

## “Hands-on Training on Baking Technology”

**Monday 20.11.2017, 13-17**

Venue: BOKU, 1190 Wien, Muthgasse 18, room 2/28

- Welcome
- Theoretical Introduction

**Tuesday 21.11.2017, 9-17**

Venue: STAMAG, 1220 Wien, Smolagasse 1

### **1. Rye dough technology: product: rye-wheat bread 80% rye, 20 % wheat**

#### **1.1. Variation of dough process**

- Small dough: slow mixing
- Small dough: 1<sup>st</sup> phase slow mixing, 2<sup>nd</sup> phase fast mixing
- Surface feel of differences in dough quality
- Big dough and mechanical dough make-up → differences in process and dough quality
- Dough with bread-improver with stabilizing effect - comparison versus formulation without bread-improver
- Bread evaluation next day, criteria based on consumer requirement (hand-out forms for organoleptic evaluation)

### **2. Wheat dough technology: small pastry unit, product: roll**

#### **2.1. Variation of dough process**

- Surface feel at different times of dough rest
- short (5 min) vs long (30 min) dough rest
- Evaluation of process and effect on dough quality of industrial vs. artisanal dough divider
- Variation of intermediate proof before final moulding (stamping of “Kaiser-rolls”): Standard time of production line vs. manual extension and external stamping

#### **2.2. Variation of formulation: ready-to-bake deep-frozen dough pieces (with special bread improver)**

- Definition „ ready-to-bake “: from deep-freezer to oven
- Deep-freezing at optimum fermentation time and dough maturity
- Importance of packaging material during deep-frozen storage
- In-store baking and evaluation of quality next day
- Comparison of quality deep-freezing vs. long fermentation times at lower dough temperatures

#### **2.3. Kaiser-roll evaluation**

Criteria based on consumer requirement (hand-out forms for organoleptic evaluation)

- Differences in volume at short vs. long fermentation times
- Differences in shape at short vs. long intermediate proof (high vs. flat shape of “Kaiser-roll 5-star”)

## “Hands-on Training on Baking Technology”

Wednesday 22.11.2017, 9-17

Venue: STAMAG, 1220 Wien, Smolagasse 1

### 3. Laminated doughs, product Croissant

#### 3.1. Variation of dough process:

- Fat in lamination process = margarine or butter
- Principle: less fat – less layers; minimal fat due to Austrian Codex chapter B18: 250g/kg dough; higher fat content up to 400 g/kg dough
- Fat temperature 14 to 15 °C (rather less differences in quality due to fat temperature)
- Artisanal dough laminating with dough rolling device
- Failure through rapid rolling and flattening of laminated dough (breaking the fat layers)
- Differences in rolling and flattening: thick vs. thin layers
- Surface feel, visual and organoleptic evaluation
- Failure based on melting of fat (proofing temperature, baking temperature)

#### 3.2. Organoleptic evaluation

Criteria based on consumer requirement (hand-out forms for organoleptic evaluation)

- Deep frozen ready-to-bake roll after in-store baking; incl. visual comparison with “fresh-baked” roll (without deep-freezing) from day before.
- Quality evaluation of croissants

### 4. Sweet yeast-raised baked goods, traditional braided baked goods “Zopf” (Austrian “Striezel”) and fine bakery ware made of batter (muffins, “Mini-Gugelhupf”)

#### 4.1. Make-up of sweet yeast-raised dough (min. content) 8% sugar and 8% fat on flour; variation of yeast amount (min. 3% on flour)

- Dividing and moulding manual versus mechanical
- Short vs. long dough process (variation of dough rest and proofing time) – evaluation of dough stability (underproof – overproof)
- Effect of wet dough surface on shaping and braiding
- Surface treatment with liquid egg

#### 4.2. Muffins, “Mini-Gugelhupf”

- Formulation based on Stamag convenience pre-mix
- Make-up of beaten dough (batter), depositing, baking

#### 4.3. Braided “Zöpfe” and Muffins evaluation

Criteria based on consumer requirement (hand-out forms for organoleptic evaluation)

### 5. Final discussion of results; take-home message

#### General issues

- Participants can bring their own clean lab coat or can use visitor coats provided by STAMAG