

### WHAT IS BARLEY CAP?

*Coordinated Agricultural Project for Barley*



The Barley Coordinated Agricultural Project (CAP) is a community effort of 30 scientists from 19 institutions focused on identifying molecular markers that will dramatically speed up breeding efforts to improve barley for food, feed and brewing.

Many associate barley with brewing and beer, but barley is also a healthful food, recently approved by the FDA to be labeled as heart-healthy due to its cholesterol-lowering properties.

### WHY IS BARLEY A HEALTHY FOOD?

Beta-glucans in barley can **lower blood cholesterol** and **reduce blood glucose** levels. Barley is also rich in tocopherols, like tocopherols and tocotrienols, which can **reduce serum low-density lipoprotein (LDL) cholesterol** through their antioxidant action.

### HOW IS BARLEY USED AS FOOD?

In Western countries, pearled barley, flour, flakes and grits are used in breakfast cereals, stews, soups, pilaf mixes, porridges, bakery blends and baby foods. In Russia, Poland, Tibet, Japan and India, pearled grits or flour are in many traditional dishes. In Korea, pearled barley is used as a rice substitute and in soy paste. In Middle Eastern and North African countries, barley is pearled, ground, and used in soups, flat breads and porridge. To be used in food, the outer layers of the barley grain are removed to produce **pearled barley**, and further processed to **flour, flakes and grits**.



**What is this?**  
*See reverse to find out!*

### WHAT TRAITS ARE IMPORTANT FOR FOOD USES?

**Preferred preprocessing traits.** For food from barley users like kernels with a uniform round size, bright color, shallow crease, thin hull, and optimum hardness because it produces a evenly abraded, bright white grain.

**Preferred food product traits.** Appropriate levels of starch amylose, protein, lipids, beta-glucans, polyphenols, polyphenol oxidase, and tocopherols are important to nutritional and health aspects. They also may affect food processing and product quality, like color and texture.

### WHAT FORMS OF PROCESSED BARLEY ARE AVAILABLE FOR FOOD?

**Pearled Barley** is prepared by abrasive removal of the tough, inedible outer hull and bran layers. Barley may be pearled to varying degrees and labeled as regular, medium, fine or baby pearl.



**Barley Flour** is prepared from pearled grain through hammer milling or roller milling.



**Barley Flakes** are made from pearled barley kernels that are steam-rolled and dried.

**Barley Grits** are made from pearled barley kernels that have been cut into small pieces.

**For more information on barley food uses:**  
Visit the National Barley Foods Council website  
<http://www.barleyfoods.org>

### WHAT IS BARLEY CAP DOING?

Food quality is controlled by many genes affecting grain morphology, hardness, starch, protein, lipid and antioxidant levels. The genetic complexity of food quality makes it an excellent target for Marker-Assisted Selection (MAS). With MAS, genetic markers close to food quality traits act like biochemical flags providing fast and easy identification of traits important to barley breeders. Identification of markers will speed release of new varieties bred for specific attributes.

*To see more fact sheets, please visit  
<http://barleycap.cfans.umn.edu/outreach.htm>*



## BAKED CHICKEN WITH APPLES & BARLEY

### INGREDIENTS:

1 tblspn olive oil  
 1/2 cup chopped onion  
 1/2 cup chopped red bell pepper  
 1/2 cup chopped green bell pepper  
 1 clove garlic, finely chopped  
 1 medium tart green apple, chopped  
 1-2 tbspsn curry powder  
 1 cup pearl barley  
 2-1/2 cups chicken broth  
 4 boneless, skinless chicken breasts  
 1/2 teaspoon garlic salt  
 3 tbspsn orange marmalade or apricot jam

Recipe (photo) courtesy of National Barley Foods Council  
<http://www.barleyfoods.org>

Per serving: 431 calories, 34g protein, 8g fat, 59g carbohydrate, 68mg cholesterol, 9g fiber, 850mg sodium.

Heat oil in large skillet; sauté onion, bell peppers and garlic 5 minutes, stirring occasionally. Add chopped apple and curry powder; sauté 4 minutes longer. Stir in barley and chicken broth; bring to boil. Reduce heat and simmer 15 minutes. Pour barley mixture into large baking dish or casserole. Arrange chicken breasts over barley and season with garlic salt. Cover and bake in 375° F oven for 45 minutes. Remove cover; brush chicken with marmalade. Continue to bake, uncovered, 15 minutes longer. Remove from oven and let stand 5 minutes before serving. Makes 4 servings.

## BAYSIDE BARLEY SUPPER

### INGREDIENTS:

8 oz shrimp, shelled and deveined  
 8 oz scallops (cut in quarters or halves, if large)  
 8 oz fresh mushrooms, sliced  
 1 tblspn soy sauce  
 1 tblspn rice wine vinegar or lemon juice  
 1 tspn sesame oil  
 2 tspns finely chopped fresh ginger or  
     1/4 tspn ground ginger  
 1/8 tspn red pepper sauce  
 2 tspns vegetable oil  
 3/4 cup chopped onion  
 1/2 cup finely chopped green pepper  
 1 medium carrot, peeled and thinly sliced  
 1 clove garlic, finely chopped  
 3/4 cup pearl barley  
 2 cups bottled clam nectar  
 1 package (10 ounces) frozen chopped broccoli, thawed  
 Toasted sesame seeds, for garnish



Recipe (photo) courtesy of National Barley Foods Council  
<http://www.barleyfoods.org>

Per serving: 222 calories, 20g protein, 4g fat, 30g carbohydrate, 69mg cholesterol, 5g fiber, 694mg sodium.

Place shrimp, scallops and mushrooms in bowl. Combine soy sauce, rice wine vinegar, sesame oil, ginger and red pepper sauce. Pour over seafood and toss well. Cover and refrigerate while cooking barley. To cook barley, spray a large deep skillet with non-stick cooking spray. Heat vegetable oil in skillet over medium heat. Add onion, green pepper, carrot and garlic; sauté until onion is translucent. Add barley and clam nectar. Bring to boil. Reduce heat and simmer, covered, for 35 minutes, stirring occasionally. Stir in broccoli and seafood with marinade. Cover and cook 15 minutes longer or until barley is tender and seafood is cooked. Sprinkle with toasted sesame seeds and serve. Makes 6 servings.

FOR MORE RECIPES, VISIT THE NATIONAL BARLEY FOODS COUNCIL WEBSITE  
[HTTP://WWW.BARLEYFOODS.ORG](http://www.barleyfoods.org)