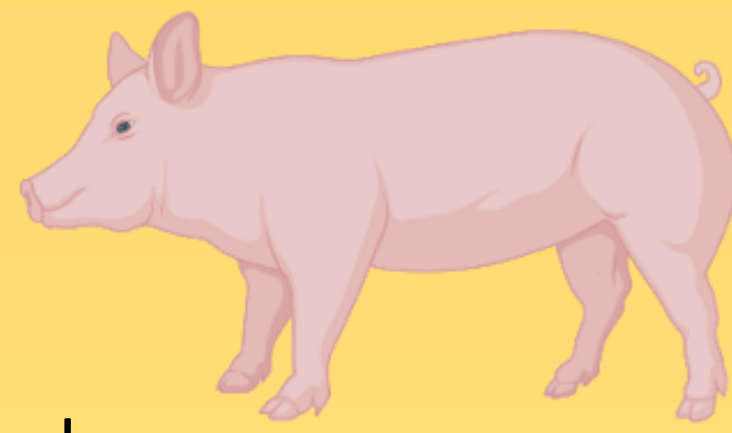


# Clean catching midstream urine from pigs: Enhancing studies of urinary tract infection



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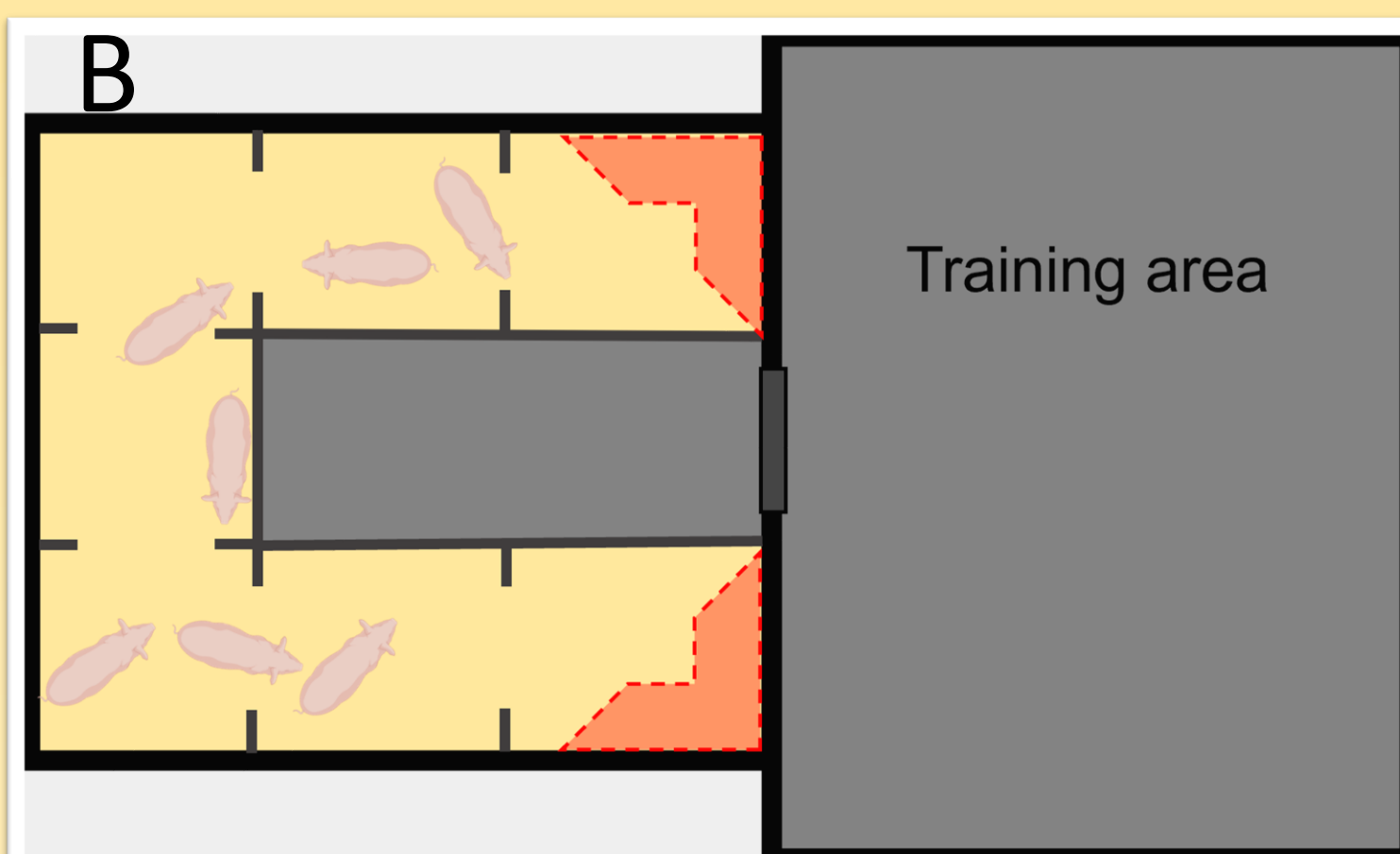
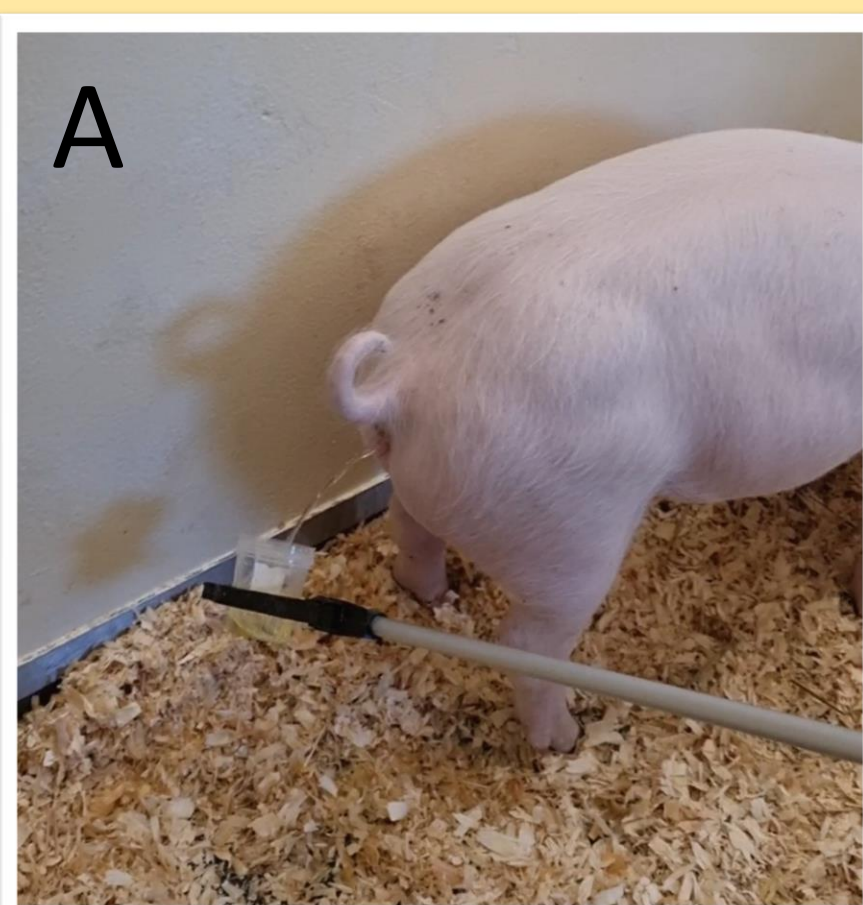
## Background and purpose

Collecting clean urine from pigs requires sedation and catheterization. This is stressful for the animal and prevents daily collection. The purpose of this study was to develop a method for collecting clean-catch urine and to assess the value of such specimens for microbiological culturing in studies of urinary tract infection.

## Methods and results

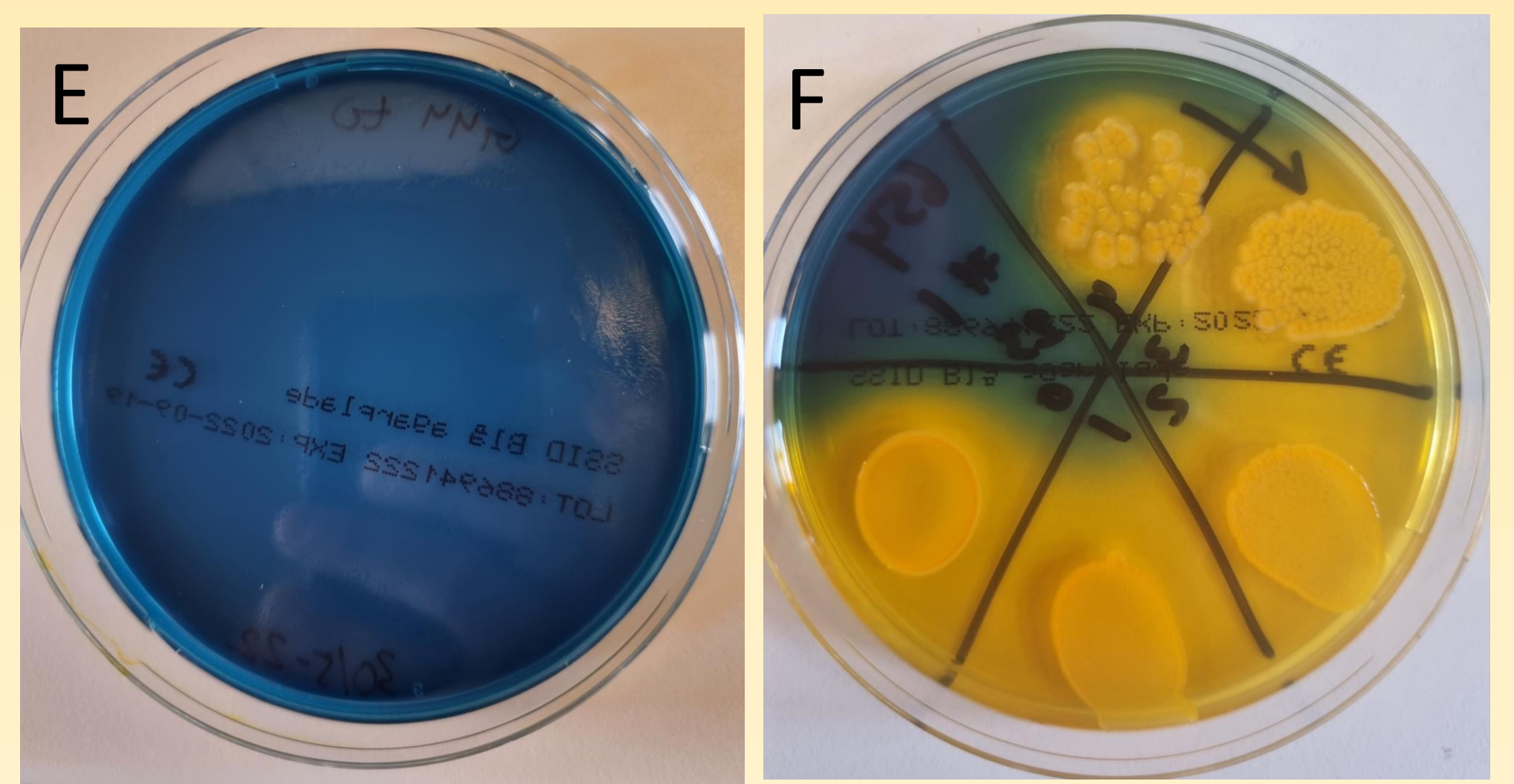
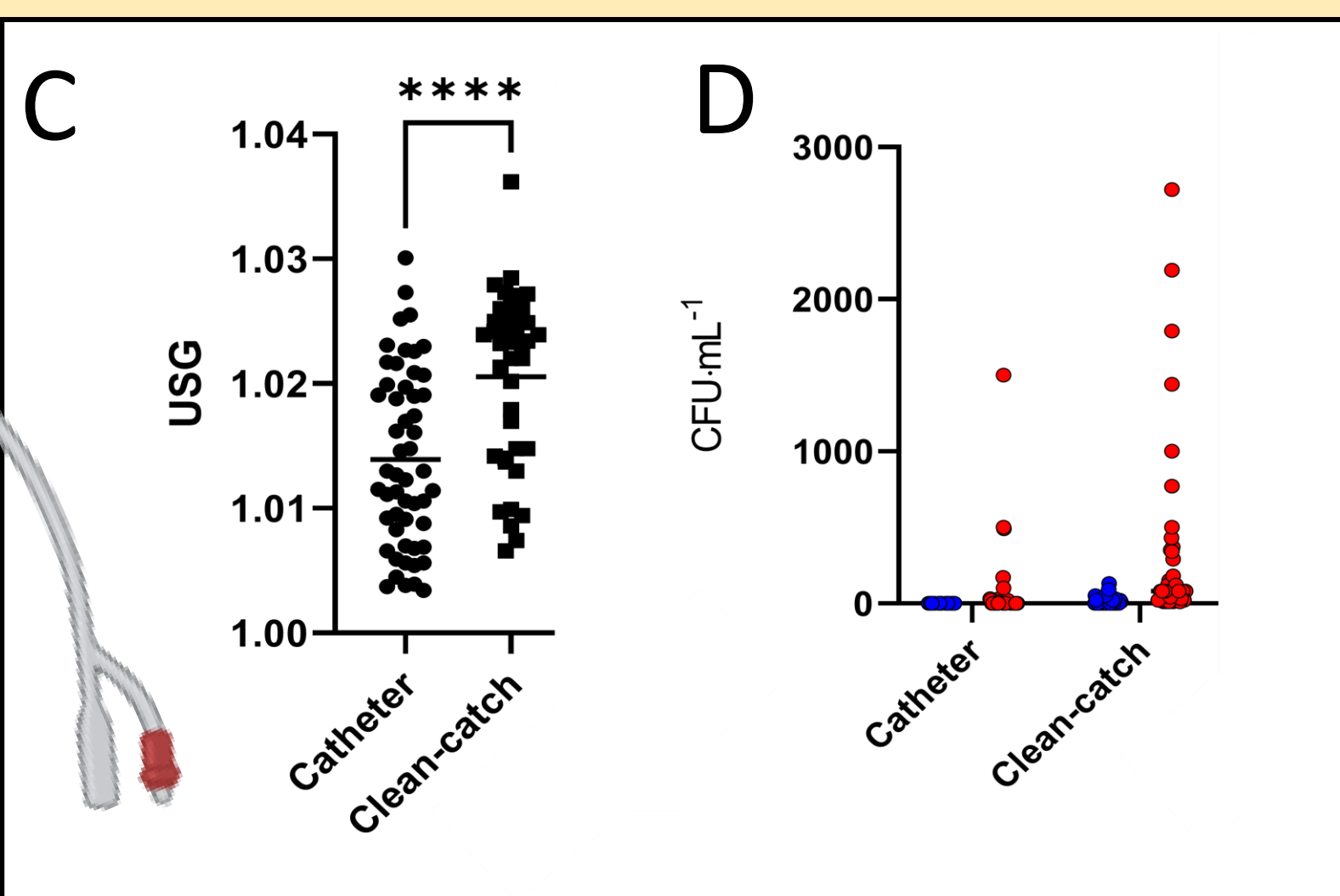
We used a total of 41 Landrace x Yorkshire pigs. Clean-catch urine (n=43) was collected in the morning hours in sterile cups (from groups of 4-10 pigs). Urine was cultured and specific gravity was assessed. The results was compared to urine collected by catheter (n=60).

Contamination was essentially negligible. The urine density was significantly higher for specimens collected by clean catch compared to catheter ( $P < 0.0001$ ). Mean collection time was 57 min (SD:31) (range 20-115 min).



### Figurtekst.

- A. Procedure
  - B. Housing (red area is dunging site)
  - C. Urine specific gravity (density)
  - D. Colony forming units (CFU)
- Culture of midstream urineDyrkning af midstråle-urin på selektiv plade: fra kontrol (E) og inficeret gris i seriefortynding (F).



## Take-home message

Urine specimens collected by clean catch are preferred over other methods:

- **3R:** Refinement (No sedation), reduction (more samples from the same animals)
- **Higher quality specimens:** No adverse effects of sedatives, no risk of catheter trauma
- **Faster and cheaper:** No sedation. Urine from 10 pigs can be collected in less the 60 min



1.021

1.014