

# BACK TO THE FUTURE IN BAKING CLEAN LABEL BAKERY FORMULATION

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PRESENTED BY

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CLEAN LABEL CONFERENCE

A Global Food Forums, Inc. Event



# WHAT IS A CLEAN LABEL INGREDIENT - TO ME?

- COMMON / FAMILIAR NAME
  - HAS MINIMAL PROCESSING
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# WHAT ABOUT ENZYMES

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# 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**
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# 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
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# 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 LACTYLATE

- 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
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# QUESTIONS

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