

BITEC®

Fresh

Bioprotection



NovaTaste - IFFA 2025



Fresh Bioprotection

What does it mean?

Definition:

- Fresh Bioprotection is the protective power of good bacteria
- a slight fermentation of good bacteria reduces/suppresses spoilage and pathogenic bacteria
 - increase food safety
 - prevent food waste



Fresh Bioprotection

Listeria - what are the challenges?

- listeria are bacteria that are widespread in nature
- do not lead to spoilage and are therefore not sensory recognizable
- survival artist: growth or survival at low temperatures, high salt content, reduced oxygen content and extreme pH and a_w values
- can only be killed by heating (at least 2 minutes at a core temperature of 70 °C)
- especially the strain *Listeria monocytogenes* can cause dangerous diseases in humans (listeriosis)



Fresh Bioprotection

Solutions and ideas

Bioprotection – traditionally

- usage of specific cultures for typically fermented products
(Salami, dry cured products, cheese, yogurt,....)

Fresh Bioprotection – modern

- usage of specific cultures on **non fermented** products, to protect against growth of pathogens and/or specific spoilage bacteria
(hot dog style products, fresh minced meat products (like Salsiccia Fresca, Merguez, Bratwurst, Cevapcici), sliced cooked ham, smoked salmon, salads, dressings, spreads,)



The usage of this cultures is one effective building block to generate an optimal product safety and using this special cultures will never replace a careful and effective hygiene (both working and personnel) as well as an accurate raw material selection



Fresh Bioprotection

The basic idea

- improving shelf life through **competitive exclusion** of potential harmful bacteria (vegan minced meat, fresh Pasta products, green salads, deli salads....)
- improving shelf life through started/interrupted/or ongoing **fermentation** (slight fermented smoothies, juices, burgers, vegan burgers....)
- using specific cultures which are able to produce **“inhibitors”** to reduce the growth of pathogens (for example *Listeria monocytogenes*)



Well-known solutions

Be on the safe side with BITEC®



Fresh meat applications



Smoked fish



Vegan fresh minced meat analogues



New applications

Be on the safe side with BITEC®



Ready-to-eat,
packed sausage
products



Convenience
dishes



Sliced green
salad



Gourmet salads



Spreads



Chilled side
dishes (pasta,
dumplings)

Be on the safe side with BITEC®

BITEC® B SAFE KNACK



Cooked sausages small diameter

The challenge

- prevent gas formation
- delay milkiness
- prevent slime formation (EPS formation)
- suppress Listeria growth
- extend freshness character



BITEC® B SAFE KNACK

The solution

Product description: food culture with protective function

Included strains of bacteria: *Lactobacillus sakei*

Special features:

- improved product stability
- inhibitory effect against growth of *Listeria monocytogenes*, *Enterobacteriaceae* and further spoilage microbiota
- clean label & natural solution

Field of application:

- cooked sausages (e.g., frankfurters, hot dogs and other small diameter fine emulsion sausage)

Item no.: 290629, 250 g for 2,000 kg mass



BITEC® B SAFE KNACK

Application

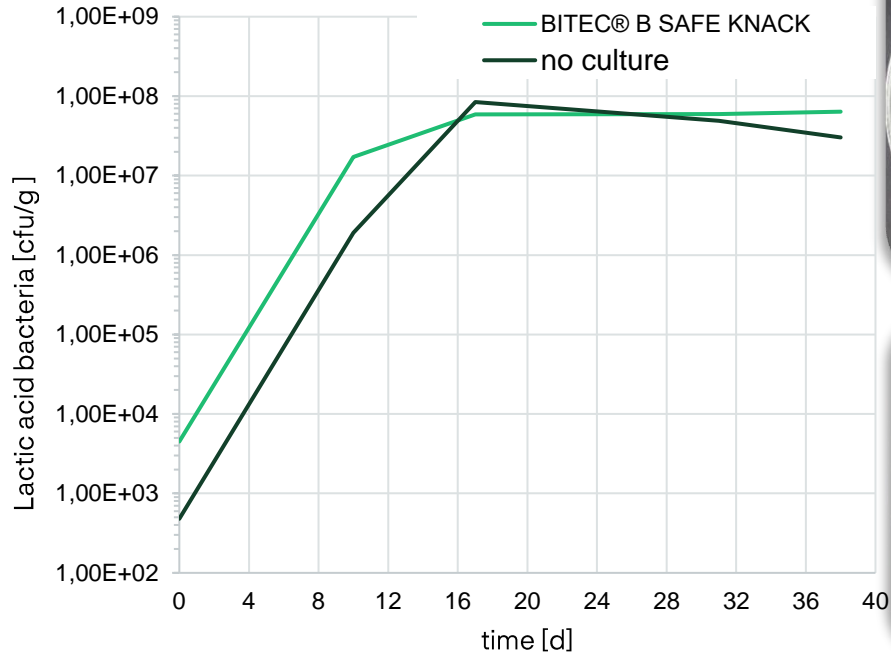
- recommended use: spraying before/during the packaging process
- always prepare the spray solution fresh, store it in a cool place and use it within maximum 6 hours
- recommended spraying rate 1 %, reduction up to 0.5 % possible, if experience with spraying processes is already available

BITEC® B SAFE KNACK	Spray solution	Spraying rate
0.250 kg	20 l	1.0 %
0.250 kg	10 l	0.5 %



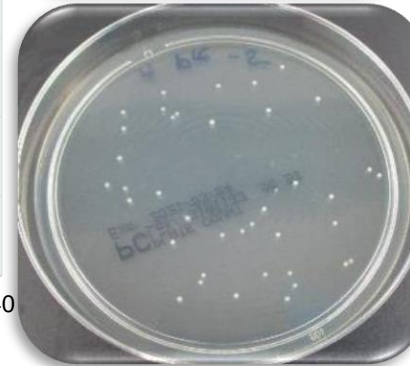
BITEC® B SAFE KNACK

Standardized microbiota



no culture - heterogenous

- uncontrolled growth of spontaneous, potentially pathogenic microbiota
- very heterogeneous population

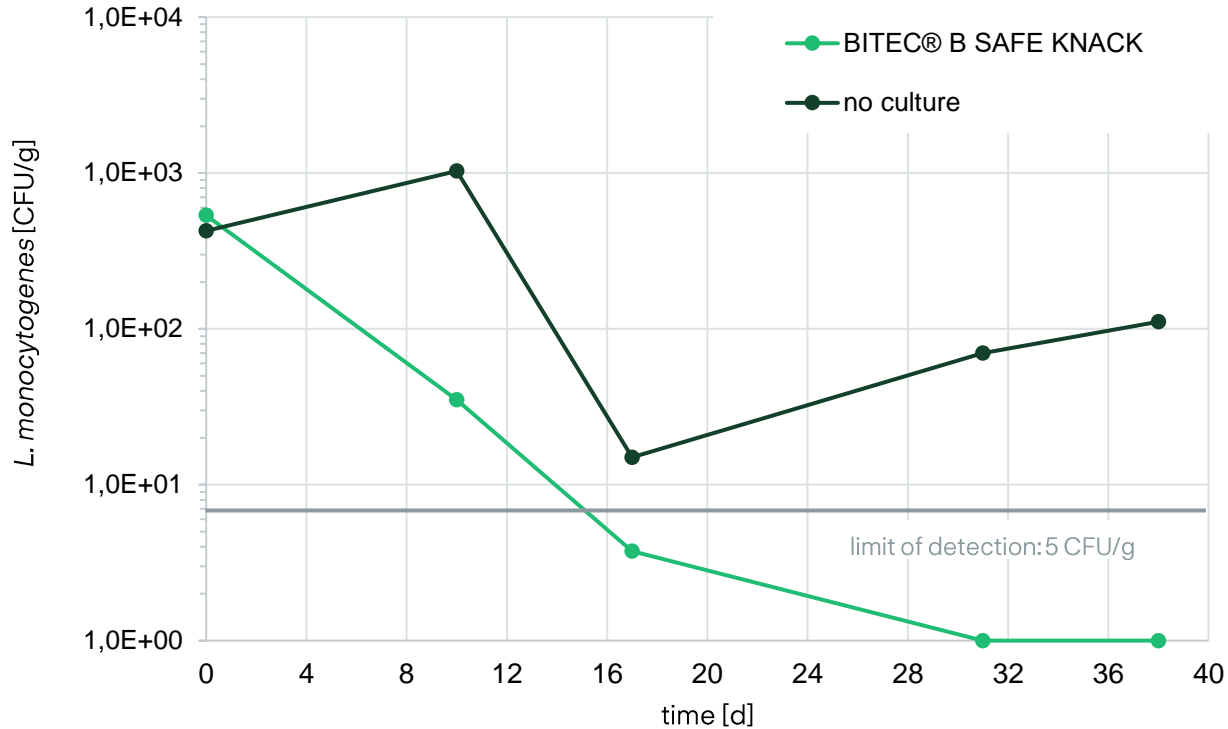


BITEC® B SAFE KNACK - homogenous

- spontaneous microbiota is suppressed
- uniform population composed of BITEC® B SAFE KNACK

BITEC® B SAFE KNACK

Challenge test results



Be on the safe side with BITEC®

BITEC® B SAFE KNACK

- ✓ improved freshness and taste over a long period
- ✓ competitive suppression of potentially harmful bacteria
- ✓ prevents slime
- ✓ effective against *Listeria monocytogenes*
- ✓ clean label & natural solution



Crafting
a world of
taste



NovaTaste