



Ministry of Environment
and Food of Denmark
Danish Veterinary and
Food Administration

Water in Food Businesses



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A sustainable food production

70% of potable water is used in food production

Global population will rise to 8 billions by 2030 and more than 9 billions by 2050

UN: 2030 agenda for sustainable development (September 2015).

Target 6.3: Increase recycling and safe reuse of water

Target 6.4: increase water-use efficiency across all sectors

EU: Sustainable production: Circular economy package (Dec 2015)

Denmark : Growth plan on food (2014), Growth plan on water, biology and environment (2014)

FBO: Potential of 20-30% reduction in water use

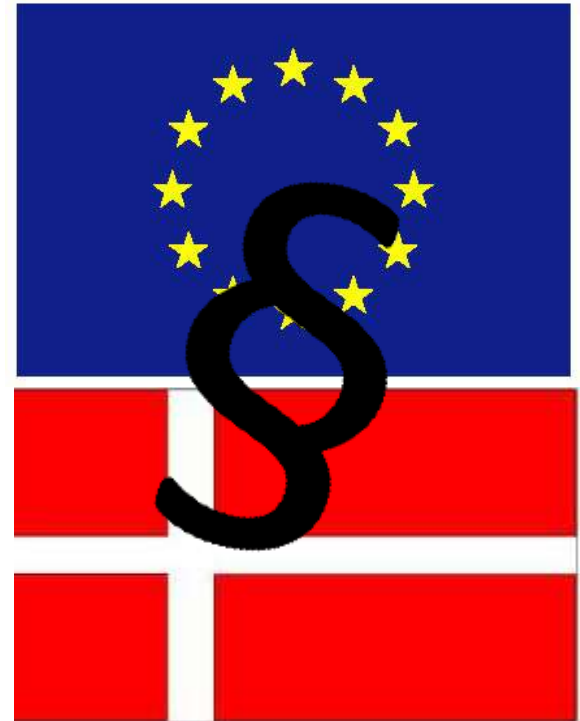
The Danish Veterinary and Food Administration has increased focus on reduction of **Water use** and **Food Waste** in FB (2014 →)





Legislation in FB on water – Focus on Food Safety

- 178/2002, Regulation on Food
- 852/2004, Regulation on food hygiene
- 853/2004, Regulation on hygiene on food of animal origin
- 98/83, Directive on potable water
- Order on potable water (DK)
- Guideline on Hygiene (DK)
- Guideline on water quality and supervision of water supplies (DK)





The precautionary principle

Regulation on food 178/2002

Overall principle

Food safety in food businesses must be based on the

precautionary principle





Water in Food Businesses

All water used in any food-production^t undertaking

- for the manufacture, processing, preservation or
- marketing of products or substances intended for human consumption

must have the quality of potable water unless the competent national authorities are satisfied that the quality of the water cannot affect the wholesomeness of the foodstuff in its finished form;



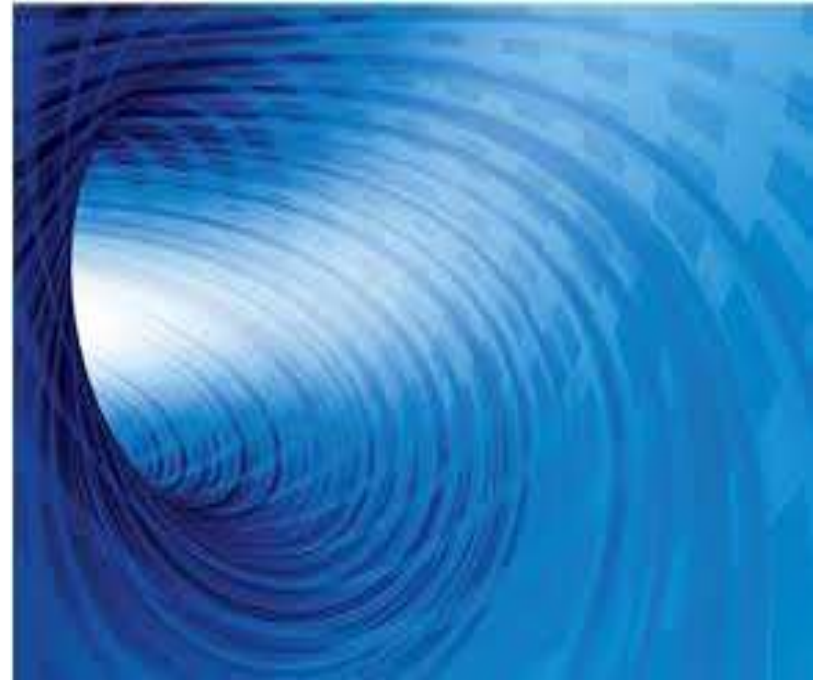


Water in Food Businesses

Technical use: Non potable water^t

Water use for technical purposes ex. Fire control, steam production, cooling has to circulate in a separate identified system.

No connection with og reflux to potable water systems.





Potable water (quality)

Directive on potable water

Water must be:

- free from any micro-organisms and parasites and
- Free from any substances which, in numbers or concentrations, constitute a potential danger to human health, and
- meet the minimum requirements set out in Annex I, Parts A and B;

The parametric values shall be complied at the point where the water is used in the undertaking.





Potable water/clean water

Regulation on hygiene, art. 2

Definition of Potable water:

Water, which complies with the parameters of the directive on water intended for human consumption (potable water).

Definition on Clean water:

Water that does not contain micro-organisms, harmful substances or toxic marine plankton in quantities capable of directly or indirectly affecting the health quality of food;





Food shall not be contaminated

Regulation on food hygiene, Annex 2, chapter VII

Potable water

There is to be an adequate supply of potable water, which is to be used whenever necessary to ensure that foodstuffs are not contaminated

Recycled water used in processing or as an ingredient is not to present a risk of contamination.

- Potable water
- Other qualities – Approval





Recycled water – cleaned to the same standard as potable water (Guidelines on food hygiene)

Food businesses must

- Make a hazard analysis of the processes, where water is recycled (reused)
- Document water quality analyzes of relevant parameters.
- Examine the relevant chemical and microbiological parameters specific to the recycled water





Recycled water – not having the same standard as potable water

Guidelines on food hygiene

Food business must

- Make a hazard analysis of the processes, where water is recycled (reused)
- Explain the recycling system
- Document water quality analyzes of relevant parameters.
- Document that the water quality does not affect food safety.
- Seek approval from the Danish Veterinary and Food Administration to use the water. (*)





Approval

Food Business must submit applications to the Danish Veterinary and Food Administration with documentation of Full own check system water including:

- Risk evaluation
- Hazard analysis
- HACCP plan
- quality procedures for applying any analytical control

The Danish Veterinary and Food Administration may allow reuse of water that do not have drinking water quality if it is well documented that it does not provide health problems





Summary – Water categories

- Potable Water
- Clean Water (primary production, fish plants)
- Non potable Water
- Reused water (
 - Rinsed to potable water quality,
 - Rinsed to water “fit for purpose”
- Reclaimed water
 - Water deriving from Foodstuff ex “Milkwater”





Barriers identified

Reuse

1. Individual approval - Reuse of water not meeting the standards of potable water
2. Definition of water?
3. Is it possible to use “reclaimed water” from milk (a food stuff) for cleaning?
4. Organic production versus conventional production – how to differentiate “reclaimed water” when used for cleaning?

Alternative sources:

Use of rainwater in FBO's





Upcoming possibilities

1. National guide with full description of "water fit for use" (New Hygiene order)
2. Exemptions from the requirement for approval (New Hygiene order)
3. Clarification on definitions on water
4. Interpretation of hygiene regulation on cleaning
5. Clarification on demands for separation of "reclaimed water from organic and conventional production"





Partnerships

Cooperation of the food industry, research institutions, water-technology companies, competent authorities helps

- Building bridges of understanding
- Expand horizons and knowledge
- Identifying possibilities and challenges
- Working together on solutions
- Seeking further horizons 😊

Expansion - sustainability

