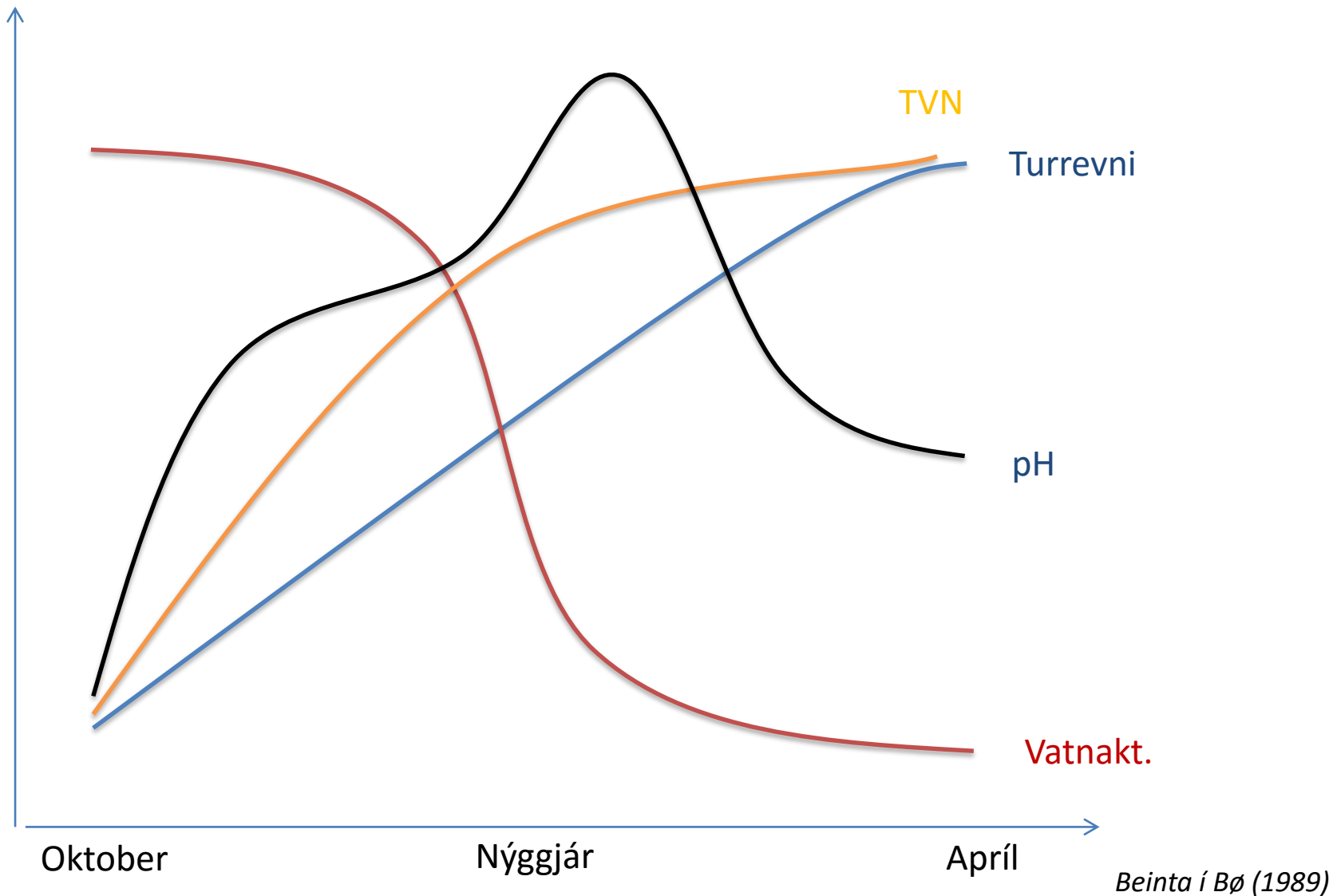




16S METAGENOMICS SEKVENTERING AV SKERPIKJØTSBAKTERIUM

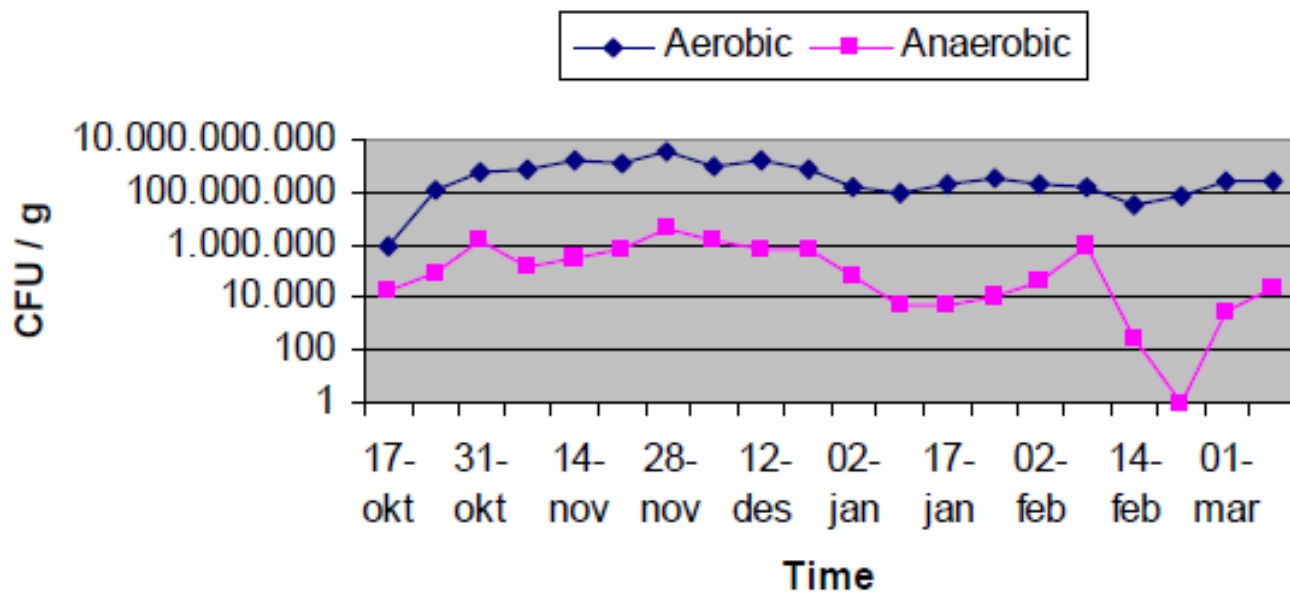




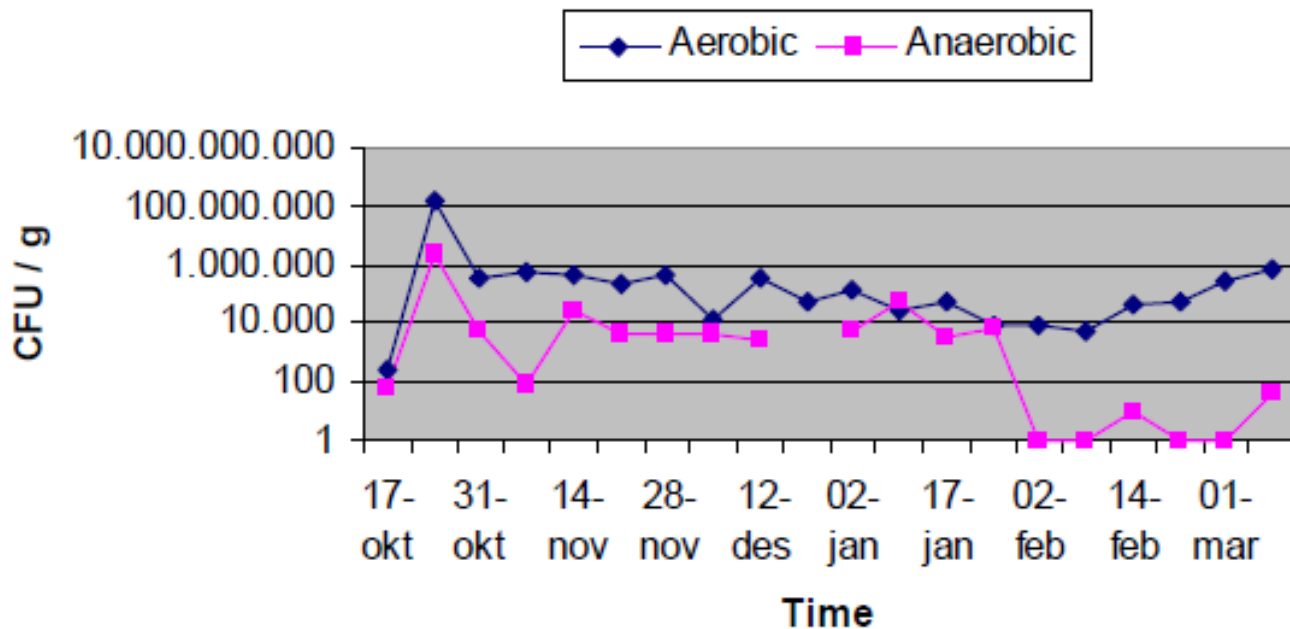
Beinta í Bø (1989)

1. Autolytiskt niðurbróting av vøddum: kveikar (ensymir)
2. Niðurbróting við bakterium
3. Niðurbróting við soppum og geri

Bacteria on the surface of the meat

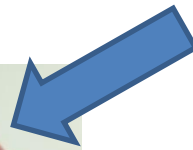
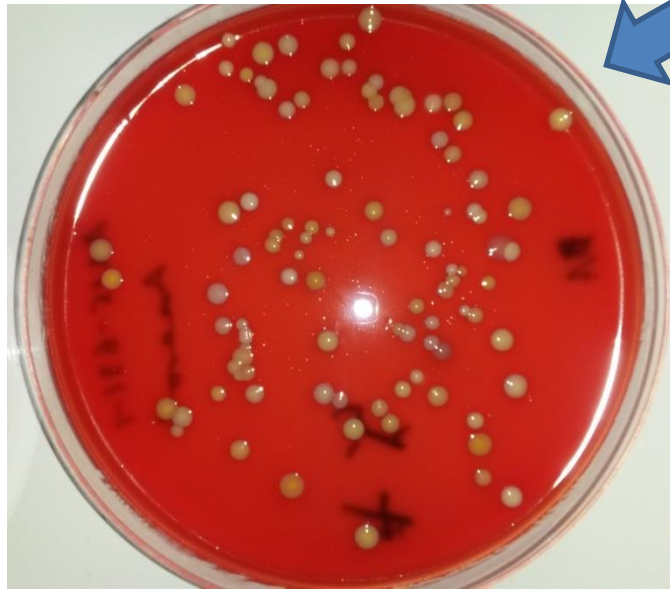
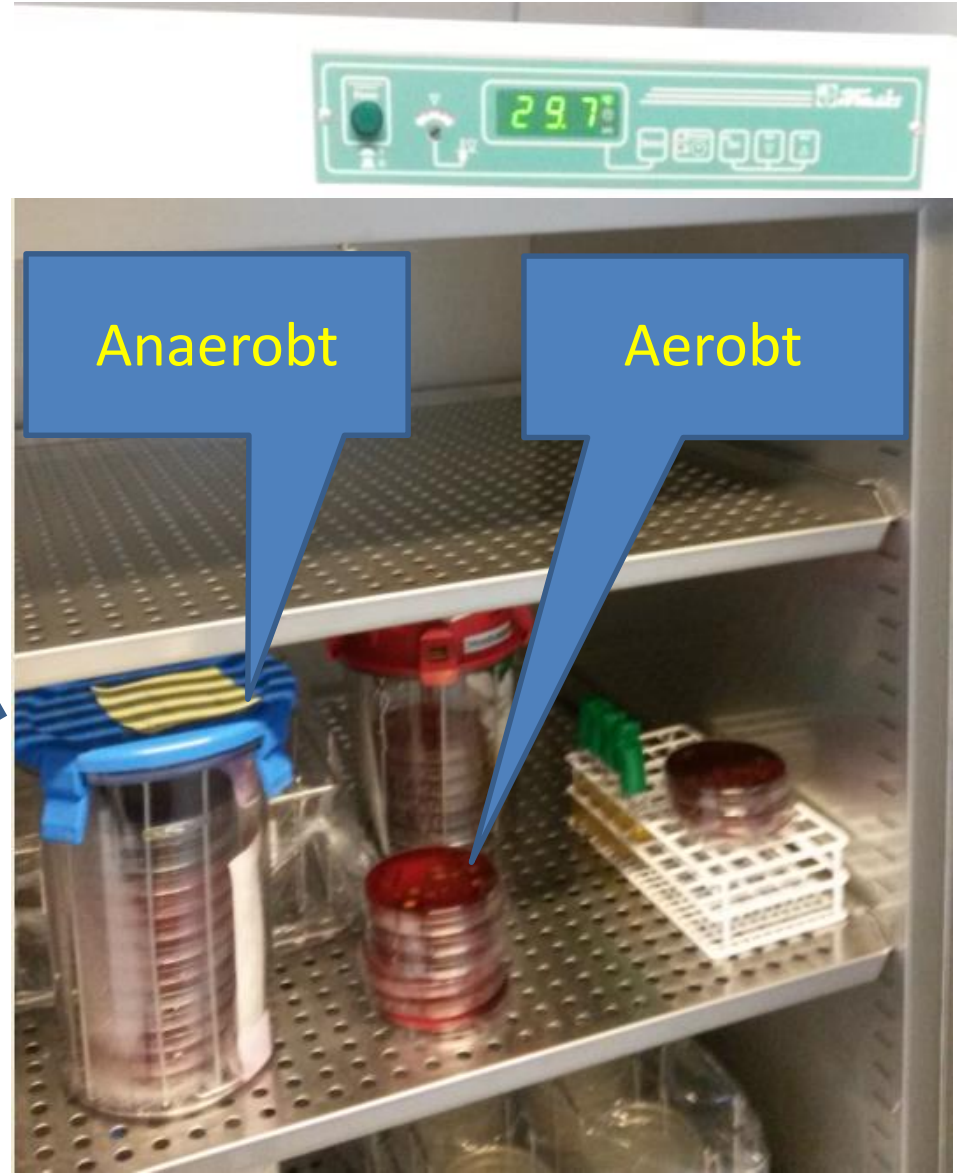
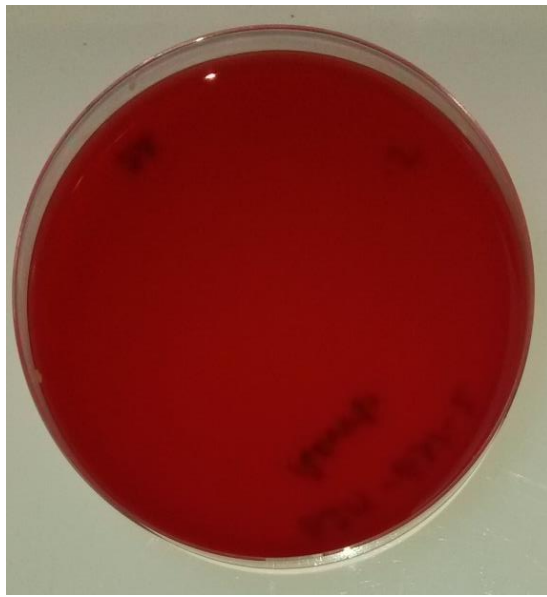


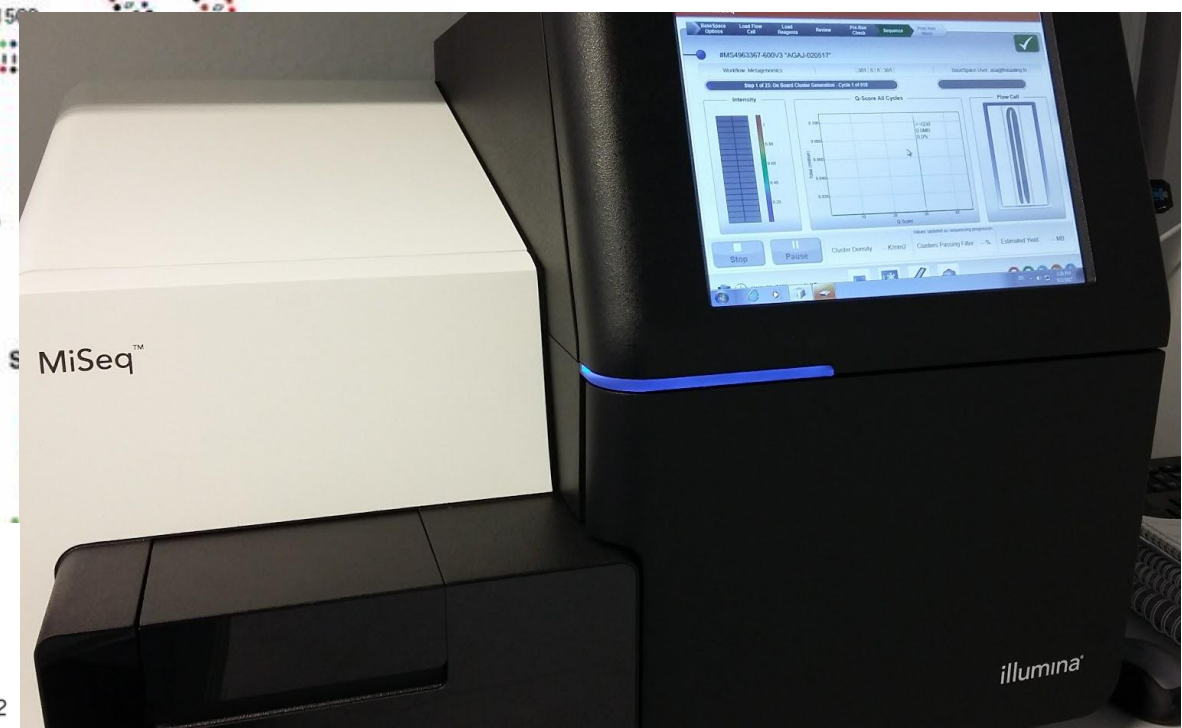
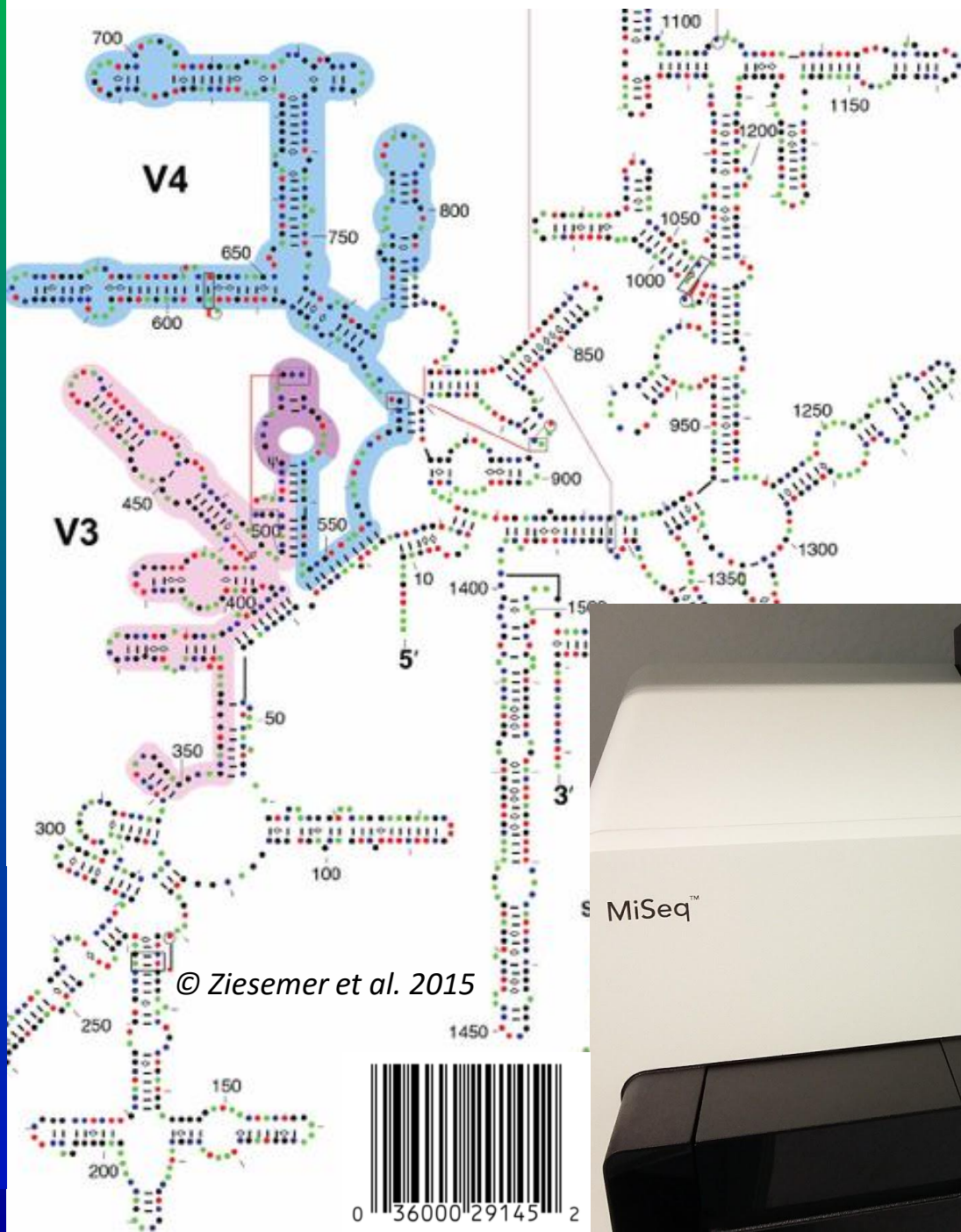
Bacteria in the meat



Beinta í Bø (1989); Mørkøre 2006









Keyptu 3 krov á heysti 2016



11. okt.

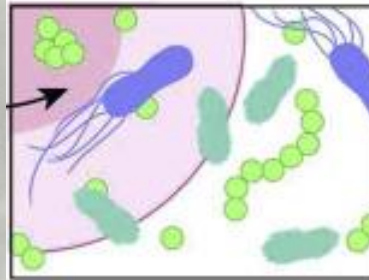
10. nov.

5. jan.

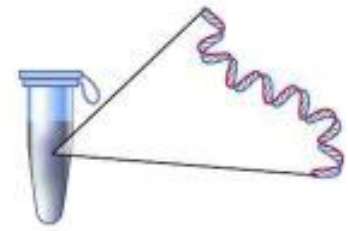
9. mars



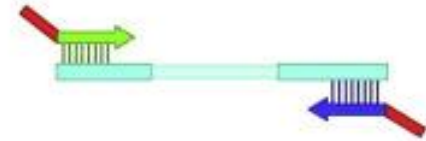




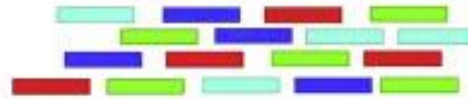
DNA isolation from sample



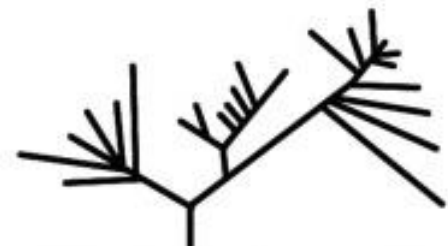
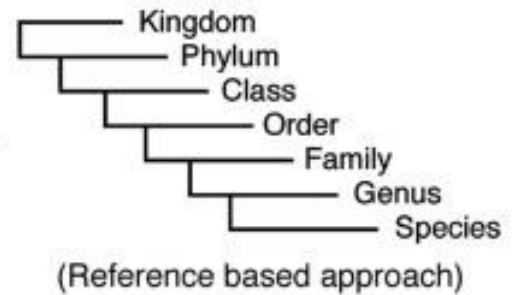
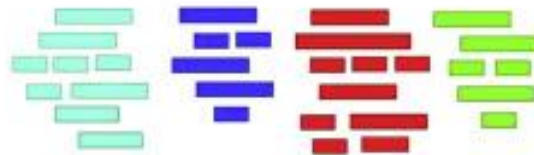
PCR amplification of bacterial 16S rRNA gene



High-throughput sequencing of amplified 16S rRNA genes

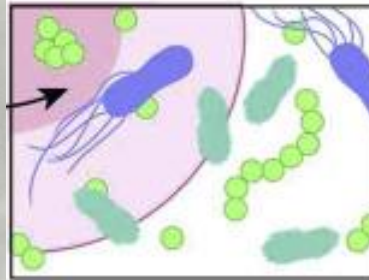


Data processing, quality control and analysis using bioinformatic tools

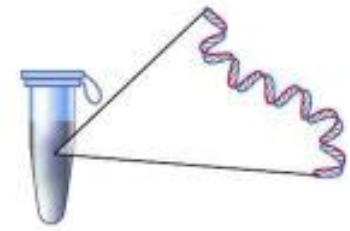


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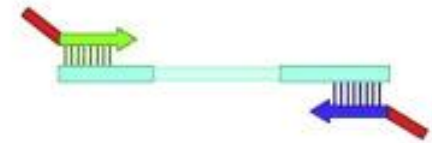




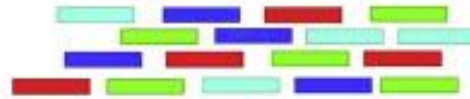
DNA isolation from sample



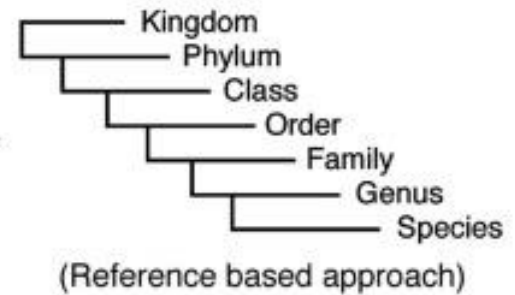
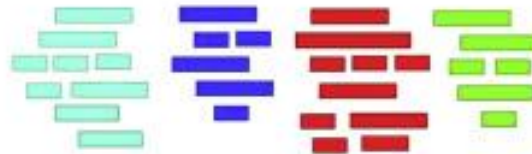
PCR amplification of bacterial 16S rRNA gene



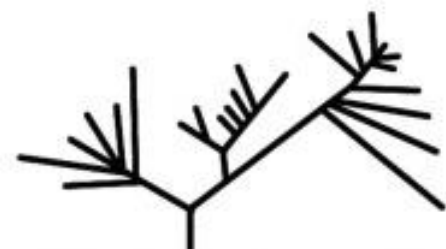
High-throughput sequencing of amplified 16S rRNA genes



Data processing, quality control and analysis using bioinformatic tools



SLEKT?
SLAG?



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ÚRSLIT

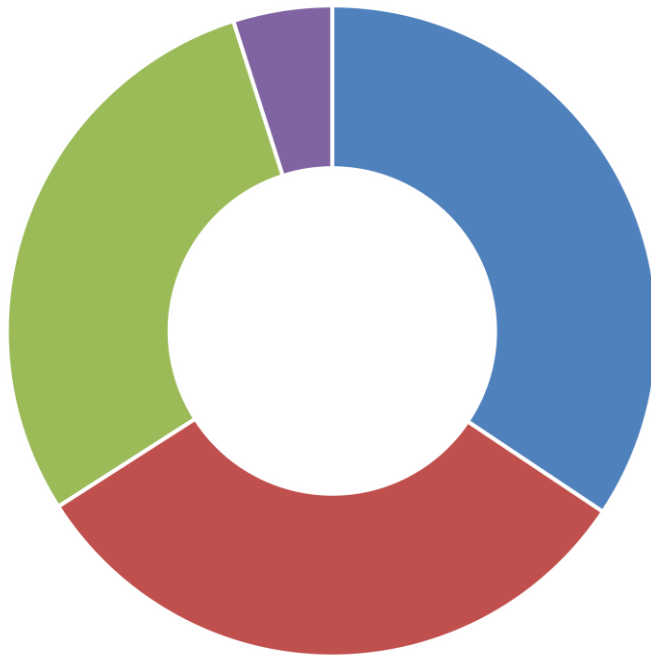
40 mió total reads

34 mió PF reads

81,5 % id (PF)

9 mió flokkaðir

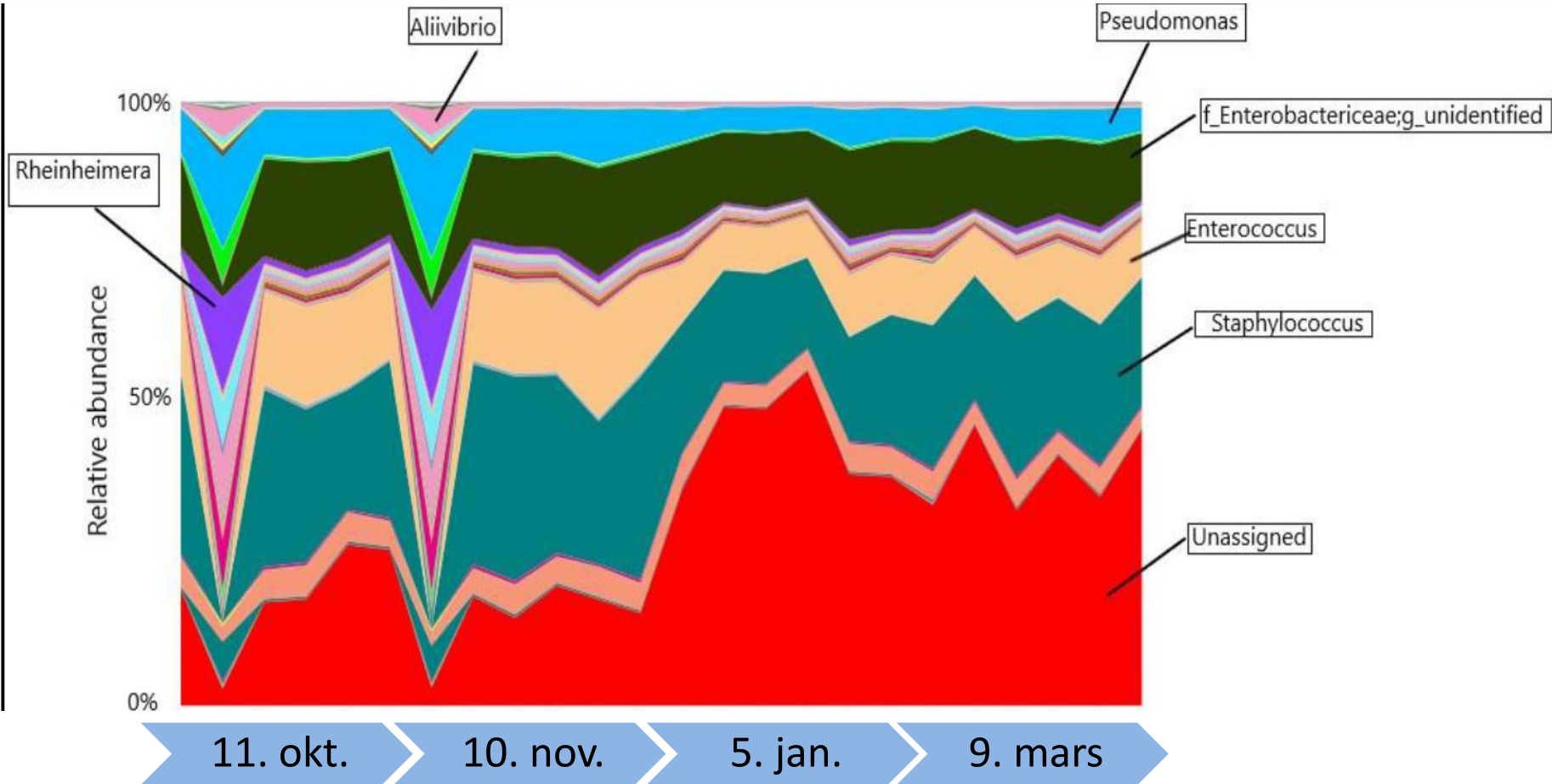
ÚRSLIT – Fylki (Phylum)



- Firmicutes 34,2%
- Proteobacteria 31,4%
- Unassigned 29%
- Bacteroidetes 4,9%

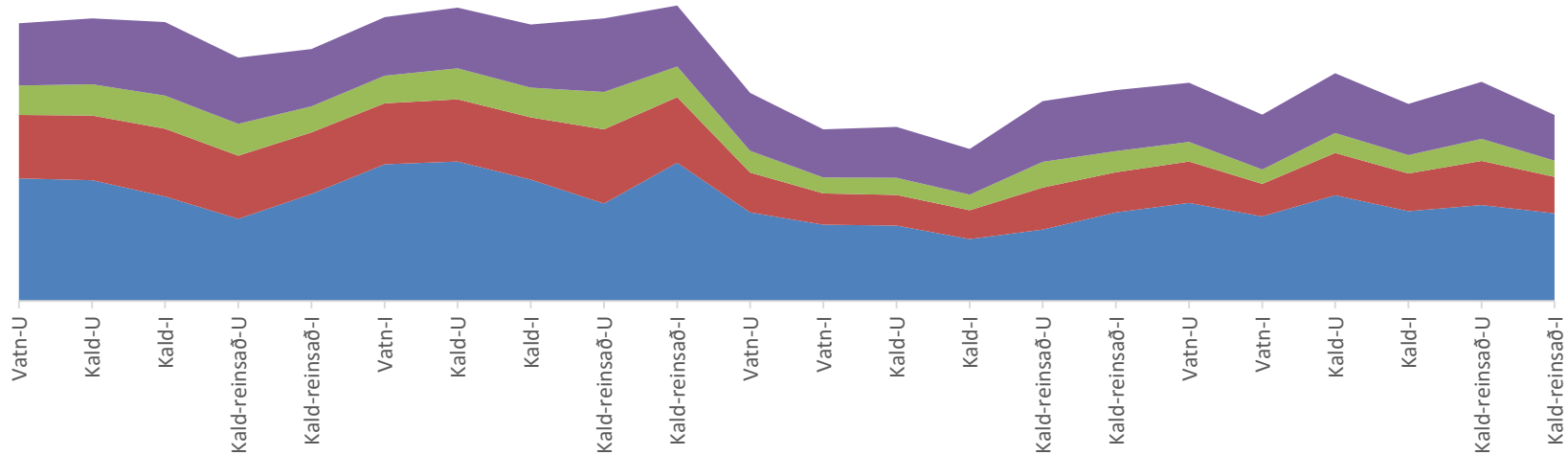
Kingdom	Ríki
Phylum	Fylki
Class	Flokkur
Order	Hópur
Family	Ætt
Genus	Slekt 97 % id
Species	Slag 98 – 99 % id

ÚRSLIT – Slekt (Genus)



ÚRSLIT – Slekt (Genus)

- Enterobacteriaceae (unidentified genus)
- Pseodomonas
- Enterococcus
- Staphylococcus



11. okt.

10. nov.

5. jan.

9. mars

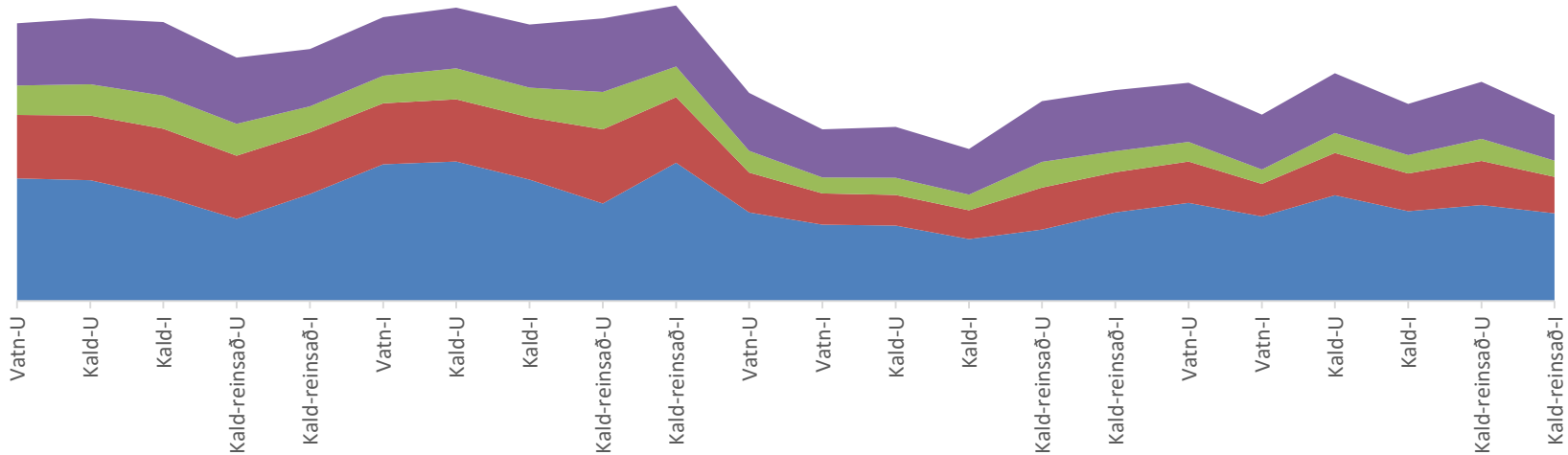
ÚRSLIT – Slekt (Genus)

Enterobacteriaceae (unidentified genus)

Pseodomonas

Enterococcus

Staphylococcus



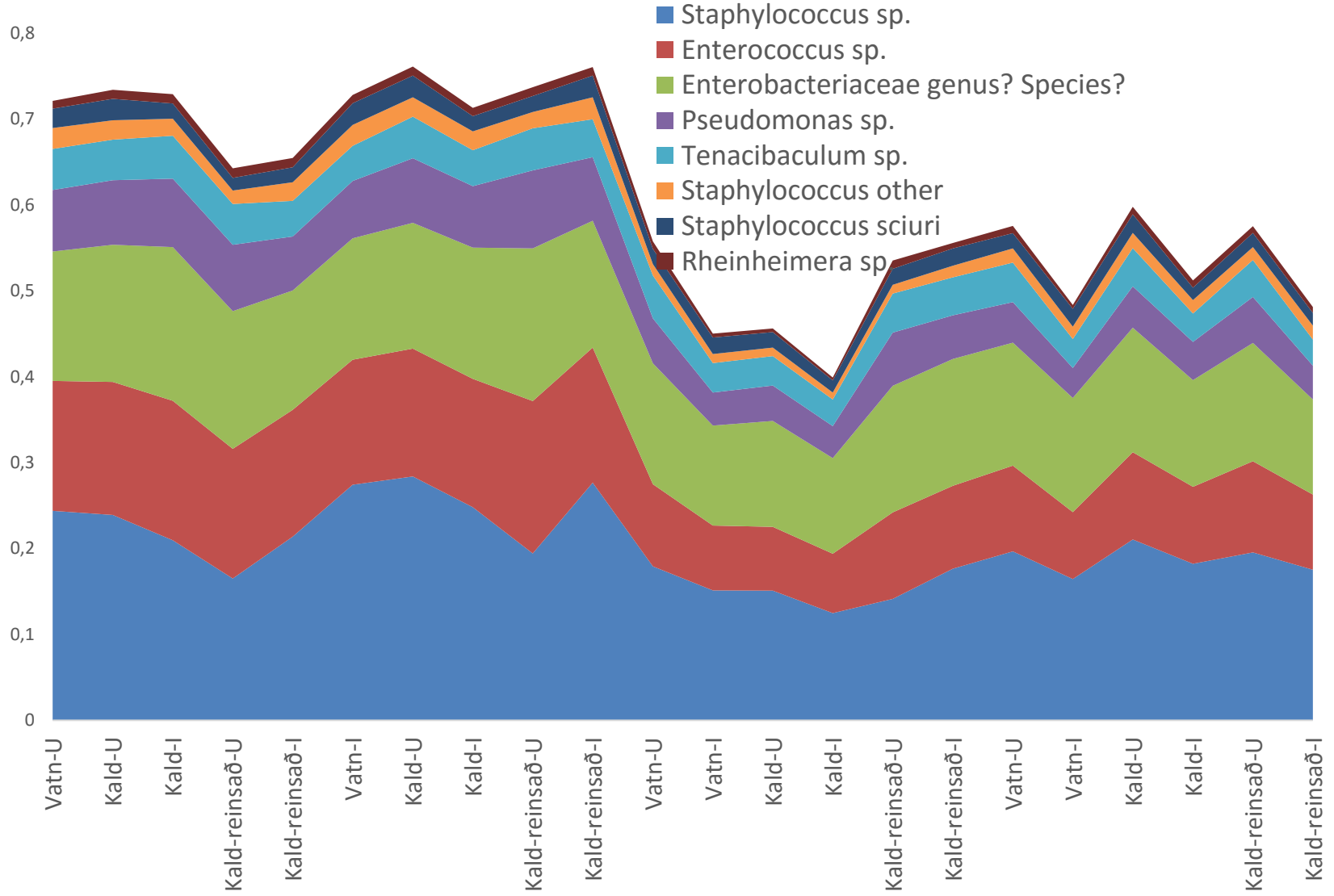
11. okt.

10. nov.

5. jan.

9. mars

590 Bakteriusløg, 88 id.



11. okt.

10. nov.

5. jan.

9. mars



Bacterial diversity in the 2011 update of microorganisms with beneficial use.

Phylum	Family	Genus	Species	
<i>Actinobacteria</i>	<i>Bifidobacteriaceae</i>	<i>Bifidobacterium</i>	8	
	<i>Brevibacteriaceae</i>	<i>Brevibacterium</i>	3	
	<i>Corynebacteriaceae</i>	<i>Corynebacterium</i>	4	
	<i>Dermabacteraceae</i>	<i>Brachybacterium</i>	2	
	<i>Microbacteriaceae</i>	<i>Microbacterium</i>	1	
	<i>Micrococcaceae</i>	<i>Arthrobacter</i>	4	
		<i>Kocuria</i>	2	
		<i>Micrococcus</i>	2	
		<i>Propionibacteriaceae</i>	<i>Propionibacterium</i>	5
		<i>Streptomycetaceae</i>	<i>Streptomyces</i>	1
<i>Actinobacteria—species</i>			32	
<i>Firmicutes</i>	<i>Bacillaceae</i>	<i>Bacillus</i>	3	
	<i>Carnobacteriaceae</i>	<i>Carnobacterium</i>	3	
	<i>Enterococcaceae</i>	<i>Enterococcus</i>	3	
		<i>Tetragenococcus</i>	2	
	<i>Lactobacillaceae</i>	<i>Lactobacillus</i>	84	
		<i>Pediococcus</i>	3	
	<i>Leuconostocaceae</i>	<i>Leuconostoc</i>	12	
		<i>Oenococcus</i>	1	
		<i>Weissella</i>	9	
		<i>Staphylococcaceae</i>	<i>Macrococcus</i>	1
		<i>Staphylococcus</i>	15	
	<i>Streptococaceae</i>	<i>Lactococcus</i>	3	
		<i>Streptococcus</i>	3	
<i>Firmicutes—species</i>			142	
<i>Proteobacteria</i>	<i>Acetobacteraceae</i>	<i>Acetobacter</i>	9	
		<i>Gluconacetobacter</i>	9	
	<i>Enterobacteriaceae</i>	<i>Hafnia</i>	1	
		<i>Halomonas</i>	1	
	<i>Sphingomonadaceae</i>	<i>Zymomonas</i>	1	
<i>Proteobacteria—species</i>			21	
Total number of species			195	



Mjólkarsýrubakteriur?

Lactobacillales **12** (7 – 18) %

Sjúkuelvandi bakteriur?

÷ *Clostridium botulinum*?

÷ *Listeria monocytogenes*?

Staphylococcus aureus





Spurningar



Jógvan Páll Fjallsbak, deildarleiðari, HFS
Debes H. Christiansen, granskari & deildarleiðari, HFS
Linda R. Sørensen, laborantur, HFS
Lena Eysturgarð, yvirlaborantur, HFS
Petra E. Petersen, granskari, HFS
Jóhan Mortensen, kveikjari
Fíggjng frá Granskingarráðnum