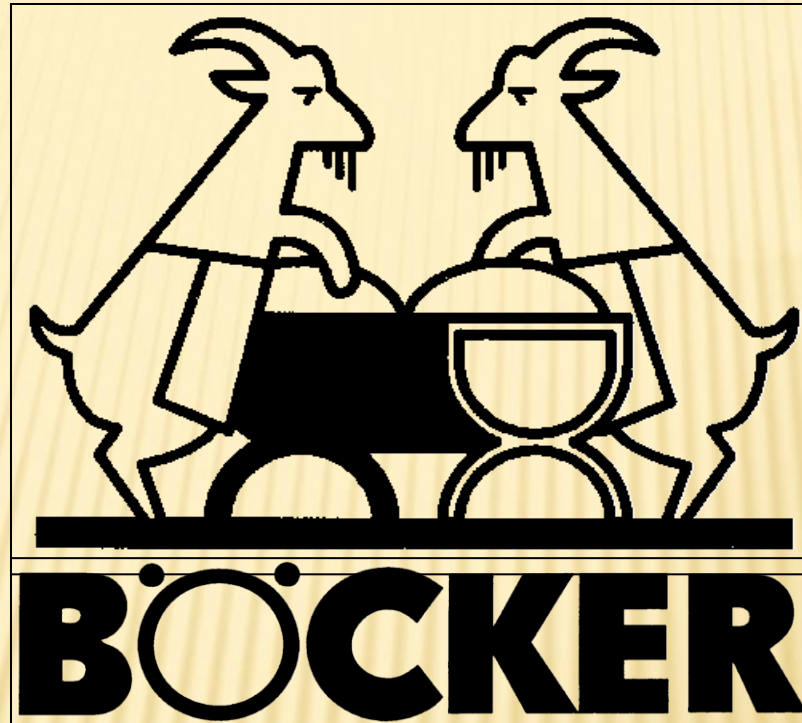


# Ernst Böcker GmbH & Co.KG



Experts in Sourdough

# Ernst Böcker GmbH & Co.KG

A company with a long tradition in sourdough business



*Ernst Böcker  
1st generation*



*Herrman Böcker  
2nd generation*



*Ernst-Jochim Böcker  
3rd generation*



*Dr. Georg Böcker  
4th generation*



# Tradition and Innovation

- Small medium sized family-owned company (80 employees)
- First Sourdough Patent (1908)
- Sourdough Starters Production since 1910
- Today – we offer a broad range of Sourdough Products (ca. 100)
  - Starters (active)
  - Powder products (inactive and active)
  - Liquid products (inactive and active)
  - Pasty products (inactive)
- Leading market position in fermented cereal products



# Ernst Böcker GmbH & Co.KG

- Medium-sized family-owned company
- Natural fermented cereal products for artisan and industrial bakers, millers, retailers, baking improver companies.
- Since ... 1910

*Dr. Georg Böcker,  
Marion Böcker-Warnecke  
and Jochen Böcker  
(from left to right) drive the  
family business in the 4th  
generation.*





# Ernst Böcker GmbH & Co.KG



Werftstraße, Minden



Ringstraße, Minden



# Böcker - Milestones in Product Innovation

## Milestones:

1908 - 1st sourdough patent

1910 - Böcker Reinzucht Sauerteig, 1st commercially available  
Sourdough Starter Culture

1970 – SER, 1 st high aromaactive sourdough concentrate  
father of drum dried sourdough products

1980 – Puddingsauer, 1 st commercially available pasty sourdough product

80´ and 90´ ties – complete range of powder sourdoughs developed

1991 – Bio-BRS, 1 st commercially available organic starter culture

1998 – naturally preserved liquid product range started

2000 – Mailänder, 1 st commercially available active starter culture for  
Lievito naturale

2002 – naturally preserved pasty sourdough grains patented

2003 – sprouted sourdough grains commercially available

2004 – first commercially available gluten free sourdough product available

2006 – 1 st sourdough paste with herbs

2009 – 1 st sourdough paste based on potatoes,  
Liquid active rtu-product range started,  
Le Chef (Lievito naturale in powder form, active)

# Tradition, Innovation and Experience

1910-2010 ... 100 years „Böcker Reinzuchtsauerteig“



1st Sourdough Patent 1908



Bread label of a bakery in Berlin in the 1920'ies

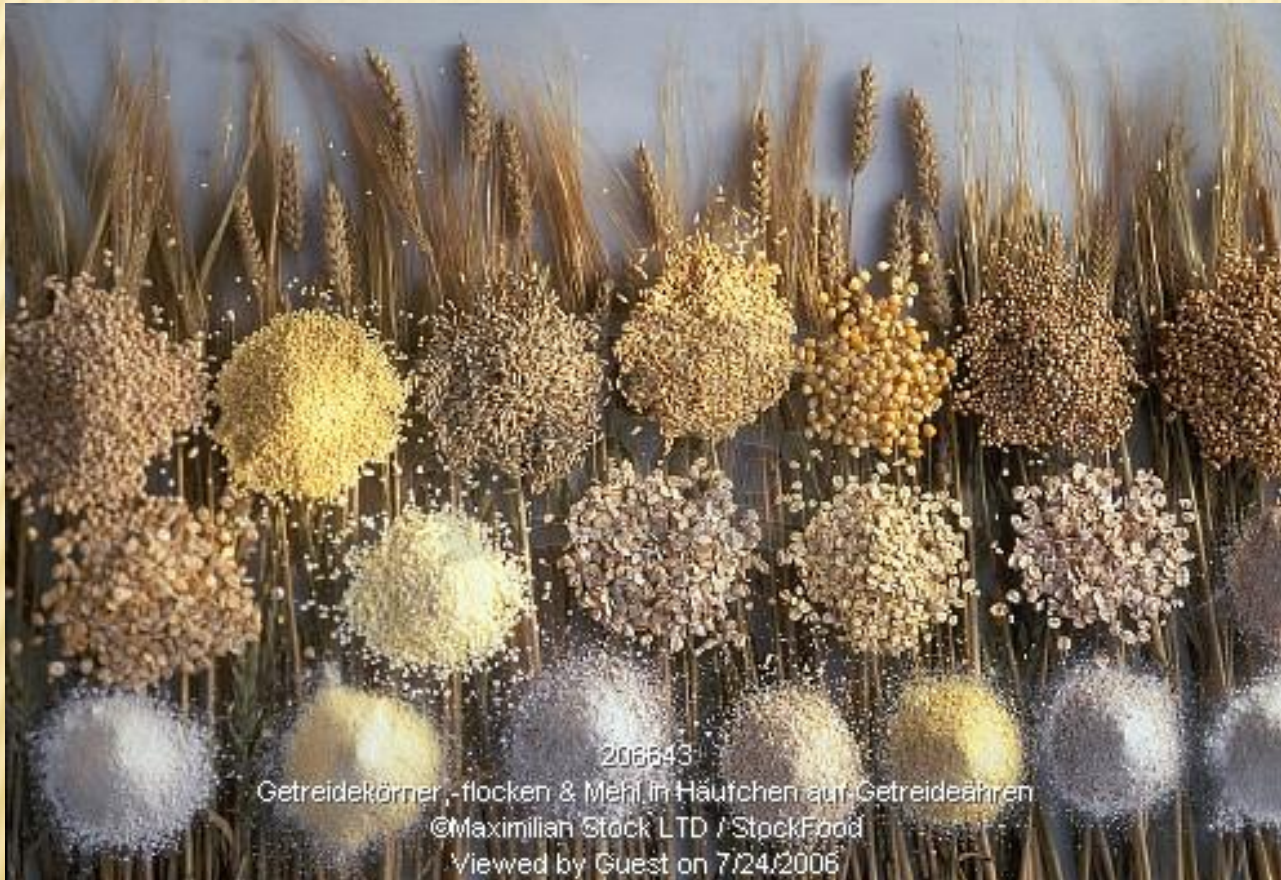


Böcker Reinzuchtsauerteig



# Natural fermented cereals products

„Cultured flours“ ... Sourdoughs and Preferments ...



made from

- Rye
- Soft Wheat
- Durum Wheat
- Spelt
- Oat
- Barley
- Rice
- Maize
- Gluten free ...



# Ernst Böcker GmbH & Co.KG

a reliable partner  
for

- Artisan bakers
- Industrial bakeries
- Mills
- Bakery suppliers




# Ernst Böcker GmbH & Co.KG

## Research and Development


- Fundamental research on sourdough
- Research activities with universities and research instituts
- Transfer scientific knowledge into new products
- Customer oriented product development





UNIVERSITY OF ALBERTA  
EDMONTON, CANADA


### Metabolism of obligate heterofermentative lactobacilli



**Disaccharide conversion**

**Disaccharide uptake:**

1. sucrose permease (phosphotransferase (C))
2. Cell-wall bound  $\beta$ -D-glucosidase or  $\alpha$ -D-glucosidase in L. reuteri dependent in L. reuteri
3. glycosyltransferase (phosphotransferase (C))
4. Maltose symport (phosphotransferase (C))
5.  $\beta$ -galactosidase (C) (located from food)



**Disaccharide conversion:**

Disaccharide uptake:

1. Sucrose permease (phosphotransferase (C))

2. Cell-wall bound  $\beta$ -D-glucosidase or  $\alpha$ -D-glucosidase in L. reuteri dependent in L. reuteri

3. Glycosyltransferase (phosphotransferase (C))

4. Maltose symport (phosphotransferase (C))

5.  $\beta$ -galactosidase (C) (located from food)

**Hexoses, pentoses, and hydrogen acceptors**

**Hexoses, pentoses, and hydrogen acceptors:**

1. Fructose-6-P

2. Glucose-6-P

3. Fructose-1,6-bis-P

4. Dihydroxyacetone-P

5. Glyceraldehyde-3-P


6. Phosphoenolpyruvate

7. Pyruvate

8. Acetyl-P

9. Acetyl-CoA

10. Ethanol



**Hexoses, pentoses, and hydrogen acceptors:**

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8. Acetyl-P

9. Acetyl-CoA

10. Ethanol

**Organic acids and polyols**

**Organic acids and polyols:**

1. Citrate

2. Oxaloacetate

3. Pyruvate

4. Acetyl-CoA

5. Acetate

6. 1,2-propanediol

7. 1,3-propanediol

8. 3-OH-propanoate

9. Glycerol

10. 3-hydroxypropanoate

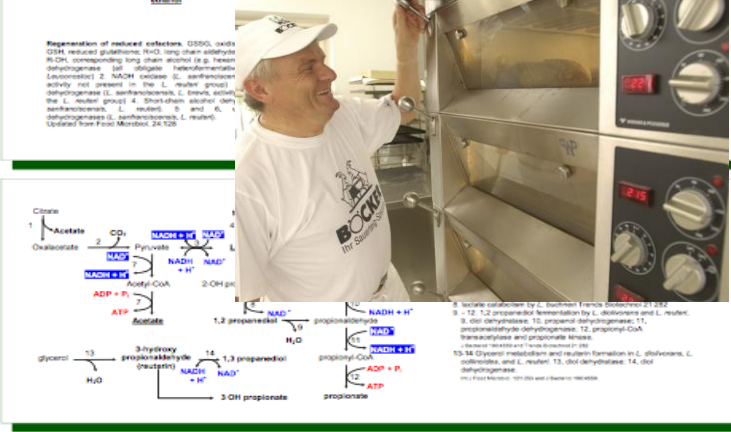
11. 2-OH-pyruvate

12. Propionyl-CoA

13. Propionate

14. Propionyl-CoA

15. Propionate



**Organic acids and polyols:**

1. Citrate

2. Oxaloacetate

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10

08.01.2014

Dr. Peter Stolz

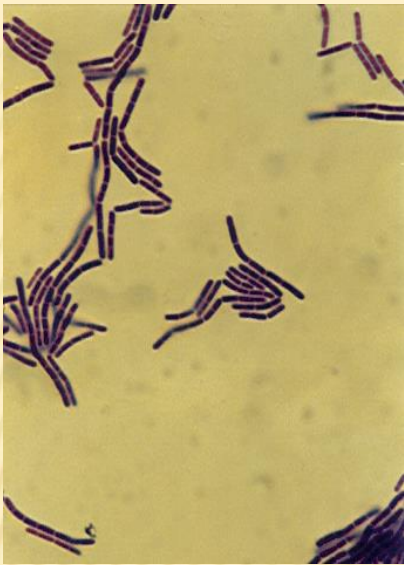


## Innovation

- Product development according to customer needs
- Selected raw materials
- Special sourdough fermentations
- Aromaactive products for high quality bread, baguette, rolls and sweet dough products



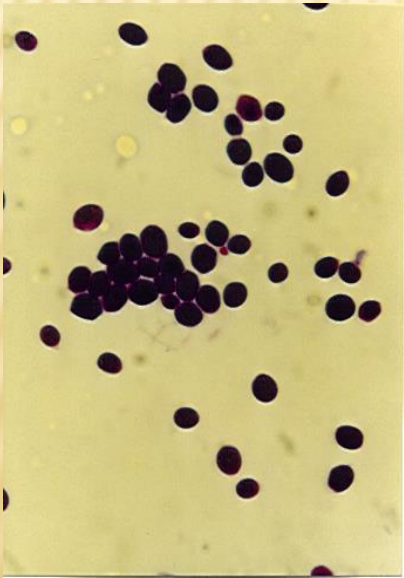
# Sourdough Microbiology



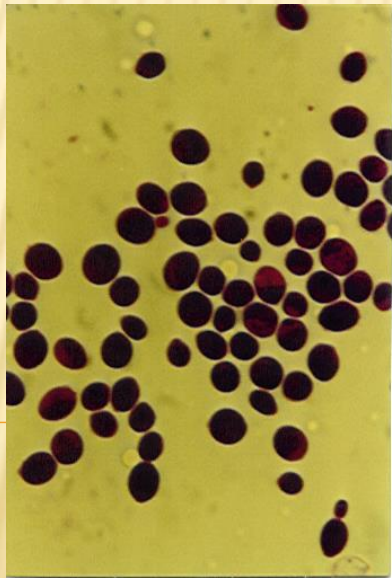
*Lb. sanfrancisco*



*Lb. mindensis*



*C. humulis*



*S. cerevisiae*

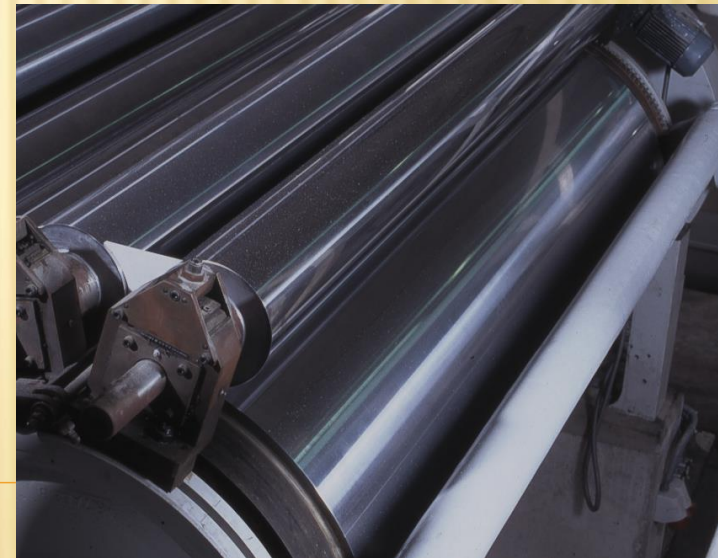
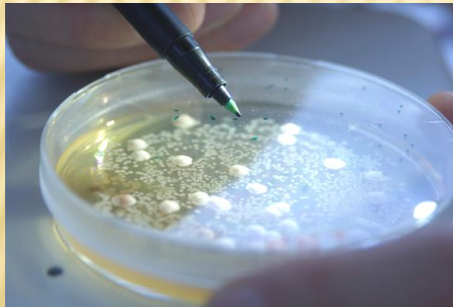
- “Our strength”  
Combine know how in food microbiology with sourdough technology
- Comprehensive strain collection of Lactic Acid Bacteria and Yeasts isolated from cereal fermentations



# Bread Flavour ... A Challenge

as an „expert in cereal fermentations“ ...

We can help to enhance bread flavour, taste,  
texture and shelflife by natural means  
.... label friendly



# BÖCKER PRODUCTS IN USE

Fermentation done  
by bakers

Ready-To-Use products for  
straight dough processes

Activity of  
microorganisms  
essential

Microorganisms must  
be inactive

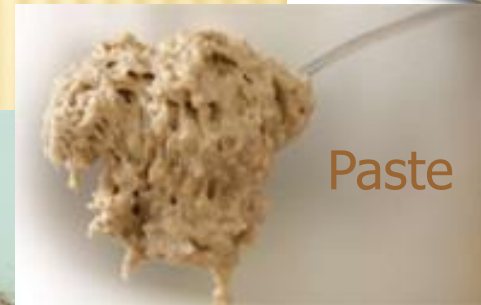
Liquid  
(with or without living  
cultures)



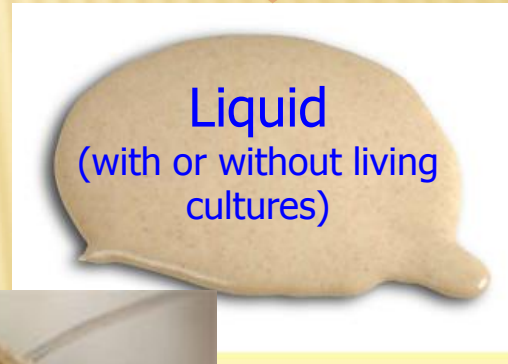
Starter cultures



Powder  
(with or without  
living cultures)



Paste





# APPLICATION OF BÖCKER PRODUCTS

**Indirect  
process**



**Starter cultures**

**for traditional  
sourdough processes**

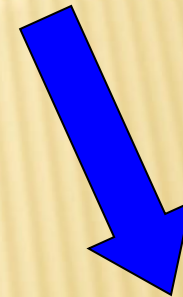
**Direct processing**



**Powder**



**Paste**



**Liquid**

**Quick and convenient production**

# ACTIVE PRODUCTS STARTER CULTURES

- for artisan and industrial baker's



Ernst Böcker GmbH & Co. KG  
Ringstraße 55-57  
D-32427 Minden / GERMANY  
Tel. 0571 83799-0  
Fax 0571 83799-20  
www.sauerteig.de



*Lievito naturale*  
hat einen Namen:

**BÖCKER Mailänder**  
natürlich Qualität backen  
- mit oder ohne Backhefe -

Ernst Böcker GmbH & Co. KG  
Ringstraße 55-57  
D-32427 Minden  
Tel. 0571 8 37 99-0  
Fax 0571 8 37 99-20  
www.sauerteig.de





# READY TO USE PRODUCTS



*Dried*



*Liquid*



*Pastry*



*Organic*

For direct use in baking

# BÖCKER POWDER PRODUCTS



Rye

Wheat

Spelt

Durum

Barley

Maize

Rice

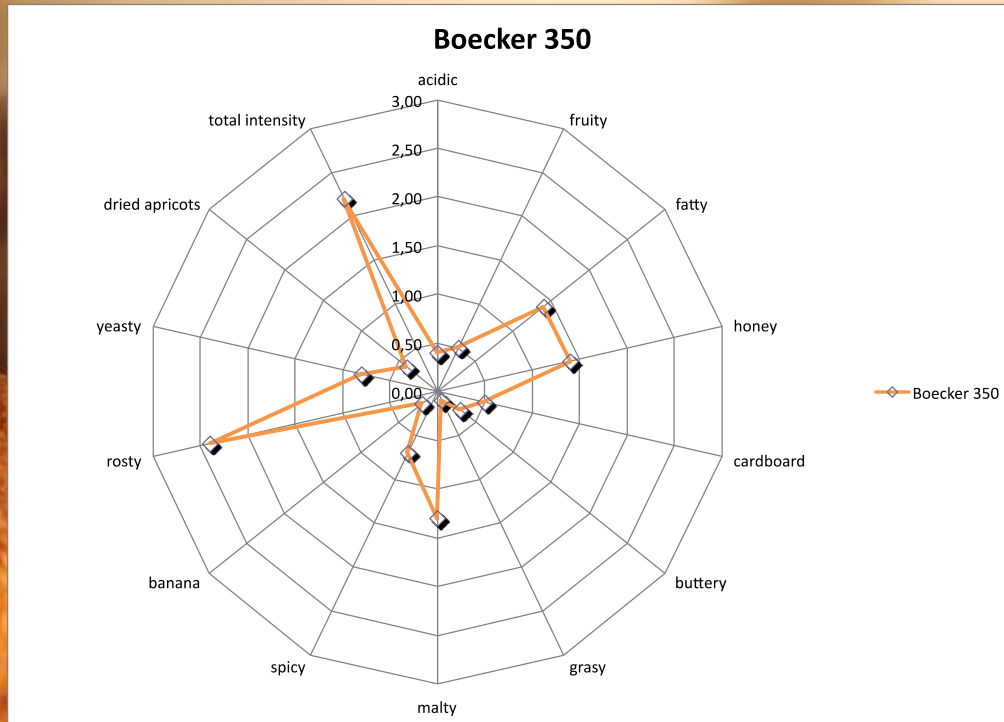
Quinoa

Used as flavour booster for direct use in baking, in flour mixes, in baking improver mixes etc.

- Different types of roasty and malty flavours
- Label friendly



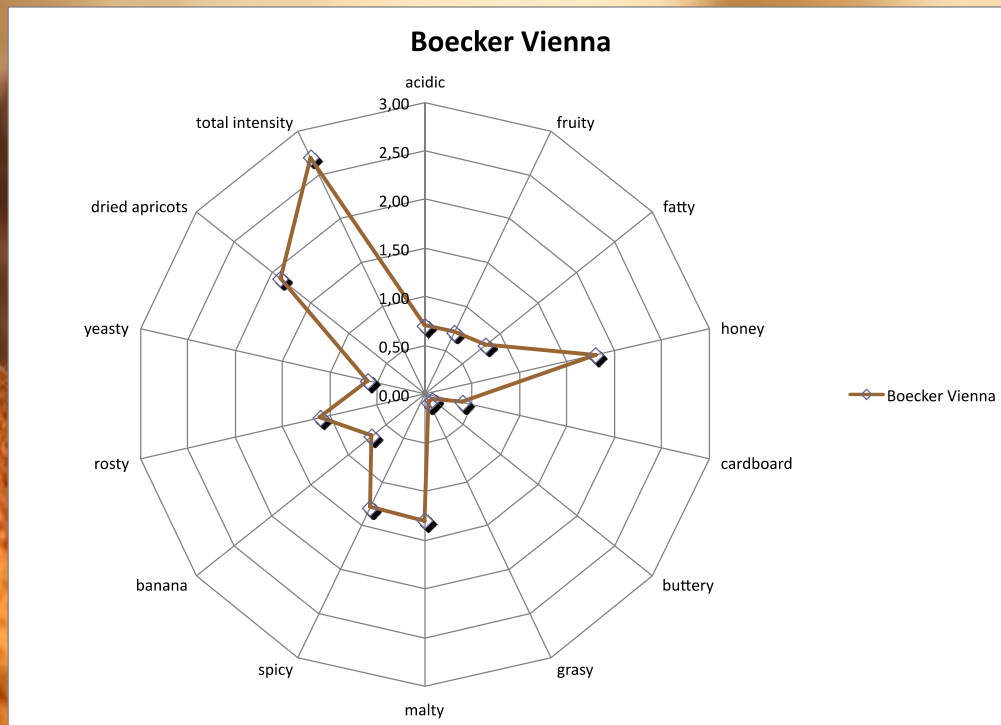
# BÖCKER POWDER PRODUCTS



## Flavour Diagram: Böcker 350 from Rye

- Used as flavour booster for direct use in baking, in flour mixes, in baking improver mixes etc.
- Different types of roasty and malty flavours
  - Label friendly

# BÖCKER POWDER PRODUCTS



## Flavour Diagram: Böcker Vienna from Rye or Wheat

- Used as flavour booster for direct use in baking, in flour mixes, in baking improver mixes etc.
- Different types of roasty and malty flavours
  - Label friendly

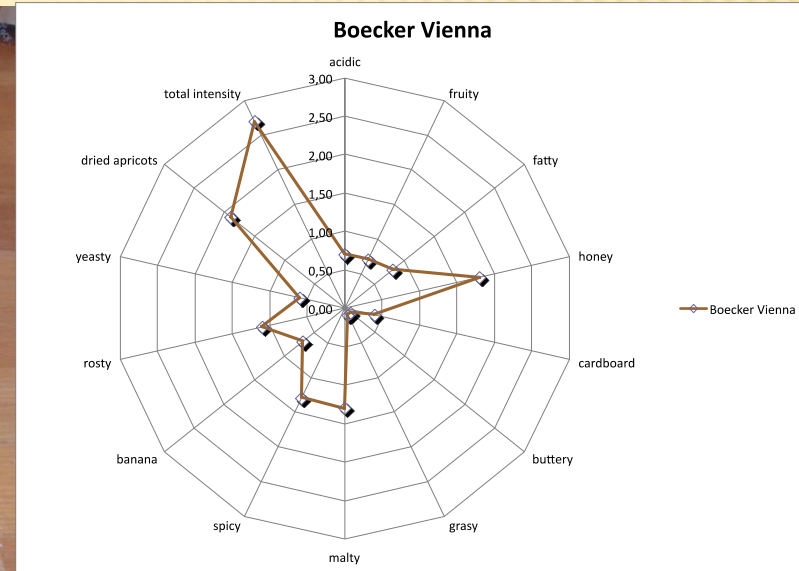


# BÖCKER POWDER PRODUCTS



Reference = 0%

Vienna 2%



# BÖCKER LIQUID PRODUCTS - INACTIVE

Made from Wheat, Rye, Spelt, Oat and Barley

- Naturally preserved with salt and vinegar
- Label friendly (E´ No free)
- No heat treatment
- Shelflife 9 months
- Flexible packaging
  - 10-15 kg-bag-in-box
  - 1000L tanks



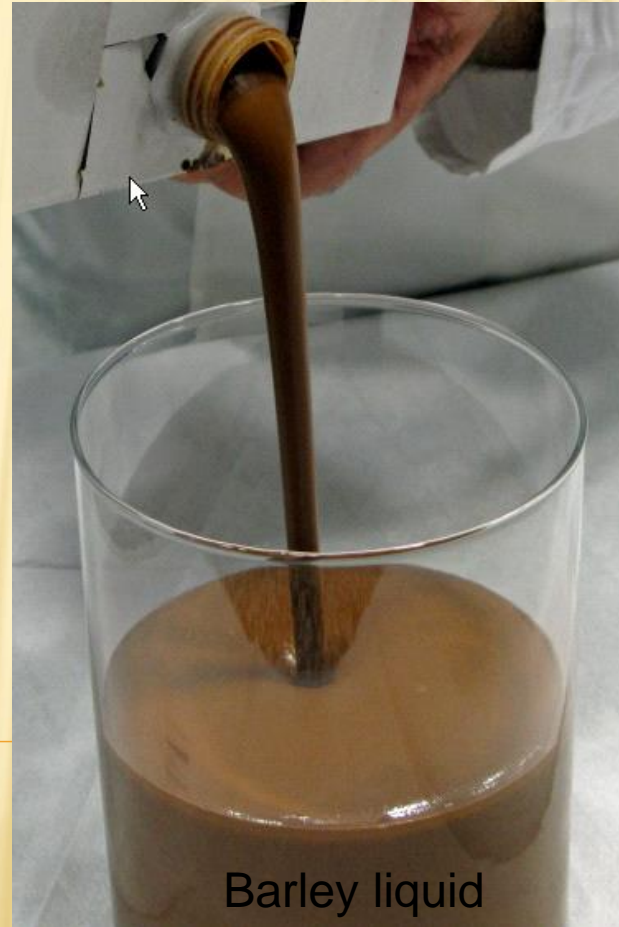


# BÖCKER LIQUID PRODUCTS - INACTIVE

Made from Wheat, Rye, Spelt, Oat and Barley



Liquid 2



Barley liquid

# BÖCKER LIQUID PRODUCTS - INACTIVE

Made from Wheat, Rye, Spelt, Oat and Barley



Liquid 2



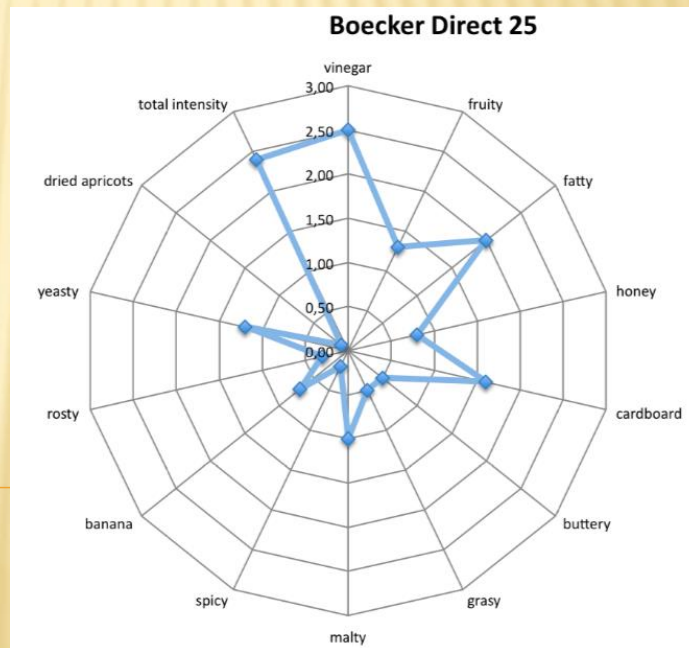
Barley liquid



# BÖCKER LIQUID PRODUCTS - INACTIVE

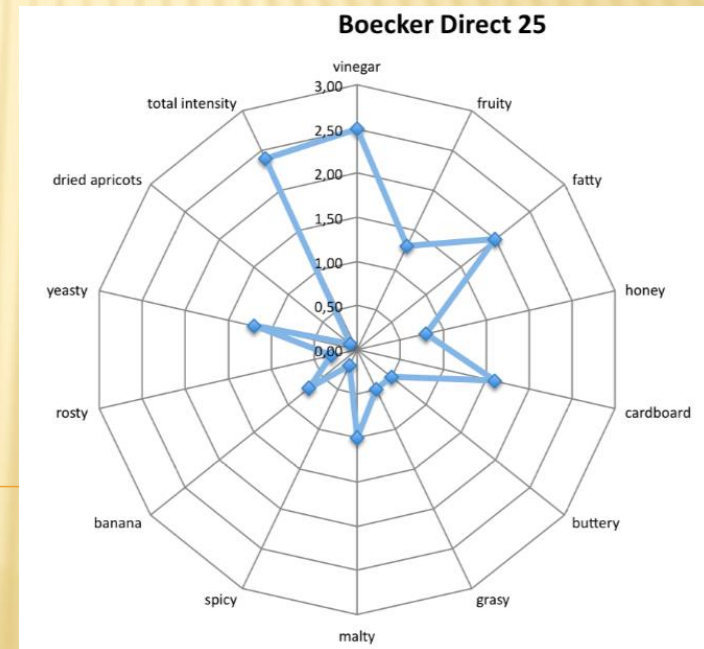
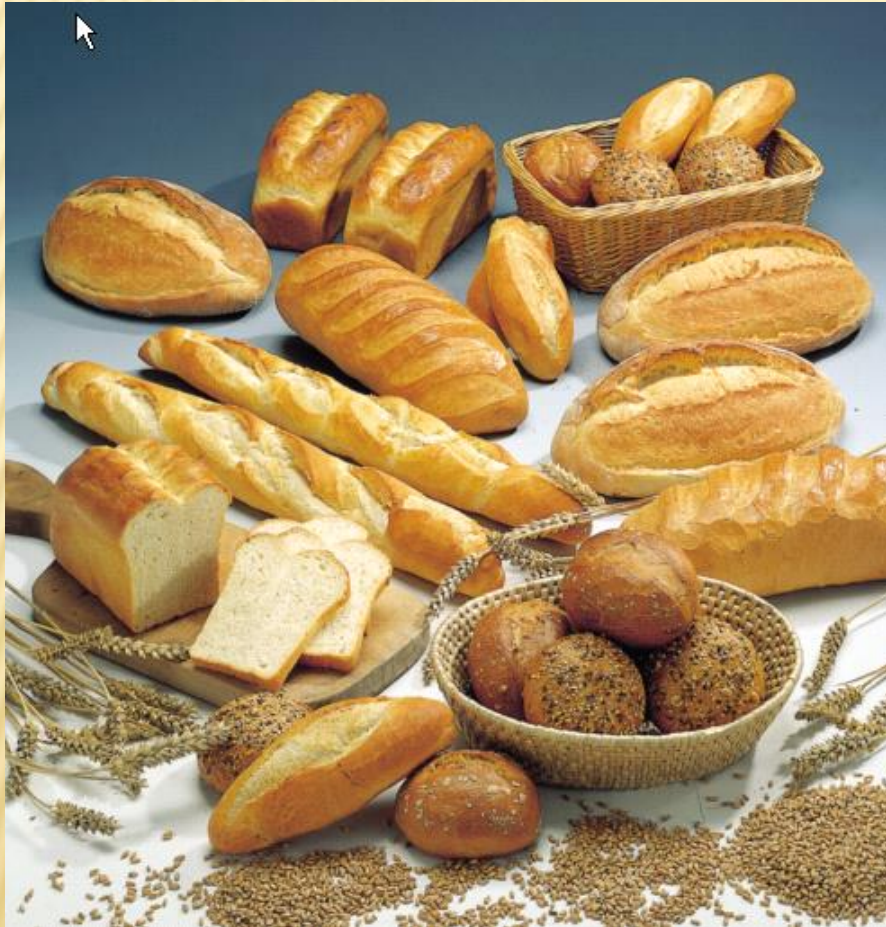
## Direct 25: Made from Wheat

- Naturally preserved with salt and vinegar
- Label friendly (E´ No free)
- No heat treatment
- Shelflife 9 months
- Flexible packaging
  - 10-15 kg-bag-in-box
  - 1000L tanks



# BÖCKER LIQUID PRODUCTS - INACTIVE

## Direct 25: Made from Wheat





# BÖCKER LIQUID PRODUCTS - INACTIVE

## Hafersauer: Made from Oat

- Naturally preserved with salt and vinegar
- Label friendly (E´ No free)
- No heat treatment
- Shelflife 9 months
- Flexible packaging
  - 10-15 kg-bag-in-box
  - 1000L tanks

*So vielseitig setzen Sie  
BÖCKER Hafersauer flüssig ein:*

### **Standardgebäcke mal anders**

*Mit Hafermehl oder Haferflocken.  
Mehr Geschmack und  
milde Versäuerung.*



### **Süße Gebäcke verfeinern**

*Für mehr Aroma und  
längere Frischhaltung.*

### **Softgebäcke verbessern**

*Optimal in der Frischhaltung  
und reich an Ballaststoffen.*

# BÖCKER LIQUID PRODUCTS - ACTIVE

Made from Wheat, Rye

- **Active microflora**  
Fulfills german legislation
- Label friendly (E´ No free)
- No heat treatment
- For direct use and long fermentations
- Shelflife 4-6 months
- Flexible packaging
  - 10 kg-bag-in-box



**Frisch – flüssig –  
natürliches Aroma**





# BÖCKER LIQUID PRODUCTS

## Packaging Systems



1000 Liter Tank



10 kg-Bag-in-Box

# BÖCKER - PASTY PRODUCTS

- Natural fermented cereals: Flours, grain mixtures, sprouted grains and herbs are the base for our pasty products





# BÖCKER - PASTY PRODUCTS



*Böcker – Sprouted Wheat*

# BÖCKER - PASTY PRODUCTS



*Böcker – Wheat Sprouts*



# BÖCKER - PASTY PRODUCTS



*Böcker – Wheat Sprouts*



# BÖCKER - PASTY PRODUCTS

Roggen Roggenmisch Weizenmisch Weizen **Feinback**

**NEU**

## BÖCKER Kartoffelpaste

Der erste Kartoffel-Sauerteig  
*mit Kartoffelstückchen*

indirekt – Starter  
direkt – trocken  
direkt – flüssig  
direkt – pastös

### Stabilisierter Kartoffelsauerteig



**25%**  
Dosisierung im fertigen Sauerteig 1,8 – 20 %

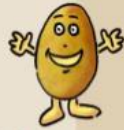
- feste Dosisierung von 25 % auf Mehl
- direkter Einsatz, ohne Sauerteig-Führung
- saftige, frische Krume
- Kartoffelstückchen angenehm im Biss

Natürliche **Sauerteige** & Spezial-Fermentationen für **bestes Aroma**

 **BÖCKER**  
Ihr Sauerteig-Spezialist

## BÖCKER Kartoffelpaste

Der erste Kartoffel-Sauerteig  
*mit Kartoffelstückchen*



**Allgemeines:**  
BÖCKER Kartoffelpaste ist ein Sauerteig, der aus feinsten Kartoffellocken fermentiert wird. Zusätzlich sind Kartoffelstückchen sorgsam in den Sauerteig eingebettet. Das milde Aroma des Sauerteiges verbindet sich mit der mild-würzigen Note der Kartoffelstückchen. Im fertigen Gebäck sind die Kartoffelstückchen gut sichtbar, angenehm im Biss und verleihen eine rustikale Note.


Mit BÖCKER Kartoffelpaste kann mehr Geschmack in Kartoffelgebäcken erzielt werden. Gleichzeitig sind die Vorzüge von Sauerteig nutzbar, bei direkter Dosisierung auf Mehl, ohne eigene Sauerteig-Führung!

**Vorteile:**

- zwei in eins: Kartoffelsauerteig plus Kartoffelstückchen
- keine separate Sauerteig-Führung erforderlich
- deutliche Aromaverbesserung von Kartoffelgebäcken
- Kartoffelstückchen im fertigen Gebäck gut sichtbar und angenehm im Biss
- gesteigerte Frischhaltung der Gebäcke durch Sauerteig

**Anwendung:**  
BÖCKER Kartoffelpaste wurde auf natürliche Weise ausschließlich mit Salz und Essig stabilisiert. Eine feste Dosisierung von 25 % auf Mehl wird empfohlen. Bei dieser Dosisierung muss kein Salz ins Rezept zugegeben werden, die fertigen Gebäcke erhalten automatisch einen Salzgehalt von 1,8 – 2 %.


**Zutaten:**  
Kartoffelsauerteig (Kartoffelstücke und -flocken, Weizen-Mahlprodukte, Gerstenmalz, Starterkulturen), Salz, Brauereieisig, Gewürze.



► **Nutzen Sie unsere Anwendungsberatung:**  
Telefon 0571 83799-13

Ernst Böcker GmbH & Co. KG  
Ringstraße 55-57  
D-32427 Minden

Tel. 0571 83799-0  
Fax 0571 83799-20  
www.sauerteig.de

 **BÖCKER**  
Ihr Sauerteig-Spezialist

Mmmm ...  
mit leckeren  
Kartoffelstückchen!



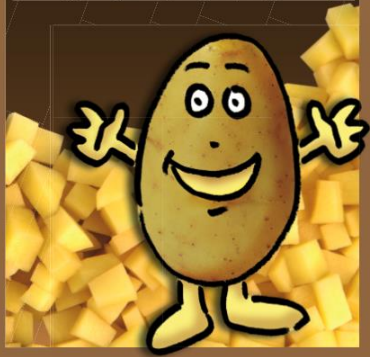
## Böcker – Potato Paste



# BÖCKER - PASTY PRODUCTS



Mmmm ...  
mit leckeren  
Kartoffelstückchen!

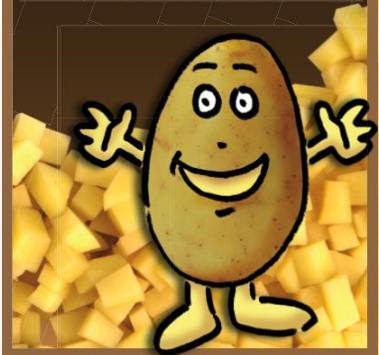


*Böcker – Potato Paste*

# BÖCKER - PASTY PRODUCTS



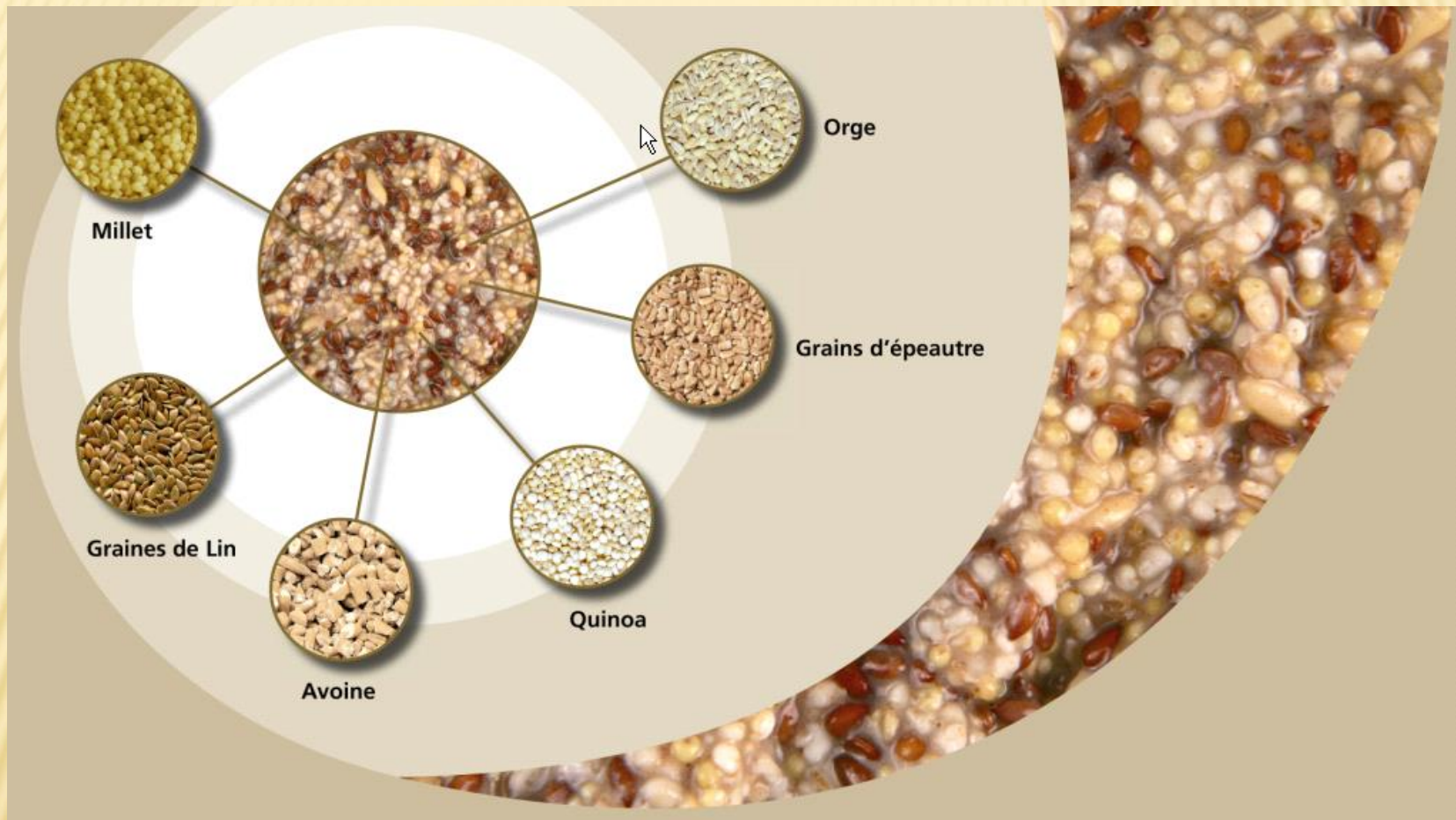
Mmmm ...  
mit leckeren  
Kartoffelstückchen!



*Böcker – Potato Paste*



# BÖCKER - PASTY PRODUCTS



*Böcker – Multigrain Paste*

# BÖCKER - PASTY PRODUCTS



*Böcker – Multigrain Paste*

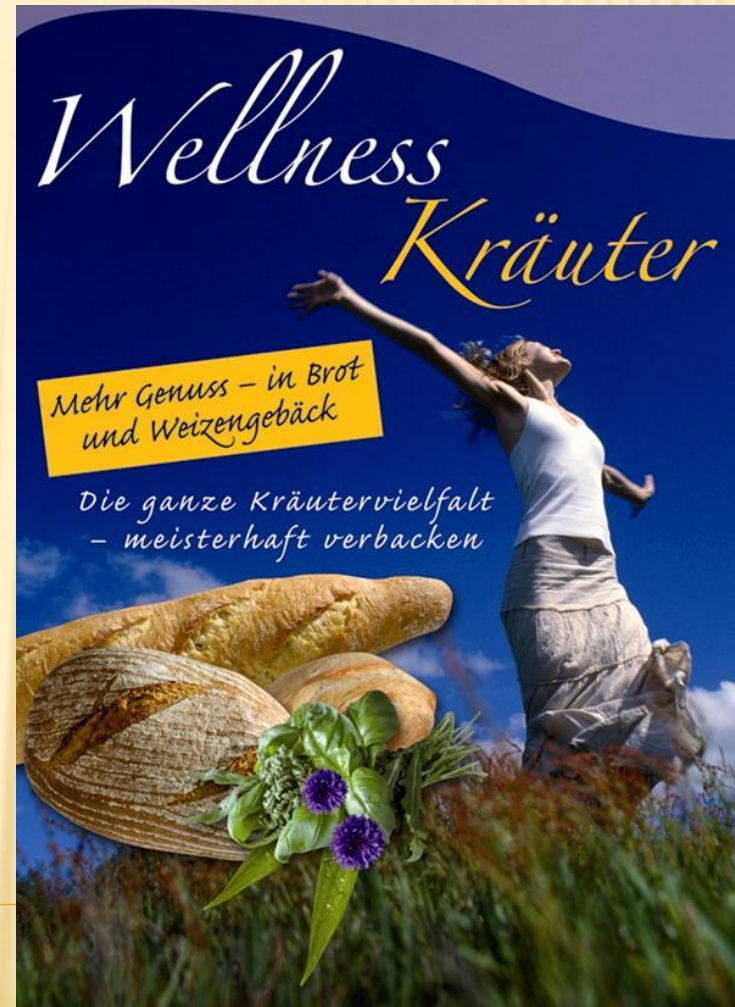


# BÖCKER - PASTY PRODUCTS



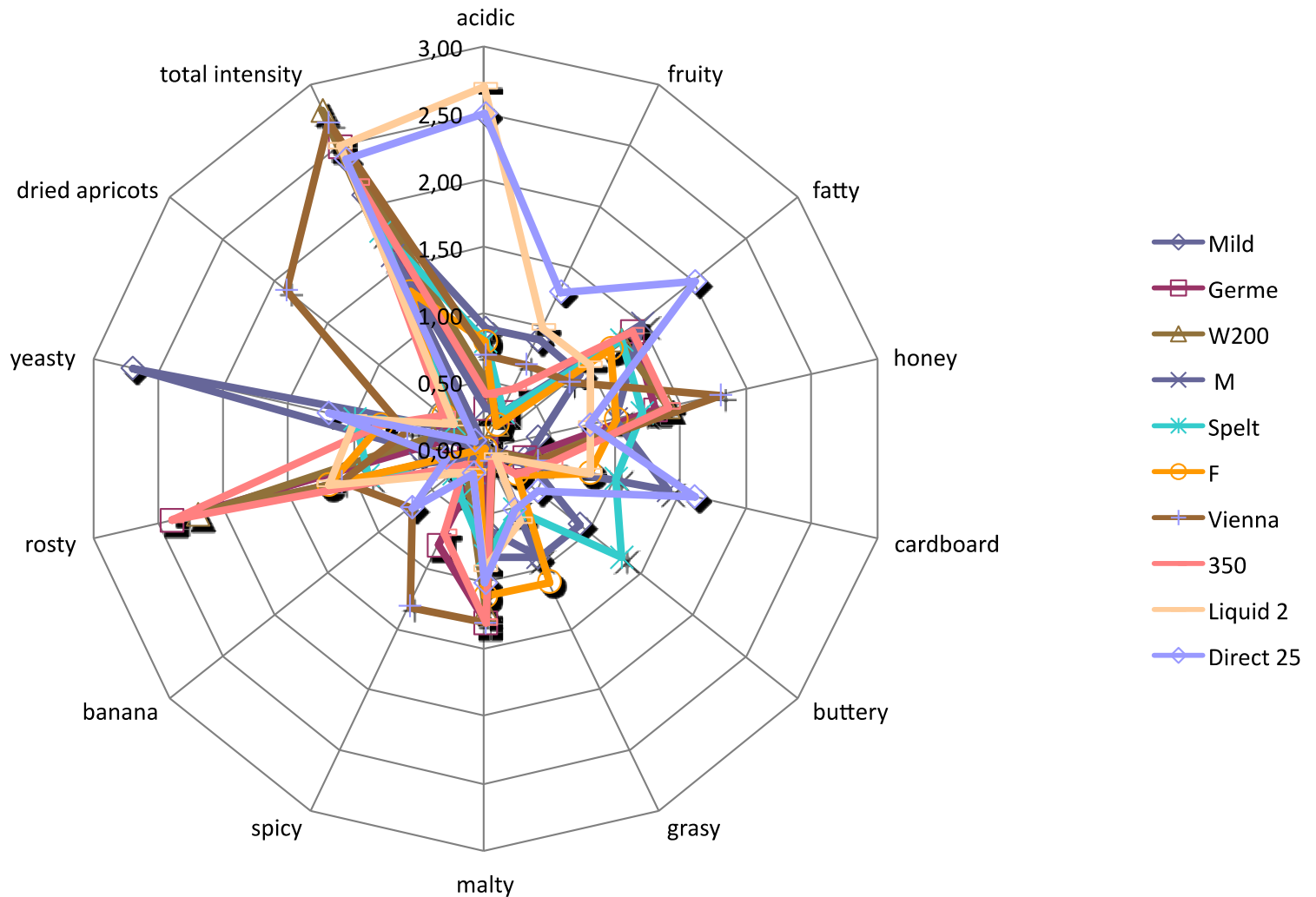


# BÖCKER - PASTY PRODUCTS

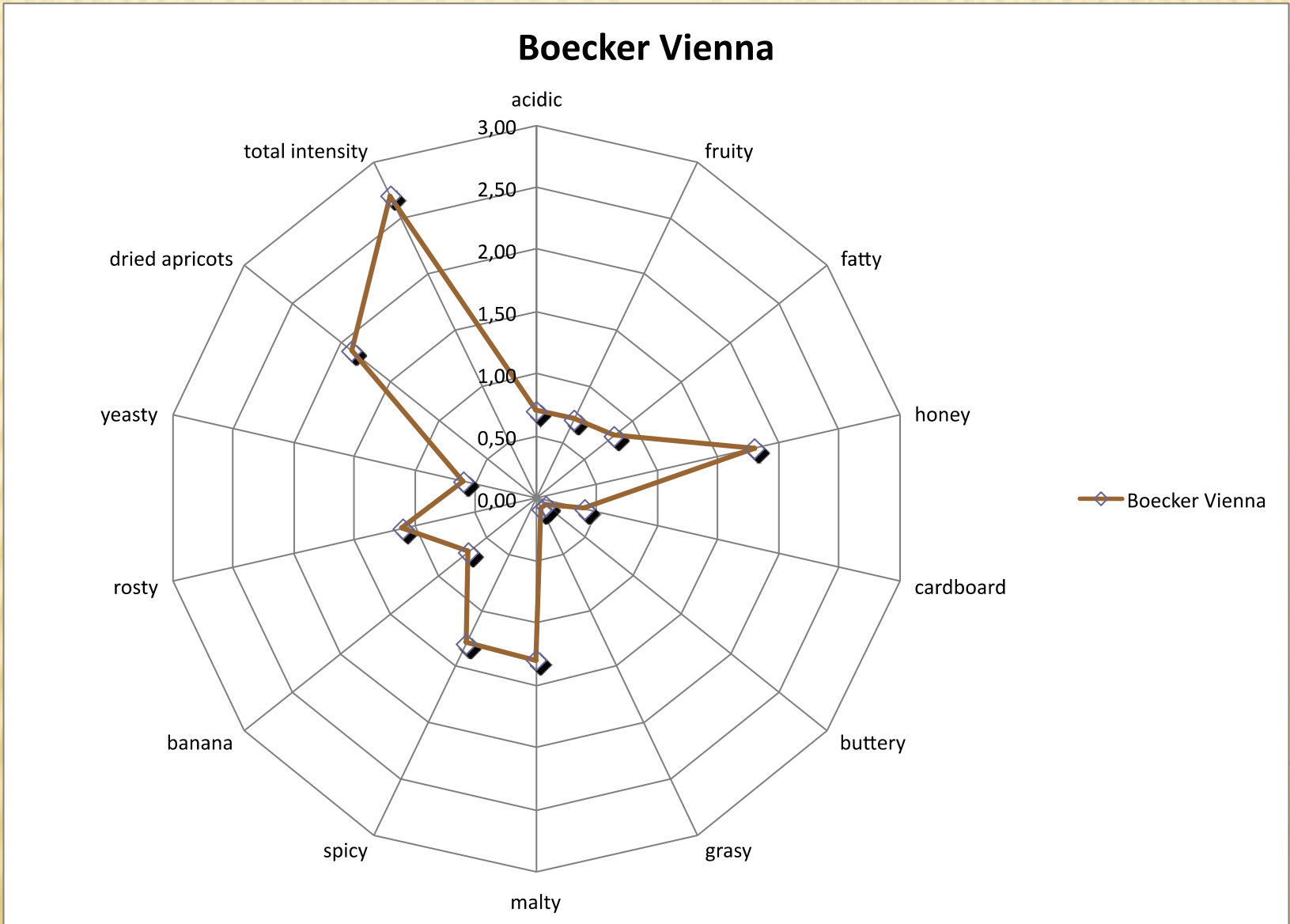




# BÖCKER PRODUCTS - FLAVOUR RANGE



# BÖCKER PRODUCTS - FLAVOUR RANGE





# Ernst Böcker GmbH & Co.KG



Thanks for your attention!



# Ernst Böcker GmbH & Co.KG



Thanks for your attention!



# Ernst Böcker GmbH & Co.KG



Thanks for your attention!