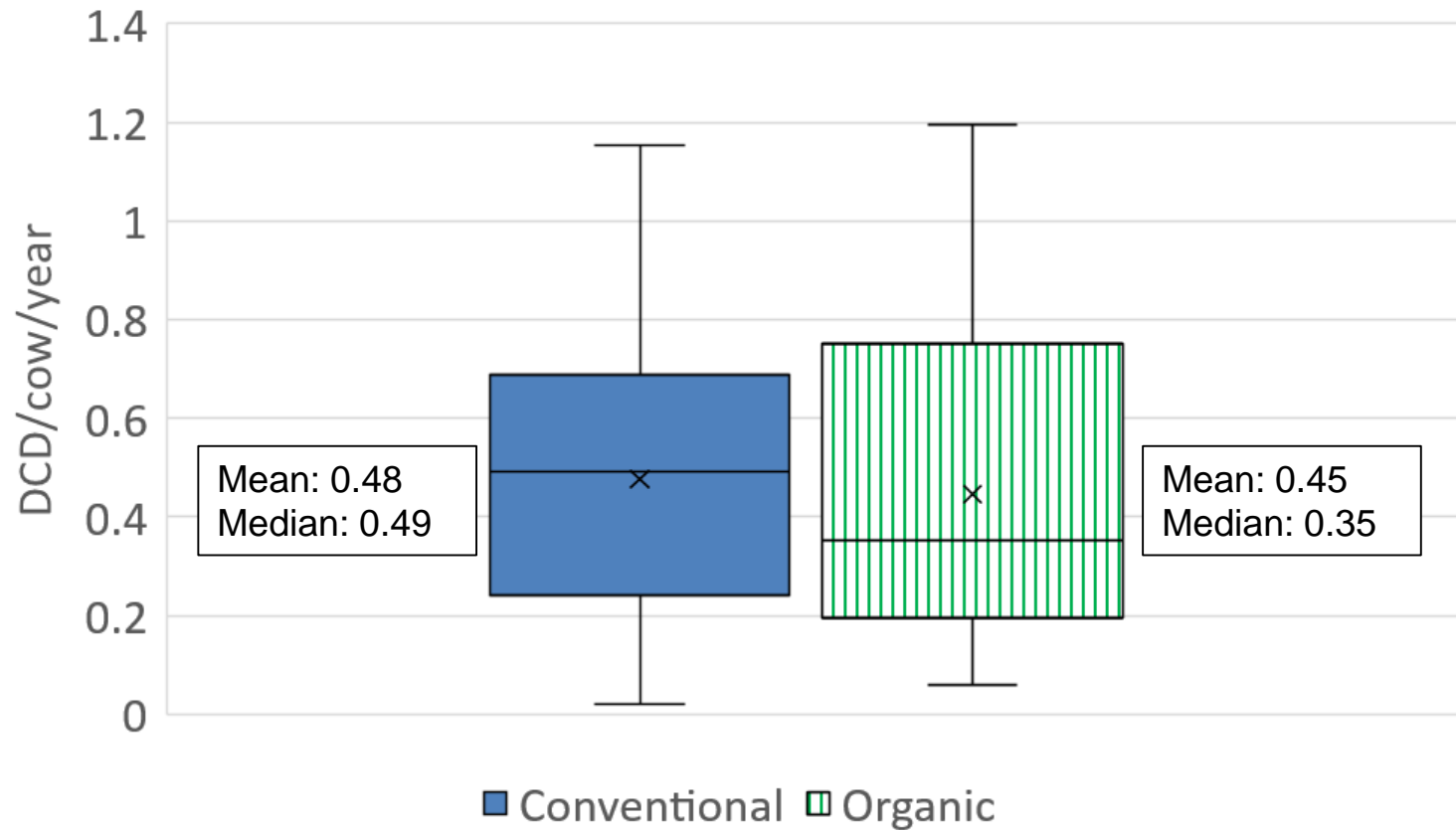
Defined Course Doses (DCDvet)



- Published by the European Medicines Agency (EMA)
- “DCDvet is the assumed average dose per kg animal per species per treatment course”
- For Dry Cow products:
1 DCDvet = 4 intramammary injectors



Defined Course Doses (DCDvet)



Statistics: Mann Whitney U Test, Z score 0.14887, one-tailed p-value: 0.44038



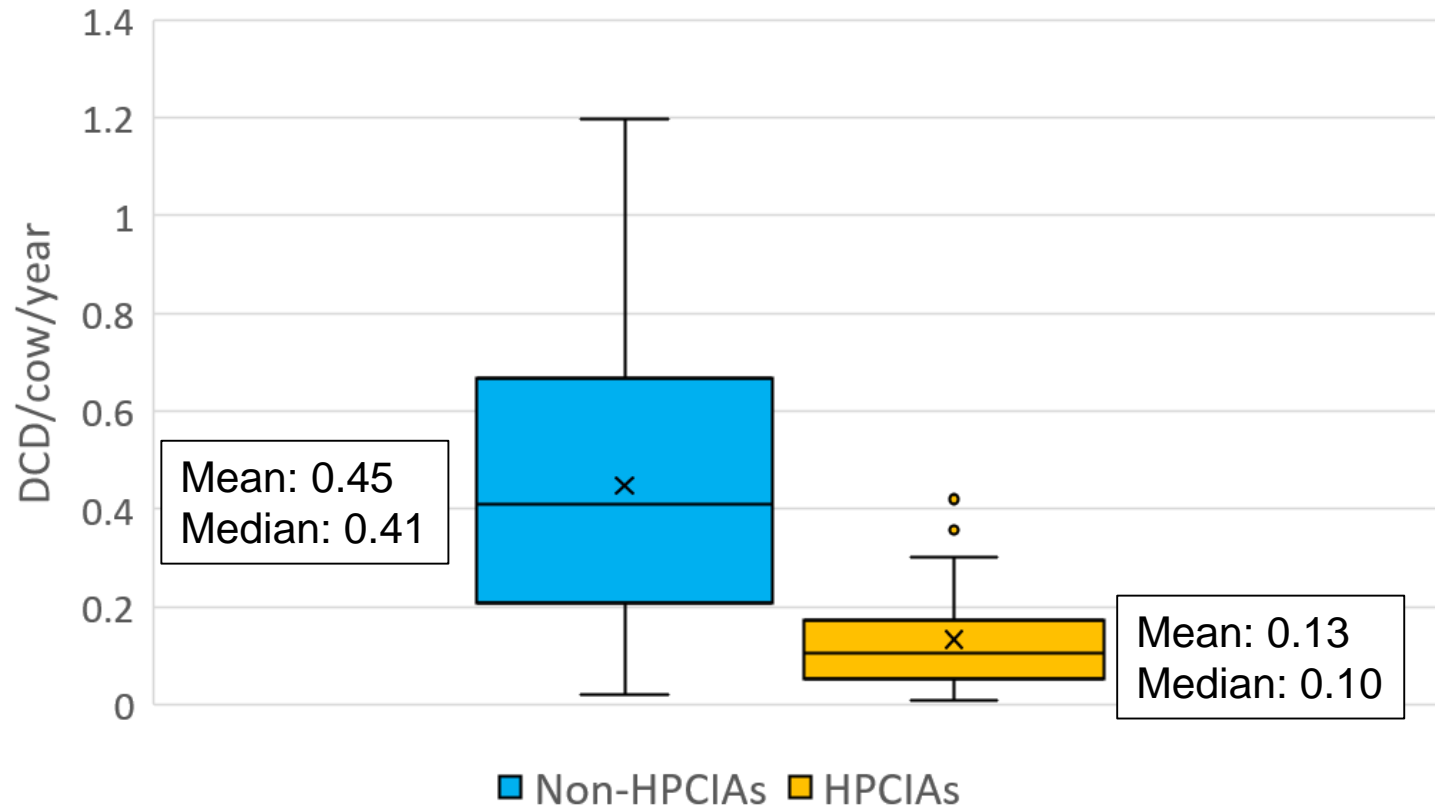
DCT: conventional or organic?



- No difference was found between **antibiotic use** (DCDvet) on conventional or organic farms for dry cow therapy in these Austrian herds
- BUT if we ask, the organic farmers overwhelmingly state that they are selective in their use!



Dry cow tubes: HPClAs?



The PeerJ logo consists of the word "PeerJ" in a white, sans-serif font, centered within a solid blue square.

Antimicrobial consumption on Austrian dairy farms: an observational study of udder disease treatments based on veterinary medication records

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Thanks to my co-authors



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- **Dr Klemens Fuchs** – Austrian Agency for Health and Food Safety (AGES)
- **Prof. Annemarie Käsbohrer** – head of the Institute of Veterinary Public Health, Vetmeduni



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Any questions?



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