



assomac

NATIONAL ASSOCIATION MANUFACTURERS
OF FOOTWEAR, LEATHERWOODS
AND TANNERY TECHNOLOGIES

TECHNOLOGY

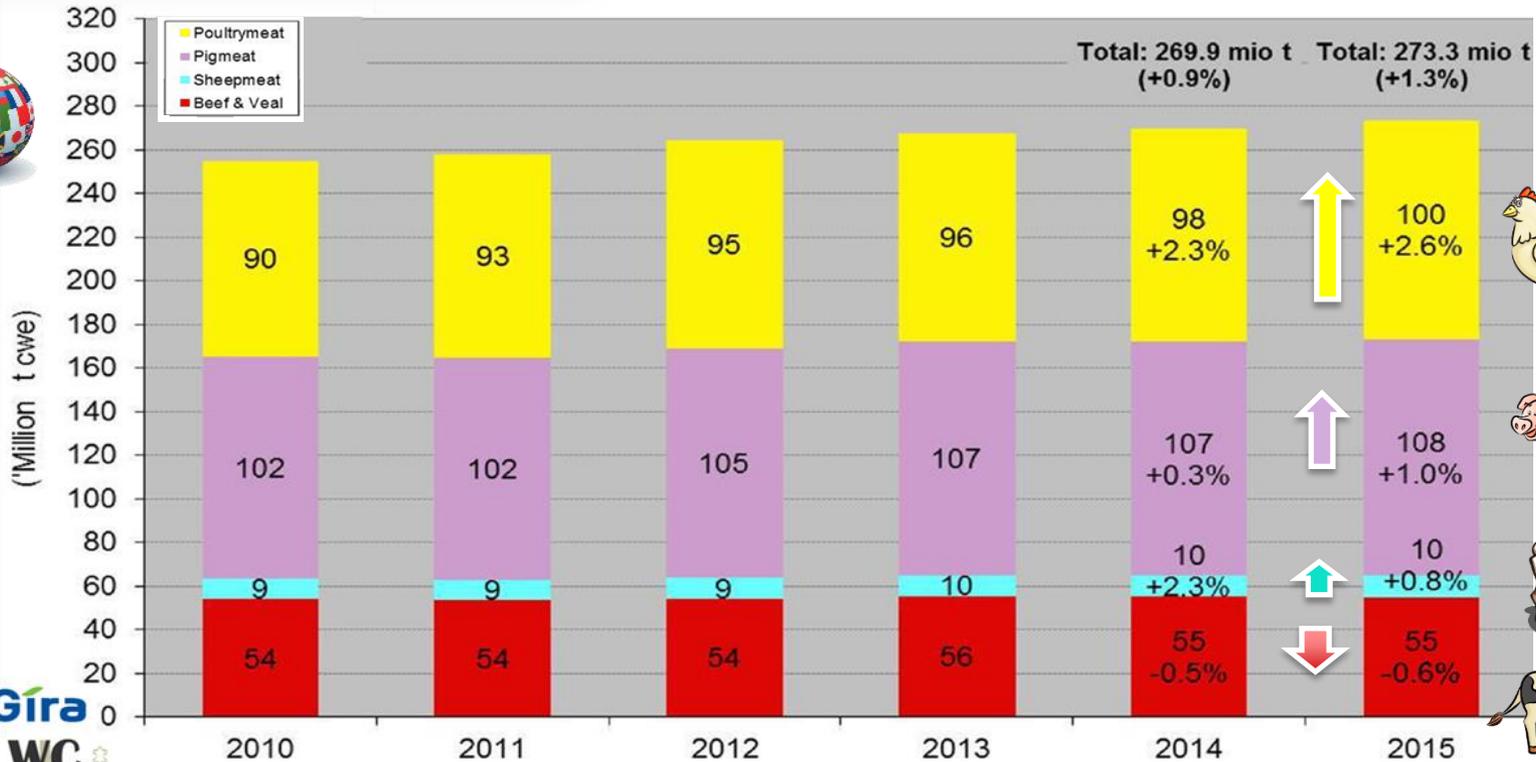
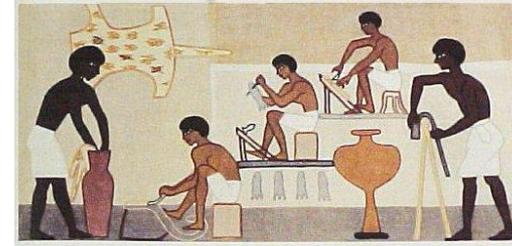
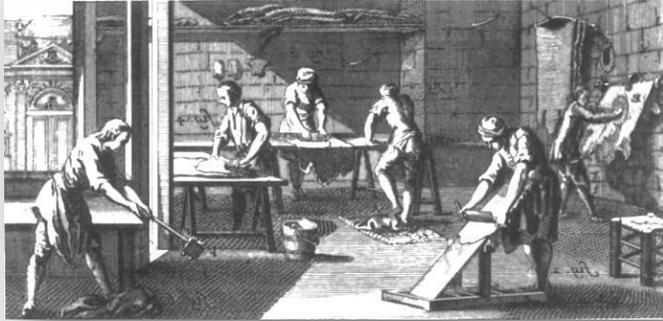
LEATHER INDUSTRY **SURVAY**



Global trend of meat consumption



...TANNING...
historically oldest
recycling process



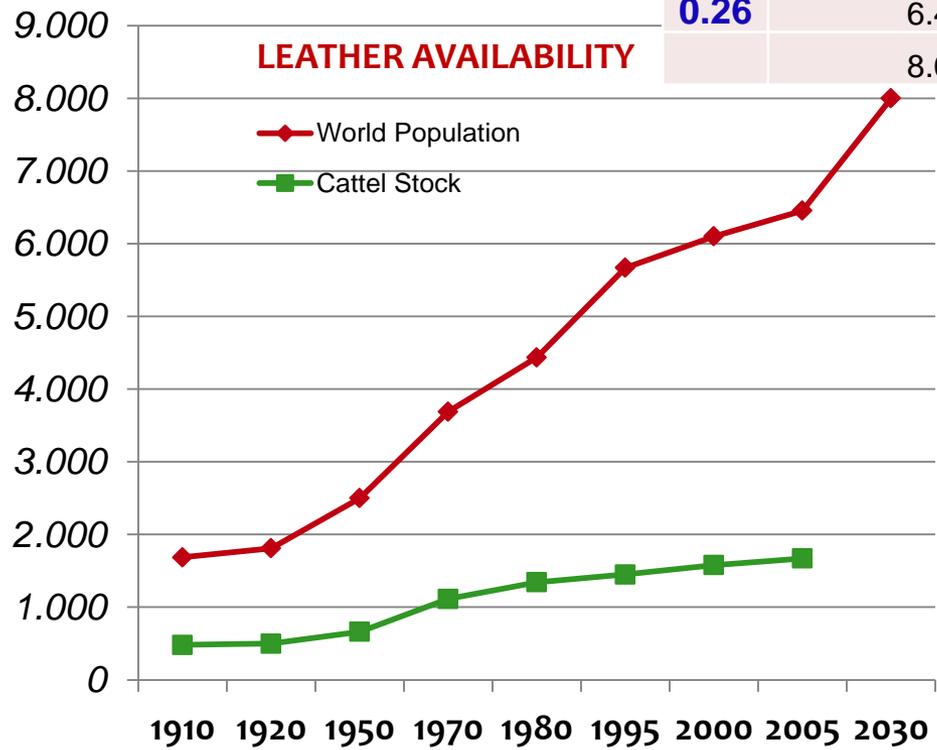
Leather consideration

FOOD



BOVINE	15 400
SHEEP	10 400
PORK	5990
BUTTER	5550
GOAT	5520
CHEES	5060
POULTRY	4330
EGGS	3300
RISE	2500
SOJA	2145
PASTA	1850
BRED	1608
MAIS	1220
MILK (1 litro)	1020

Ratio	World Population	Cattel Stock
0,29	1.686	482
0,28	1.810	500
0,28	2.500	663
0,30	3.690	1.114
0,30	4.435	1.344
0,28	5.670	1.450
0,26	6.100	1.580
0.26	6.454	1.670
	8.000	



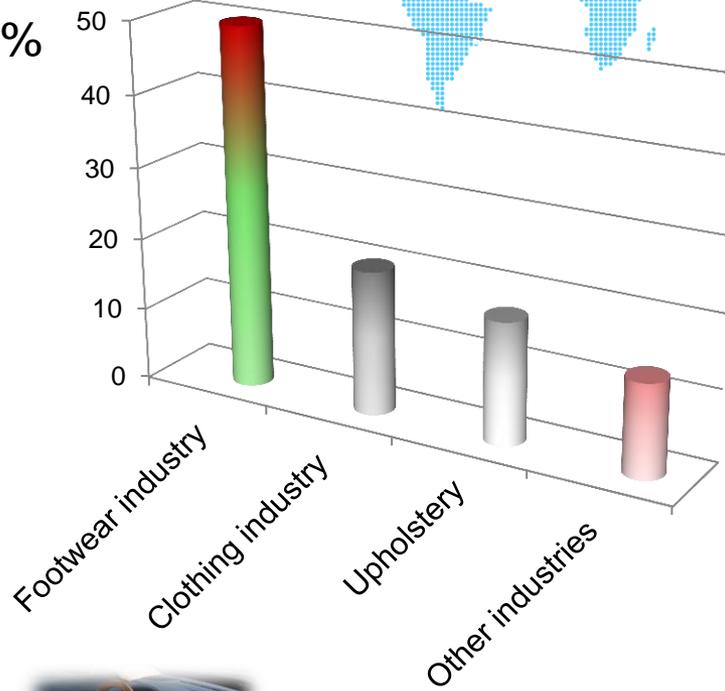
Leather applications



> 80%



50%



Wet blue TG The shrinkage temperature	100-115
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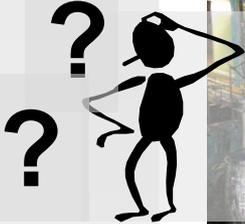
Tannery Industry Considerations

raw hide represents something between
6-10% (bovine)
of the market value of an animal.



Leather Industry contribution:

- By-product
from meat industry (gelatin, fertilizer, dog food ecc)
- Welfare for animal
best raw material quality
- Valorization of waste
converting hides and skins into...
- Best Available Technologies
sustainable processing

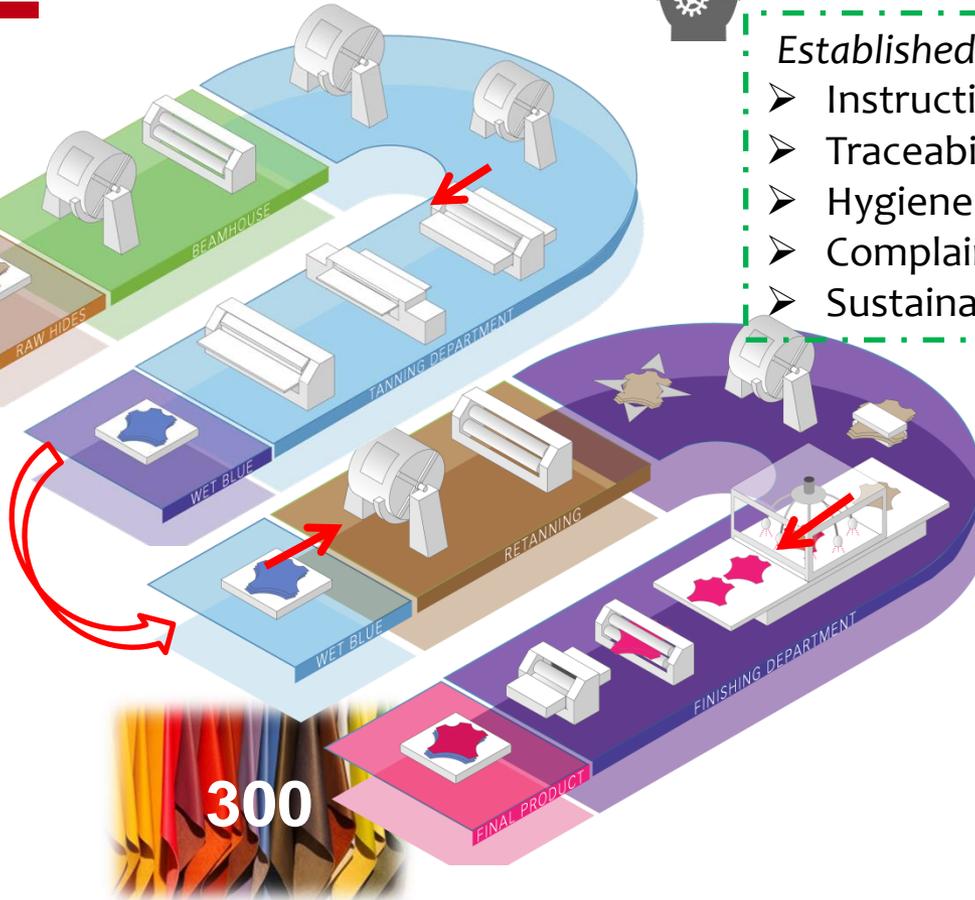


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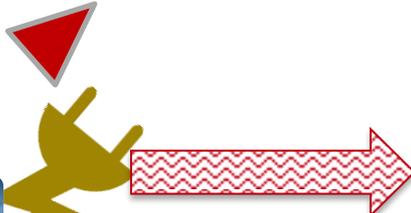


Established procedures:

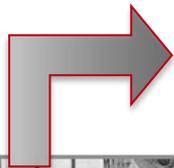
- Instruction to personnel
- Traceability of production
- Hygiene in Production
- Complains and Recall
- Sustainable facilities



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30-40 m3 waste water
450-550 Kg solid waste
200 – 250 kg COD
80-100 kg BOD

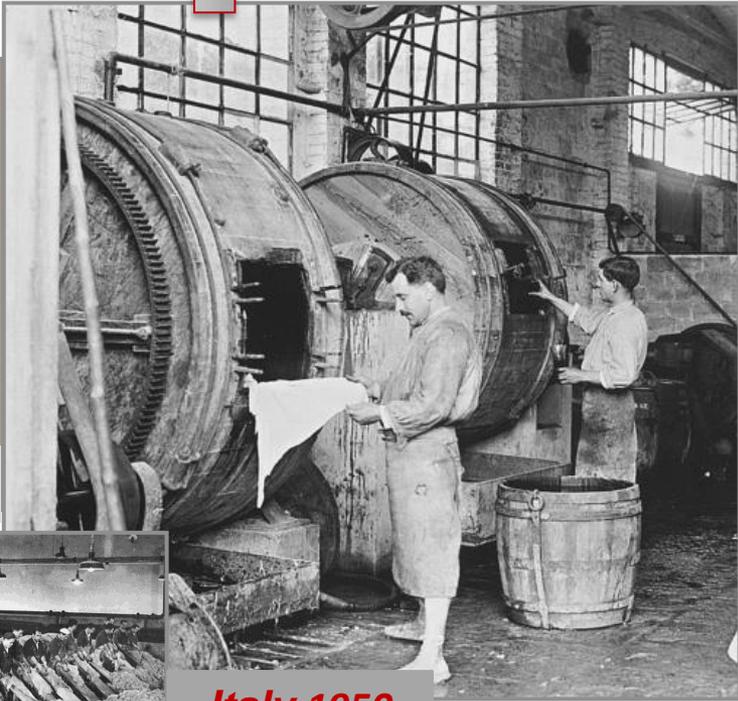


FROM HISTORY...

... TO THE FUTURE



HOEPLI -1949
Dr A. GANSSE
III edition



Italy 1950



Performance



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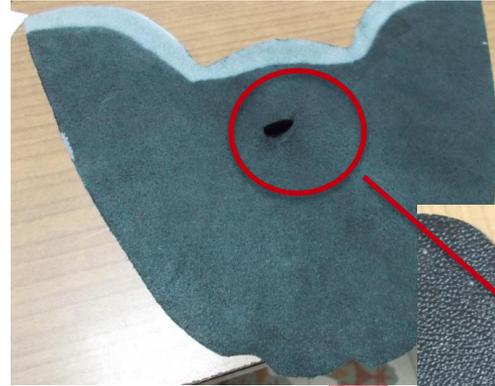




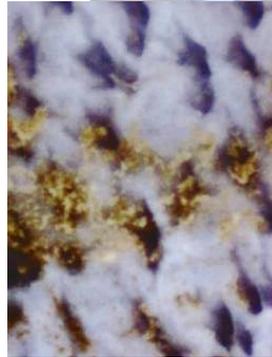
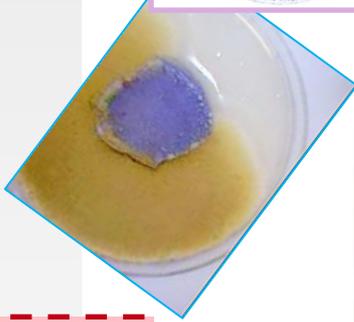
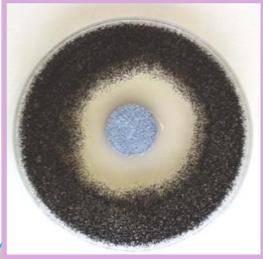
Raw Hides

slaughtering

Effects



Conservation



Effects





WET PHASE



DRUM EVOLUTIONS...

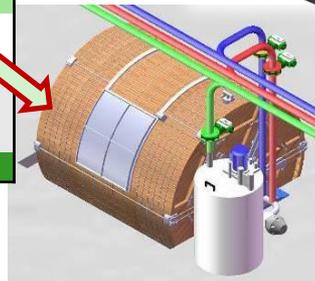
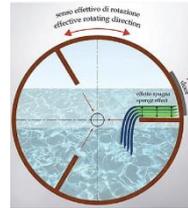


Biotech plant

**R...otating
B...iochemical
R...eactor**



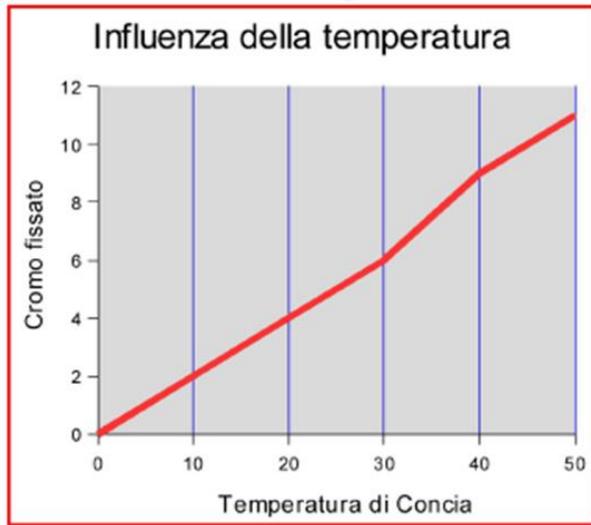
FEATURE	BENEFIT
INVERTER	ENERGY ROTATION
MATERIAL	GEOMETRY SURFACE
CONTROL	PARAMETERS REPEATABILITY
TOOLS	MIXING RECYCLING



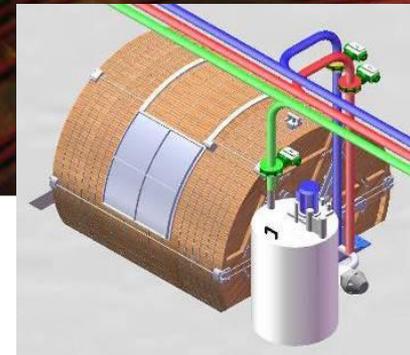
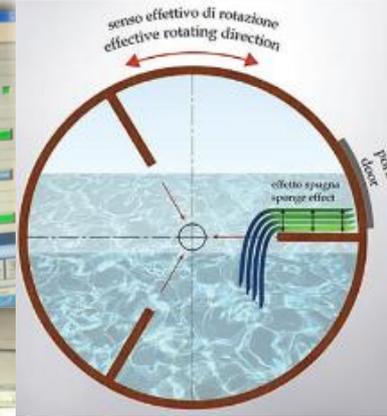
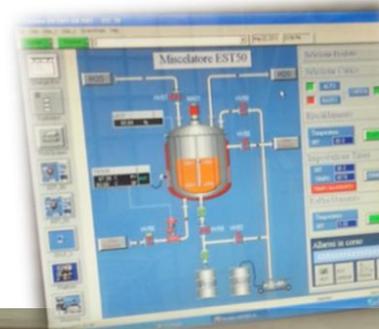


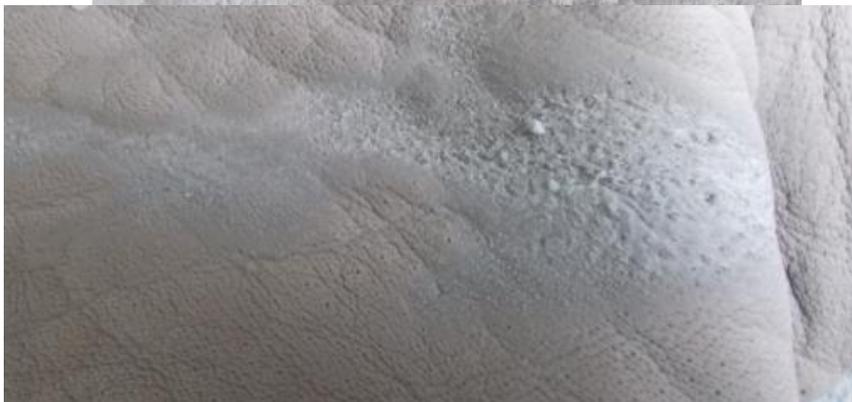
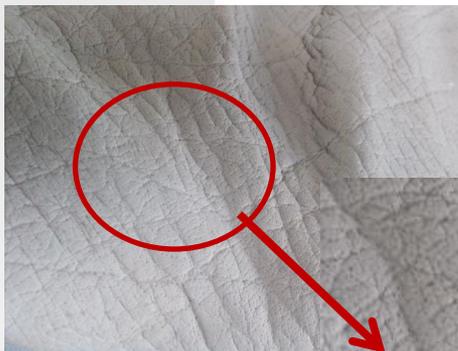
➤ **IN TANNERY** improve Cr fixation:

- Offered Cr (in Cr₂O₃)
- Length of the bath
- Final temperature of tanning
- Duration of tanning
- pH end tanning
- masking.



DRUM EVOLUTION...

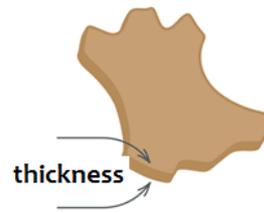






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SOLID WASTE IMPACT



case of study:

Speaking on bovine hides, the first **substance** (thickness) control point is after the lime splitting machine, where the hide tolerance is up to 0.4 mm. This difference which will be uniform later (shaving) on grain and on the split.

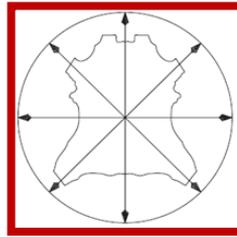


SOLID WASTE IMPACT



N. Hides <i>daily production</i>	Economize <i>thickness</i>	Kg. Saving <i>per hide</i>	Tot. Kg. <i>per day</i>	Year <i>working days</i>	Tot Kg saved
2400	0,1 mm	1	2400	235	564.000





Italia 1950



Temperature



Cooler

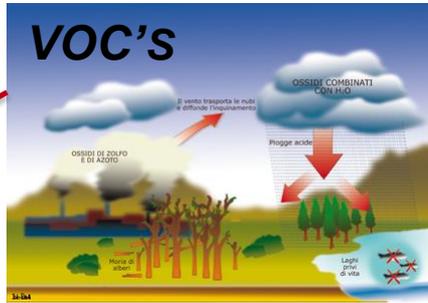


Humidity

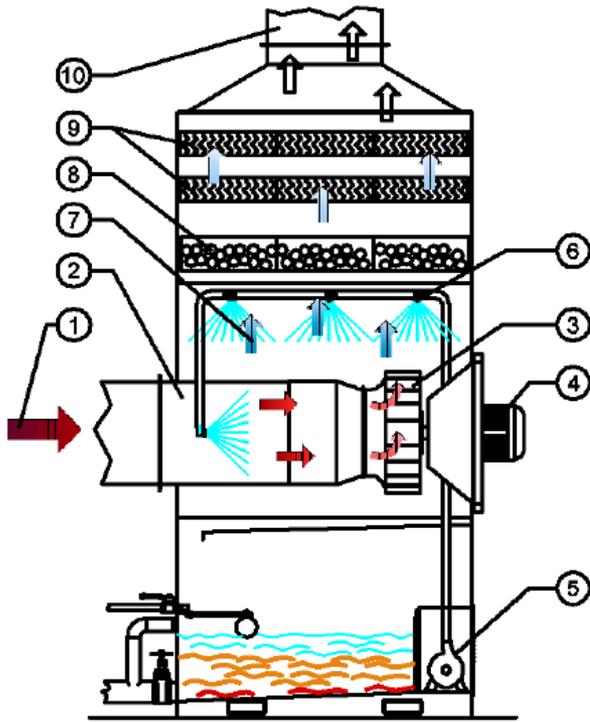


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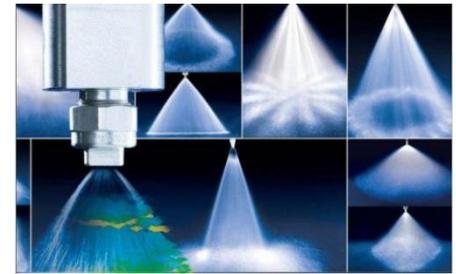
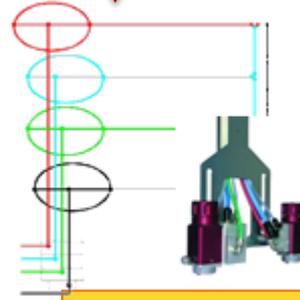
❖ **EMMISSION, control**



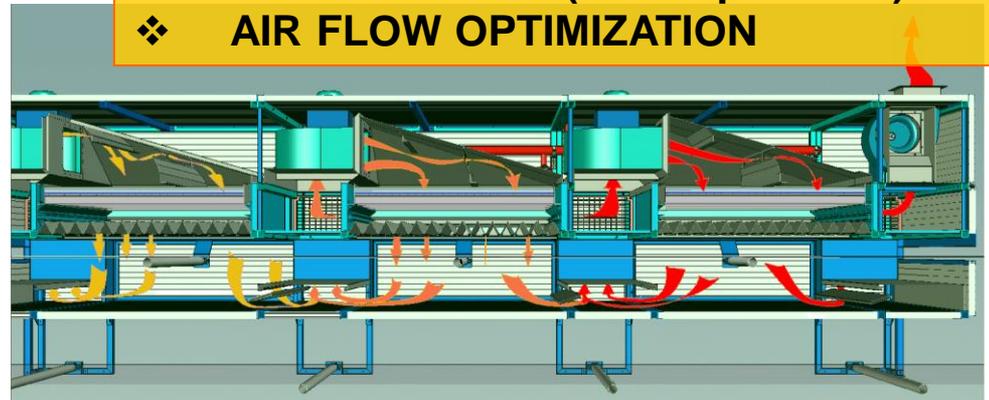
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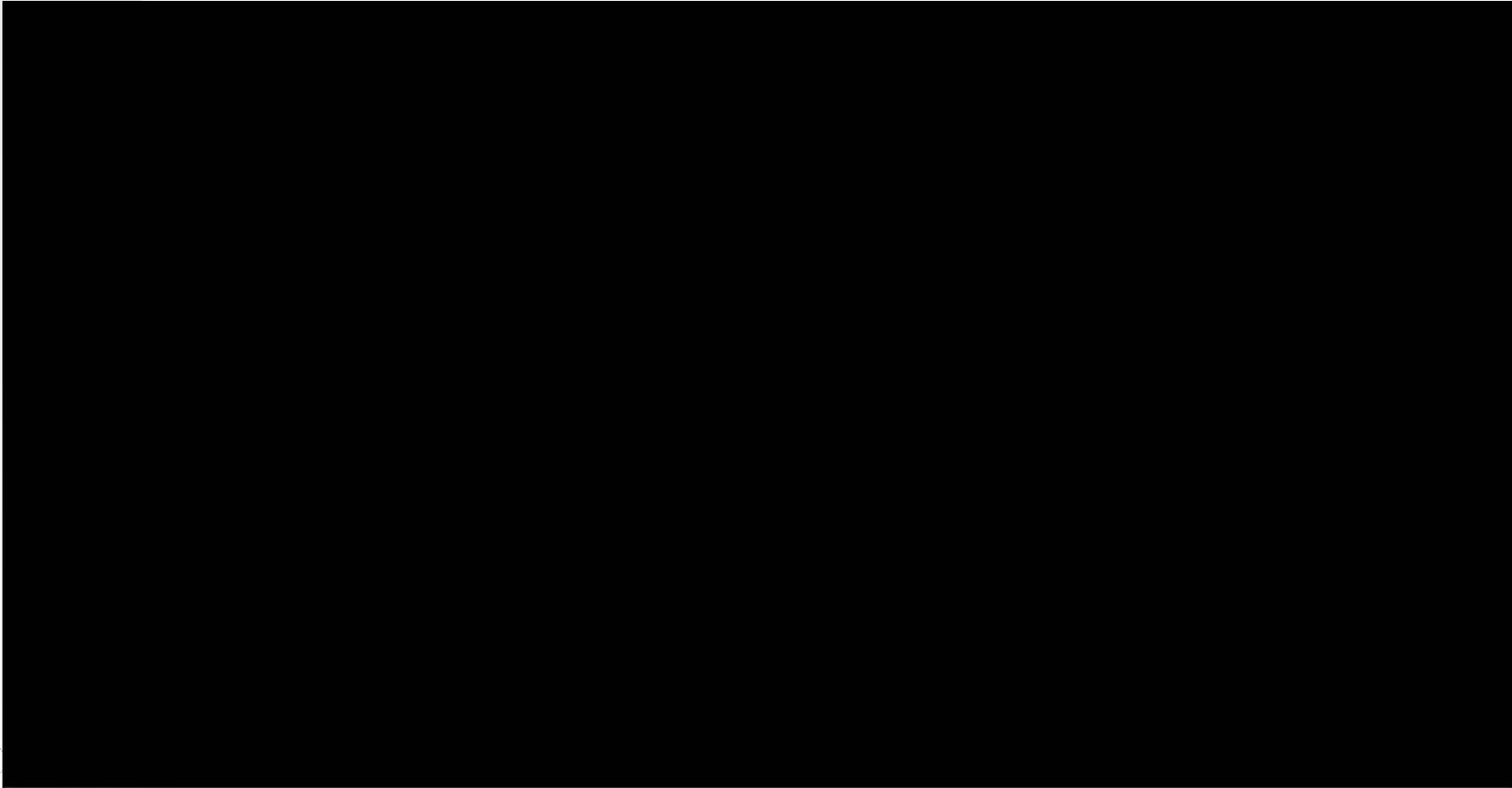


❖ **FLEXIBILITY (white to black)**
❖ **UNIFORMITY (coverage)**



❖ **CONSUMPTION (-15% up to 50%)**
❖ **AIR FLOW OPTIMIZATION**





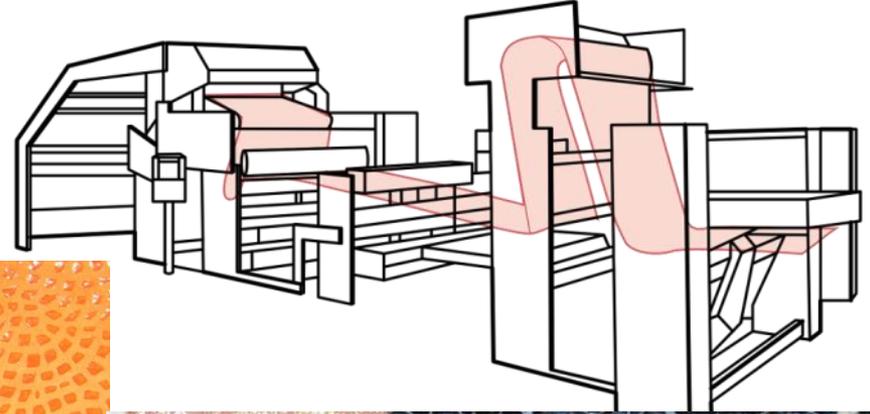
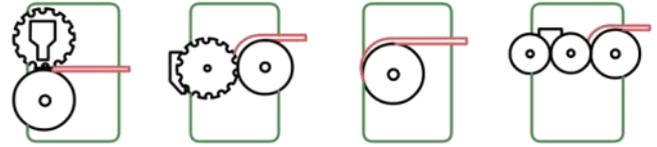




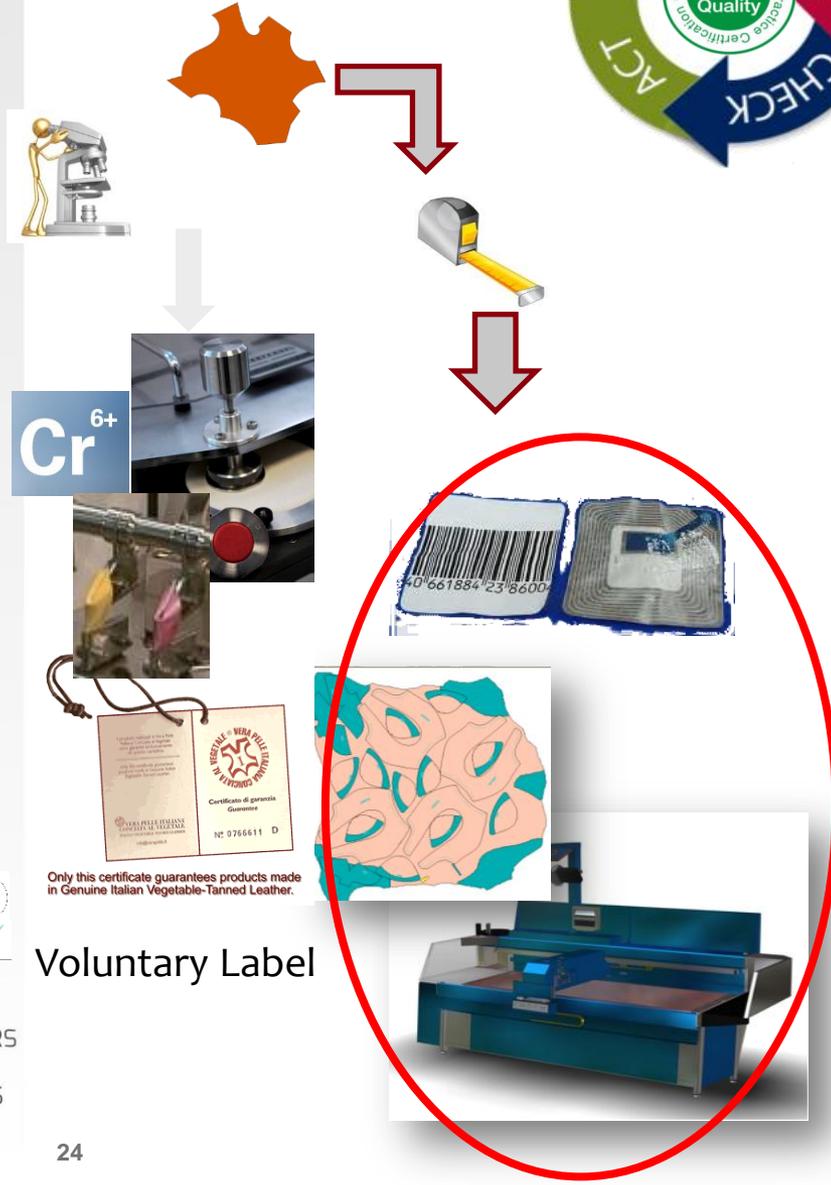
ERRETRE



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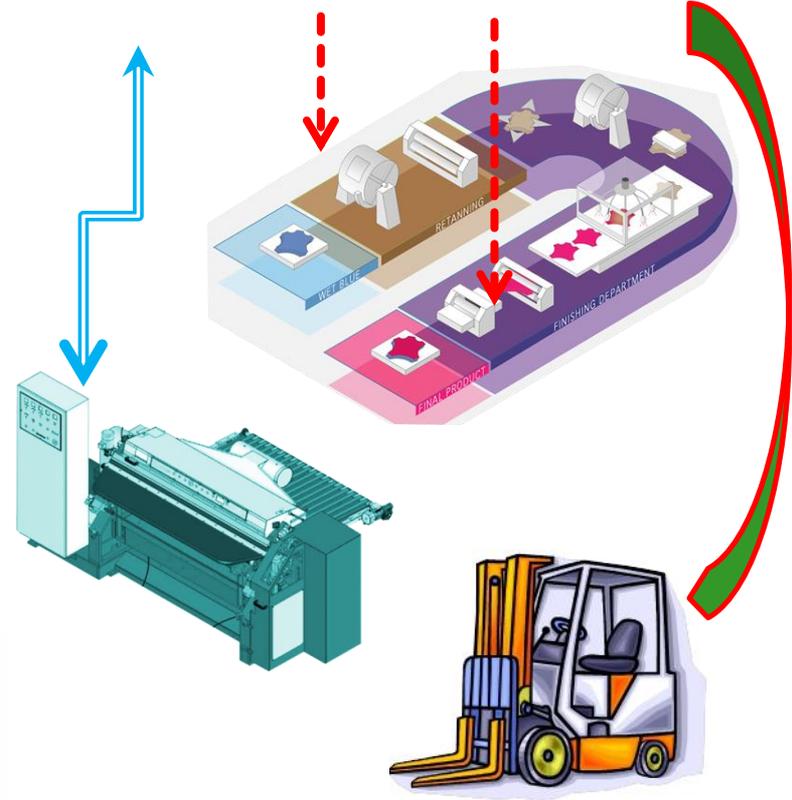




Only this certificate guarantees products made in Genuine Italian Vegetable-Tanned Leather.

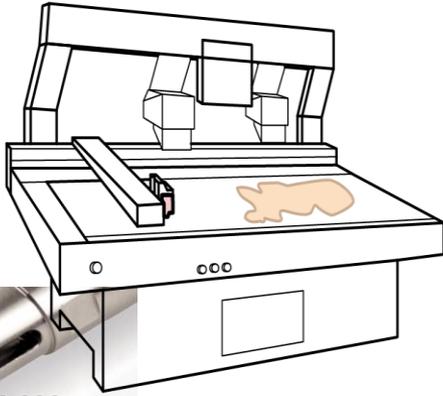


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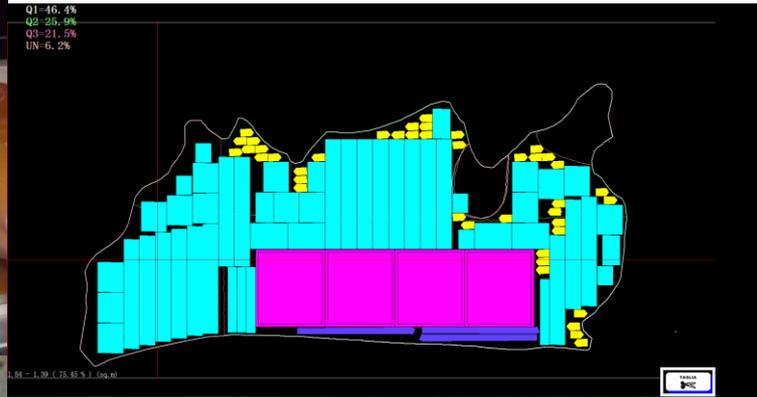




MAZIMIZE... OPTIMIZE



40.000 oscillations min.



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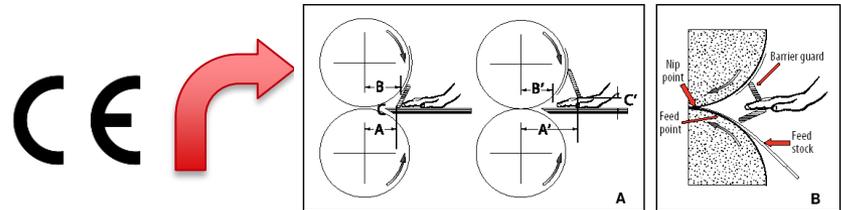
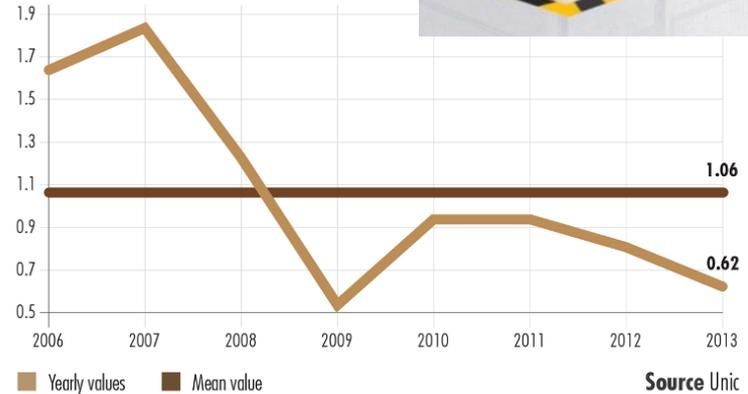


SAFETY... work condition for leather quality



Severity ratio (lost days/number of workers) 2006-2013

The incidence of injury statistics in the tanning industry shows year. This demonstrates the sensitivity of the companies of the of risk prevention in the workplace.



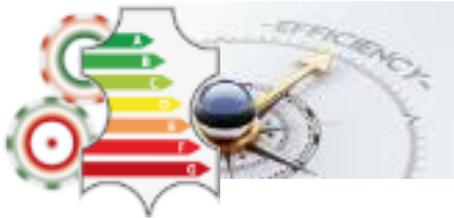
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EN	Standard title
UNI EN 972	Reciprocating roller machines
UNI EN 13112	Bandknife shearing machines
UNI EN 1035	Moving platen machines
UNI EN 13113	Roller coating machines
UNI EN 13114	Rotating process vessels

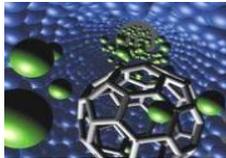
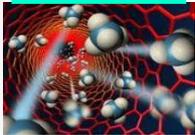
PERFORMANCE...FOR THE FUTURE



❖ Enhance Process Profitability



❖ Efficiency to Optimize consume



❖ Explore greener opportunity

