



Small Cakes ring test

standardised ingredients
and comparison of local ingredients

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Agenda

1. StaDe ingredients

- butter
- sugar
- eggs
- flour
- salt
- backing powder

2. Comparison of local ingredients



Schematic diagram: functions of components in cakes and pastries

Funktionelle Eigenschaften (Auswahl)	Fett	Vollei	Saccharose
Hydrophobizität	+	-	-
Emulgiervermögen	(+)	+	-
Schaumbildungsvermögen	+	+	+
Fettbindungsvermögen	+	+	-
Schmelzverhalten	+	-	(+)
Filmbildungsvermögen	+	+	-
Bindung von Aromastoffen	+	+	-
Chemische Reaktivität	-	+	+
Wasserbindungsvermögen	-	+	-
Löslichkeit/Viskosität	-	+	+
Kristallisationsvermögen	+	-	+
Koagulationsvermögen	-	+	-

Quelle: FRANZKE, 1998

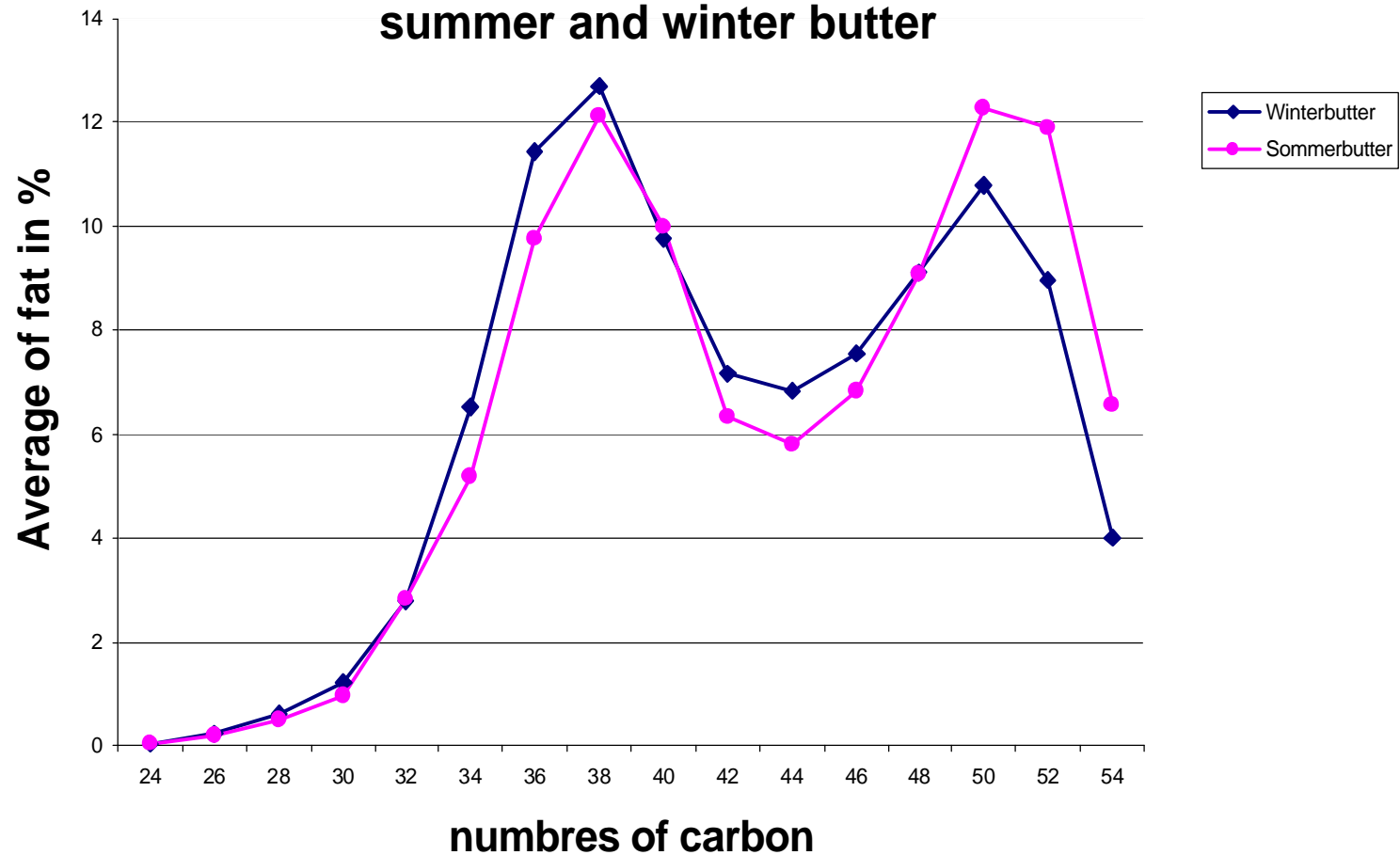


Butter

- 80 – 90 % fat content; usually 82%
- Huge tolerance in fatty acid structure depending on
 - Origin of the butter
 - Feeding of the cows and season respectively (summer and winter butter)
- Different melting points, creaminess, dissolving of sugar
- Solution: Using frozen butter taken from one batch for 12 months
- Quality criterion: fat content and fatty acid structure



Comparison of numbers of carbon in triglycerides in summer and winter butter



Quelle: TERNES, W.: Naturwissenschaftliche Grundlagen der Lebensmittelzubereitung, Hamburg: Behr's Verlag GmbH, 1994



Butter

Frozen butter taken from one batch

- Durable up to 12 months when frozen, no influence on baking quality to be expected
- Problem: no guarantee that equivalent butter is available the following years
- Butter used for ring test:
Paladin-Markenbutter bought in November



Sugar

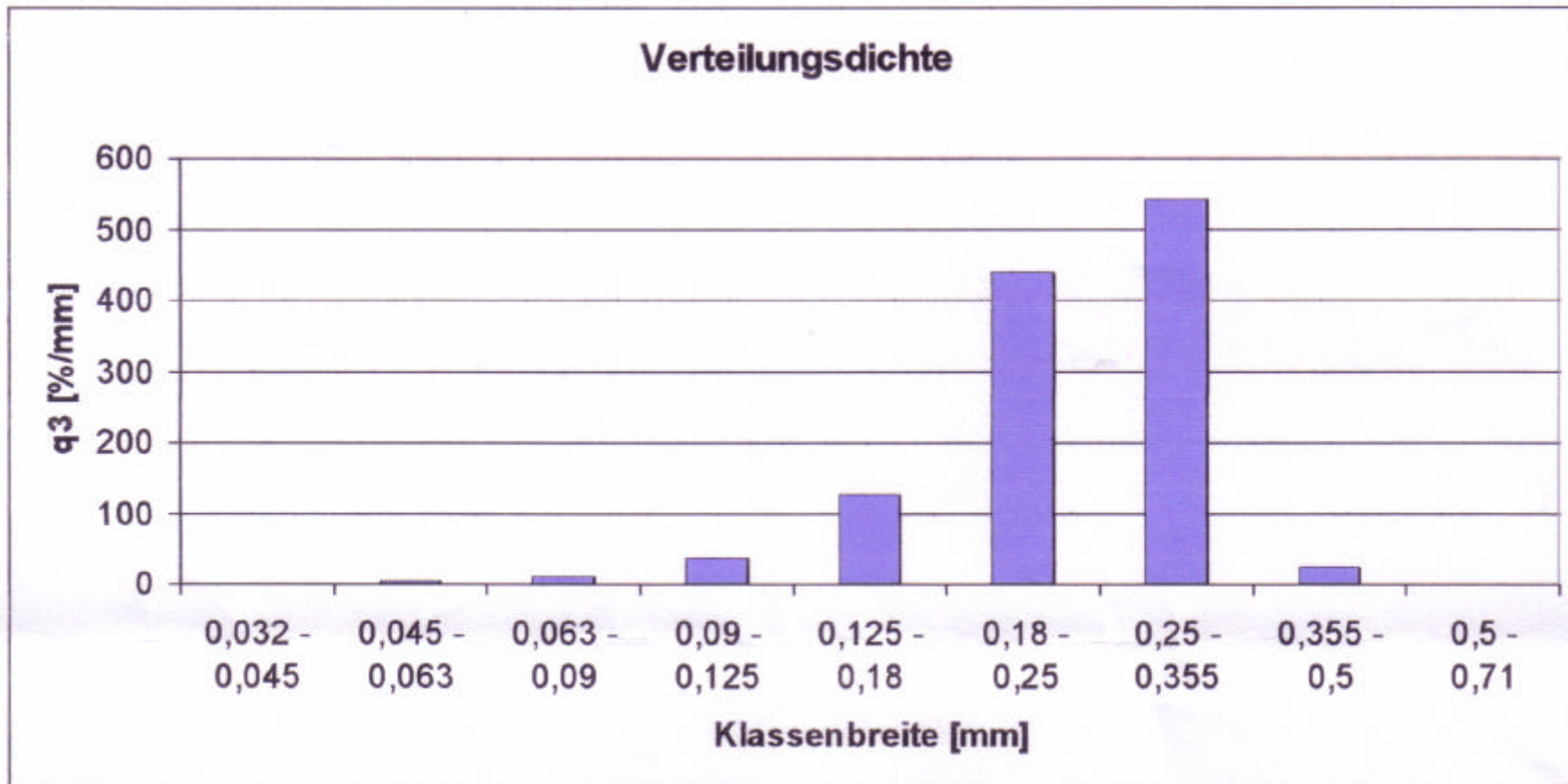
RFF not
available in retail
stores



- **Refined white sugar** EU- category 1
„Raffinade fein RFF“
- Sugar has a high degree of purity (>99,95%) and a very low bacterial count
→ easy to handle and unproblematic
- Beet sugar
- Quality criterion: grain size of 0,1 – 0,35 mm (acc. to standard)



Sugar – grain analysis



Batch nr. 1



Eggs

Problems with fresh eggs:

- Perishable for 28 max. days
- Changing of proteins while ageing
- Different egg sizes in the EU
- Different qualities depending on feeding, age, race, health.... of the hens

■ Solution: Wiesenhof Eifix, frozen whole egg

durable for 12 months

■ Quality criterion: content of lecithin- and S-Ovalbumin





Flour

- Problem: protein content changes from year to year
- **Solution: Rosenmehl – wheat flour Type 405**
- Supplier Rosenmehl avouches trying to deliver a constant quality for the next years
- **Quality criterion:**
 - Gliadin and gluten
 - Mineral content between 405 and 500 mg per 100g





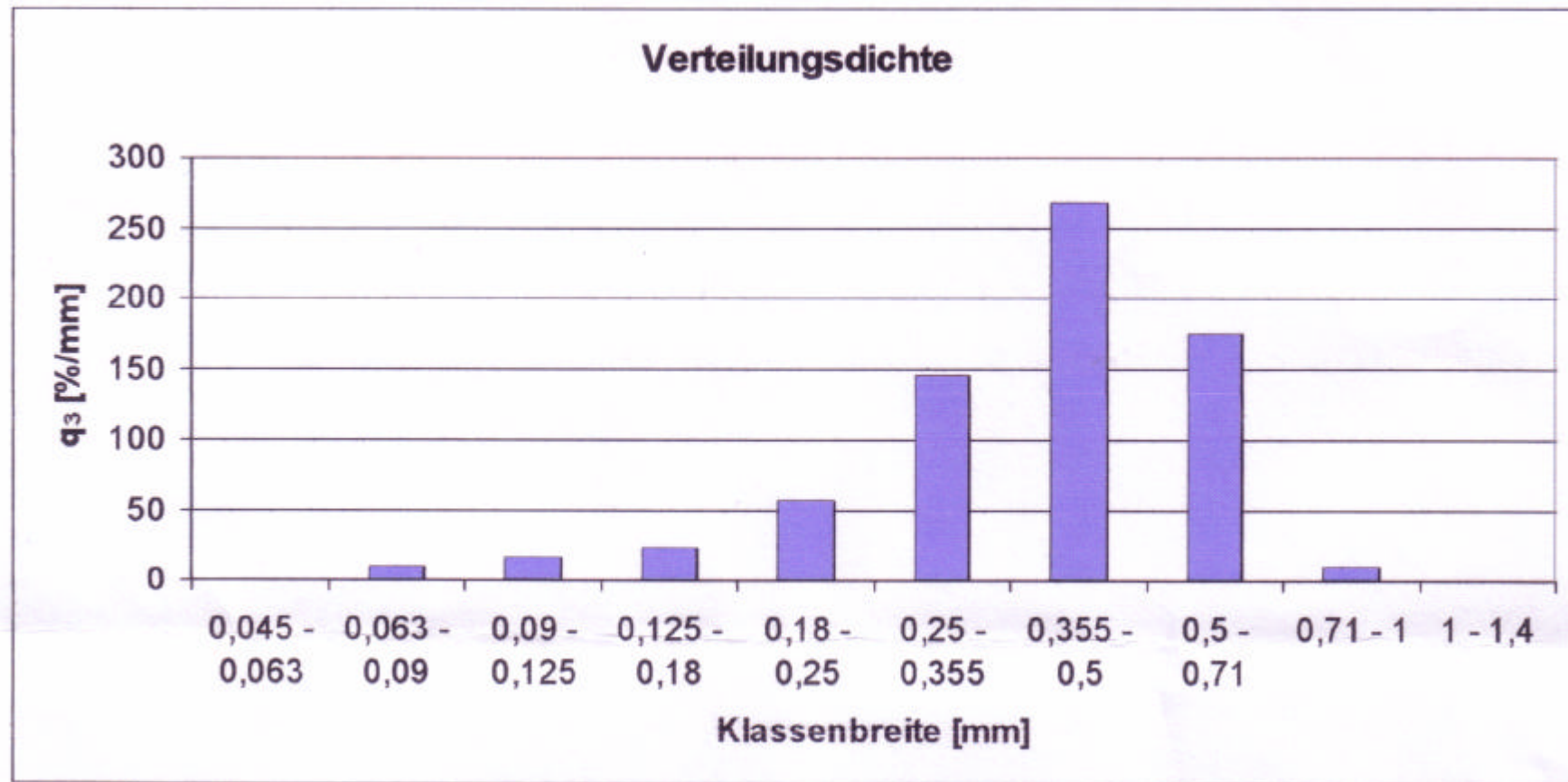
Salt

Südsalz grain size: < 1,0 mm

- Nearly unperishable
- Contains the additive **Antibackmittel E 535** to improve the siftability of salt. It builds up a casing around the salt crystals and lowers the electrostatic attraction (separating agent)
- **Quality criterion: purity grade, grain size**



Salt – grain size analysis



Batch nr. 1



Backing powder

RUF Lebensmittel KG Art. 2206 Backpulver



- Content of one pouch: 15,5g
Typical composition:
→ Dinatriumdiphosphat, Natriumhydrogencarbonat,
wheat starch,
- Quality criterion: relation of Dinatriumdiphosphat,
Natriumhydrogencarbonat