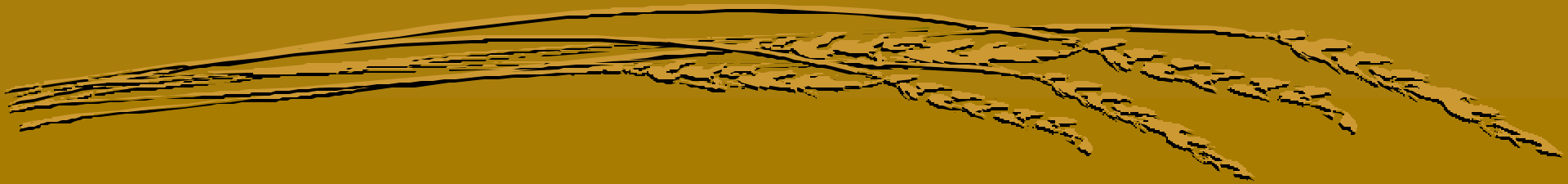
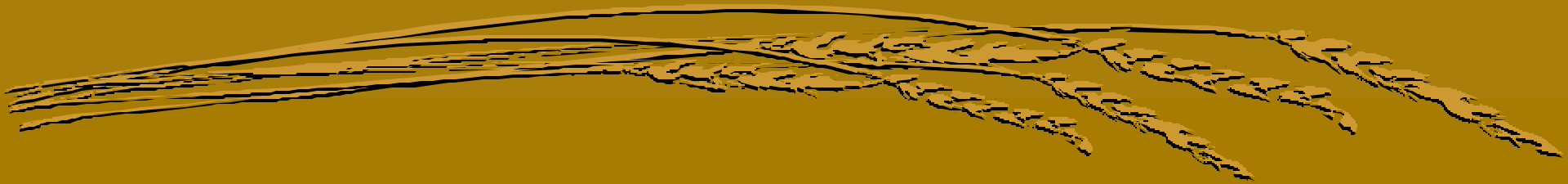


Working with Millers for Universal Flour Fortification



Working with Millers for Universal Flour Fortification

Why work with millers ?



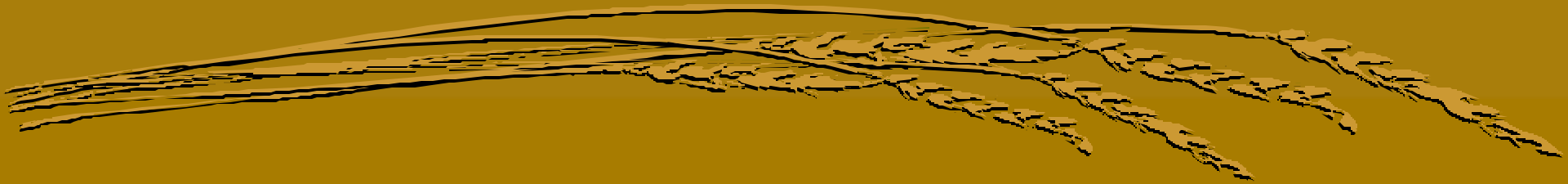
Working with Millers for Universal Flour Fortification

- Process Adaptable
- Scale of Production
- Technical knowledge
- Familiarity with the process
- Suppliers to various End Users



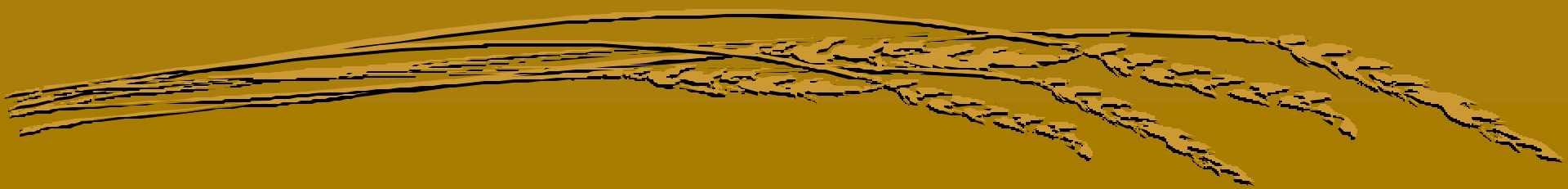
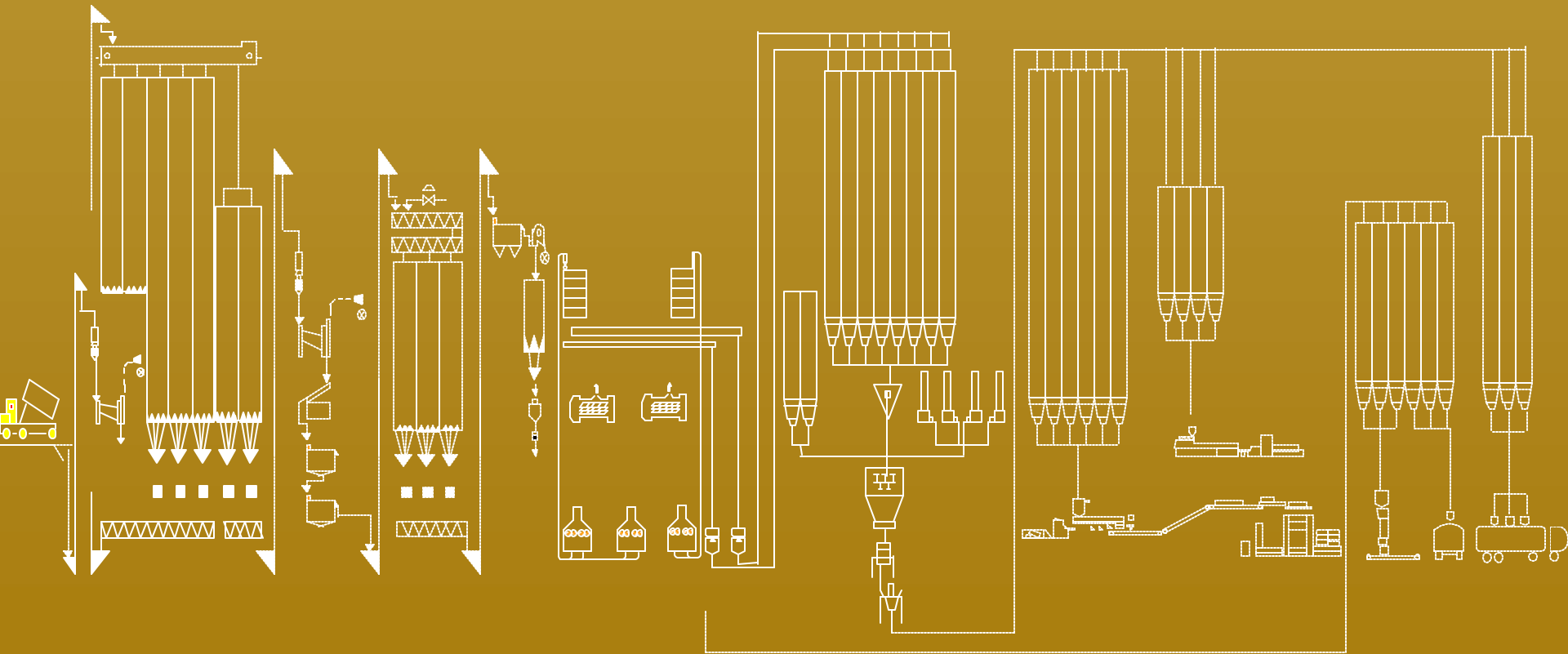
Working with Millers for Universal Flour Fortification

- Process Adaptable

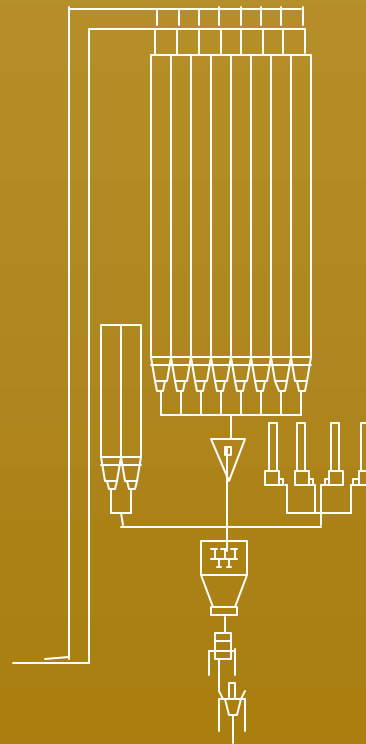


SCHEMATIC DIAGRAM OF A FLOUR MILL

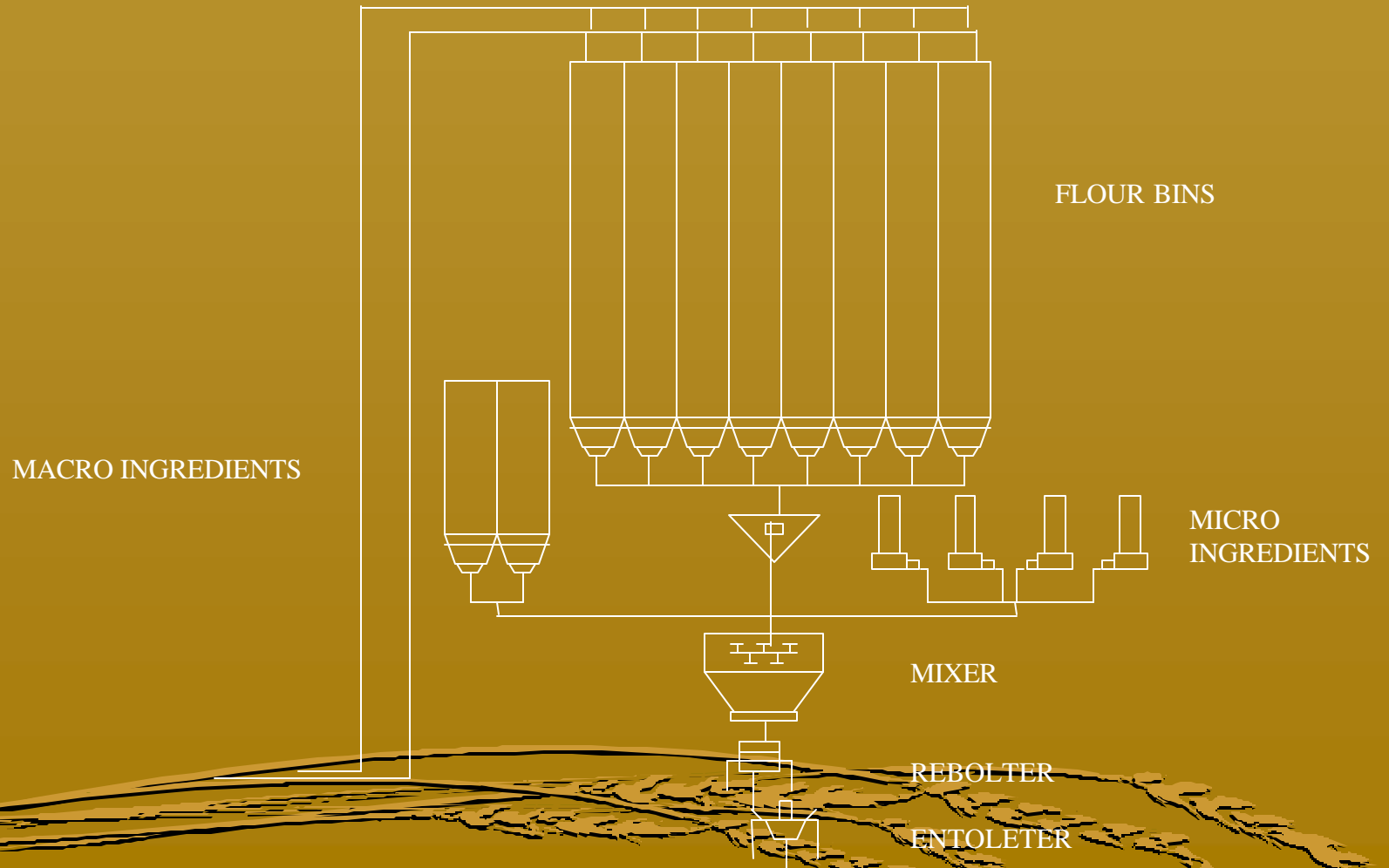
STORAGE PREPARATION MILLING FLOUR & BY-PRODUCTS HANDLING



FLOUR BLENDING & HOMOGENIZING

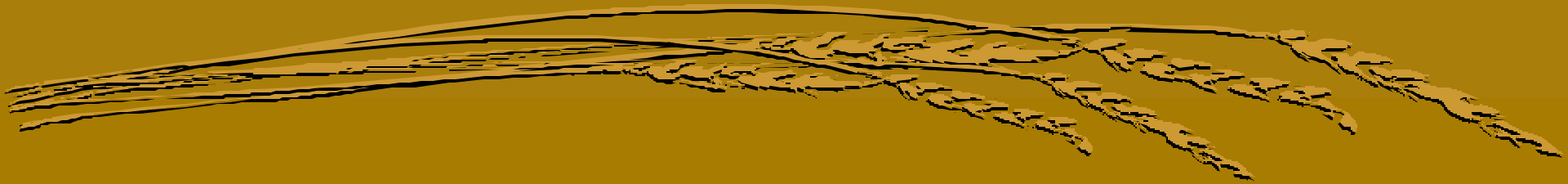


FLOUR BLENDING & HOMOGENIZING

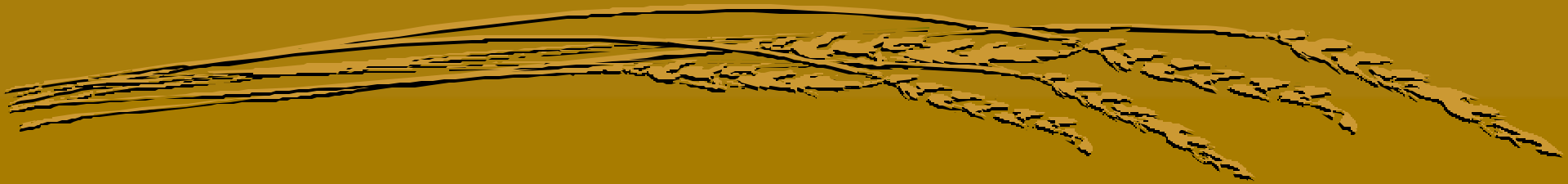
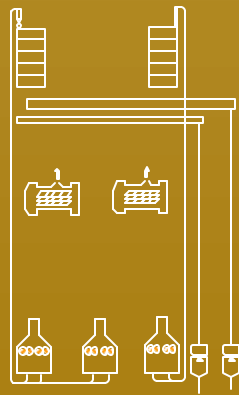


Working with Millers for Universal Flour Fortification

- *Process Adaptable*
- Scale of Production



MILLING



MILLING

SIFTERS

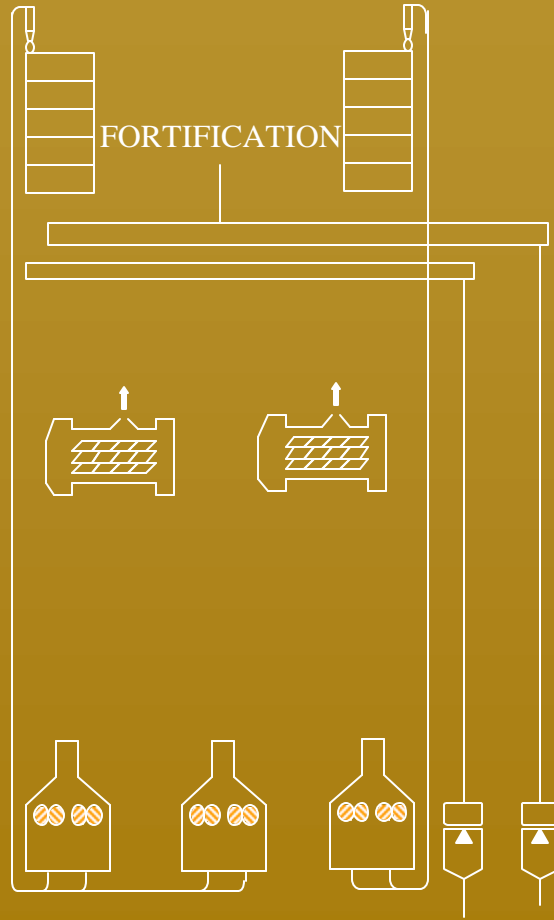
FORTIFICATION

FLOUR
CONVEYORS

PURIFIERS

ROLLERMILLS

FLOUR
SCALES



MILLING

SIFTERS

FORTIFICATION

FLOUR BINS

FLOUR
CONVEYORS

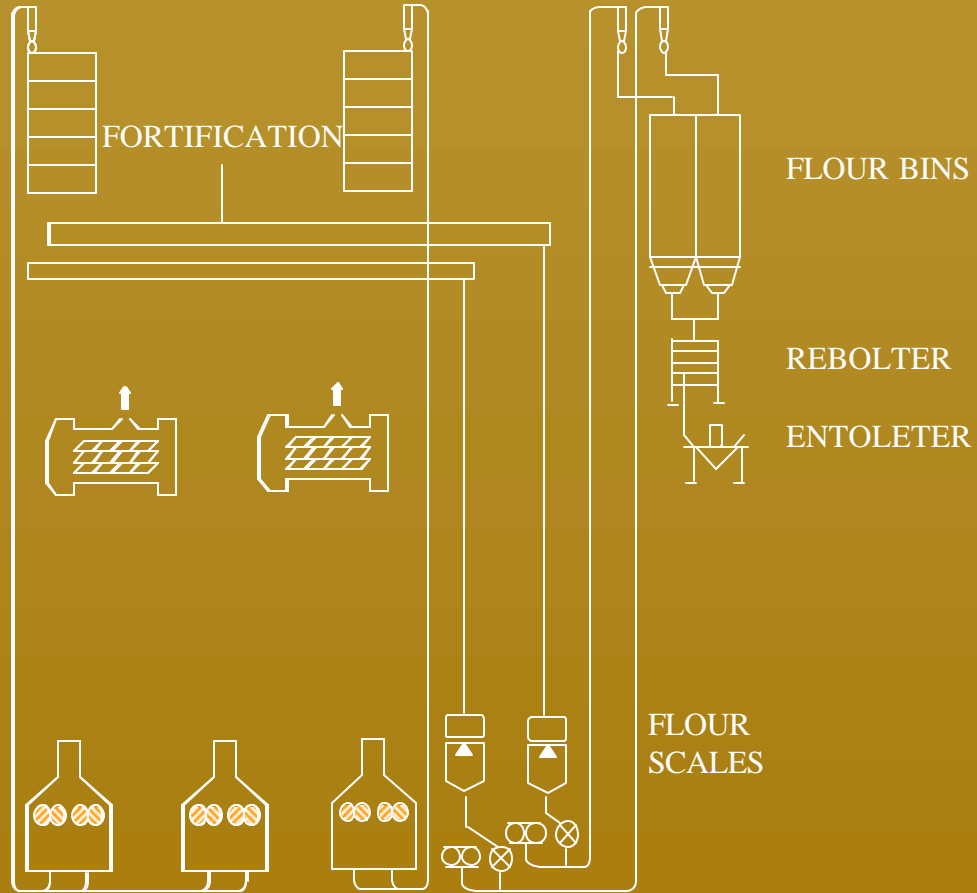
PURIFIERS

REBOLTER

ENTOLETER

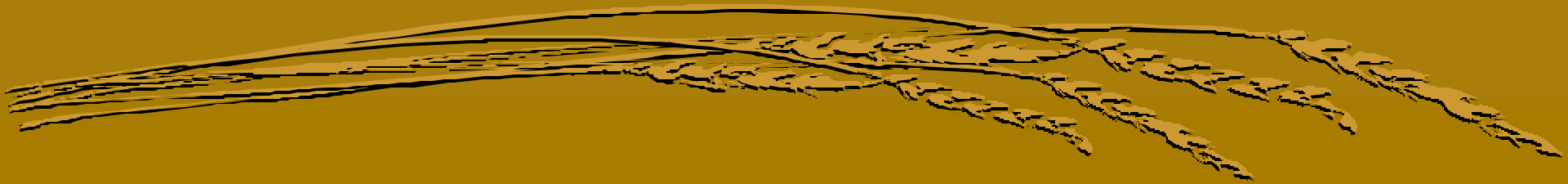
ROLLERMILLS

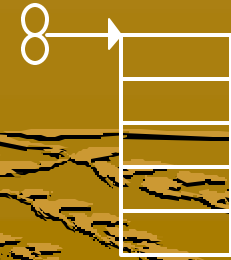
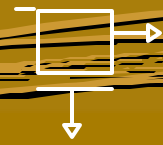
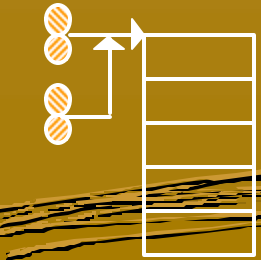
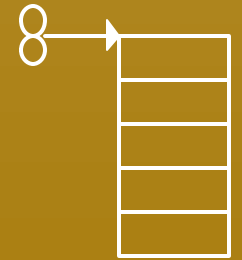
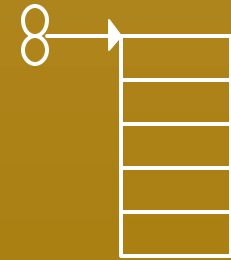
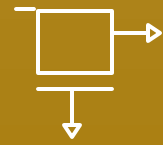
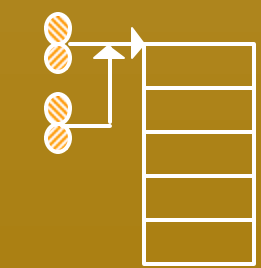
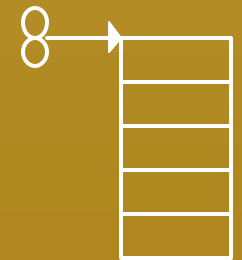
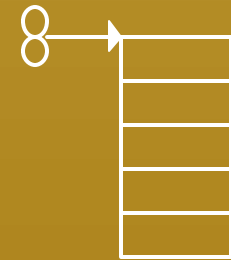
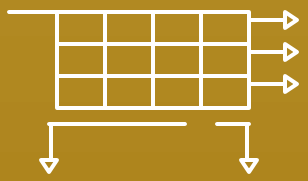
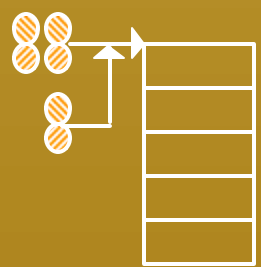
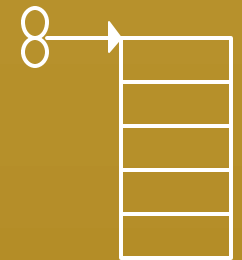
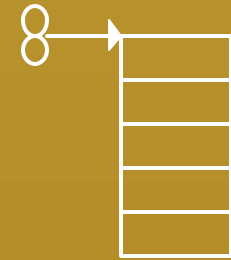
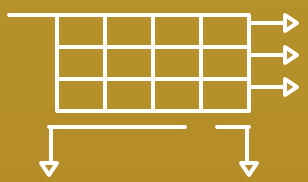
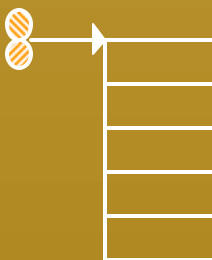
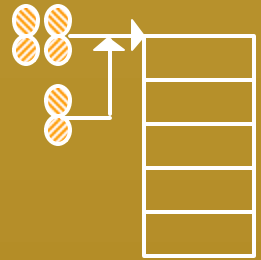
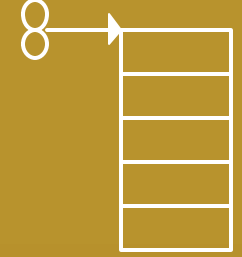
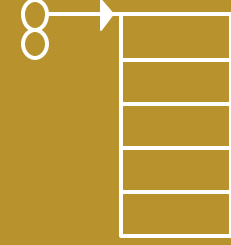
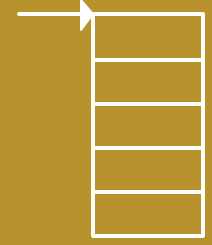
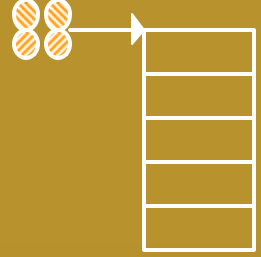
FLOUR
SCALES



Working with Millers for Universal Flour Fortification

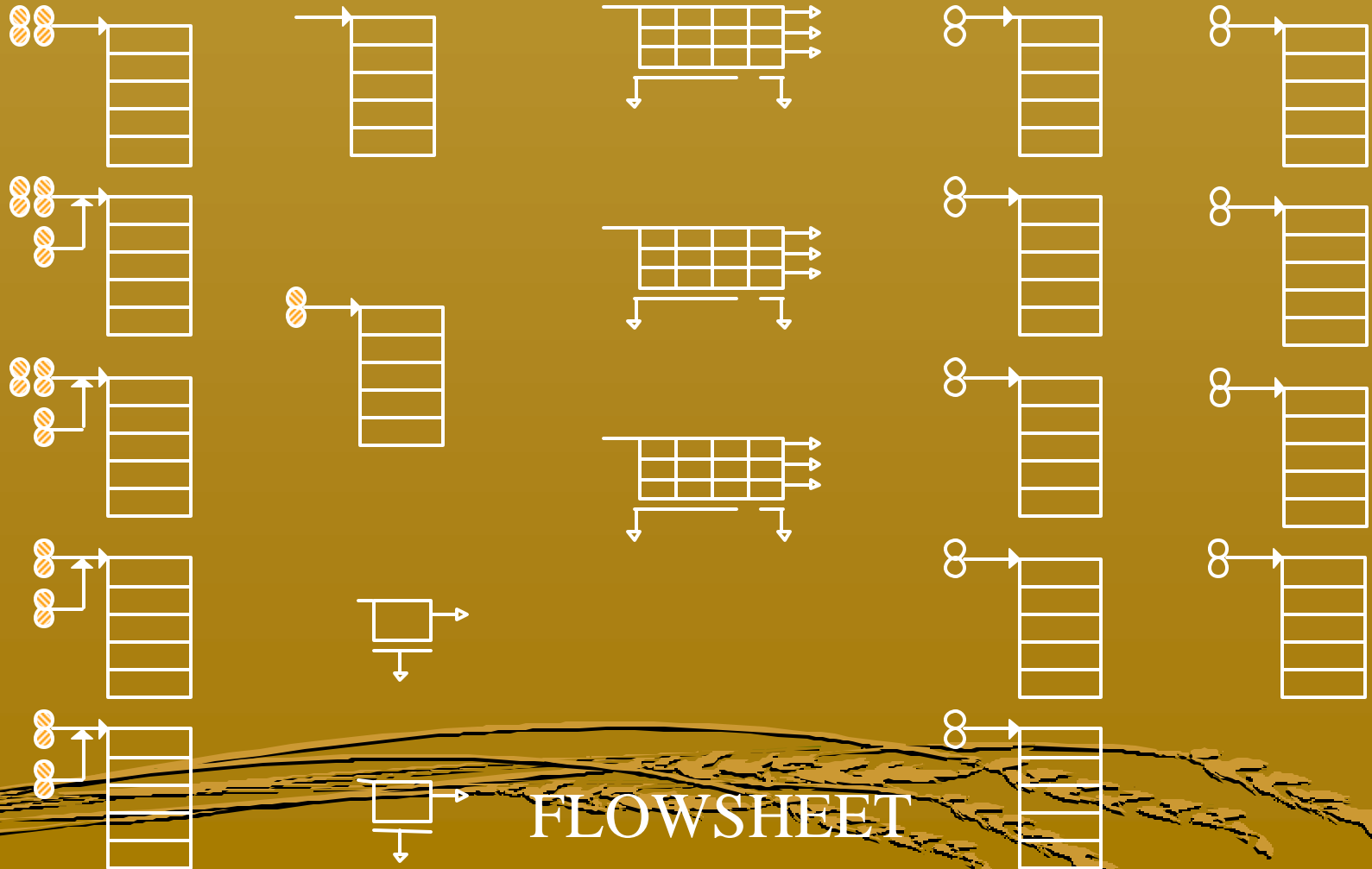
- Process Adaptable
- Scale of Production
- Technical knowledge





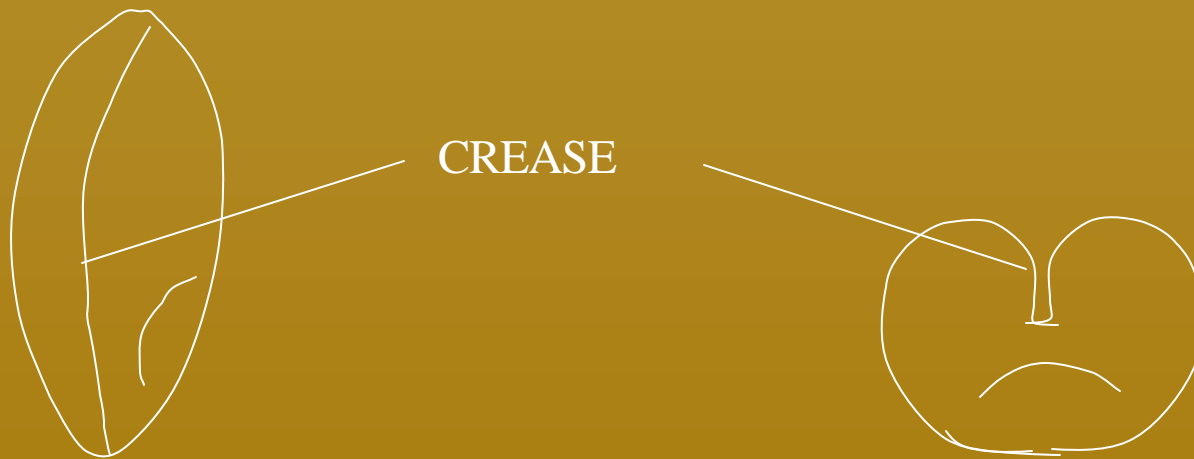
FLWSHEET

DEVELOPING OR MODIFYING A FLOWSHEET IS MORE TECHNICALLY CHALLENGING THAN WORKING OUT A FLOUR FORTIFICATION SYSTEM



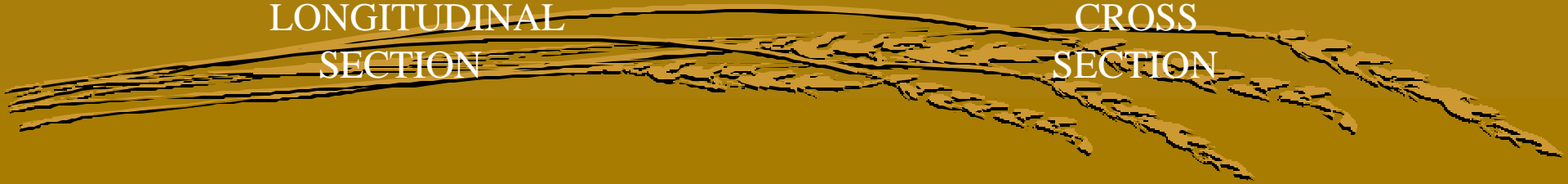
OVER THE YEARS MILLERS HAVE LEARNT TO OVERCOME
TECHNICAL CHALLENGES POSED BY CREASE PERFECTING
THE MILLING SYSTEM. FLOUR FORTIFICATION BY RELATIVE
MEASURE IS HARDLY ANY CHALLENGE

WHEAT KERNEL



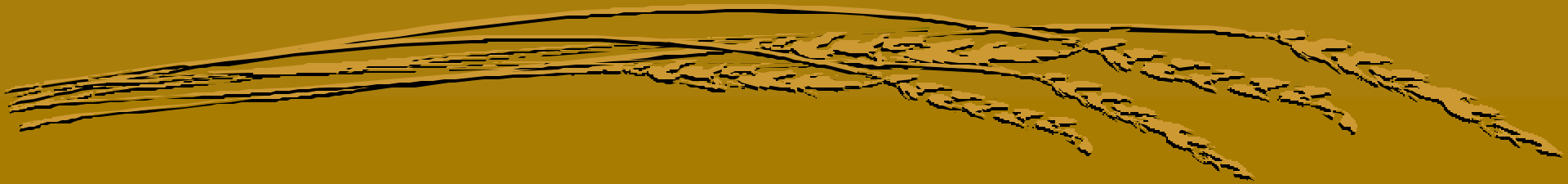
LONGITUDINAL
SECTION

CROSS
SECTION



Working with Millers for Universal Flour Fortification

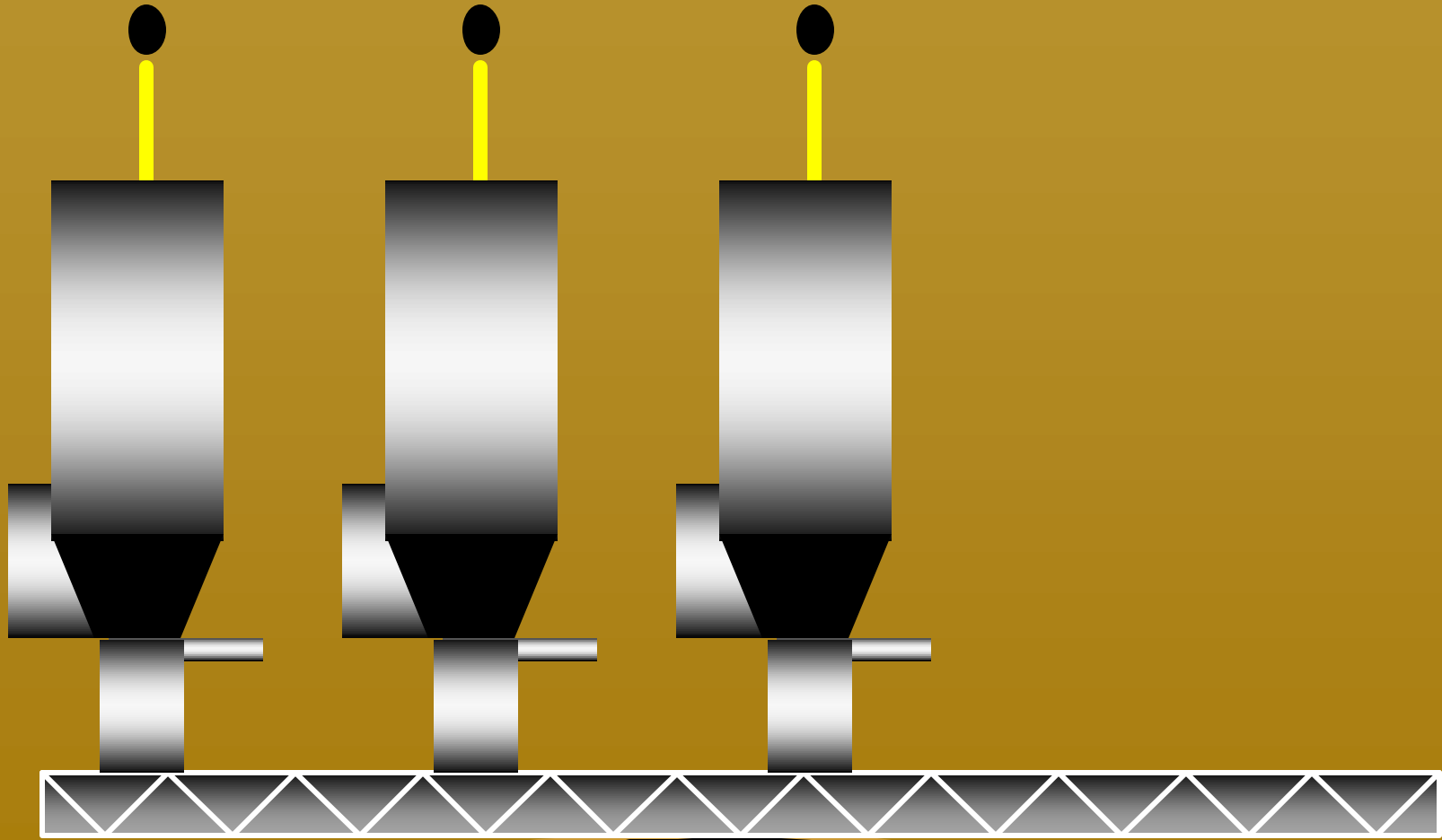
- Process Adaptable
- Scale of Production
- Technical Knowledge
- Familiarity with the Process



ADA

Fungal
Alpha

Benzoyl
Peroxide

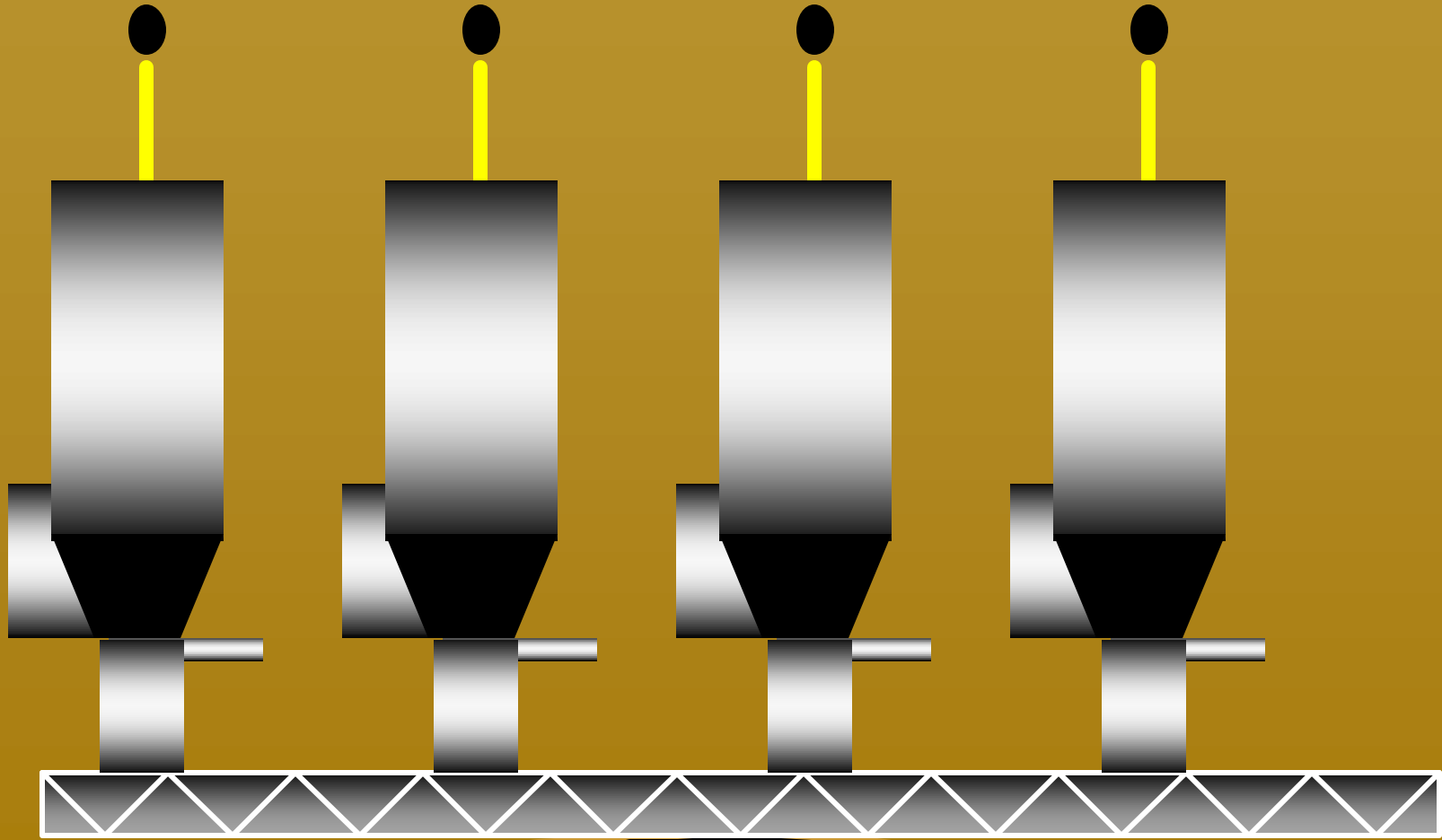


ADA

Fungal
Alpha

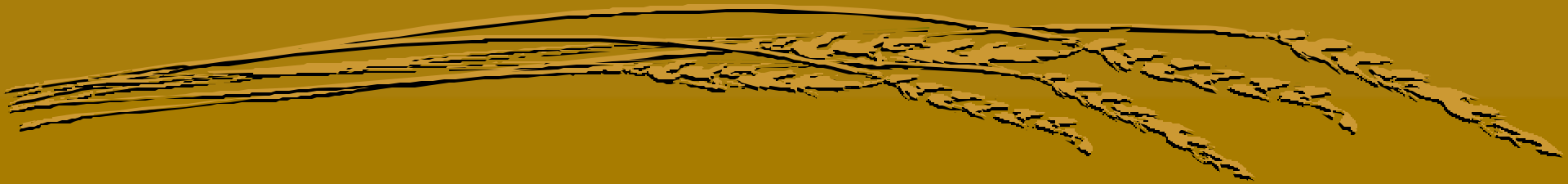
Benzoyl
Peroxide

Enrichment



Working with Millers for Universal Flour Fortification

- Process Adaptable
- Scale of Production
- Technical knowledge
- Familiarity with the process
- Suppliers to various End Users



Working with Millers for Universal Flour Fortification

Suppliers to various small scale end users

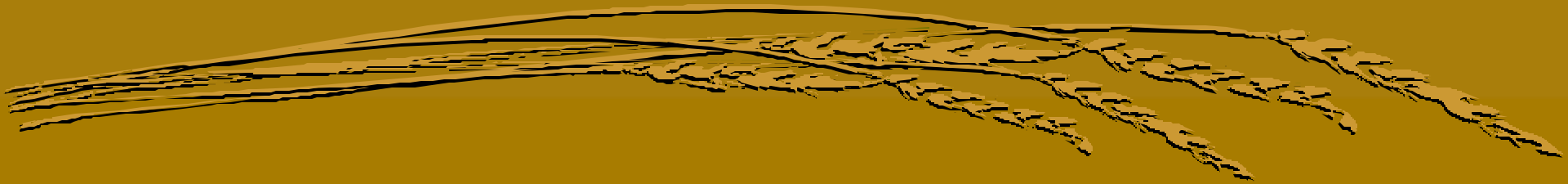
- Small & large bakeries
- Small & large noodle & steam bun producers
- Consumer flour in small bags

Therefore it is logical for mills to perform the function of fortification



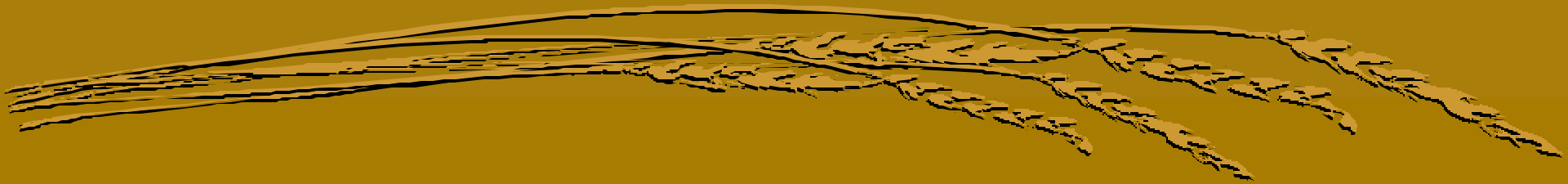
Working with Millers for Universal Flour Fortification

What are the advantages ?



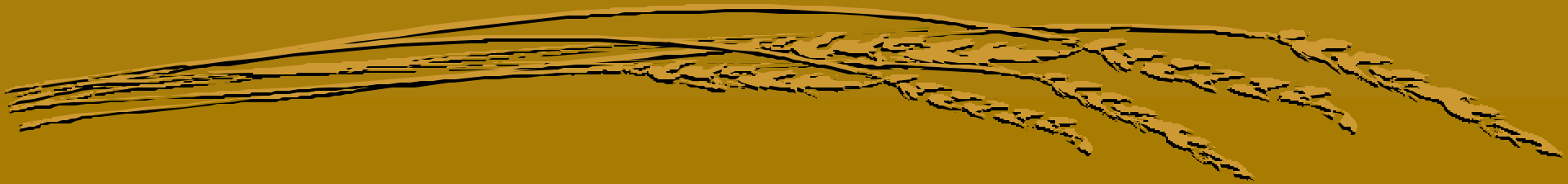
Working with Millers for Universal Flour Fortification

- Product more saleable



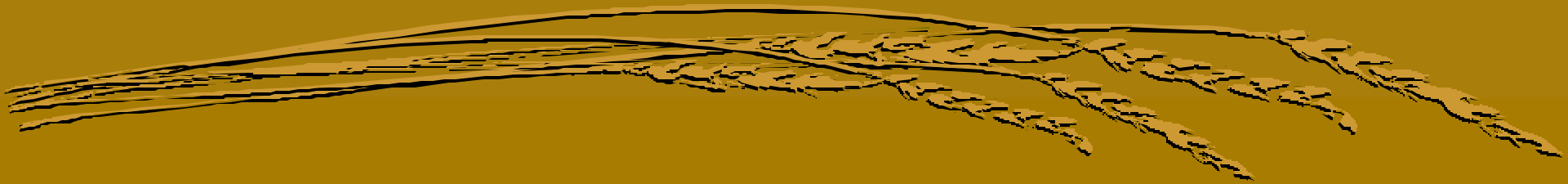
Working with Millers for Universal Flour Fortification

- Product more saleable
- Raises the profile



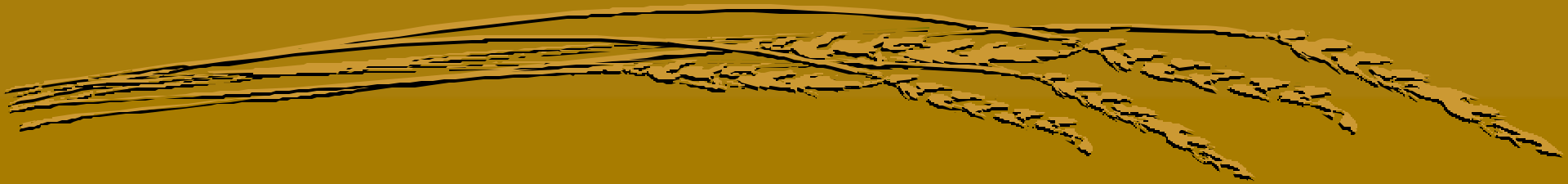
Working with Millers for Universal Flour Fortification

- Product more saleable
- Raises the profile
- Recognition as good corporate citizen



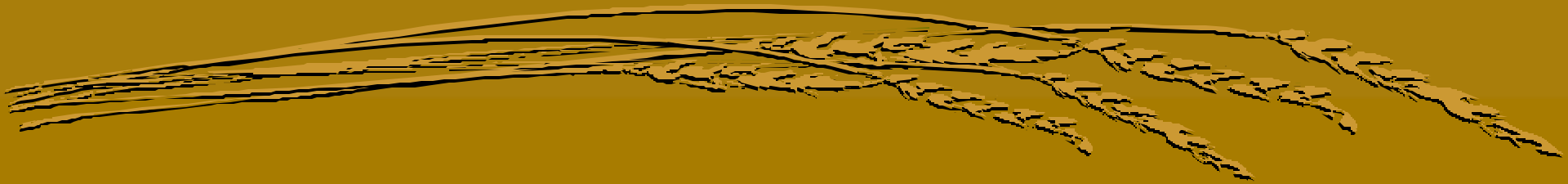
Working with Millers for Universal Flour Fortification

- Product more saleable
- Raises the profile
- Recognition as good corporate citizen
- Numerous immeasurable positive ripple effects



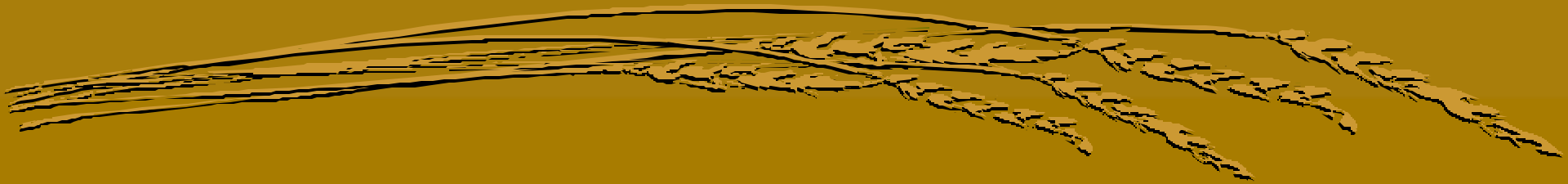
Working with Millers for Universal Flour Fortification

What concerns millers may have?



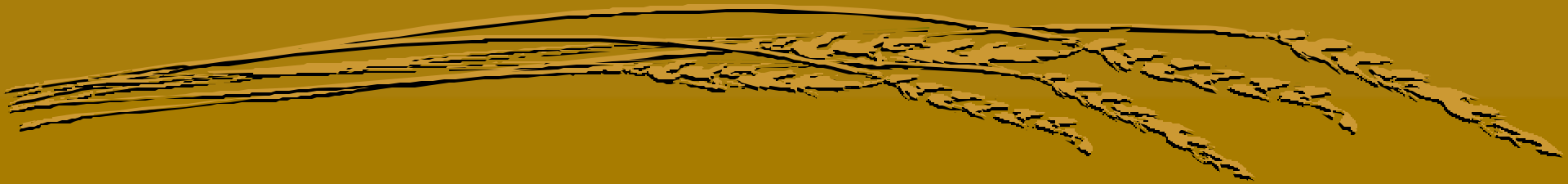
Working with Millers for Universal Flour Fortification

- Cost



Working with Millers for Universal Flour Fortification


- Cost
- Level playing field



Working with Millers for Universal Flour Fortification

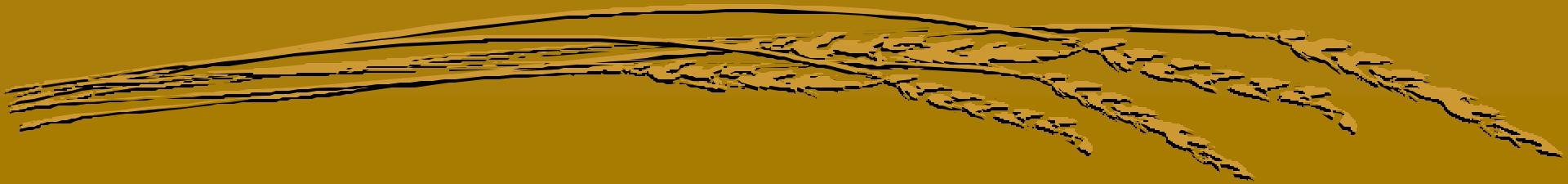
- Cost
- Level playing field

Cost of a bag of flour is anywhere between 80% to 85% due to the cost of wheat. When wheat costs increase by as much as 25% or more, flour mills still manage as everyone is in the same situation.



Working with Millers for Universal Flour Fortification

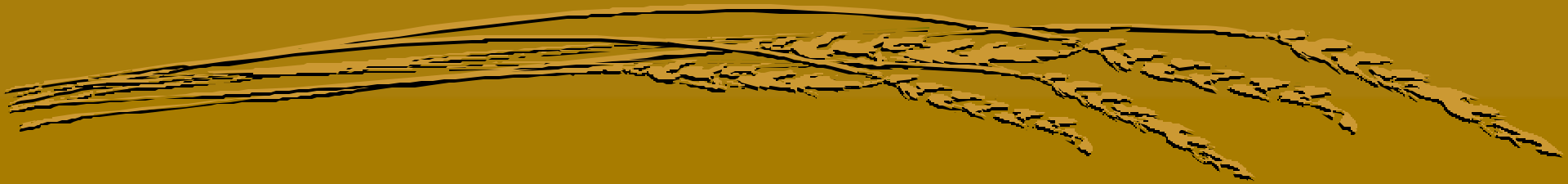
- Cost
- Level playing field
- Quality implications



Working with Millers for Universal Flour Fortification

Quality implications

The common concern is what kind of impact the fortification would have on flour quality, if any.



Working with Millers for Universal Flour Fortification

Quality implications

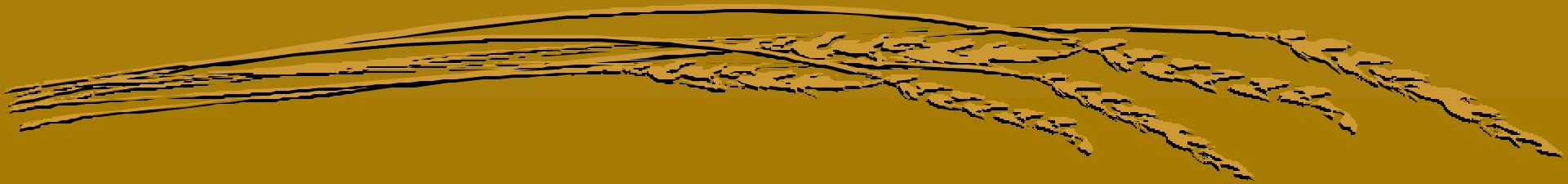
For example, supplementation of calcium has an Impact on flour ash.

Reaction of calcium carbonate with baking process in some tropical climates.



Working with Millers for Universal Flour Fortification

- Cost
- Level playing field
- Quality implications
- Dependable supply



Accurate Dispensing of the Additives

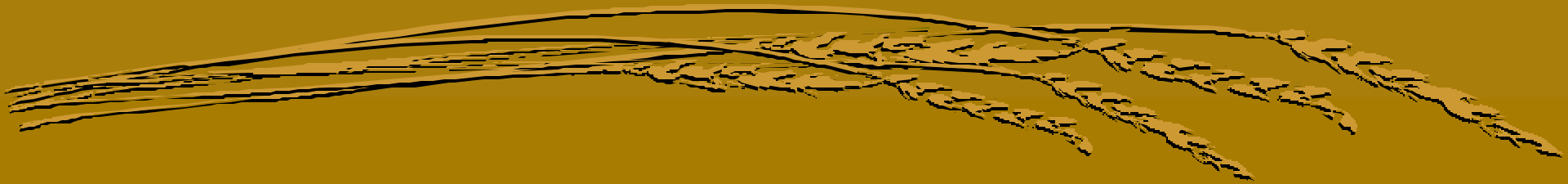
Powder Feeders

Carriers

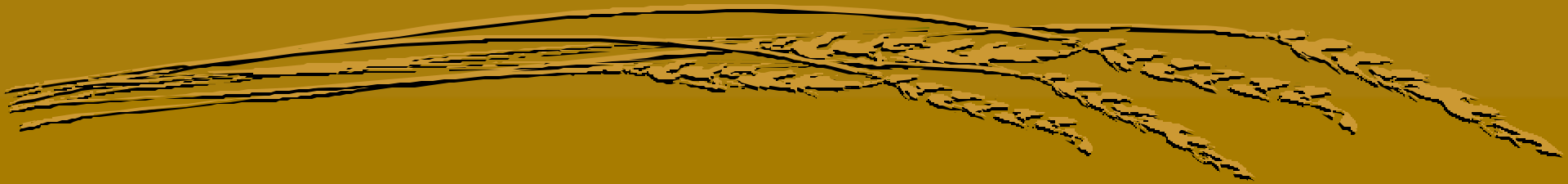
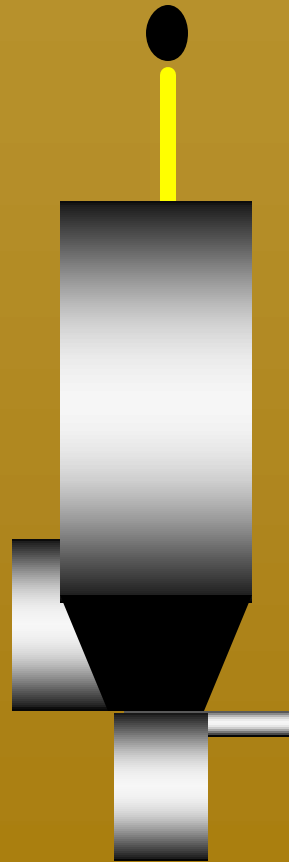
Physical Properties

Homogenizing

Detection

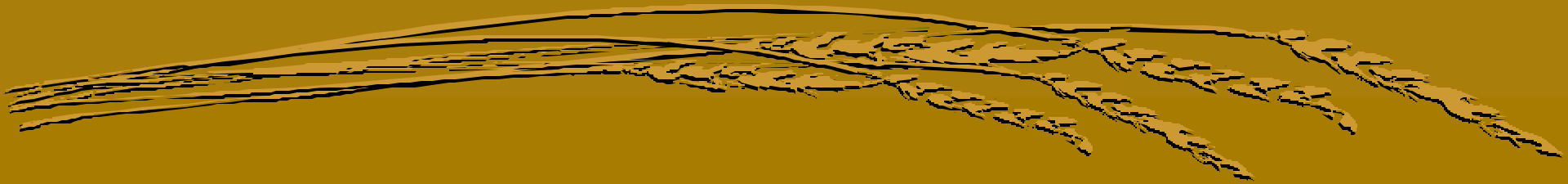


Powder Feeders

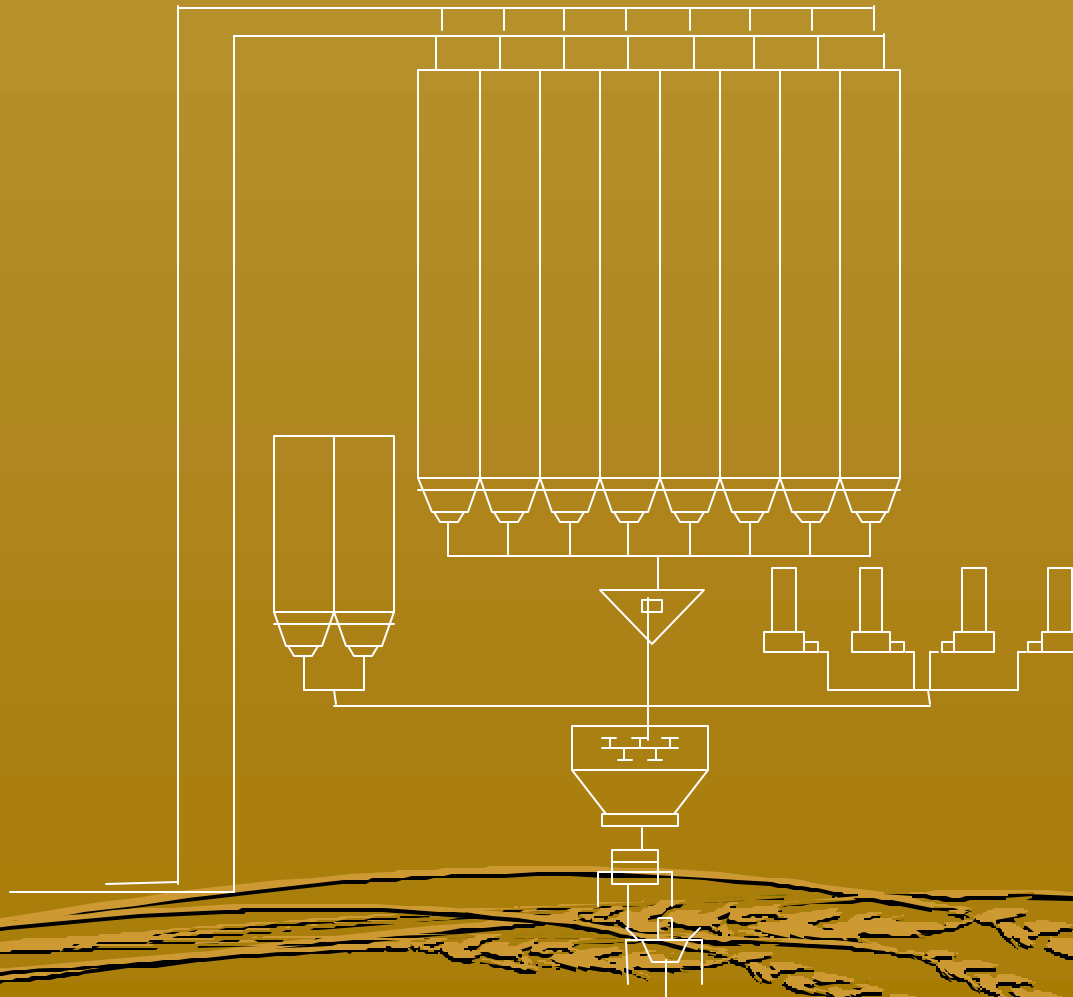


Physical Properties

Suppliers know their products best in terms of physical properties, shelf-life and are able to provide MSDS data sheet. Therefore, it is safer to work with them.



Homogenizing



Detection

Spot Test

