

# About Norwegian wool and wool system

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# From Farm to Fork

- Animalia is the research and knowledge centre of the Norwegian meat and poultry industry.
- We are a non-profit corporation, funded by the Norwegian farmers, through R&D projects and specific missions.
- Jointly owned by the Norwegian meat and egg industry.
- We operate under the supervision of the Board and the Norwegian Agriculture Agency who administrate the marketing fee on slaughter and eggs, regulated by law, controlled by the The Agricultural Marketing Board.
- Our main focus is to offer the meat and poultry industry new insight and knowledge in all relevant areas, and to improve the competitive edge in the whole meat and egg value chain.

# ANIMALIA'S CORE AREAS

ANIMAL HEALTH AND WELFARE

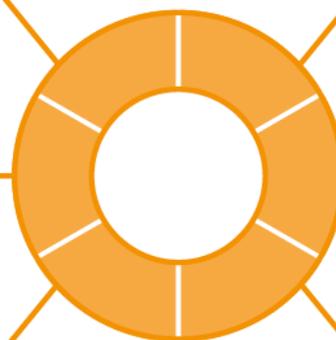
LIVESTOCK

FOOD SAFETY

RAW MATERIALS  
AND PROCESSING

MEAT AND EGGS IN THE DIET

SUSTAINABILITY,  
ENVIRONMENT AND CLIMATE



# What is Norwegian wool used for?



Photo: Devold



Photo: Røros Tweed



Photo: Gudbrandsdalen Uldvarefabrik



Photo: Alfa



Photo: Rauma Garn

# 3 different types of wool

## Crossbred wool

- Long-haired breeds
- Not enough
- Only undercoat



## Norwegian short tail sheep

- Short-tailed breeds
- Very strong
- Undercoat and outer hair

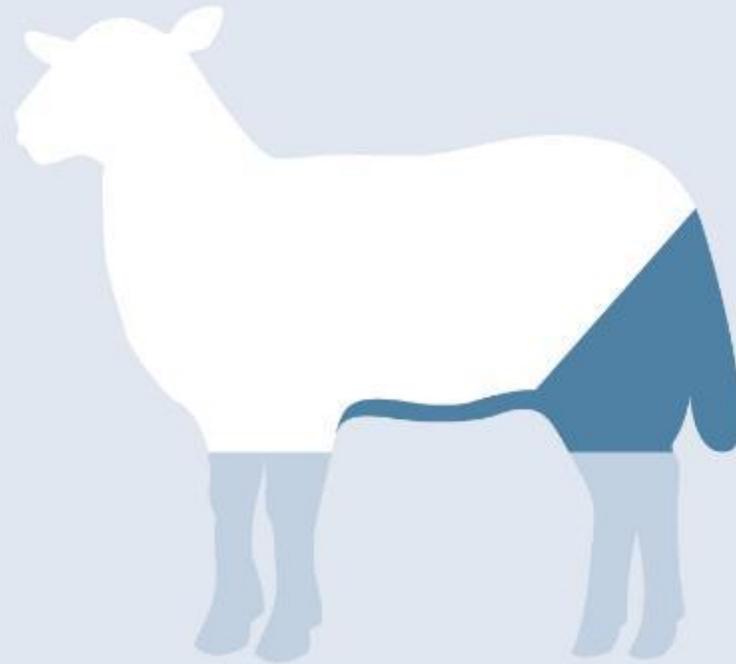


## Pelt sheep wool

- The sheepskins are very popular
- Bred for good wool
- Only outer hair

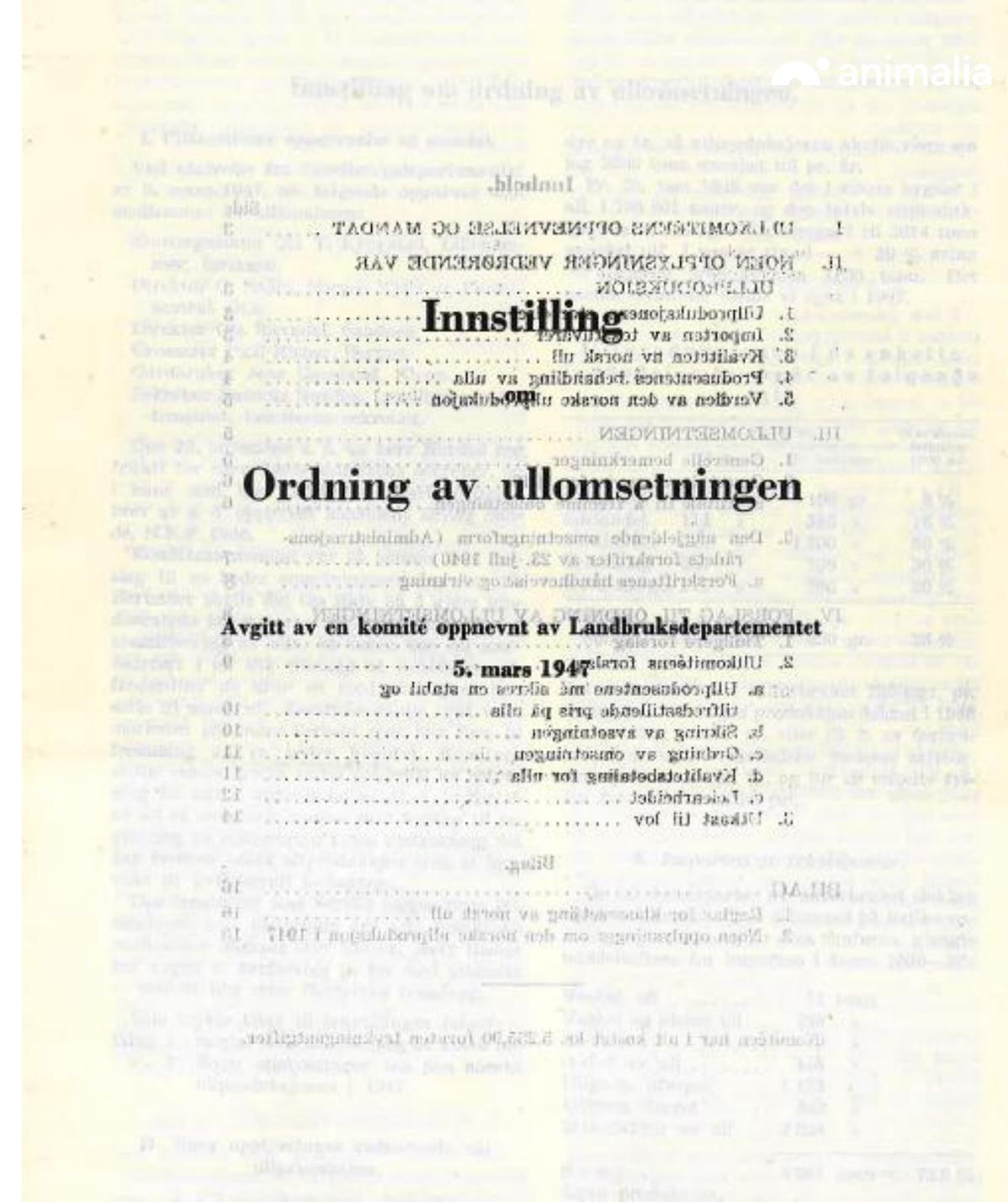
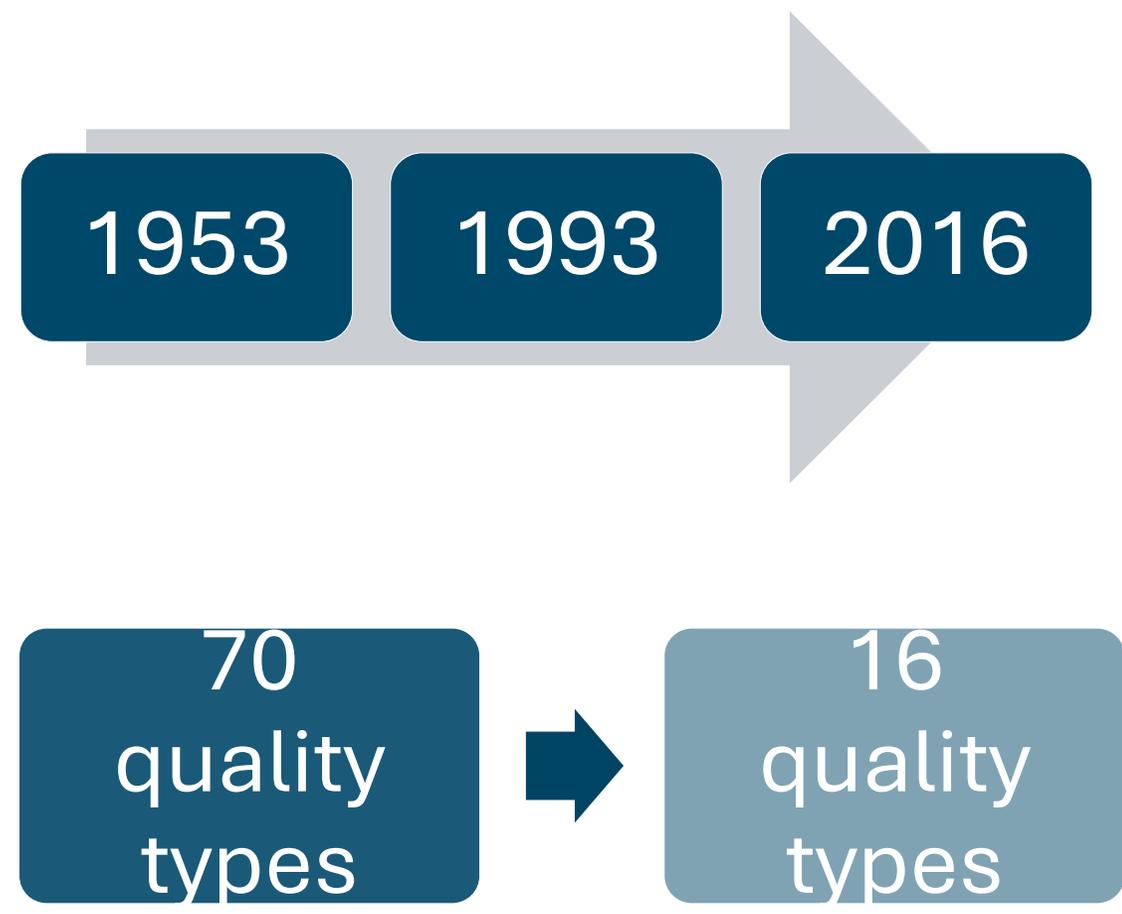


# Good wool, and the rest



- **Sorted wool** is wool from from thighs, belly and tail (20-25%)
- **Fell wool (fleece)** is the rest

# Norway's unique wool scheme



# Amount of wool



# What is good wool?

- Fine fiber
- Little medulla
- Little felting and vegetable matter
- Good shine
- Not discoloured
- Good elasticity (crossbred)
- Strong (spælsau)
- Good curls (pelssau)



# 16 quality classes

Quality class	Tons	%
A1	126	4 %
B1	304	10 %
B2	129	4 %
C1	854	28 %
C1S	103	3 %
C2	254	8 %
C2S	424	14 %
F1	72	2 %
F1P	27	1 %
F1S	68	2 %
F2	93	3 %
G	31	1 %
H1	422	14 %
H2	52	2 %
H3	4	0 %
V	36	1 %
Total amount	2 999	



# Norwegian wool standard, and our website

- Norwegian wool standard:  
<https://www.animalia.no/contentassets/d91150be325e4d72b5b814f83b92b2f8/202961-animalia-ullstandard-engelsk-04.pdf>
- Our website about wool (in Norwegian): [www.animalia.no/ull](http://www.animalia.no/ull)  
Here you can find information about:
  - Norwegian wool standard
  - Videos that shows how to sort wool
  - Informations about breeds og sheep that we have in Norway

# Wool testing

Brand:  
080-2020  
C1

Greasy Wool

Gross Mass : 1883Kg  
Declared Tare : 20Kg  
Nett Mass : 1863Kg

Total Bales : 5

Client ref : 080-2020 C1

- 4 % of the wool is tested
- Mean fibre diameter
- Medullation
- Kemp
- Yield
- VM
- Colour (D65/10)
- (st. dev)

## Yield Test Results

Wool Base (IWTO-19)  
68.81 %  
( 2 samples tested )  
Vegetable Matter Base (IWTO-19)  
0.2 %  
(Including 0.00 % Hard Heads and Twigs)

## Calculated Commercial Yields

	%	Kg
IWTO Scoured Yield at 16% Regain	81.9	1526
<b><i>IWTO Schlumberger Dry</i></b>	<b>80.4</b>	<b>1498</b>

## Colour (IWTO- 56)

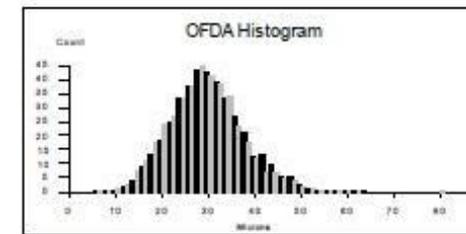
Colour ( 4 specimens) Sampled:09 Nov 2020  
D65/10; X: 64.3 Y: 67.9 Z: 56.2 Y-Z: 11.7  
C/2(w); X: 62.4 Y: 64.0 Z: 61.6 Y-Z: 2.4

## OFDA (IWTO-47)

Mean Fibre Diameter : 29.0 um

## ADDITIONAL INFORMATION...

Standard Deviation : 8.00 um  
Coefficient of Variation : 27.60 %  
% Fibres > 30 um : 42.9 %  
Medullation : 2.6 %  
Fibre Curvature : 55.6 deg/mm  
Kemp Fibre : 0.2 %  
11.4 % > 38 UM



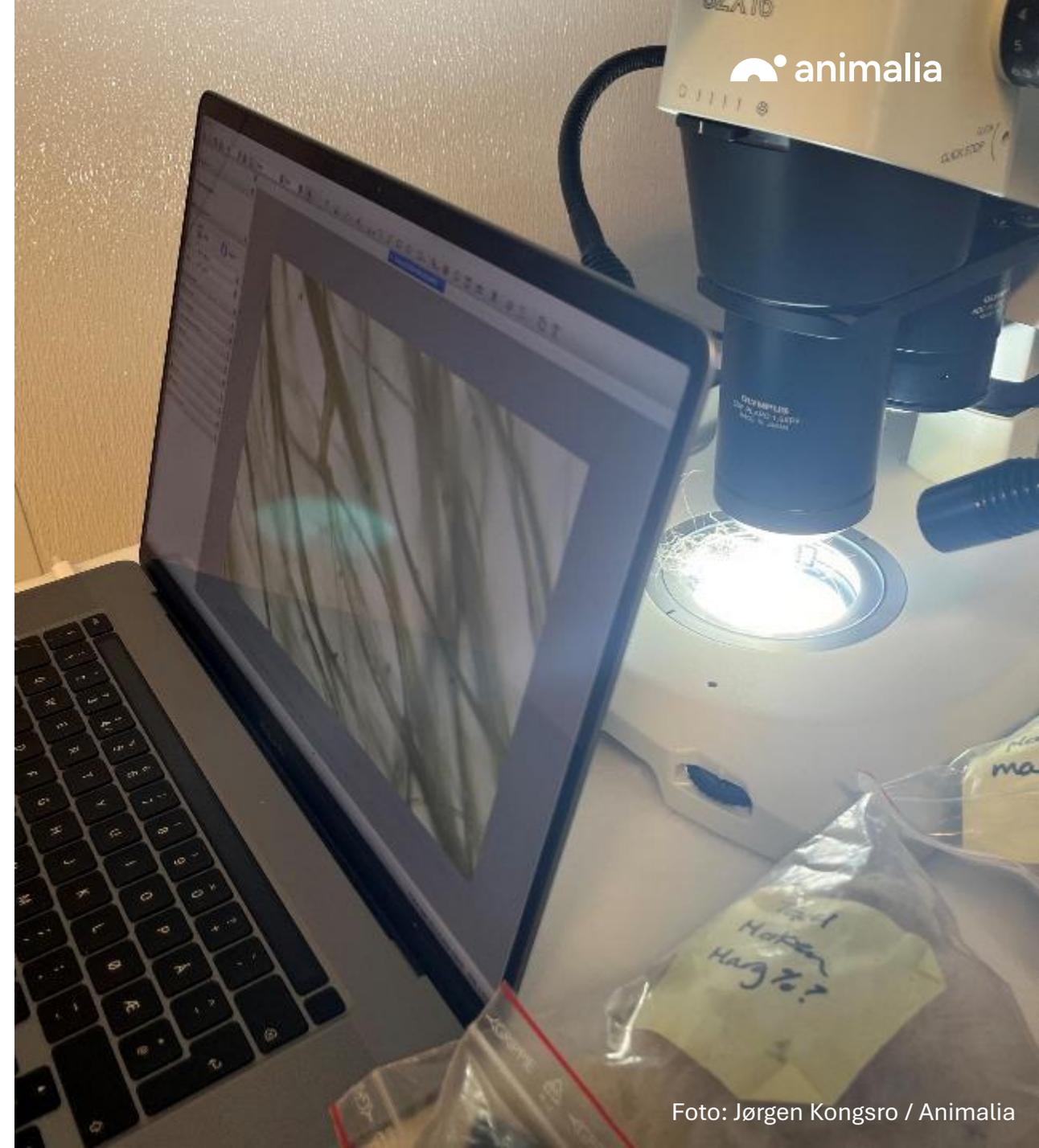
# Education og wool graders

- 2 years
- Both practical and theory
- 50 wool graders
- Mandatory meeting every 2. year
- Only wool stations with certified wool graders can pay out government subsidies to farmers
- I visit each wool station every year - controll



# Objective measurement of medullation and diameter in wool

- The amount of medullation has increased
- Medullation makes wool less strong and it is difficult to dye yarn
- Application for research project
  - Objective measurement of medulla and diameter
  - Integration into the breeding system



# Trends

→ More white good crossbred wool (C1) → Mer coloured crossbred wool (C1S) → More Norwegian 1. graded wool

The graph shows share of first-class fell wool in total wool production

