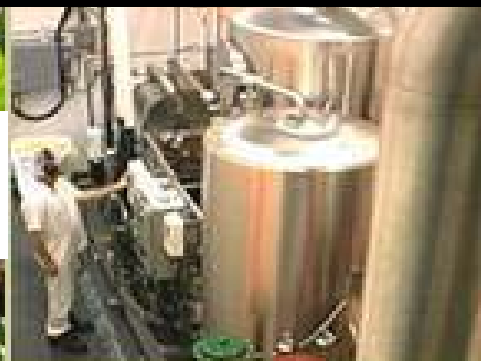


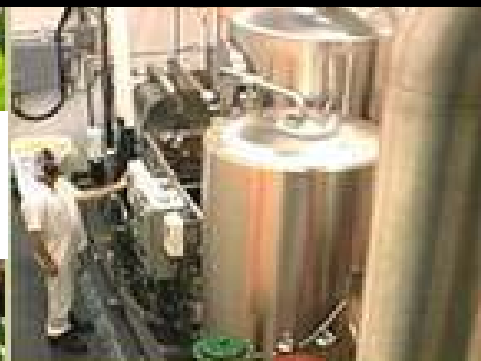
# Program Experiences: Fortifying Diets with Soya Protein

*Gustavo Wong, RD, CDE  
TCE Consulting Group, USA  
Nutrition Consultant, WISHH*



# Health Benefits

- Cholesterol reduction
- Reduced prostate cancer risk
- Improved bone preservation
- Reduced blood pressure
- Improved kidney function
- Reduced effects of menopause in women



# Objectives

- WISHH projects for diet fortification with soya
  - Describe selected past and current projects
  - Describe experiences and results
  - Look for the possibilities



# Uganda

- Feeding program targeted to improve food security in HIV/AIDS impacted families
- Impact study; rolling enrollment
  - 76% consuming CSB; 88% consuming oil
  - 90% reported high acceptability for CSB



# Uganda Results

- Improvements:
  - 43% increased weight up to 3 kg
  - 54% increased MAC
  - 53% children increased head circumference
  - 52-55% increased muscle strength



# Uganda Results

- Average ill days decreased 6 days (25→19)
- 84% improved QoL (linked to days ill)
- Increased food groups consumed (4.8→6)
- Perceived benefits of program
  - Improved food availability 38%
  - Improved health 48%



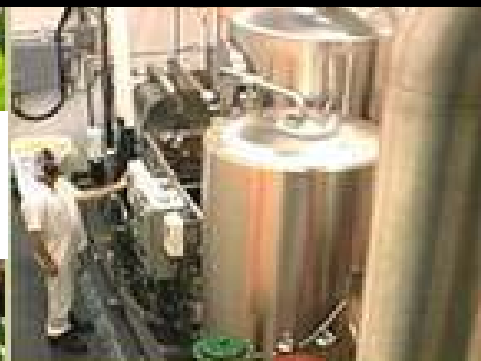
# Kenya

- Protein Supplementation with VASPs in an OVC Feeding Program in the Nyanza Province
  - Four groups
  - 6-month pilot
  - Impact criteria: growth, function, health



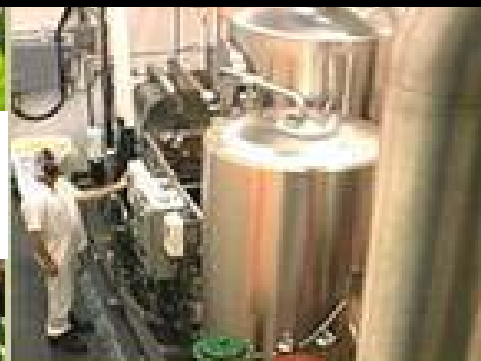
# Kenya Results

- 191 “families” and 727 individuals were measured at baseline
  - 34% of children had anthropometric failure(s)
    - 21% stunted, 11% underweight, 2% wasted
- Severe drought and famine in the province



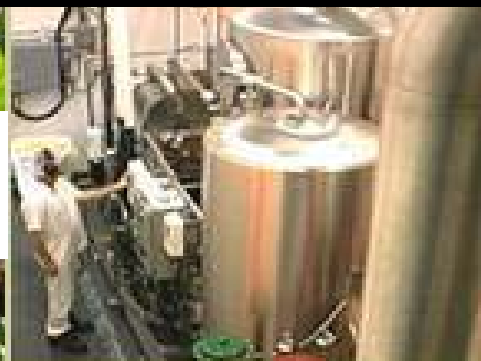
# Kenya Results

- 283 measures at follow-up
  - Mean 5.5 (3-11) per household shared rations
  - Rations lasted a mean of 23 days (7-30)
  - Despite severe drought/famine
    - 2% improved, 90% maintained HAZ
    - 5% improved, 92% maintained WAZ
    - 1.3% improved, 98% maintained WHZ
    - Weight/strength measures best with calories + protein



# Kenya Results

- Nutrient priorities are important to consider
  - Calorie sources important to allow protein to work well
- Rations of protein foods and education can be cost-effective in blunting response to drought/famine
- VASPs were highly acceptable



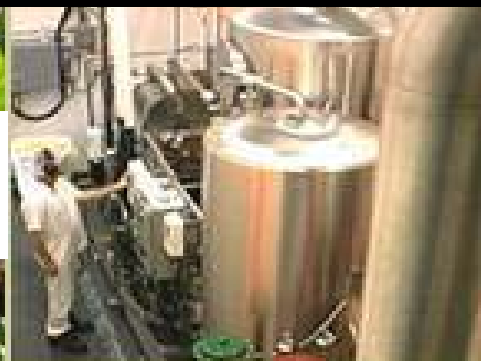
# Mozambique

- Feeding program with VASPs
  - Within the TCE model
  - Targeting 2900 families (average size = 6)
  - 8 locations
  - Distribution of TSP, DSF, SPI



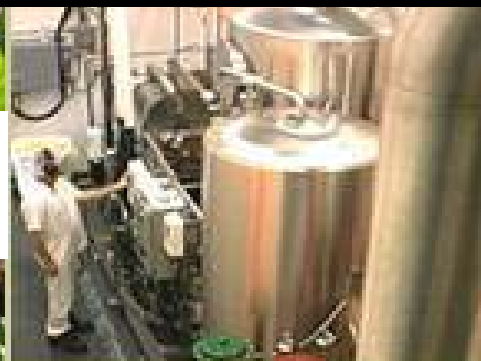
# Mozambique Results

- 389 baseline measures
  - 83 adults, 303 children, avg family size 6.6
  - Most purchase food and spend about ½ of their income on food; water is commonly purchased
  - Between 0-4% have access to animal products; Soy consumed by 4.4%



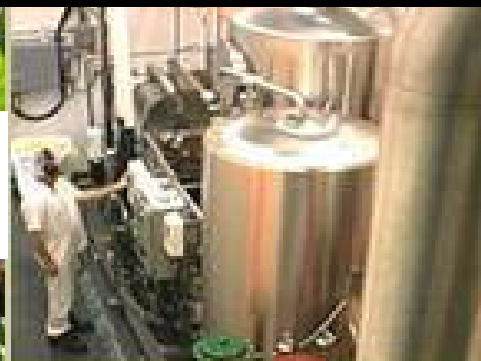
# Mozambique Results

- 85% were wasting
- 98% of children were moderately to severely malnourished
- 61% of children had multiple anthropometric failures
- 2/3 demonstrated low muscle function



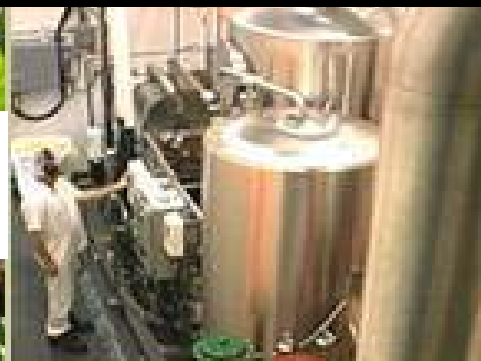
# Mozambique Results

- Trend in improvement for stunting ( $p=.056$ )
  - Mean -1.52 to -1.30
- Sig imp for wasting, underweight ( $p=0.00$ )
  - Means -1.21 to -0.55 and -1.75 to -1.31
- Sig imp in BMI ( $p=0.00$ )
  - Mean 16.5 to 18.1



# Mozambique Results

- Left and right handgrips imp sig ( $p=0.0$ )
  - Right mean 14.8 to 21.0
  - Left mean 14.3 to 21.2
- Body comp changes
  - BCM increased 2.3 kg
  - % goal BCM remained stable in adults
  - Fat increased 2.9 kg



# Mozambique Results

- Locally available carbohydrate sources were enhanced
- Addition of protein can provide a viable solution to improve nutrition indicators
  - Especially indicators of protein improvement



# South Africa

- Randomized, placebo-controlled clinical trial of high quality protein supplementation in adult PLHA
- Baseline enrolment is ongoing
- Criteria: BMI between 18.5 and 20
- Outcomes: body composition and function



**WISHH**

World Initiative for Soy in Human Health  
Enhancing human well-being through soy

# Summary

- Ideas about the role of soy in fortifying diets for health benefit is evolving and there are many possibilities!
- Interest in food-based therapy and micronutrient potential for soyfoods is growing!

