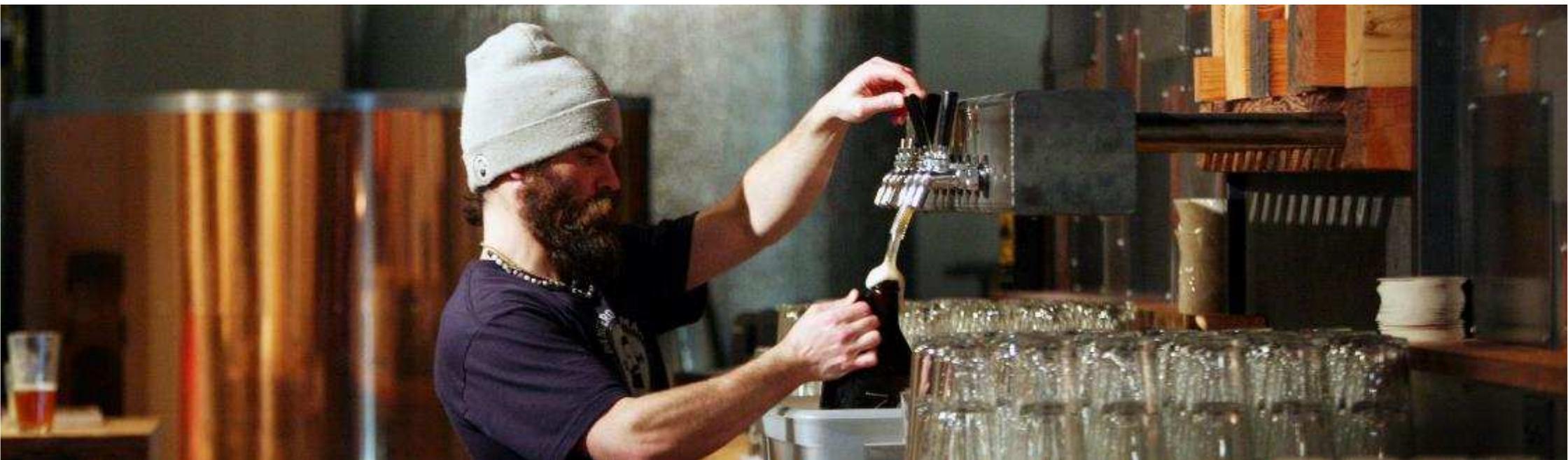


# Brewers QCcheck<sup>®</sup> Kit

Check your quality for a better beer!



# Quality Control with **Brewers QCheck® Kit**



How can microbiological contamination influence my beer quality?

- **Sensorial impact**

- Sourness e.g. by Lactobacilli
- Serious off-flavour e.g. by Pediococci (diacetyl)
- Faecal off-flavour e.g. by Megasphaera
- Slimy substances e.g. by slime forming Lactobacilli



- **Optical impact**

- Turbidity
- Foam stability



- **Physical impact**

- Bloated packaging
- Gushing



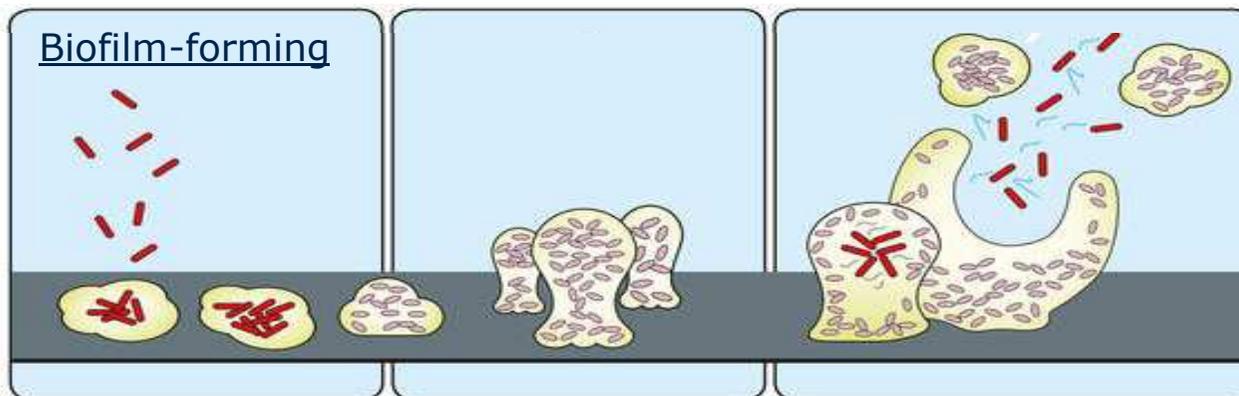
Bad beer quality > customer's discontent > loss of reputation > loss of business

# Quality control with **Brewers QCheck® Kit**



Where are the most damaging spoiling microorganisms in my brewery?

- **Water**
  - Faecal indicator germs, *E.coli* or coliforms indicate bad water quality
- **Yeast/Beer**
  - Beer spoiling bacteria, e.g. Lactobacilli, Pediococci
- **Filling Lines (Hygiene Monitoring)**
  - Indications of biofilm-forming germs, a source of beer spoiling bacteria



Adhesion/association of microbes

Encapsulation by slime formers

Growth incl. beer spoilers

Break-up and spreading



Too late: extreme biofilm

# Quality Control with **Brewers QCheck® Kit**



What does microbiological contamination mean?

1. Brewing happens under non sterile conditions!
2. Specific microorganisms adapt to beer, grow up and spoil your beer, but appear later.
3. Infiltration by:
  - Contaminated raw material (water, yeast)
  - Poor design in production lines
  - Insufficient cleaning and disinfection
  - Lack of hygiene (air, blending of return beer, etc.)



Avoid contamination by acting hygienically!

# Quality Control with **Brewers QCheck® Kit**



How can I secure myself against microbiological contamination?



Install a comprehensive quality control to assure your beer quality.

# Quality Control with **Brewers QCheck® Kit**



With Brewers QCheck® Kit you get an all-in-one solution for all important check points along your brewing process.

- Ready to use
- Selective, only target germs will grow
- Easy to handle
- Illustrated user manual
- Fast and reliable results
- No need for costly laboratory equipment
- No need for sophisticated lab skills



Art.No.: 2.11753.244

Content: 2x bottles LMC

20x NBB-B tubes

20x NBB-B-Am tubes

30x swabs

# Quality control with **Brewers QCheck® Kit**



A comprehensive microbiological control ensure quality safety of your beer!



# Quality control with **Brewers QCheck® Kit**



Water quality might have a serious impact on beer quality!

Raw Material



Water



Ready-to-use broth **LMC** (pH 7,2 +/- 0,1)

Sample:

Well water, city water, process water

Target germs:

*E.coli* and Coliforms = faecal indicators for bad water quality.

# Quality Control with Brewers QCheck<sup>®</sup> Kit



## Method:



# Quality Control with **Brewers QCheck® Kit**



Good raw material - good beer!

Raw Material



Yeast



+



Ready-to-use **NBB®-B tubes** (pH 5,8 +/- 0,2) + sterile swab

Sample:

Dry yeast, pitching yeast, crop yeast

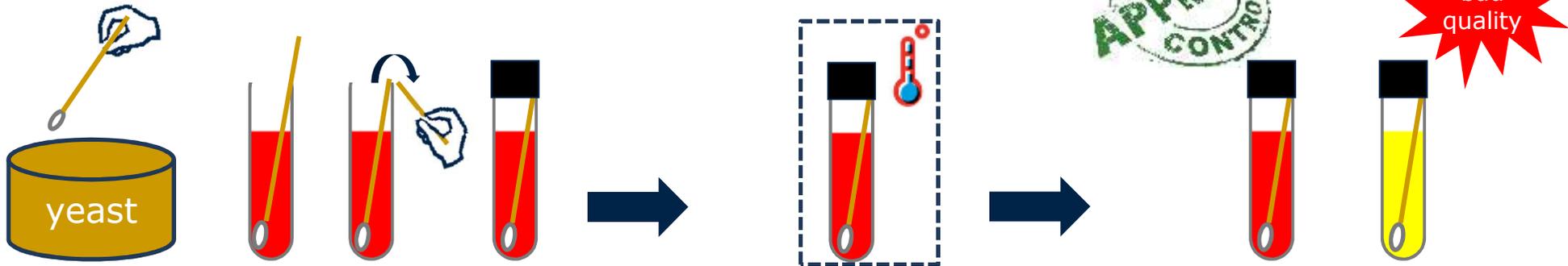
Target germs:

Beer spoiling microorganisms

# Quality control with Brewers QCheck® Kit



Method:



## 1<sup>st</sup> step

Take sample by dipping swab in the yeast and transfer it into the tube. Break the wood stick at the edge.

## 2<sup>nd</sup> step

Incubate 5d/28±2°C

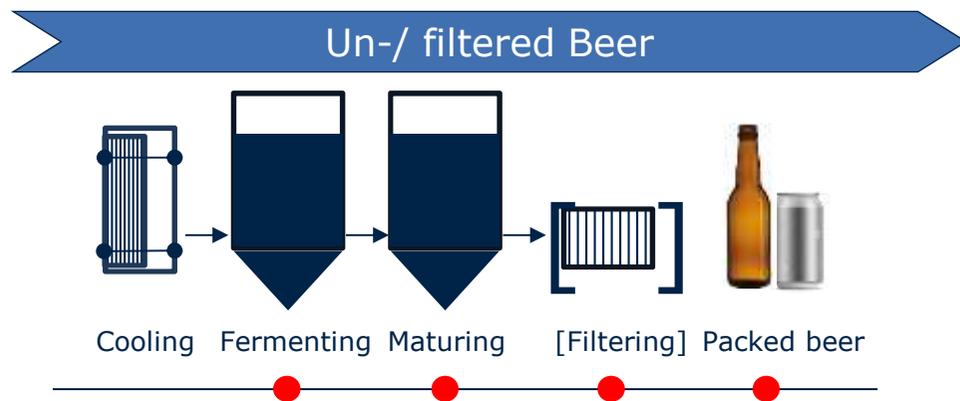
## 3<sup>rd</sup> step

Evaluate tube for colour

# Quality control with **Brewers QCheck® Kit**



Right sampling – right method – right medium!



Ready-to-use **NBB®-B tubes** (pH 5,8 +/- 0,2)

Sample:

Green beer from fermenter, storage tank, before/after filter, packed beer

Target germs:

Beer spoiling microorganisms

# Quality Control with **Brewers QCheck<sup>®</sup> Kit**



2 different methods possible

## 1. Method: sedimentation

For unfiltered (yeast clouded) beer only.

Sedimentation of yeast settles down microbes to the bottom. Analysis is made of the yeast sediment.

Advantage: Higher sample volume e.g. 50ml.

## 2. Method: direct sampling

For un- or filtered beer

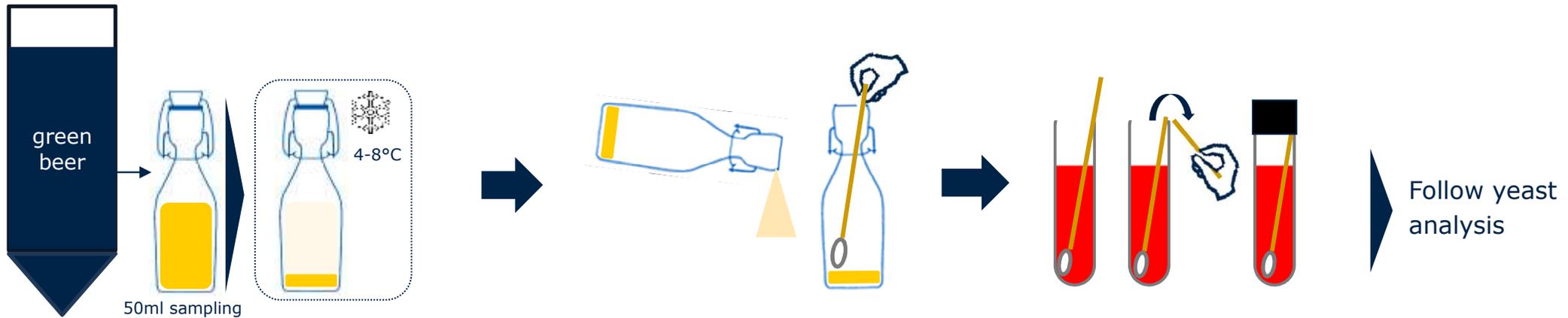
Sample filled directly into the tube.

Advantage: Immediate sampling, no loss of time

# Quality control with **Brewers QCheck<sup>®</sup>** Kit



## 1. Method: sedimentation



### 1<sup>st</sup> step

Sample 50 ml beer from the tank in a sterile flask, store it in a fridge for 12-24h for sedimentation

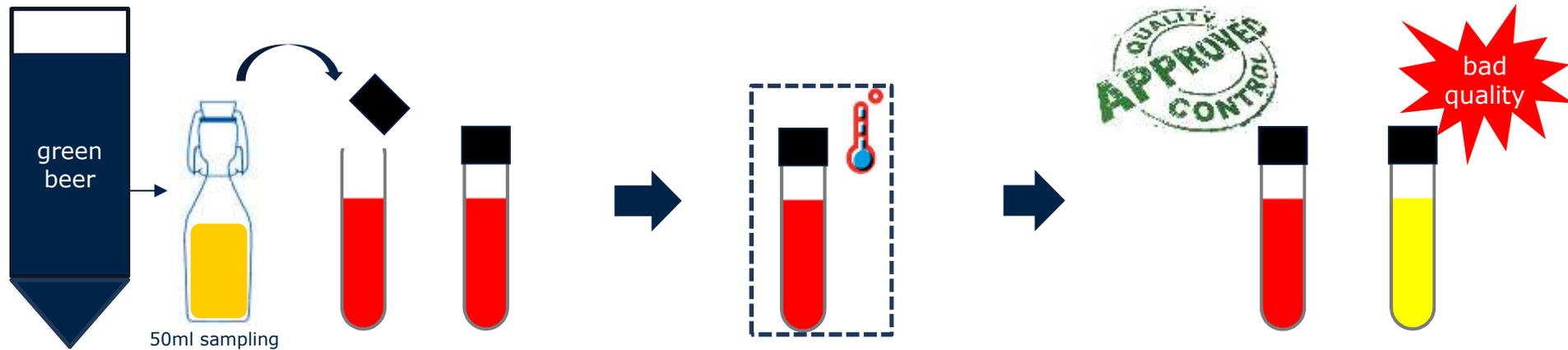
### 2<sup>nd</sup> step

Decant the liquid and remove a sample from the sediment using a swab. Follow yeast analysis!

# Quality control with Brewers QCheck® Kit



## 2. Method: Direct sampling



### 1<sup>st</sup> step

Sample 50 ml beer from the tank in a sterile flask.  
Transfer ca. 1 ml into the tube filled with NBB®-B

### 2<sup>nd</sup> step

Incubate 5d/28±2°C

### 3<sup>rd</sup> step

Evaluate tube for colour

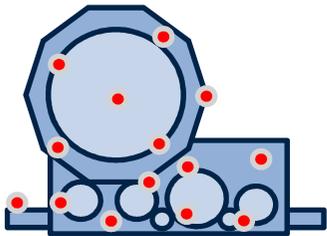
# Quality Control with **Brewers QCheck® Kit**



Examples of weakpoints in a filler – closure block

Biofilm forming in weak points causes most contamination in the filling line!

## Hygiene Monitoring



filling

- Weak points are niches, edges, nooks where biofilm can start:
  - Feed screw
  - Rinser
  - In- / output star
  - Screw jack
  - Centering bells
  - Return air tube
  - Filling table
  - Filler cover
  - Conveyor belts
  - Bottles

Ready-to-use **NBB®-B-Am tubes** (pH 5,8 +/- 0,2)

Sample:

Swabs of defined points in the filling line

Target germs:

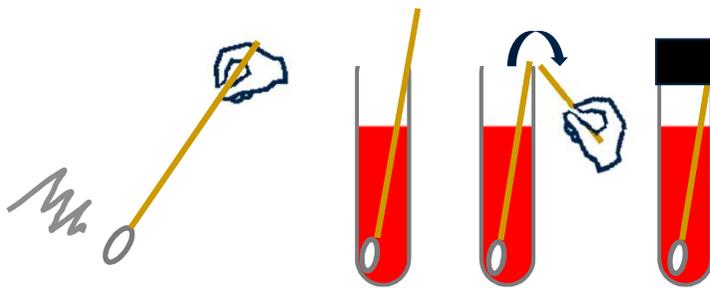
Indicator germs of biofilm like acetic acid bacteria, slime formers



# Quality control with **Brewers QCheck® Kit**

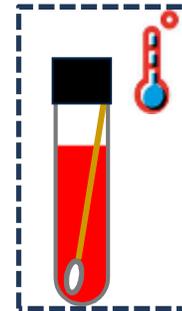


Method:



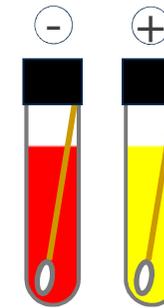
## 1<sup>st</sup> step

Swab 7-12 defined points in the filling line and transfer into the tube filled with NBB®-B-Am



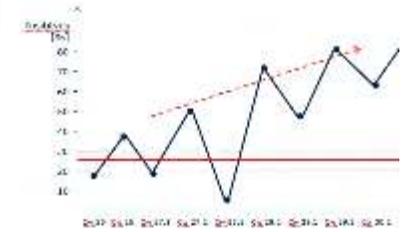
## 2<sup>nd</sup> step

Incubate  
3d/28±2°C



## 3<sup>rd</sup> step

Evaluate tube for color and record % positive findings in a diagram



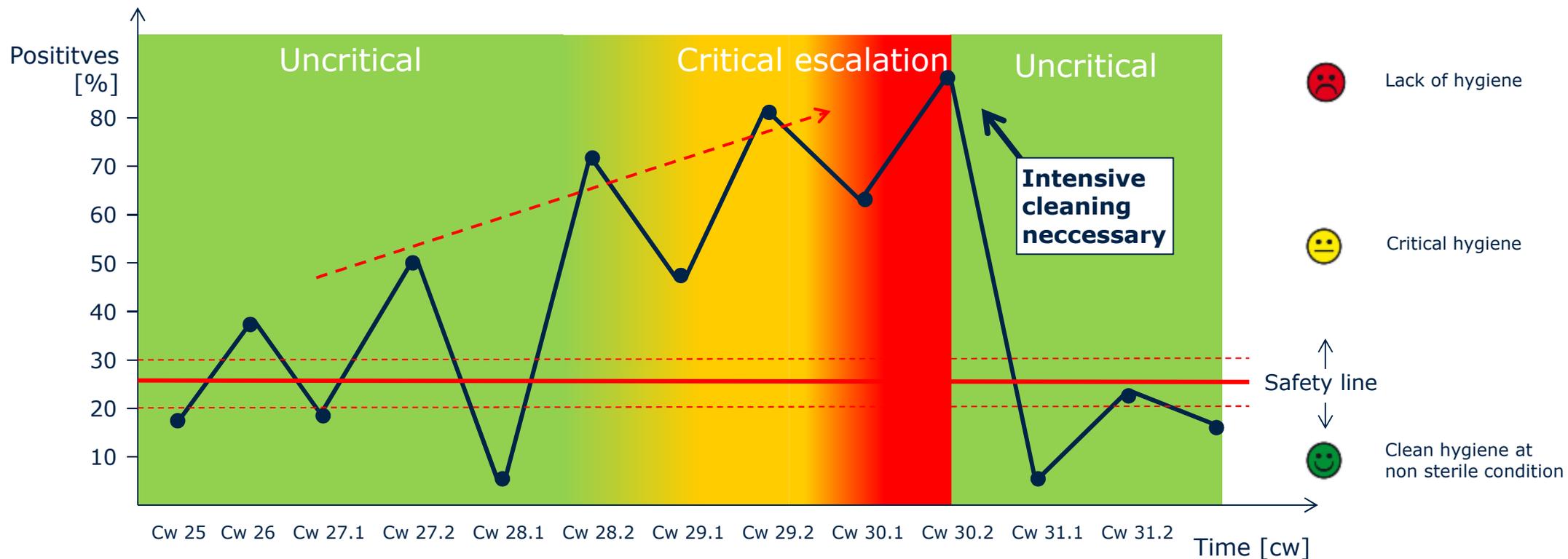
# Quality control with Brewers QCheck® Kit



## Trending

Record your results in a x/y-diagram (y = % of positives, x = time) with a safety line in a range between 20 and 30%. Connect the dots to a line.

Repeat procedure to get a continuous overview of the microbiological status the whole year through.



# Quality control with **Brewers QCheck® Kit**



Dispensing units can be contaminated easily and make your beer undrinkable!

## Hygiene Monitoring



dispensing unit



Ready-to-use **NBB®-B-Am tubes** (pH 5,8 +/- 0,2)

Sample:

Swabs of beer (un-/filtered) served by tap

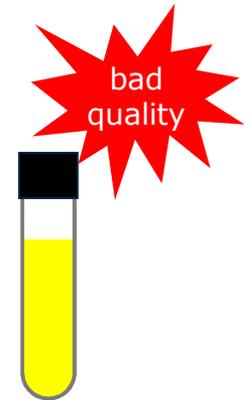
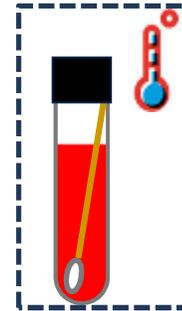
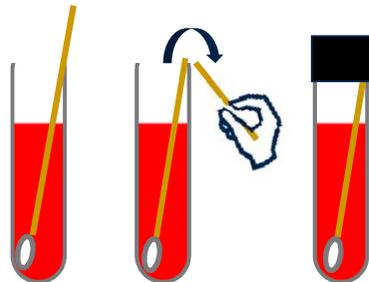
Target germs:

Indicator germs for biofilms, beer spoiling bacteria

# Quality control with Brewers QCheck<sup>®</sup> Kit



## Method:



### 1<sup>st</sup> step

start tapping for 2s. Hold swab in the beer stream for 15s. Transfer swab into the tube filled with NBB<sup>®</sup>-B-Am

### 2<sup>nd</sup> step

Incubate  
3d/28±2°C

### 3<sup>rd</sup> step

evaluate tube for colour

# Quality Control with **Brewers QCheck<sup>®</sup> Kit**



Your 4 big benefits:



You get a comprehensive QC solution in one box, including highly valued culture media!



Easy evaluation by indicator colour change!  
Only spoilers get detected.



You do not need any sophisticated laboratory equipment!



Illustrated manual guides you perfectly!

# Quality Control with **Brewers QCheck®** Kit



Check your beer quality  
to win the next beer award

