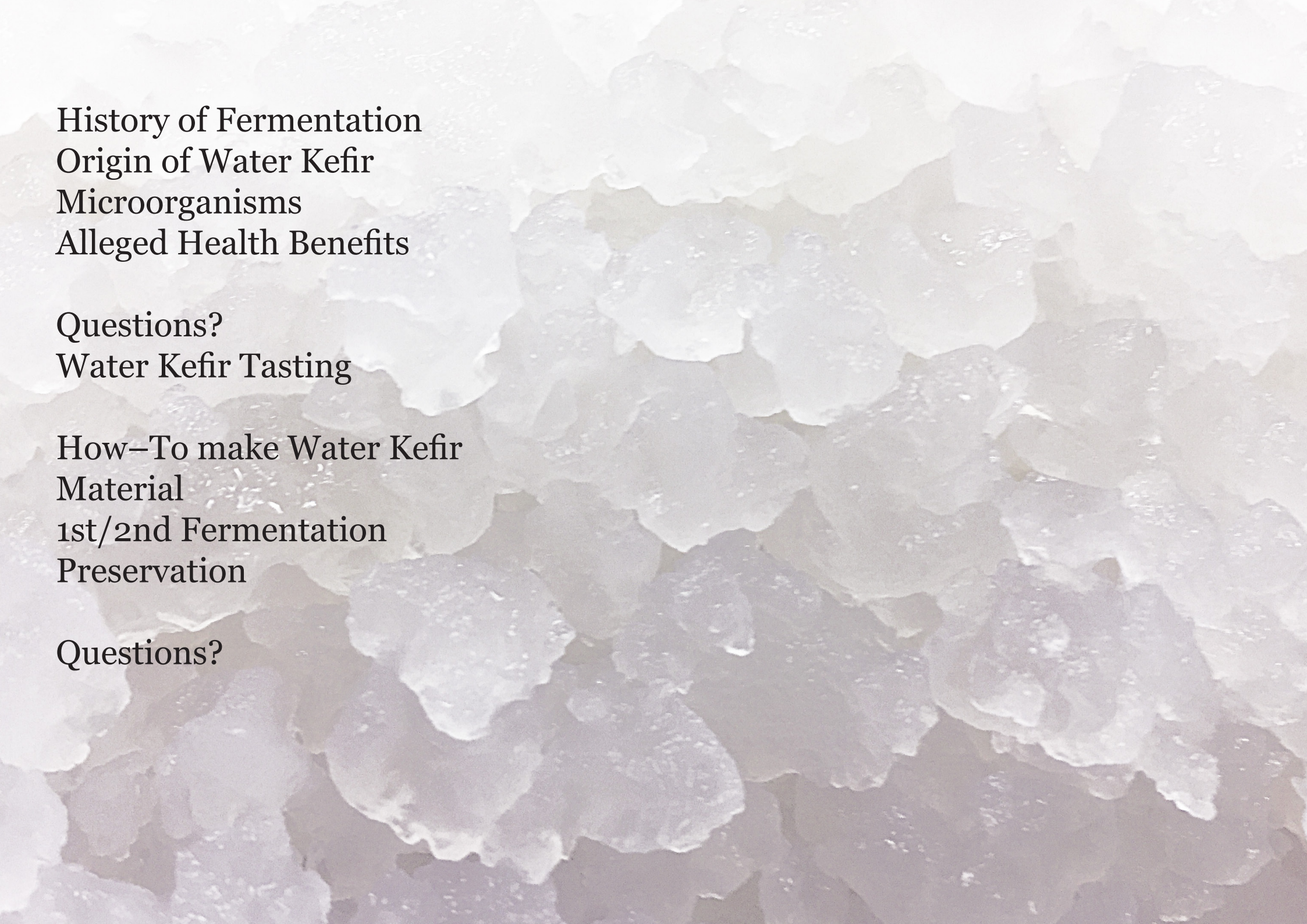




Water

Kefir

The background of the slide is a close-up photograph of numerous water kefir grains. These grains are small, white, and have a porous, cauliflower-like texture. They are clustered together, filling the entire frame. The lighting is soft, highlighting the intricate details of the grains' surfaces.

History of Fermentation  
Origin of Water Kefir  
Microorganisms  
Alleged Health Benefits

Questions?  
Water Kefir Tasting

How-To make Water Kefir  
Material  
1st/2nd Fermentation  
Preservation

Questions?

# History of Fermentation



Yeast Fermentation



Mold Fermentation



Bacteria Fermentation



Bacteria and Yeast Fermentation

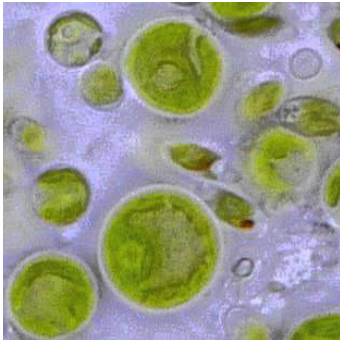


## Origin of Water Kefir

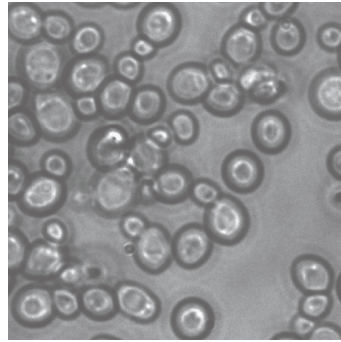
1. Soldiers returning from the Crimean war brought grains to western Europe (1853–1856)
  2. Spontaneous formation of grains on the pads of the *Opuntia* cactus in Mexico
- > Water Kefir grains were passed from household to household



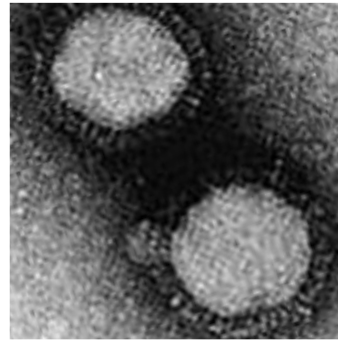
# Microorganisms



Algae



Fungi



Virus



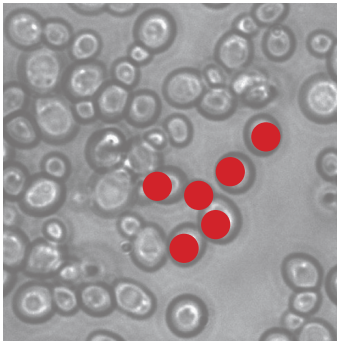
Bacteria



Protozoa

## Waterkefir: a symbiotic colony of bacteria and yeast

Microorganisms such as molds, yeasts or bacteria create enzymes to break down energy rich organic substances into simpler compounds.

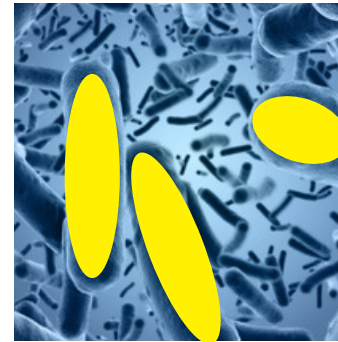


Yeast



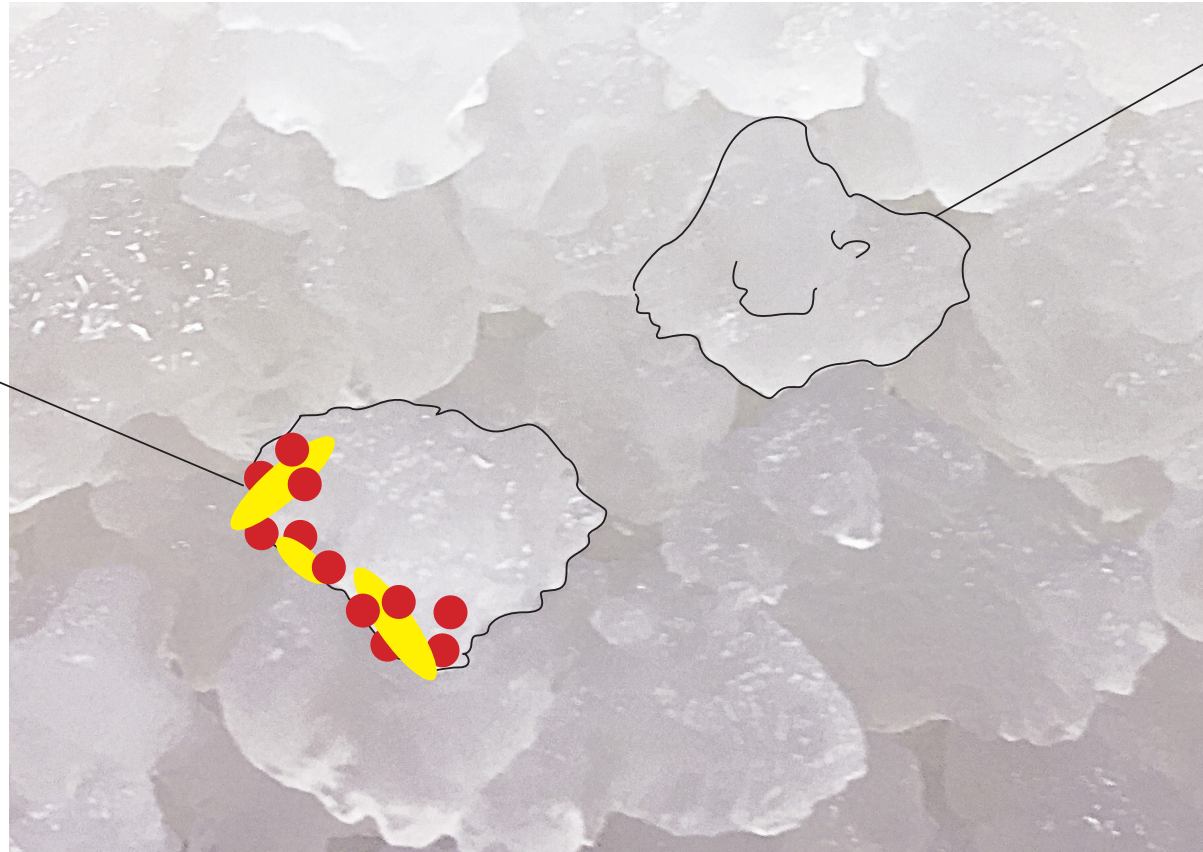
Mold

Fungi



Bacteria

Bacteria and yeast live on the outside of the grains



Kefir grains consist of a biofilm made of polysaccharides and microorganisms



## Bacteria

### Species Lactobacillus

L. brevis

L. casei

L. hilgardii

L. hordei

L. nagelii

### Species Leuconostoc

L. citreum

L. mesenteroides

### Species Acetobacter

A. fabarum

A. orientalis

### Species Streptococcus

S. lactis

## Yeast

Hanseniaspora valbyensis

Lachancea fermentati

Saccharomyces cerevisiae

Zygotrientalispora florentina

## Alledged Health Benefits

Probiotics (help you to digest your food and provide your gut with „good bacteria“)

Be aware!

There will always be a small percentage of alcohol in your water kefir. (1-2%)





Questions?

# Frist & Second Fermentation



1ST



2ND

# First Fermentation

## Materials:

Cheese cloth

Rubber band

Measuring jug  
Bulk jar

Water Kefir 50g

Sugar 30-40g

Water 500 ml

Fig 15g



# First Fermentation

## 1. Water Kefir (50g)

rinse with water before using

## 2. Sugar (30g–40g) + (15g Fig)

different sugar -> different taste  
half tsp molasses are good for your WK  
add dried fruits for sucrose and minerals  
(fig, date, raisin)

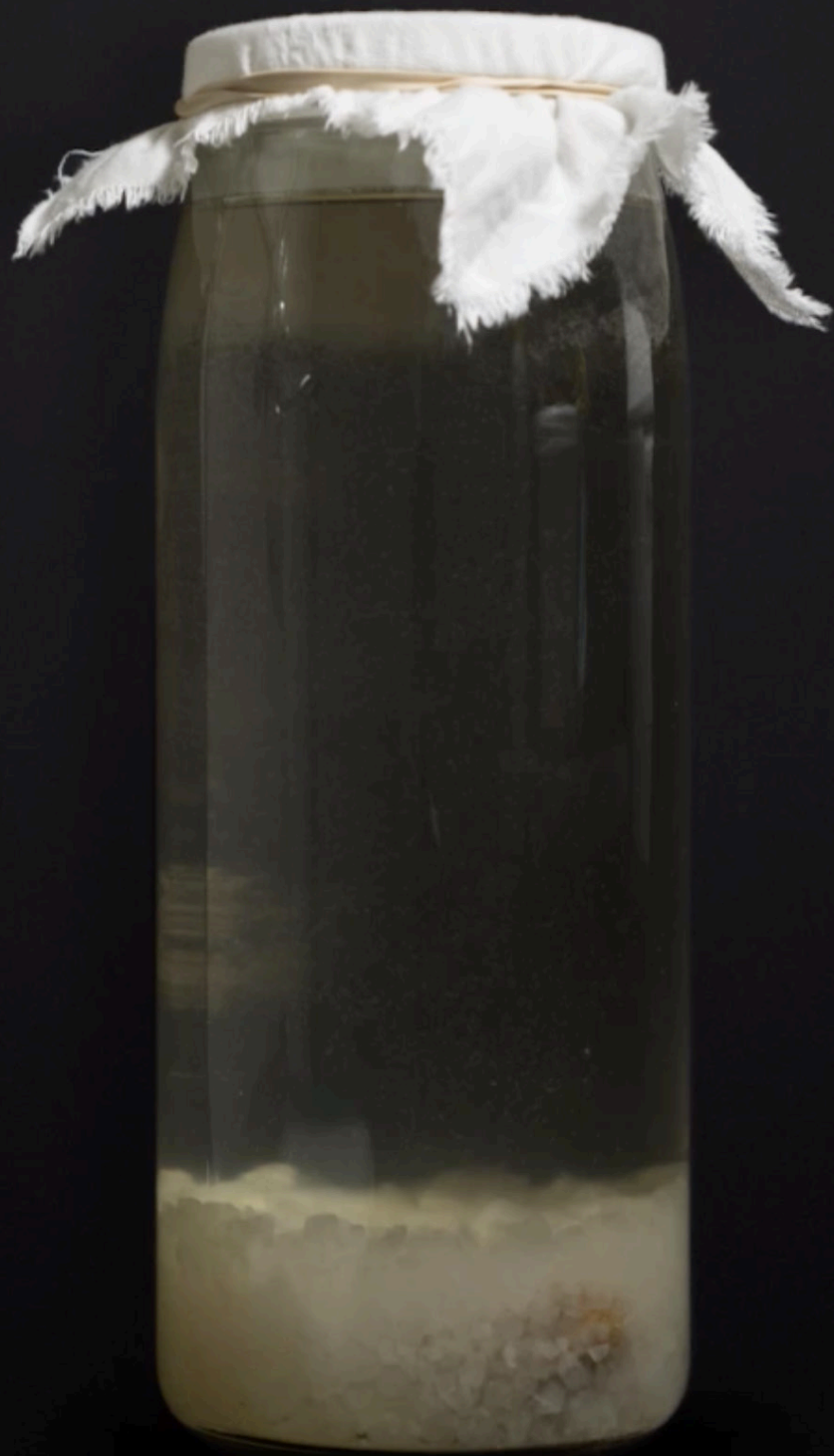
## 3. Water (0,5 Liter)

proper drinking water

-> WK needs minerals in water but no chlorine



25°C (room temperature)  
48 hours



# Second Fermentation

## 1. Strain the grains

use a stainless steel sieve  
catch the liquid in another container

## 2. Bottle the liquid

use any bottle which you can close properly

## 3. Flavour

you can use any flavour you like  
add juices, herbs, spices  
add sugary content



25°C (room temperature)  
24 hours  
plastic bottle or  
pressure proof glass bottle



## Second Fermentation



## Preservation

You can store the Water Kefir Grains in the fridge for about three weeks before you have to feed them again and keep them alive.

Make sure the container you keep them in is airtight and if there is steel, make sure it is stainless steel.



Questions?