



TORTILLA TROUBLESHOOTING

Thoughts on Quality

- 99% is not good enough
- Product consistency= Confidence in brand
- True consistency vs. perceived consistency

Flour tortillas: Quality Problem of Translucency

- Possible lack of leavening at oven
 - *Not enough baking powder
 - *Wrong kind of baking powder
 - *High dough temperatures
 - *Improper pressing conditions
 - *Too much flour time

Quality Problem- Translucency- part 2

- Possible lack of gas retention
 - *Lack of protein in flour
 - *Improper gluten development during mixing

Quality Problem- Sticking in Package- 1

- Possible formulation problem
- Possible lack of protein in flour
- Possible moisture migration

Quality Problem- Sticking in Package- 2

- Possible improper baking
- Possible improper cooling
- Possible improper storage conditions

Quality Problem- Inconsistent Diameter- 1

- Possible formulation problems
 - *Lack of dough relaxer?
 - *Too much protein strength?
 - *Lack of water?

Quality Problem- Inconsistent Diameter- 2

- Possible mixing problems
 - *Undermixed?
 - *Low dough temperature?
- Possible equipment problems
 - *Inconsistent dividing and/or rounding?
 - *Press out of shim?

Quality Problem- Lack of Rollability

- Possible formulation problem
 - *Lack of water?
 - *Lack of emulsifier and/or gum blend?
 - *Lack of protein strength?
- Possible errors in the makeup process
 - *Underweight dough pieces?
 - *Uneven press or sheeter conditions?
- Possible high moisture loss in the process
 - *Over-baking?
 - *Too much cooling time?
 - *Packaging not properly sealed?

Quality Problem- Poor aroma and/or flavor

- Possible problems in formulation
 - *Salt level wrong?
 - *Too much preservative?
- Possible problems in cleaning or maintenance
 - *Improper rinsing?
 - *Solvent residues?
- Possible problems in storage
 - *Exposure to paint, gasoline, or other volatile aromas?

Quality Problem- Mold growth

- Possible problems with pH
 - *Not enough acids in formulation?
 - *Wrong type of acids in formulation?
- Possible problems with preservatives
 - *Too much?
 - *Wrong type?
- Possible problems with production practices
 - *Problems with GMPs?
 - *Bacterial/mold population in area?

Corn Tortillas and Chips: Factors that Affect Color of Product

- Type of corn
- Quality of rinsing
- pH
- Baking/frying time and temperature
- Condition of frying fat
- Packaging

Factors that Affect Texture

- Quality of corn and quality of cooking/steeping
- Finished product moisture
- Finished product fat content (chips)
- Amount of blistering (chips)

Factors that Affect Moisture

- Quality of corn and quality of cooking/steeping
- Quality of baking
- Quality of frying
- Conditions during cooling
- Quality of packaging

Factors that Affect Flavor & Aroma

- Quality of corn
- Quality of cooking, steeping, rinsing
- pH
- Amount and type of preservatives (tortillas)
- Quality of frying fat (chips)
- Quality of flavor coverage (chips)

Factors that Affect Shelf Life

- Moisture
- Water activity
- pH
- Preservatives
- Packaging

Quality Problem- Sticking in Package

- Possible over-cooking of corn
- Possible moisture migration
- Possible improper baking
- Possible improper cooling
- Possible improper storage conditions

Quality Problem- Lack of Rollability

- Possible cooking problems
 - *Under-cooked?
 - *Under-steeped?
- Possible errors in the makeup process
 - *Underweight dough pieces?
 - *Uneven sheeter conditions?
- Possible high moisture loss in the process
 - *Over-baking?
 - *Too much cooling time?
 - *Packaging not properly sealed?

Quality Problem- Poor aroma and/or flavor

- Possible too much preservative?
- Possible problems in cleaning or maintenance
 - *Improper rinsing?
 - *Solvent residues?
- Possible problems in storage
 - *Exposure to paint, gasoline, or other volatile aromas?
- Moving from cooked corn to masa flour?

Quality Problem- Mold growth

- Possible problems with pH
- Possible problems with preservatives
 - *Too much?
 - *Wrong type?
- Possible problems with production practices
 - *Problems with GMPs?
 - *Bacterial/mold population in area?



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