SOYA FOODS – GLOBAL TRENDS

Dr Vish
FREEDOM NUTRITIONAL PRODUCTS LTD
(Formerly So Natural Foods Ltd)

Overview

- U S Market
- Nutritional benefits of soy
- Soy and health research update
- Soy’s role in combating the obesity epidemic
- A quick look at some innovative soy foods
- Case study; A R C Project

U S Soyfood Market

- SOYFOODS AS A FOOD PLATFORM

  Functional and Nutritional Benefits, World wide Sales $100 billion, growth 5-10% annually, 226 million MT 2006, enough to cover 30kg / year or 30g of protein and 15g of oil /day. Currently 2.8g /day and only 6.4% is used for human consumption.

- CURRENT MARKET SITUATION

  Mature Market, Beverages lead the sales in 2005

  Emerging and Evolving New Products

  Macro Trends Vs Micro trends

SOYFOOD MARKET DRIVERS

- Health Benefits
- FDA Approval (Reduce risk of heart disease)
- Complete Plant Protein (Quality)
- Versatile and Functional ingredient
- Low cost
- Availability of Soy products
- Increased consumer Interest

Nutritious Soy

- Composition makes it one of the most Perfect Foods
- Protein 40%, Fat 22%, Carbohydrates 25%, Fiber 8%, Ash 5%
- Favorable fat profile, High PUFA
  - Linoleic (60%), oleic (9%), linolenic (7%), highly poly, no cholesterol, no trans, very low saturated, essential fatty acid source (omega 3's & 6's), phospholipids
- Antioxidant and phytoestrogen-rich
  - isoflavones, phytate, saponins, phytosterols, protease inhibitors, Phospholipids; Lecithin, Phosphatidyl choline
- Can be a great source of fibre, calcium, iron, B-vitamins
- Soy fits into a veg based diet, help lower disease risk
- Suitable for low GI foods / beverages.

VEGETABLE PROTEIN
VEGETABLE PROTEIN
SOY PROTEIN
SOY PROTEIN
SOY PROTEIN
SOY PROTEIN
SALE
Out of Stock
DO NOT REMOVE THIS PANEL
DO NOT REMOVE THIS PANEL

LIMITING FACTOR IN SOY FOOD ACCEPTABILITY

- Taste, Texture,
- Anti-nutritional factors
- Soy allergies & intolerance
  - one of the top 8 allergy causing foods, esp <3 years old
  - intolerance = gassiness, upset stomach
- Consumer concerns
  - organic, genetically modified, isoflavone and fat content
  - Consumer Perception

ORGANIC SINCE 1978

WILDWOOD® NATURAL FOODS

Extra Firm TOFU

2 pack ORGANIC

NOW LATER

1 2

ORGANIC SINCE 1978

WILDWOOD® NATURAL FOODS

Extra Firm TOFU

Nutrition Facts

Serving Size 3 oz (85g)
Servings about 5

Amount Per Serving	
Calories 80	Calories From Fat 45
	% Daily Value*
Total Fat 5g	8%
Saturated Fat 1g	5%
Monounsaturated Fat 1g	
Polyunsaturated Fat 3g	
Trans-fatty Acids 0g	
Cholesterol 0mg	0%
Sodium 5mg	0%
Total Carbohydrate 2g	1%
Dietary Fiber 2g	3%
Sugars 0g	
Protein 9g	

Vitamin A 0%	•	Vitamin C 0%
Calcium 15%	•	Iron 6%

*Percent Daily Values (DV) are based on a 2000 calorie diet

BEST BEFORE SEP 30 2006 2146F31014

EXCELLENT IN SALADS

Heart Healthy Soy Protein: Diets low in saturated fat & cholesterol that include 25 grams of soy protein a day may reduce the risk of heart disease.

0g Trans Fatty Acids
Good Source of Calcium
Cholesterol Free
A Good Source of Protein

USDA ORGANIC

KOSHER PAREVE

INGREDIENTS: Water, Organic Soybeans, Calcium Sulfate, Glucono Delta Lactone, Magnesium Chloride. **CONTAINS SOY.**

PMO

PMO WILDWOOD, INC.,
412 E. Riverside Dr., Watsonville, CA 95076

Certified Organic by Quality Assurance International

Comments or Questions?
Contact us at (800) 499-TOFU
www.wildwoodnaturalfoods.com

After opening, please place tofu in cold water and refrigerate. Change water daily.

PERISHABLE • KEEP REFRIGERATED • NET WT 15.5 OZ (439g)

BEST BEFORE SEP.30.2006 2146F31014

0 30871 30211 8

Soy Concerns

- So much research, still inconsistent results
- Consumers are confused and afraid
  - “Soy: How much is too much?” SF Chronicle front page 8/06
  - some breast cancer patients avoid altogether
  - many take the isolated isoflavones vs the whole soy food
  - thought of as a “health food”
  - an unfamiliar food, don’t know what to do with it
  - unaware of the variety of soyfoods
  - need food labeling & consumer education

WILDWOOD
NATURAL FOODS
SLOPPY JO
MADE WITH ORGANIC
Tofu & Vegies in Sloppy Joe
Heat & Eat • Serve on a Bun, Pasta or
NET WT 14 OZ (396g)
WILDWOOD · WILDWOOD · WILDWOOD
SLOPPY JOFU
MADE WITH ORGANIC TOFU
Tofu & Vegies in Sloppy Joe Sauce
Heat & Eat • Serve on a Bun, Pasta or Rice.
Since 1978
Sweet Earth
Low Fat
BBQ Seitan
Vegetarian Sloppy Joe
REFRIGERATED
Vegan
Net Wt. 16 oz
SWEET EARTH
BBQ BRAISED SEITAN

Soy Protein and Heart Health

- The benefits are small—a modest cholesterol lowering effect
  - reducing CAD risk by 6-8%
  - health profs aren't necessarily recommending 25 grams soy protein/day
- American Heart Association Jan 17, 2006 of *Circulation*
  - reviewed 22 studies and found "large amounts of soy protein in the diet reduced LDL cholesterol by 3%, and had no effect on good or HDL cholesterol"
  - adding soy protein products replacing high fat protein in the diet could be beneficial
- Review of 55 studies presented at the 6th Int'l Soy Symposium on the Role of Soy in Preventing and Treating Chronic Disease
  - cholesterol reduction was constant across a wide range cholesterol levels
  - potency of soy protein is greater when divided vs. in one dose
  - < 25 grams soy is efficacious
  - soy protein consumed in liquid or yogurt form had more impact vs. isolated soy protein (heated)

Dice it into veggies, or steam it to bring out the flavor!
Organic
Thai
Zesty Thai green curry tofu
8 OZ (226 GRAMS)
ngredients: Tofu (filtered water, organic soybeans, magnesium chloride), Organic Peanuts, Organic Coconut, Organic Cilantro, Organic Jalapeños, Organic Herbs and Spices, Sea Salt.
Perishable - Keep Refrigerated
OFU SHOP SPECIALTY FOODS, INC. ARCATA, CA
Dice it into your favorite South Asian dishes, or steam it to bring out the flavor!
Organic
Tandoori
Savory Indian-spiced tofu
8 OZ (226 GRAMS)
Ingredients: Tofu (filtered water, organic soyb
magnesium chloride), Organic Tomato Paste
Organic Lime Juice, Organic Herbs and Spice
Cayenne, Sea Salt.
- Keep Refrigerated

Soy and Cancer

- Research still producing conflicting results, more long-term, human research needed
- Recommendations still conflicting
  - @UCSF, recommend whole soyfoods (beans, tofu, soymilk), several times a week to 1-2 servings daily
  - American Cancer Society suggests that those at risk for breast cancer should not intake soy
  - personal choice for breast cancer patients
- Epidemiologically, soy intake is associated with lower breast, prostate and colon cancers
- People who consume soy over long periods of time have lower cancer rates, most likely related to:
  - isoflavones, phytate, saponins, phytosterols, protease inhibitors
  - displacing intake of more cancer promoting foods
- Conflicting results with 15 years of breast cancer research

Planetary Products Berkeley, CA 94704 510-601-6056 Shaktifoods@hotmail.com
Hi Qui
Hiyashi Gomoku
Soba Soba
De-Light full Nourishment
Buckwheat soba noodles, wheat, carrots, spinach, shitake or black fungus, yam, organic tofu, scallion, red/green bell pepper, seaweed, sesame seed & oil, seasoned rice vinegar, shoyu, ginger, Vitamin C.
*From soybeans grown in accordance with California organic foods act of 1990.
Net Wt. 10 oz (282 g)
0 51573 03300 1
Perishable, Keep Refrigerated
9/06
Shakti®
Ingredients: Thai rice, organic tofu, coconut milk, spinach, carrot/cauliflower/ bell peppers/cucumbers/ kale/green beans/squash/ tomato/mushroom, onion, peanut, garlic, kafir lime, galangal, cilantro, sugar, salt, spices, vinegar, vitamin C.
Perishable
Keep Refrigerated
Net. Wt. 14 oz.
(396 gms.)
Rich & Spicy
Thai-Coconut Milk Curry, Peanut-Ginger Rice
Planetary Products, Berkeley, CA 94704
(510) 601-6056

Isoflavones and Bone Health

- Preliminarily there is a benefit
  - in the next 3-4 years some long-term studies will be published
  - an increase of bone density in postmenopausal women, helping to prevent osteoporosis (University of Messina, Italy)
- Not likely to reverse osteoporosis
- Additionally
  - soy protein helps to promote calcium balance, lowering calcium excretion
  - many soy foods are rich in calcium due to fortification or calcium salts

RICE PENNE
$4.89
31¢ per OZ.
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WHEAT FREE
ITAL
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07131
USDA ORGANIC
Taste Test Winner!
Wheat & Gluten Free
Rich in Soy Protein
Naturally High in Fiber
Heart Healthy
see top panel
Nutrition Kitchen
The "Perfect Pasta"!
Whole Soybean Pasta
Made from Black Soybeans
100% Certified Organic
Net Weight 8 oz. (227g)
Angel Hair Style
Made from Golden Soybeans
Made from Green Soybeans
NUTRITION KITCHEN
ORGANIC GREEN SOYBEAN PASTA
8 oz.
$2.79
35¢ per OZ.
00085195500012
33805
Nutrition Facts

EDDIE'S
SPAGHETTI
Soy and Semolina Penne
Penne au Soja et à la Semoule
Diets low in saturated fat and cholesterol with 25g/day soy protein may reduce the risk of heart disease.
This pasta contains 6.4g soy protein/serving.
Les régimes légers en matières grasses saturées et en cholestérol, avec 25g/jour de protéines de soja,
peuvent réduire le risque de maladie du coeur. Ces pâtes contiennent 6.4g protéines de soja/portion.
100% ORGANIC
100% BIOLOGIQUE
WHEAT AND SOY MACARONI PRODUCT

Isoflavones and Menopause Symptoms

- Hot flushes in women
  - 60-90% American/European
  - 20% Chinese
  - 10% Japanese
    - Japanese women have lower estrogen levels
    - average consumption of 30-100 mg isoflavones/day
- Research results are inconsistent with isoflavones
  - Isoflavones might be most effective in women with more frequent hot flashes
  - 60% studies show modest hot flash reduction
  - 40% studies show no hot flash reduction
  - 10-20% hot flash reduction due to placebo effect

SOUPS
NO CHICKEN NOODLE
Amy's
LOW FAT
SOUPS
NET WT.
14.1 OZ.
(400g)
NO GMOs
SOY PROTEIN
SEE BACK PANEL FOR INFORMATION ON THE RELATIONSHIP BETWEEN SOY PROTEIN AND HEART DISEASE
NET WT.
15 OZ.
(425g)
Health Valley

Obesity is Epidemic

- Nearly 2/3 US adults are overweight (BMI* 25 or higher) = **126.9 million Americans**
- 30% US adults are obese (BMI 30 or higher) = **61.3 million Americans**
- 1/3 kids are overweight or obese
- 1/10 infants are overweight or obese
- Overweight and obesity are risk factors
- *BMI = weight (kg) / height squared (m^2).

FANTASTIC

ALWAYS NATURAL

Tofu Burger

A Delicious Burger Mix

Just Add Tofu

Obesity is Complex

- People are eating more calories
  - larger portion sizes of packaged foods/meals out, more snacking, more empty calorie intake, more non-hunger eating
- Food is everywhere—people feel bombarded
  - food is seen on tv, schools, work, gas stations, hardware stores, fast food restaurants on every corner
- Consumers are cooking less, dining out more
  - perception of saving time and money, convenience
  - don't know how/not motivated to put together healthy, quick meals at home
  - more disconnected from food, from prep to eating together
- More people are dieting than ever
  - diets don't work
  - 95% dieters regain their weight and more within 5 years

Amy's
MADE WITH ORGANIC TOFU & VEGETABLES
TOFU SCRAMBLE
WITH HASH BROWNS & VEGGIES
TOFU RANCHEROS
WITH ROASTED POTATOES & BLACK BEANS
MADE WITH ORGANIC TOFU, BLACK BEANS & VEGETABLES
LIGHT IN SODIUM
50% LESS SODIUM THAN OUR REGULAR BROWN RICE BOWL
BOWLS
BROWN RICE & VEGETABLES
MADE WITH ORGANIC VEGETABLES
VEGETABLE POT PIE
THE ORIGINAL
NO GMOs
MICROWAVE OR REGULAR OVEN - KEEP FROZEN
NET WT. 7 1/2 OZ (213g)
NO GLUTEN INGREDIENTS
MICROWAVE OR REGULAR OVEN • KEEP FROZEN
NET WT. 10 OZ.(283g)
FAMILY SIZE
MADE WITH ORGANIC PASTA AND VEGETABLES
VEGETABLE LASAGNA
NON-DAIRY
AMY'S
VEGETABLE LASAGNA FAMILY PACK
$4.39

Weight Loss Management

- 3 ways to lose weight
  - 1-cut calories, 2-increase calorie expenditure, or 3-a combination of the two
- No gimmicks, no magic pills
  - making behaviour changes
- Getting back to cooking & moving more
  - better control of calories, portions, fat
- Achieving satiety in meals and snacks
  - include the following in meals:
    - hi-quality protein—soy, turkey, fish, dairy
    - healthy fat—in soy, nuts, avocado
    - colourful produce and fibre filling whole grains

KLASSIC
POTATO KNISH
$1.69 5.50oz.
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KLASSIC
SPINACH KNISH
$1.69 5.50oz.
7-30015-01575
KLASSIC
MUSHROOM & GARLIC KNISH
$1.69 5.50oz.
7-30015-01555
The Original Stuffed Tofurky Roast
Tofurky
100% Vegan
Same Delicious Roast Found
in Complete Tofurky Vegetarian Feast!
Serves 4
The Original
Tofurky
A DELICIOUS VEGETARIAN ROAST
100% Vegan
KSA
PARVE
Don't
forget
the gravy!
not included
Keep Frozen • Net Weight: 1lb. 10oz. (737 grams)
Tofurky 100% Vegan
"Giblet"
Gravy
Quorn
meat-free
Roast
Turkey-style roast
Made from
natural ingredients
TURTLE ISLAND
TOFURKY ROAST
$11.99 1.10lbs. VEGAN
0-25583-07461
TURTLE ISLAND
TOFURKY "GIBLET" GRAVY (LF)
$4.09 14oz. VEGAN
0-25583-00411
QUORN
ROAST (TURKEY-STYLE)
$6.79 16oz. MEAT-FR
Morningstar
Farms
Lentil Rice Loaf

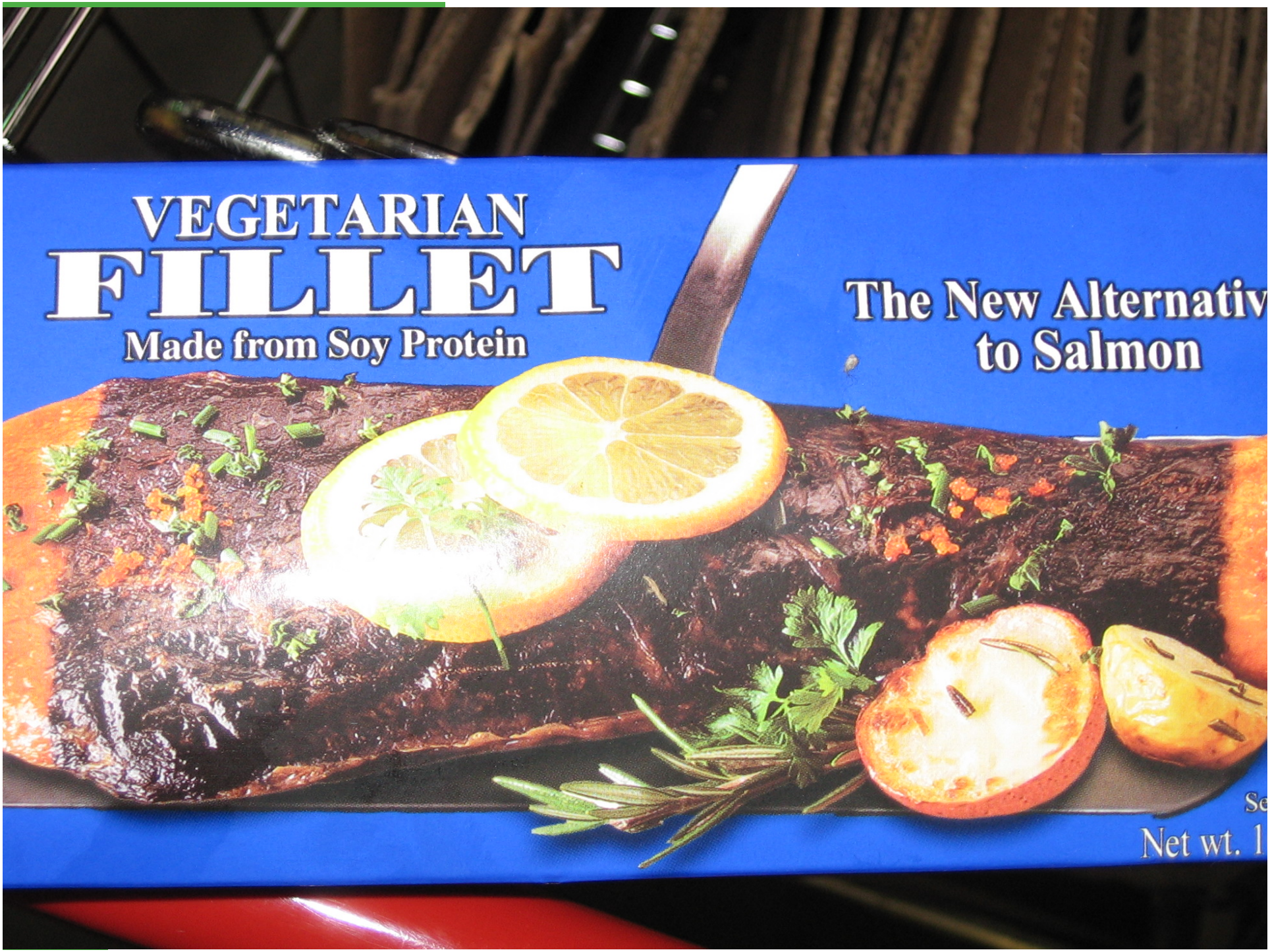
Recent additions (Consumers & Restaurants)

- Soy lattes (Starbucks)
- Smoothies made with silken tofu, soymilk, protein powder
  Super Smoothies chroniclebooks.com
  jambajuice.com
- Crumbling tofu burgers, soy crumbles into tomato sauce
- Tofu scrambles
- Breakfast burritos with soy sausage (US Coast Guard)
- Salad dressings with soymilk or silken tofu
- Marinating slices tofu
- Miso soup with diced tofu
- Chocolate Mouse (tofu)
- Savory soy Spread
  milleniumrestaurant.com
- Cooking with Yuba
  medicinerestaurant.com NYT magazine article “The Way We Eat: I Can’t Believe It’s Tofu” 8/6/06
- Mexican restaurants serving marinated tofu cubes for burritos, enchiladas (La Corneta Taqueria in San Francisco and Moe’s Southwestern Grill in Florida)

MADE WITH SOY
Nasoya
ALL NATURAL
Vegi-Dressing
Soy-based Salad Dressing
MADE WITH SOY
Sesame Garlic
PAREVE
11.5 FL OZ (340mL)
Nasoya
ALL NATURAL
Vegi-Dressing
Soy-based Salad Dressing
MADE WITH SOY
Garden Herb
PAREVE
11.5 FL OZ (340mL)
Nasoya
ALL NATURAL
Vegi-Dressing
Soy-based Salad Dressing
MADE WITH SOY
Garden Herb
PAREVE
11.5 FL OZ (340mL)

Recent additions (Commercial)

- Chilled marinated tofu and burgers quonghop.com
- Chilled ready-to-eat Soba with tofu, curried tofu Planetary Products, Berkeley, Calif
- Chilled Sloppy Jofu: tofu and veggies in a sloppy joe sauce wildwoodnaturalfoods.com
- Chilled blocks of tofu in a two pack: "one for now and one for later", with pictures of diced tofu in soup and salad wildwoodnaturalfoods.com
- Chilled Tandori, Thai, Chorizo, Garlic and Herb marinated tofu -Tofu Shop Specialties, Arcata, California
- Frozen Chicken and Tuna (Taiwan) layonna.com
- Frozen Chicken Breast and Salmon Fillet, veat.com
- Frozen Tofurkey tofurkey.com
- Frozen Chik'n and Steak Strips morningstarfarms.com
- Frozen Amy's Brown rice and veggies tofu bowl, tofu lasagna, tofu scramble, tofu rancheros amys.com
- Frozen Gloria's kitchen tofu balls with spaghetti gloriaskitchen.com


VEGETARIAN
FILLET
Made from Soy Protein
The New Alternativ
to Salmon
Net wt. 1

Veat
All Natural
The New Alternative to Meat™
VEGETARIAN
Breast
• High in Soy Protein • Fully Cooked
• Eats Like Chicken!™
• Cholesterol Free
MEATLESS
GOOD FOR YOUR HEART
NET WT.
7 OZ (200g)
Serving suggestion
wt. 10.5 oz. (300g)

MEATLESS CHICKEN
G M O FREE • G M O FREE
天然素食Natural Vegetarian
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Natural Vegetarian
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TUNA CHUNK

Recent additions (Commercial)

- Soy jerky tastyeats.com
- Soy Crisps genisoy.com, glennys.com
- Jarred salad dressings made from soymilk Nayasoya.com
- Miso Mayonnaise misomayo.com
- Soybeans, edemame, tofu, soymilk, tempeh . . .protein powder, soy crumbles, flour, etc.
- Whole wheat soy pastas and tortillas traderjoes.com, eddies.com
- Soy pastas made from green, golden, and black soybeans (China) nutrikitchen.com
- Canned P'sghetti Loops with soy meatballs annies.com
- Boxed Tofu scramble, Tofu burger mixes "just add tofu" fantasticfoods.com

PRIMAL STRIPS
SHIITAKE MUSHROOMS
HOT & SPICY
PAREVE
LOW FAT
MEATLESS JERKY
Healthy High Energy
PRIMAL SPIRIT FOODS

100% Meatless
Certified by The Vegan Society vegansociety.com
"Traditional Smokehouse"
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ORIGINAL
Naturally Smoked • No MSG or Nitrites
Fat Snack
TASTY EATS®
Soy Jerky
• Low Fat
• Meatless
• Vegan
HOT N' SPICY
Nutrition Facts
www.tofurky.com
Net Wt. 2 oz (56 g.)
TOFURKY
JURKY-ORIGINAL 2OZ
TOFURKY
JURKEY-PEPPERED 2OZ
TASTY EATS
HOT N' SPICY SOY JERKY 1.5OZ

Soy Crisps
Creamy Ranch
Crisp & Light Texture Baked, Not Fried
Genisoy
Soy Crisps
Deep Sea Salted
Genisoy
Soy Crisps
Deep Sea Salted
$2.39
$2.39
Genisoy
Soy Crisps
Rich Cheddar Cheese
Genisoy
Soy Crisps
Genisoy
Soy Crisps
RICH CHEDDAR
$2.39
$2.39
$2.39

Suggested Action Items

- Create healthy soyfoods for the consumer, non-restaurant (schools, hospitals, military), and commercial restaurants
  - canned, frozen, perishable, non-perishable, ready to eat
  - nutritious, tasty, convenient, familiar, and provide satiety
  - incorporating soy with whole foods such as grains, fruits, vegies
  - lower-calorie (100 calories) snacks that help consumers bridge between meals (10 grams protein, some fat) LITE AND FIT
- Educating the consumer and health professionals
  - how nutritious soy is—from disease prevention to bone health
  - cooking with soyfoods: preparing simple recipes, eating together
  - tips on replacing “meat” with soyfoods
  - eating whole soy foods vs. isoflavone supplements
- Share the responsibility of obesity epidemic with consumers
  - educate consumers how to make lifestyle changes (which include soy foods) that promote a healthy weight
  - market foods responsibly and label foods clearly

"Importance of soy protein and isoflavone intake for protection against heart disease

- **Alicia Thorp, Peter Howe, Alison Coates, Jon Buckley, Trevor Mori , Jonathon Hodgson, & Barbara Meyer**
- **Multi- centre Trial**
- **Supported by an ARC Linkage Grant with So Natural Foods**

A R C PROJECT

- Health Claims for Soy

U.S FDA: "25g of soy protein a day,
as part of a diet low in saturated fat & cholesterol,
may reduce the risk of heart disease"

Basis for Health Claims

- Soy protein lowers Total Cholesterol and LDL-Cholesterol
- Health claims ignore potential effects of ISOFLAVONES on blood cholesterol levels & other heart health benefits
- Soy isoflavones may improve arterial function, (compliance & dilatation)

Design of Dietary Intervention,

Assessed before & after each diet, Lipids **(TChol, LDL, HDL, TG),**

Arterial Compliance, Arterial Dilatation **(Flow mediated dilatation)**

PRIMARY AIM

- See whether novel foods (combining soy and dairy protein with a full complement of isoflavones) can provide similar health benefits to soy only foods.
- ***Rationale***
- Current health claims are difficult to achieve/maintain by general public

Combining soy + dairy = ***soy more palatable*** and ***dairy ingredients healthier***.

Design of Dietary Intervention,

Assessed before & after each diet

Lipids, **Arterial Compliance, Arterial Dilatation**

- **Dairy Diet** (24 gm of Dairy protein + 0 mg of isoflavones)
- **Soy Diet** of:**24 g soy protein+ 80 mg Isoflavones**
- **Soy Dairy Diet**
- Daily intake of :**12 g dairy protein+ 12 g soy protein + 80 mg Isoflavones**

CONCLUSIONS

- Consuming 24 g of soy protein/ day caused a small (3%) but significant reduction in TChol
- No reduction in TChol with only 12g of soy/protein/day despite full complement of isoflavones (80mg/day)
- Significant reductions in TG with both 12g and 24g of soy protein/day, suggesting effect is mediated by isoflavones
- *Importantly,* no significant reduction of LDL with the recommended 24 g of soy protein/day in this large trial (n=91)- *questions validity of current health claim*

CONCLUSIONS

- Arterial dilatation was sig. improved to an equal extent - suggesting the beneficial effect is mediated by isoflavones
- No significant changes in arterial Compliance

- Acknowledgements
- So Natural & Freedom Foods , University of Western Australia
- University of Wollongong, Nutritional Physiology Research Centre
- ATN Centre of Metabolic Fitness