



*Soyfoods...*

*Soy good for you,*

*Soy easy!*

A Soyfoods Lesson Plan  
For Michigan Educators

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Michigan State University Extension and  
Michigan Soybean Promotion Committee

April 2009  
(Updated August 2011)



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This lesson plan was developed by Michigan Soybean Promotion Committee and Michigan State University Extension.

For additional information or questions about soybeans contact:

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## Soyfoods Lesson Plan – Objectives and Instructors Notes

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### Objectives

After going through this lesson plan, students will be able to:

- Describe how soyfoods fit into the hospitality industry
- State the composition of the soybean
- Summarize the health and nutrition benefits of soyfoods
- Discuss how soyfoods fit into the United States Department of Agriculture's MyPlate
- Describe the variety and availability of soyfoods
- Understand the functionality of soyfoods in cooking
- State other resources for soyfood information
- Experience cooking and tasting of a variety of soyfoods and soyfood applications

*Where soyfoods fit in the curriculum:*

- Nutrition
- Human health
- Science - soybean composition
- Math - label reading
- Vegetarian/Low fat/Healthy Cooking
- Quick and easy recipes
- Food chemistry
- Sensory evaluation - graph the results or write a press release on this research

### 2011 Soyfoods Guide

You can print the 2011 (or current year) Soyfoods Guide from the United Soybean Board website, <http://soyconnection.com> or order printed copies from:

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PO Box 287

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## Soyfoods Lesson Plan – Objectives and Instructors Notes

### Tips for conducting lab:

- Consider doing the ingredient prep (mise en place) one day and the actual cooking the next
- Note that the oven roasted tofu has several steps, including pressing the tofu. If doing prep the day ahead of time, be sure the tofu gets pressed on the prep day, so it's ready to marinate first thing on the cooking day
- For canned soybeans, *Eden* is a more common brand of black soybeans and *Westbrae* is a more common brand for the yellow soybeans
- Consider these options for preparing and tasting the recipes:
  - Instructor chooses recipes to demo
  - Divide class into groups and each group makes the same recipe(s)
  - Divide class into groups and assign different recipes
  - Have students prepare traditional and soyfood versions of similar recipes to compare pros and cons of each (i.e. chocolate mousse, ranch dressing, Mexican black bean and corn salad, cranberry raspberry smoothie or soynut butter cookies)
- Suggested breakdown of recipe assignment for a class of 20-25

#### Group 1

Cherry Apple Bars  
Smoothie (Cranberry Raspberry or Tropical)

#### Group 2

Oven Roasted Tofu  
Mexican Black Bean and Corn Salad

#### Group 3

Soynut Butter Cookies  
Raspberry Fruit Dip

#### Group 4

Veggie Chili  
Spinach Artichoke Dip

#### Group 5

Edamame Hummus  
Ranch Dressing  
Chocolate Mousse



## MICHIGAN CAREER AND TECHNICAL EDUCATION Content Standards and Benchmarks

The “Soyfoods . . . Soy good for you, Soy easy!” lesson plan can fit into a variety of core curriculum areas as well as nutrition, culinary arts or healthy living. Ideas are provided in the lesson plan introductory pages, and you may come up with many other possibilities. To get you started, below is an outline of how “Soyfoods . . . Soy good for you, Soy easy!” addresses the content standards and benchmarks for Michigan Career and Technical Education programs.

### Segment 2: Culinary Core

#### Technical – ProStart

#### ***F - Chapter 5 Foodservice and Equipment***

- 5.6 Demonstrate how to cut and mix foods using standard kitchen equipment

#### ***G - Chapter 6: Nutrition***

- 6.1 Characterize the roles of carbohydrates, hormones, fiber, starch, and fats in people’s diets and identify foods that contain these nutrients.
- 6-2 Describe cholesterol and list foods in which it is found.
- 6-3 Characterize the roles of proteins, water, vitamins, and minerals in people’s diets and identify foods that contain these nutrients.
- 6-4 Differentiate between complete and incomplete proteins
- 6-5 Use Recommended Dietary Allowances (RDAs) and the Food Guide Pyramid to plan meals.
- 6-6 Describe a healthy diet
- 6-7 Interpret information on a nutrition label
- 6-9 Suggest ways to make recipes more healthful
- 6-10 Suggest healthful substitutes for high-fat ingredients

#### **Restaurants & Food & Beverage Services Pathway**

##### **III** Systems

- A** *Examine the company’s standard operating procedures to determine the criteria for food preparation*
- 3** **Use basic food knowledge to prepare nutritional, quality foods.**
- c** *Employ knowledge of nutritional values*
- d** *Exhibit high quality food presentation*

*The Michigan Soybean Promotion Committee would like to extend a special thank you to Corbett Day, Lenawee ISD Tech Center, Adrian, MI for his assistance in helping to align the lesson plan with the Content Standards and Benchmarks, fall 2009.*



LIFE MANAGEMENT EDUCATION  
(FAMILY and CONSUMER SCIENCES)  
Content Standards and Benchmarks

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The “*Soyfoods . . . Soy good for you, Soy easy!*” lesson plan can fit into a variety of core curriculum areas as well as nutrition, culinary arts or healthy living. Ideas are provided in the lesson plan introductory pages, and you may come up with many other possibilities. To get you started, below is an outline of how “*Soyfoods . . . Soy good for you, Soy easy!*” addresses the content standards and benchmarks for Life Management Education.

**Content Standard 3:** *All students will analyze factors that influence human development.*

**H3.2** Analyze impact of healthful behavior on life goals.

**Content Standard 6:** *All students will develop a plan for individual and family wellness.*

**H6.3** Practice individual responsibilities for health as it relates to social, emotional, and physical well-being.

**H6.4** Share the responsibility of maintaining a safe and healthy living environment.

**H6.5** Assess the effect of non-nutritional food choices on individual wellness.

**H6.6** Apply food pyramid in food decision-making.

**H6.7** Analyze food labeling.

**H6.10** Propose criteria for a safe and healthy environment.

*The Michigan Soybean Promotion Committee would like to extend a special thank you to Linda Herman with Tecumseh High School, Tecumseh, MI for her assistance in helping to align the lesson plan with the Content Standards and Benchmarks, fall 2009.*



## Soyfoods... Soy good for you, Soy easy!

### Learning Activities

1. Introduce students to soyfoods
  - Ask students what types of soyfoods they've eaten?
  - Ask students why, as hospitality or culinary professionals they'd want to know how to use soyfoods?
  - Sample plain or flavored soynuts and edamame in the pod.

### Key Points

1. There is a **wide variety of soyfood products readily available** in mainstream grocery stores.

It's important for hospitality and culinary students to be aware of options or techniques for addressing consumer needs and wants and tips for creating their business/service niche in the industry:

- healthy foods
- lower fat foods
- cholesterol free foods
- functional foods
- vegetarian foods
- allergen free foods
- add unique/different interests with soyfoods

### Supporting Materials

1. "Joy of Soy" PowerPoint presentation, notes and slides 1-2

Handout: "Soy Ingredients, Traditional Soyfoods and Soy-Based Foods" (*Soyfoods Guide*)

Samples of plain or flavored soynuts and edamame in the pod (instructor would need to provide).

2. Review with students the composition of a soybean.
  - Ask students if they know what the parts, macronutrients, of a soybean are?

If available, pass around packages of soyfoods and have students review the nutrition facts panel for fiber and protein content.

2. Soyfoods are a **nutrient rich food** composed of protein, isoflavones, oil and fiber.

- Soy is the only plant source of **complete protein**.
- **Isoflavones** are a member of the family of plant chemicals called phytoestrogens because their chemical structure and metabolism resemble that of human estrogens.
- As a plant, soybeans have **no cholesterol and are low in saturated fat**.
- The oil present in soybeans is **monounsaturated and polyunsaturated, including omega-3 fatty acids**. Soybeans are one of the few **non-fish sources of omega-3 polyunsaturated fatty acids**.
- **Soybeans and the foods containing the whole bean**, such as soynuts, soy flour or canned soybeans, **are high in fiber**.

2. "Joy of Soy" PowerPoint presentation, notes and slide 3

Handout: "Multi-Facets of Soy" (*Soyfoods Guide*)

Handout: "Soy Composition" (*Soyfoods Guide*)


Handout: "Soyfood Protein & Isoflavone Content" chart

Packages of soyfoods, if available (instructor would need to provide)



## Why Soy?

- Nutrient rich food
- Many health benefits
- Provides options for those with food allergies and sensitivities



Michigan State University Extension and Michigan Soybean Promotion Committee – August 2011

Soyfoods fit well into any diet with options available for individuals across the lifespan, starting in infancy. Individuals with special dietary needs, such as lactose intolerance, or others just wanting to provide a healthy meal to their family will also find soyfoods a good match for their lifestyle.

Soyfoods contain no cholesterol, little or no saturated fat, high quality protein and dietary fiber. Many also provide B vitamins, vitamins A and D, calcium, iron and potassium. Research has demonstrated many potential health benefits are associated with the consumption of soyfoods. For example, soy protein may help to reduce the risk of heart disease, while soyfoods also show promise for relieving menopausal symptoms, maintaining healthy bones and preventing some cancers.

## Soyfood Recipes: Uses and Functionality

| Recipe                                   | Ingredient             | Type of Dish |       |           |                    |           |         | Function                   |   |                          |            |                          |                            |
|--|------------------------|--------------|-------|-----------|--------------------|-----------|---------|----------------------------|---|--------------------------|------------|--------------------------|----------------------------|
|  |                        | Breakfast    | Snack | Main Dish | Salad or Side Dish | Appetizer | Dessert | Adds heart healthy protein | Lower fat and /or cholesterol than traditional equivalent | Texture and/or thickener | Adds fiber | Food allergy alternative | Unique and unusual element |
| <b>Cherry Apple Bars</b>                 |                        |              | X     |           |                    |           | X       |                            |   |                          |            |                          |                            |
|  | Tofu, silken           |              |       |           |                    |           |         | X                          |   |                          |            |                          | X                          |
|  | Soy flour              |              |       |           |                    |           |         | X                          |   |                          | X          |                          |                            |
| <b>Smoothies</b>                         |                        | X            | X     |           |                    |           | X       |                            | X   |                          |            |                          |                            |
|  | Tofu, silken           |              |       |           |                    |           |         | X                          |   | X                        |            | X                        |                            |
|  | Soy milk               |              |       |           |                    |           |         | X                          |   |                          |            | X                        |                            |
| <b>Oven Roasted Tofu</b>                 |                        |              |       | X         | X                  |           |         |                            |   |                          |            |                          |                            |
|  | Tofu                   |              |       |           |                    |           |         | X                          |   |                          |            |                          |                            |
| <b>Mexican Black Bean and Corn Salad</b> |                        |              |       |           | X                  |           |         |                            |   |                          |            |                          |                            |
|  | Black soybeans         |              |       |           |                    |           |         | X                          |   |                          |            |                          | X                          |
| <b>Soynut Butter Cookies</b>             |                        |              |       |           |                    |           | X       |                            |   |                          |            |                          |                            |
|  | Soy flour              |              |       |           |                    |           |         | X                          |   |                          |            |                          |                            |
|  | Soynut butter          |              |       |           |                    |           |         | X                          |   |                          |            | X                        | X                          |
|  | Soy milk               |              |       |           |                    |           |         | X                          |   |                          |            | X                        | X                          |
|  | Soy nuts               |              |       |           |                    |           |         | X                          |   |                          |            | X                        | X                          |
| <b>Raspberry Fruit Dip</b>               |                        | X            | X     |           | X                  | X         | X       |                            | X   |                          |            |                          |                            |
|  | Tofu, silken           |              |       |           |                    |           |         | X                          |   | X                        |            | X                        |                            |
| <b>Veggie Chili</b>                      |                        |              |       | X         |                    |           |         |                            | X   |                          |            |                          |                            |
|  | Veggie burger crumbles |              |       |           |                    |           |         | X                          | X   |                          |            |                          |                            |
|  | Canned soybeans        |              |       |           |                    |           |         | X                          |   |                          |            |                          | X                          |
| <b>Spinach Artichoke Dip</b>             |                        |              | X     |           | X                  | X         |         |                            | X   |                          |            |                          |                            |
|  | Tofu, silken           |              |       |           |                    |           |         | X                          |   | X                        |            |                          |                            |
| <b>Edamame Hummus</b>                    |                        |              | X     |           | X                  | X         |         |                            |   |                          |            |                          |                            |
|  | Edamame                |              |       |           |                    |           |         | X                          |   |                          |            |                          | X                          |
| <b>Ranch Dressing</b>                    |                        |              | X     |           | X                  | X         |         |                            | X   |                          |            |                          |                            |
|  | Tofu, silken           |              |       |           |                    |           |         | X                          |   | X                        |            | X                        |                            |
|  | Soy milk               |              |       |           |                    |           |         | X                          |   |                          |            | X                        |                            |
| <b>Chocolate Mousse</b>                  |                        |              |       |           |                    |           | X       |                            | X   |                          |            |                          |                            |
|  | Tofu, silken           |              |       |           |                    |           |         | X                          |   | X                        |            |                          | X                          |

## Soyfood Recipes

### Cherry Apple Bars

|                                   |   |
|-----------------------------------|---|
| 1 cup honey                       | 1½ cups all-purpose flour                   |
| 3 tablespoons orange juice        | 1 teaspoon baking soda                      |
| 1 teaspoon salt                   | 1 teaspoon cinnamon                         |
| ⅓ cup vegetable oil (soybean oil) | 2 cups apple slices (about 2 medium apples) |
| 1 pkg. (12.3 oz) firm silken tofu | 2 ½ cups cherries (fresh or dried)*         |
| 1 egg                             | ½ cup chopped walnuts                       |
| 1 teaspoon vanilla                |   |
| ½ cup soy flour                   |   |

Preheat oven to 350° F. Spray a 10 x 15 x 1 inch pan with non-stick spray. Whip honey, orange juice and salt together and then blend with oil. Add tofu, egg and vanilla, and beat well. Sift together flour, baking soda and cinnamon. Add dry ingredients to the honey/oil mixture and stir well. Fold in apples, cherries and nuts. Pour batter into prepared pan. Bake for 30-35 minutes or until a toothpick inserted near the center comes out clean.

Yield: 48 bars. \*\*Per bar: 77 calories, 3 g fat (0.5 saturated fat), 4 mg cholesterol, 75 mg sodium, 12 g carbohydrate, 2 g protein (1 g soy protein), 0.5 dietary fiber

\* Can substitute 2 cups of dried or fresh blueberries or cranberries if cherries are not available.

\*\* Nutritional analysis based on using cranberries.

Source: Modified from 2006 Soyfoods Guide

