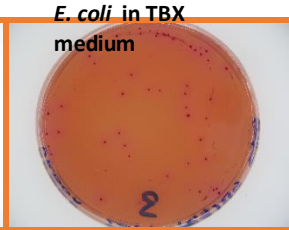
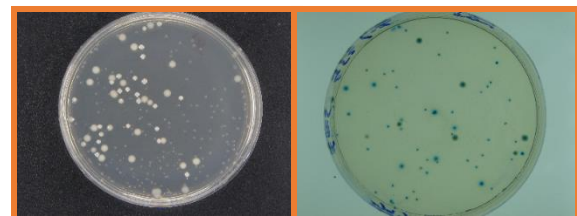




1 AGRICULTURAL UNIVERSITY OF TIRANA
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MONITORING OF MICROBIOLOGICAL PARAMETERS IN PIG CARCASSES IN SOME SLAUGHTERHOUSES IN ALBANIA

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Salmonella spp. in XLD

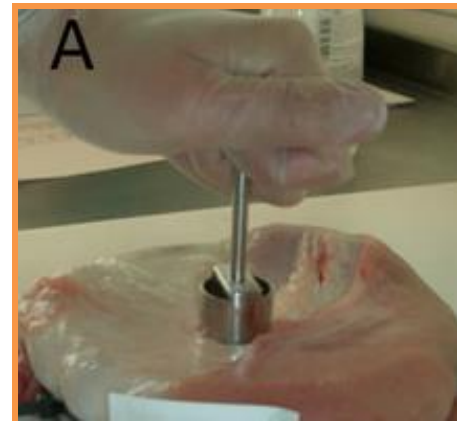
Enterobacteriaceae in VRBGA

Sampling plan of pig carcasses

- ✓ Sampling immediately after removal of internal organs and before the cooling process.
- ✓ Sample sites: (a.) back, (b.) jaw (neck), (c.) chest and (d.) outer thigh.(pooled together), 4 sites represent total of 20 cm;
- ✓ Sampling plan with an overall of 150 sample (4 sites in one pool sample x 5 carcasses per day x 9 slaughterhouses during three years of investigation).

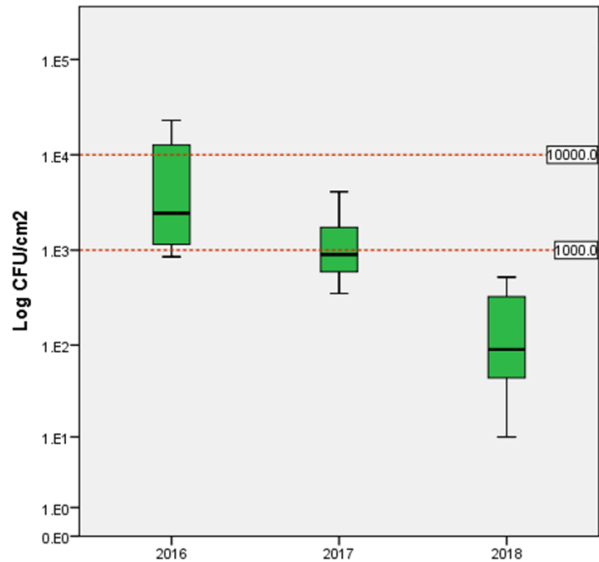
✓ Destructive method

- ✓ Analytical testing was carry out for (i) Total Bacterial Count (TBC), (ii) Enterobacteriaceae, (iii) Escherichia coli and (iv) Salmonella spp

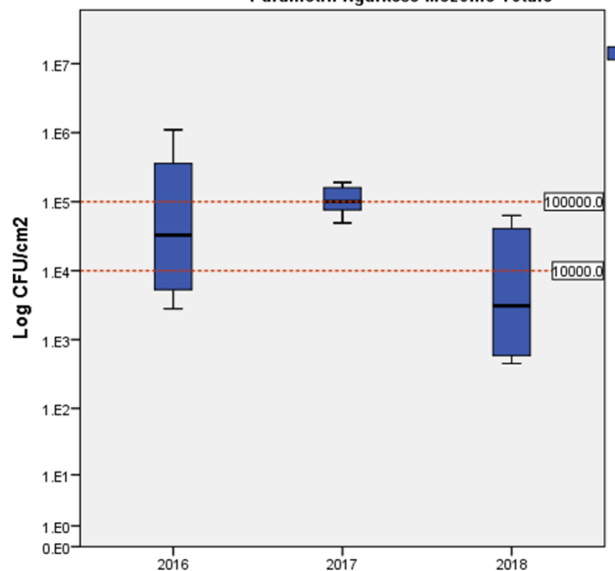


Results

Parametri: Enterobakterie



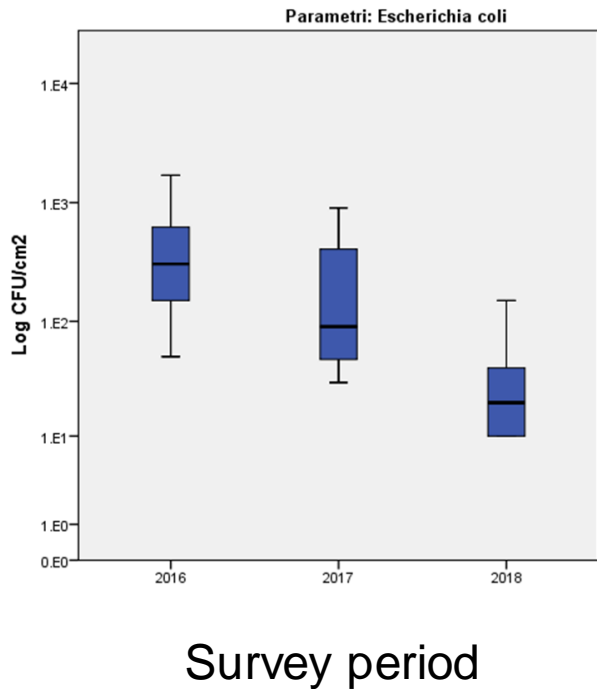
Parametri: Ngarkesë Mezofile Totale



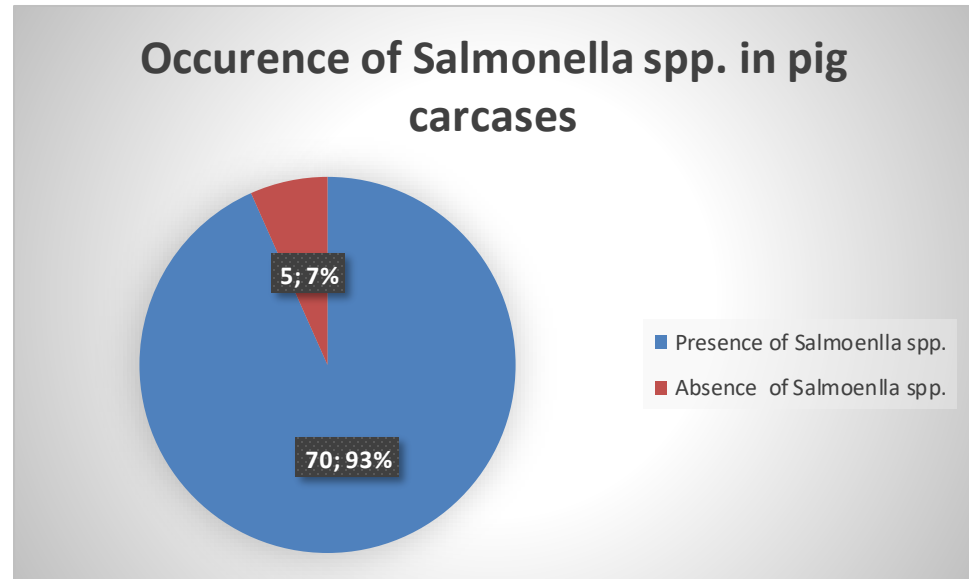
Survey period

- ✓ Total average value of three years of *Enterobacteriaceae* and TBC was **2.9** log CFU/cm² and **4.5** Log CFU/cm².
- ✓ problematic years were considered 2016 and 2017 with the highest average value of TBC respectively **5.0** log colony/cm² and **4.6** log colony/cm².
- ✓ In 100% of cases or (150/150) samples values of *Enterobacteriaceae* were higher than *E. coli*.

Results



✓ 2.0 log colony/cm² was calculated for the *E. coli* indicator



Note: according to 2073:2005, statutory limits for MC criteria are as follows:

Enterobac m=2,0 log cfu/cm²; M=3,0 log cfu/cm²

TBC/APC m=4,0 log cfu/cm²; M=5,0 log cfu/cm²

Salmonella m=M >3/50 Absence in the area tested per carcasse

✓ *Salmonella* spp. was detected in 6.3% of cases (5/75).

Conclusions

- ✓ **Based on the survey findings the slaughterhouse hygiene in Albania showed considerable variation**
- ✓ **National Monitoring Plan of Carcasses is crucial in verifying compliance of food with MC criteria as well as setting up public health goals**
- ✓ **Microbiological studies are necessary to assess not only the effectiveness of HACCP programs but also the interventions in meat and the processing facilities**
- ✓ **In the absence of frequent monitoring plans that assess the level of hygiene in the slaughterhouse, we performed this study which showed the current level of hygiene in them**