

TIA Technical Session Las Vegas 2016

FUNCTION & PROPERTIES OF TORTILLA INGREDIENTS
HOW THEY CAN AFFECT QUALITY AND COSTS

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Function & Properties of Tortilla Ingredients

1. Structure Builders

1. Flour
2. Gluten
3. Gums

2. Tenderizers

1. Fat / Shortening
2. Gums
3. Water

3. Shelf Life Extenders

1. Enzymes
2. Emulsifiers
3. Gums

4. Processing Aids

1. Enzymes
2. Reducing agents
3. Oxidizing agents

5. Nutritional Claims

1. Fiber
2. Protein
3. Pre / probiotics

Formulating a Tortilla

What are customers expectations?

1. What is the End Use?

1. Retail
2. Food Service
3. Ingredient
4. QSR

2. Characteristics

1. Fluffy
2. Translucent
3. Natural
4. Organic
5. Elastic / stretchy

3. What is the shelf life

1. How is the tortilla stored?
2. Frozen
3. Ambient
4. Refrigerated

Retail

Shelf Life 30 to 90 days

Market Shift:

1. Mission Soft / Fluffy
 1. Increased leavening
 2. Increased scale weight

Mouthfeel and freshness are critical

Enzymes, emulsifiers, gums

Foodservice

Shelf Life 30 to 90 days

1. More robust tortilla
 1. More elasticity
 2. Less thick

Rollability and foldability are very important,

Good quality flour more emulsifiers and gums

Quick Service Restaurants

Shelf Life 3 to 90 days depending on storage and shipping conditions

1. Chipotle style
2. McDonalds style
3. Taco Bell Style

The tortillas in this category must not tear, rip or break.

- ✓ More structure builders

Characteristics

1. Fluffy
 1. More leavening, baking powder, yeast
 2. Cooler dough temperatures
2. Translucent
 1. Less baking powder
3. Natural = Substitution of ingredients
 1. Yeast for baking powder
 2. Vinegar or citric for fumaric
 3. Cultured ingredients for preservatives
 4. Enzymes and gums for emulsifiers

Baseline Formula

Ingredients	Formula
Flour	100
Water	50
Shortening	10
Baking Powder	2
Salt	2
Sugar	1
Emulsifier	0.5
Calcium Propionate	0.5
Sorbic Acid	0.3
Fumaric Acid	0.2
Guar Gum	0.2
Xanthan Gum	0.2
Glycerin	5
Inulin	5
Fiber	5
Vital Wheat Gluten	2

Core Ingredients

Micro Ingredients

Specialized Ingredients

Structure Builders

1. Primary Structure Builders

1. Flour
2. Gluten
3. Gums

2. Secondary Structure Builders

1. Fiber
2. Xanthan

Ingredients	Formula
Flour	100
Water	50
Shortening	10
Baking Powder	2
Salt	2
Sugar	1
Emulsifier	0.5
Calcium Propionate	0.5
Sorbic Acid	0.3
Fumaric Acid	0.2
Guar Gum	0.2
Xanthan Gum	0.2
Glycerin	5
Inulin	5
Fiber	5
Vital Wheat Gluten	2

Tenderizers

1. Primary Tenderizers

1. Fat / Shortening
2. Emulsifiers
3. Sugar
4. Gums
5. Water
6. Enzymes

2. Secondary Tenderizers

1. Glycerin = Humectant
2. Baking Powder = Leavening
3. Fibers = Absorption

Ingredients	Formula
Flour	100
Water	50
Shortening	10
Baking Powder	2
Salt	2
Sugar	1
Emulsifier	0.5
Calcium Propionate	0.5
Sorbic Acid	0.3
Fumaric Acid	0.2
Guar Gum	0.2
Xanthan Gum	0.2
Glycerin	5
Inulin	5
Fiber	5
Vital Wheat Gluten	2

Shelf Life Extenders

1. Shelf Life Extenders

1. Enzymes
2. Sorbic Acid
3. Calcium Propionate
4. Fumaric
5. Emulsifiers

2. Secondary Shelf Life Extenders

1. Gums

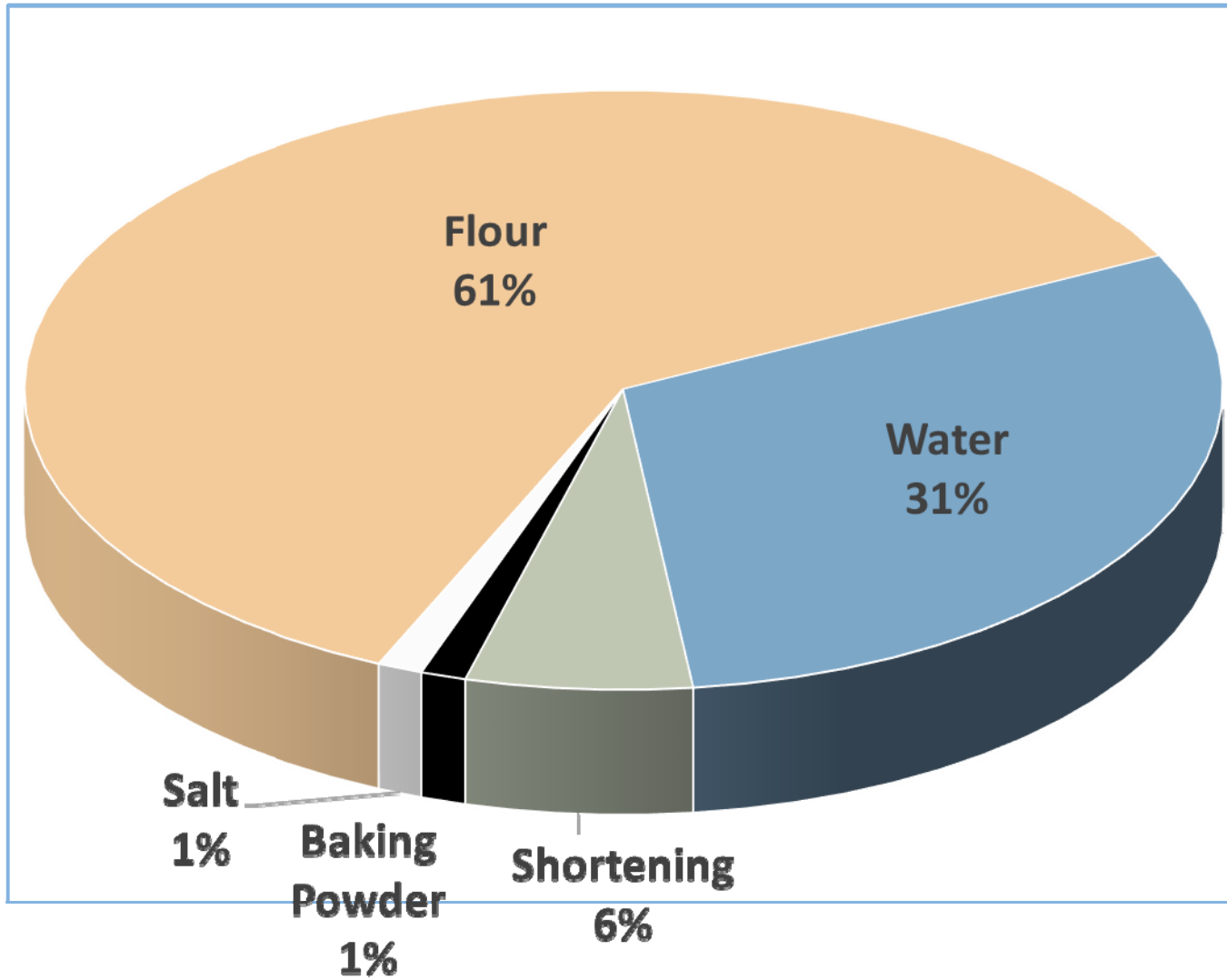
Ingredients	Formula
Flour	100
Water	50
Shortening	10
Baking Powder	2
Salt	2
Sugar	1
Emulsifier	0.5
Calcium Propionate	0.5
Sorbic Acid	0.3
Fumaric Acid	0.2
Guar Gum	0.2
Xanthan Gum	0.2
Glycerin	5
Inulin	5
Fiber	5
Vital Wheat Gluten	2
Enzymes	0.01

Processing Aids

1. Processing Aids
 1. Enzymes
 2. Reducing agents
 3. Inactive Yeast
 4. Oxidizing agents

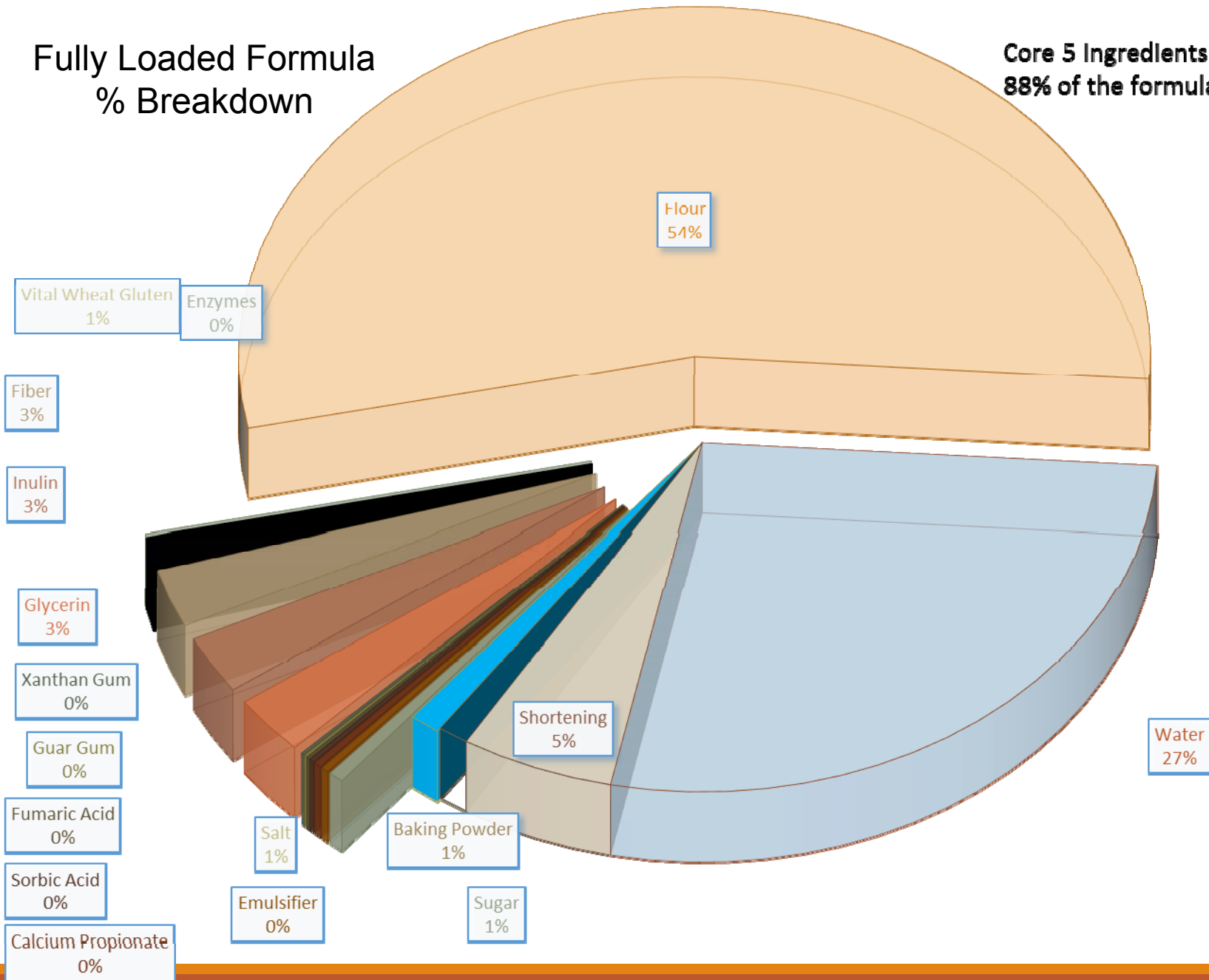
Ingredients	Formula
Flour	100
Water	50
Shortening	10
Baking Powder	2
Salt	2
Sugar	1
Emulsifier	0.5
Calcium Propionate	0.5
Sorbic Acid	0.3
Fumaric Acid	0.2
Guar Gum	0.2
Xanthan Gum	0.2
Glycerin	5
Inulin	5
Fiber	5
Vital Wheat Gluten	2
Enzymes	0.01
L-Cysteine / SMS / Yeast	.005
ADA / Ascorbic Acid	.002

Basic Tortilla Formula Component %



Fully Loaded Formula % Breakdown

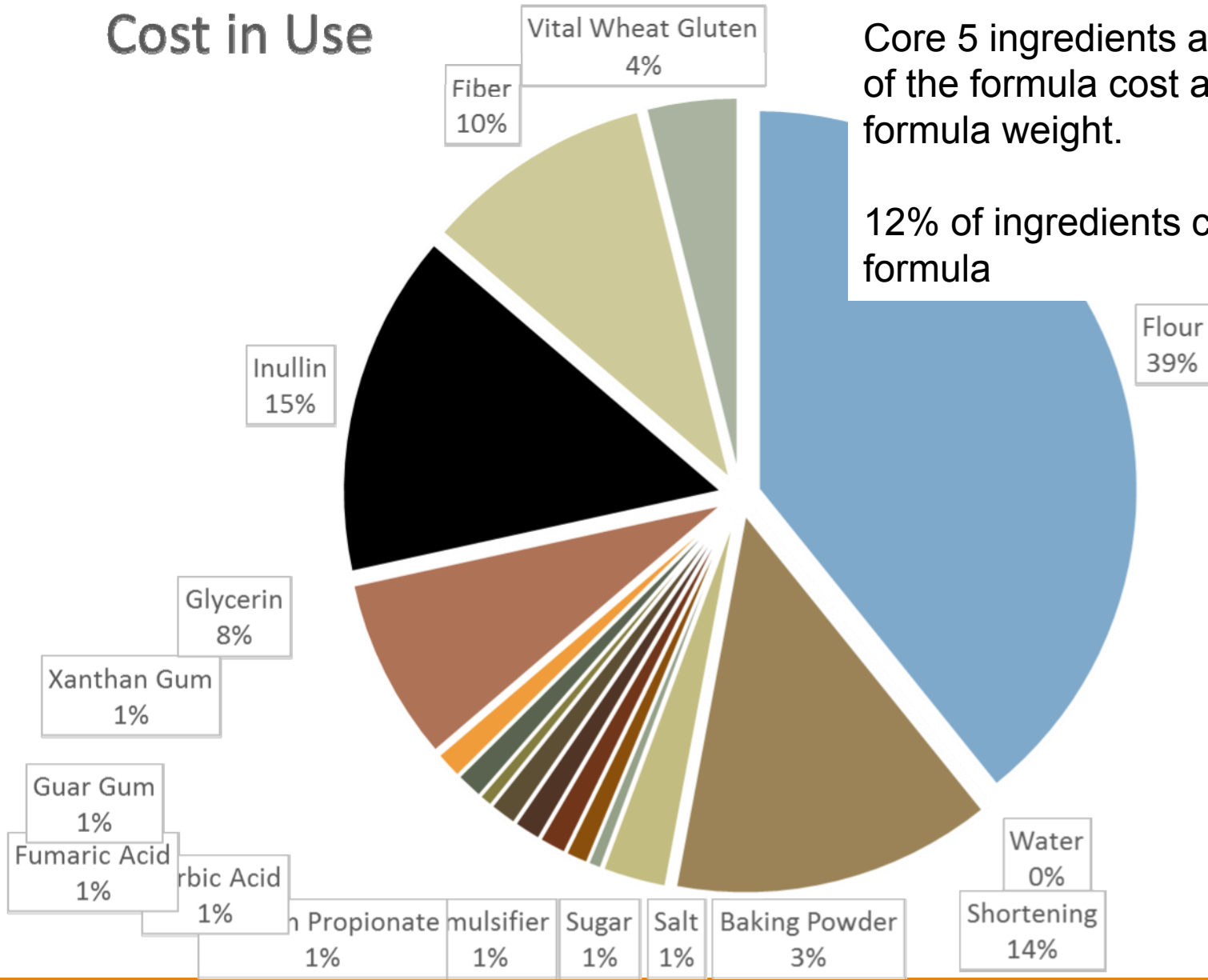
Core 5 Ingredients account for
88% of the formula weight



Cost in Use

Core 5 ingredients account for 57% of the formula cost and 88% of the formula weight.

12% of ingredients cost 43% of the formula



Formulating Based on End Use



Conclusion

1. Understand what your customer needs
2. Understand what your customer is willing to pay
3. Understand the primary and secondary function of each of your ingredients
4. Know what the cost implication is when adding novel ingredients
5. Do not overuse ingredients
6. The most underused ingredient is the cheapest

WATER