The main interventions are:

1. Flock thinning - Mechanical (% check online) or Manual (% check online) – Worker 1

2. Flock clearing – Catching & loading in cages (Worker 1)

Worker 1 : 10,000 chicken 6-8  
30-40 animals per crate ~ 333 Cretes

*Inside farm – equipements and practices*

**Arrival at slaughterhouse**3.1 Chickens are unloaded: Worker 2 (walk around the cages to check their health)

3.2 Kept in the stable:

2 Worker 2 will check 333 crates.

Truck driver cleans the container/Truck – high speed water – no mask

Cutting place (more people) than stable

3. Slaughterhouse practices -

No published papers were found on the microbial risk on E. coli and thinning in European settings. All papers found are focused on Campylobacter spp.

# Scalding – hanging

# Portioning – cutting (manual or mechanical) 20-30 Worker 3 process 50k-150k chickens per day – divide by upto 15 the exposure.

# Price et al. (2007) - At the end of the grow-out period, chickens are captured by people called “catchers,” placed into cages, and transported to the slaughtering facilities. Once delivered to the slaughterhouse, the broilers are removed from the cages and shackled to semi-automated slaughter lines by people called “live hangers.” Thus, growing, catching, and hanging are the three tasks with the most intensive live-animal exposures. For example, a catcher will capture and cage thousands of chickens in a single workday ([Goodman 2006](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2137113/#b11-ehp0115-001738)).

# Racicot et al., (2013) - Assessing most practical and effective protocols to sanitize hands of poultry catching crew members. When hands were highly contaminated, the alcohol-based gel alone was less effective than the degreasing cream combined with the alcohol-based gel.

Youssef et al. (2020) - Among the 14 studies reviewed, five main types of biosecurity interventions were identified, which were as follows:

(a) hand washing, sanitization and hygienic measures;

(b) personal protective equipment (PPE);

(c) vaccination;

(d) other interventions (e.g. air ventilation flaps);

(e) changes to routine farm activities (e.g. changes to farmer practice when doing routine tasks that may affect bacterial transmission such as performing extended lactation).

Ridley et al. (2011) - Enhanced biosecurity measures in poultry farms (Campylobacter):

(a) Cleaning and disinfection

(b) Provision of a mobile mess ⁄ changing room for the catching crew

(c) A requirement for catchers to bring with them fresh clothing, dedicated footwear and any ancillary equipment, including face masks and gloves

Mo et al. (2016) – Norwagien poultry farm questionnaire on hygiene practices

Wadepohl et al. (2020) - This study is the first of its kind to collect data on the occupational exposure of slaughter house workers to ESBL-producing Enterobacteriaceae in Europe.

