BACK TO THE FUTURE IN BAKING
CLEAN LABEL BAKERY FORMULATION

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WHAT IS A CLEAN LABEL INGREDIENT TO ME?

- COMMON / FAMILIAR NAME
- HAS MINIMAL PROCESSING
WHAT ABOUT ENZYMES
WHAT ABOUT GMO’S
WHAT IS NEW IS OLD

• WHAT ARE COMMON INGREDIENTS TODAY WERE NOT AS COMMON IN BAKING 30 YEARS AGO...IN THE USA
• FLOURS- RICE, CASSAVA, POTATO, CORN, PULSE
• SUGARS- FRUCTOSE, LACTOSE, SYRUPS
• PROTEINS- SOY, PEA, WHEAT, WHEY & MILK
• FIBERS – OAT, CHICORY ROOT, CELLULOSE ....
• FATS – COCONUT, CANOLA, PALM, IE BLENDS
WHAT IS OLD IS NEW

• YOU NEED TO UNDERSTAND WHAT IS OUT THERE
• LEARN WHERE TO FIND THEM
• HOW TO USE THEM
ON TO FORMULATION

2 APPROACHES

FROM SCRATCH OR FROM CURRENT TO CLEAN
THE GREAT DEBATE
BAKERS PERCENT VS TRUE PERCENT

• TRUE PERCENT - EVERYTHING ADDS UP TO 100% -
  • THE ACCOUNTANTS AND BUYERS WILL LOVE YOU!

• BAKERS PERCENT - EVERYTHING IS BASED ON THE FLOUR
  • EASY TO SEE RELATIONSHIPS – TO THE FLOUR
    • BUT CHANGE ONE THING AND YOUR TRUE PERCENTAGES ALL CHANGE
YEAST RAISED

• FOUR INGREDIENTS ESSENTIAL TO START
  • FLOUR, SALT, YEAST, WATER
    • ADD A LITTLE OIL AND YOU HAVE A TYPICAL HEARTH BREAD

• THE SECRET INGREDIENT – THE PROCESS!
  • MIXING - DOUGH TEMP, DEGREE OF DEVELOPMENT
  • FERMENTATION - TEMPERATURE, TIME, STEPS
  • PROOFING - DEGREE OF PROOF, TEMP & TIME
  • BAKING - CONDITIONS, TEMPERATURE, TYPE OF OVEN
YOUR TOOLBOX FOR LONGER LASTING & SOFTER YEAST RAISED

• LEVELS OF FATS AND SUGARS
• FIBERS & POTATO FLOUR
• ENZYMES – AMYLASES
• YEAST EXTRACTS
• EMULSIFIERS – LECITHIN, MONO-DIGLYCERIDES
• MOLD INHIBITORS
WATER IN YEAST RAISED

• KNOW YOUR WATER PH AND MINERAL CONTENT – HARDNESS
  COMMONLY SEEN ON BREAD LABELS
  FOR WATER / DOUGH PH CONTROL AND PUTTING MINERALS
  INTO THE WATER

• MONO-CALCIUM PHOSPHATE

• CALCIUM SULFATE
DATEM & SODIUM STEAROYL 2 LACTYLATED

- FOR CRUMB SOFTNESS AND STRENGTH
  - DATEM REPLACING SSL
- CLEAN LABEL REPLACEMENT IS FORMULATION AND HANDLING
  - SUGAR AND FAT LEVEL AND TYPE
  - HYDRATED MONO-DI-GLYCERIDES AND LECITHIN
CAKE TYPE PRODUCTS
LAYER CAKES, MUFFINS AND BROWNIES

• LAYER CAKES (HI RATIO) ARE THE MOST CHALLENGING, DEPENDENT ON EMULSIFIERS AND BLEACHED FLOUR FOR FINE GRAIN AND SOFTNESS

• BLEACHED FLOUR – CHLORINATED – NOT ALLOWED IN EU
  • HEAT TREATED CAKE FLOUR CLOSE

• COMMON EMULSIFIERS – PGME – PROPYLENE GLYCOL AND MONO-ESTERS
  • REPLACE WITH JUST MONO-DIGLYCERIDES AND LECITHIN
MUFFINS AND LOAF CAKES – QUICK BREADS

• THOSE BIG MUFFINS – QUICK BREADS - BUNDT TYPE CAKES
  • CRÈME CAKE MUFFINS / QUICK BREADS

• MOST COMMON EMULSIFIER FOUND IN THESE IS SORBITAN MONOSTEARATE
  • GIVES IN LONG SHELF LIFE AND MOIST LIKE TEXTURE

• CLEAN LABEL REPLACEMENT IS HYDRATED MONO-DIGLYCERIDES AND LECITHIN
BROWNIES AND BARS

- SOME WILL HAVE EMULSIFIERS IN THEM WITH THE IDEA OF HOLDING WATER AND TENDERNESS
- CLEAN LABEL SOLUTION IS FORMULATION
  - USING THE RIGHT SUGARS AND SYRUPS
    - FRUCTOSE, MALTOSE AND INULIN
  - USING THE RIGHT FATS
    - LOWER SAT FATS
COOKIES
CRISP AND SOFT

• CRISP – STAY WITH THE BASICS – SUGAR, FLOUR, FAT + GOODIES
• SOFT – MORE CHALLENGING – CRYSTALIZATION AND MOISTURE
  • SYRUPS AND SUGARS
    • SYRUPS- OAT, TAPIOCA, BROWN RICE, AGAVE, FIBER SYRUPS
    • MADE POSSIBLE BY ENZYMES
  • SUGARS - FRUCTOSE, MALTOSE AND INVERT (BROWN SUGAR)
• HYDROCOLLOIDS – KEEPING WATER PUT
  • XANTHAN, ALGINATES, PECTINS
SPECIAL FORMULATIONS

• LOW FAT – MONO-DIGLYCERIDES
• LOW OR SUGAR FREE - ERYTHRITOL
• GLUTEN FREE - RICE, TAPIOCA, POTATO AND PULSE FLOURS
QUESTIONS

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