

# NORTHARVEST BEAN GROWER

Vol. 11 No. 2

[www.northarvestbean.org](http://www.northarvestbean.org)

March-April 2005

## Be'an Busy

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**Montevideo, Minn.**

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## Bean Day

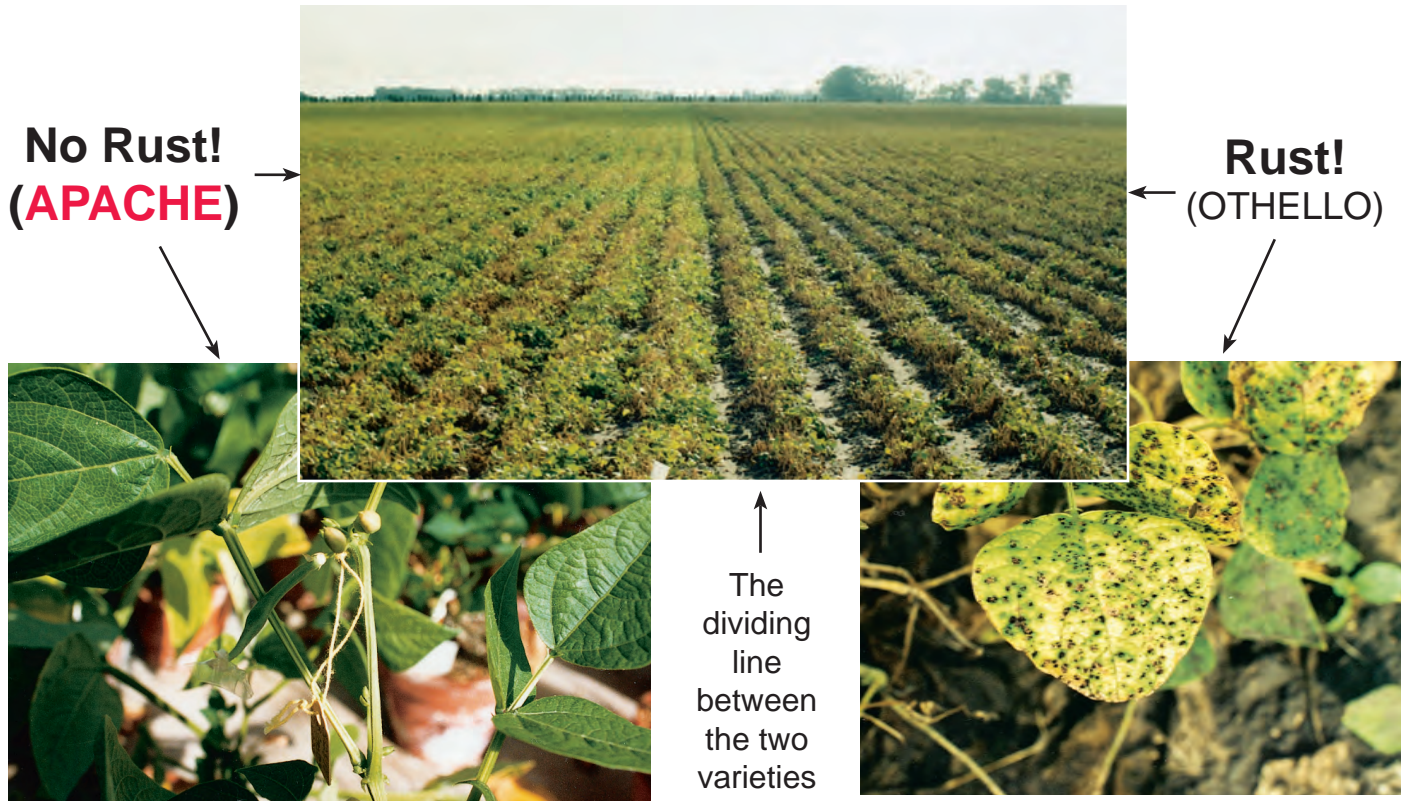
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that you missed.  
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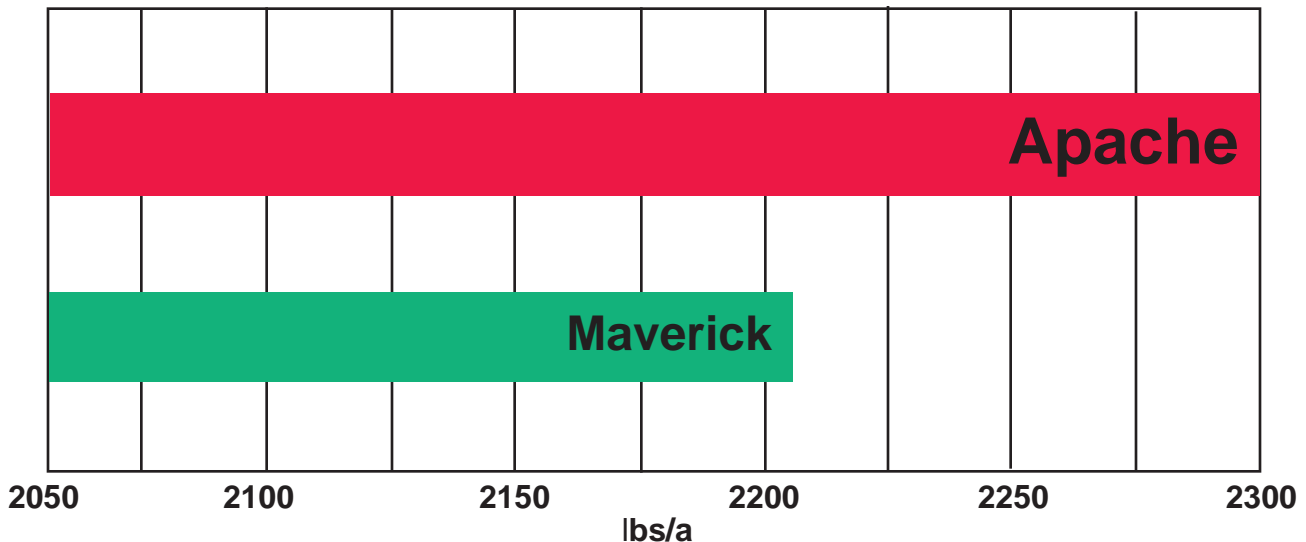


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# NORTHARVEST BEAN GROWER

OFFICIAL PUBLICATION OF THE NORTHARVEST BEAN GROWERS ASSOCIATION

Vol. 11 ■ No. 2

March/April 2005

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**4-5. Talking Beans.** Northharvest members re-elected Mark Streed to the board and elected Don Streifel and Daniel Webster to the board; Kevin Anderson and Gary Paur are excited about Russian market potential after attending a food show in Moscow.

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### Research Insert

See the insert containing an update on 2004 research funded by the dry bean checkoff.

The Northharvest Bean Grower is published five times a year (January, March, June, August and November) by the Northharvest Bean Growers Association, 50072 E. Lake Seven Road, Frazee, MN 56544, Phone: (218) 334-6351, Website: [www.northharvestbean.org](http://www.northharvestbean.org), Email: [nhbean@loretel.net](mailto:nhbean@loretel.net).

Send advertising and editorial material, and questions about the magazine, to Kathy Tonneson, 6258 90th Ave. N., Glyndon, MN 56547. Phone 218-236-8420, fax 218-236-1134. Email: [lttonneson@i29.net](mailto:lttonneson@i29.net).

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# Talkin' Beans

News From Around  
the Dry Bean Industry

## Northarvest election results

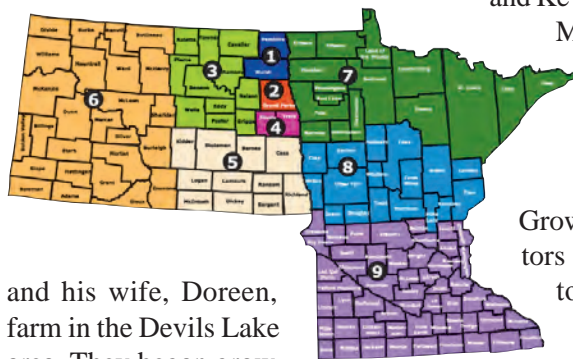
At Bean Day 2005, the Northarvest Bean Growers Association members elected two new directors and re-elected one director to serve on the association's governing board.

Mark Streed, Milan, Minn., was re-elected to represent District 9.

Don Streifel, Washburn, N.D., was elected to represent District 6. Don, his wife Loretta and son-in-law Jeff Kulzer, operate a diversified crop farm south of Washburn. They have raised pintos and navies since 1981. They grow irrigated and dryland corn, soybeans and wheat in rotation with dry beans. Don also

sells crop insurance.

Daniel Webster, Penn, N.D., was elected to represent District 3. Daniel



and his wife, Doreen, farm in the Devils Lake area. They began growing pintos 10 years ago. They also grow durum, spring wheat, barley, soybeans and corn. They also have raised canola and sunflowers. The

Websters lost their farmstead to rising waters of Devils Lake several years ago and had to move to their current location west of the lake. They have four daughters. Dan has served on several local and state boards, including the Nodak Rural Electric board of directors.

Other directors include Gary Friskhop, Wahpeton; Mark Myrdal, Edinburg; Mark Hettervig, Buxton; Gary Paur, Gilby; and Alan Juliuson, Hope, N.D.; and Kevin Anderson, East Grand Forks; Mark Streed, Milan; and John Ewy, Deer Creek, Minn.

## New districts

In 2004, the Northarvest Bean Growers Association board of directors redrew district boundary lines to reflect the shift in dry bean production in Minnesota and North Dakota. The districts were established in 1976. Minnesota used to have four districts. Now it has three. North Dakota used to have five districts. It now has six.



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## Northarvest directors elect officers

The Northarvest Bean Growers Association board of directors recently elected Kevin Anderson, East Grand Forks, Minn., president; Alan Juliuson, Hope, N.D., vice-president; and Mark Streed, Milan, MN, treasurer.

## Term limits

Also during Bean Day, Northarvest members voted to amend the group's constitution to limit directors to serving three consecutive three-year terms. Previously, the Association did not limit terms.

## Excited about Russian market

That's Kevin Anderson, an East Grand Forks, Minn., farmer and Northarvest Bean Growers Association board member in the Russian hat.



Kevin Anderson

He and Gary Paur, Gilby, N.D., represented Northarvest as part of a U.S. Dry Bean Council team at an international food

show held in Moscow.

"I am excited about the Russian market for beans," Anderson says.

"There seems to be different things that we can offer them," he says.

Russians grow some interesting looking beans, Anderson adds.

One is called a "skirted" bean. The top half is white and bottom half is speckled (or vice-versa). It gets its name from the fact that the bean looks as if it is wearing a skirt.

**See page 25 for the trade team's report.**

## Soviet surprises

Though the team didn't have time for extensive sight-seeing, here are some of the things Kevin Anderson was surprised to see in Moscow:

- Women dressed to the "hilt," most wearing mink and fur coats.
- Buildings covered with banners advertising Nike, Colgate and other well recognized brands.

- Huge hypemarkets -- bigger than Super Walmart -- with shelves full of every product imaginable.
- Friendly people. "You get to know them a little and you find they are like anybody else."
- Nice weather. "I could have been in East Grand Forks."

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# Industry loses two pioneers

## Max Campbell passes away

Max Campbell, 88, founder and long-time owner of Valley Bean Co., Oslo, Minn., has passed away.

Campbell is credited with helping start the commercial dry bean industry in North Dakota and Minnesota.

According to a history of the dry edible beans in the Red River Valley written by Rod Armour, former manager of Agri Sales, Olivia, Minn., there was some commercial production of navy and great northern beans in Minnesota during World War II, but it ended shortly after the war.

"In 1952, when Campbell was traveling through Wyoming he came across a truck load of pinto beans at a processing plant," Armour writes. "Because of his curiosity, Max stopped to discuss this strange looking crop with its growers and bean plant manager. Max got so carried away with the potential of this crop that he spent a week talking to growers on how to grow the pinto beans and potential profit and the marketing of this crop.

"It wasn't until 1960 that Max grew his first pintos. Not

having a market closely by, he loaded them on a truck and struck out for Fairview, Mont.

"In 1961, knowing that the valley needed an additional cash crop and a place close by the market this strange crop, Max proceeded to form Valley Bean Association and built his first plant in Oslo, Minn.

"With success in hand and the desire of farmers to grow pinto beans, Max built his second plant at Cavalier, N.D., in 1962. Later this plant was sold to Valley Bean Company."

Max's son, Dan, continues to operate the Oslo plant.

## Captain Ken dies

Baked bean entrepreneur "Captain Ken" Freiberg has died. The St. Paul, Minn. fire captain, who turned his fire-house baked bean recipe into a commercial label, died Feb. 1 at the age of 91.

Though he sold his company to employees in the late 1980s, Freiberg continued to cook beans. His wife Minna told the *Minneapolis Star-Tribune* that as recently as three years ago, he took a 100-pound bag of dry beans along to their Texas home in the winter so he could cook for friends.

"Once every couple of weeks he'd say, 'I am cooking beans tomorrow,' and he'd give it away," she said. "He'd make the rounds of his friends down there."

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# New diet guidelines; FDA label boost beans

You know that you are growing a good, healthy food.

Now more people are starting to recognize it.

In January, USDA released its new dietary recommendation calling for most Americans to triple the amount of beans they eat. A few days later, the Food and Drug Administration (FDA) approved a label that says "diets including beans may reduce your risk of heart disease and certain cancers." Food companies may put this label on products that contain dry beans.

"It's good news," says Marty Hertzerv, a Buxton, N.D., bean grower and a Northarvest Bean Grower Association board member. He serves as a delegate to the American Dry Bean Board (ADBB), a national organization that coordinates dry bean promotion in the U.S.

The guide and label "could help increase consumption – if consumers

actually begin to eat more beans," Hertzerv says.

## Good press

The USDA and FDA actions have already generated months of good headlines about dry beans.

"When it comes to nutrition and good health, you can't beat beans," says Stacey Zawel, executive director of the Beans for Health Alliance.

## Why beans are so good

Dry beans are naturally low in total fat, contain no saturated fat or cholesterol, and provide important nutrients such as fiber, protein, calcium, iron, folic acid and potassium.

Their health benefits are consistent with many existing FDA-approved health claims, specifically those related to heart disease and cancer. Other studies also suggest that healthy diets including

beans may be useful to people managing diabetes and high blood pressure.

Currently only one other dietary guidance message is used by the food industry. It states "diets rich in fruits and vegetables may reduce the risk of some types of cancer and other chronic diseases."

## 3 cups per week

The 2005 USDA Dietary Guidelines for Americans recommend Americans eat more than three times the amount they currently consume.

"In many parts of the world beans are an important dietary staple, but Americans are not eating enough," Zawel says.

Ideally, adults should be eating three cups of beans per week. This dietary guidance message will illustrate to Americans the importance of including beans in their diet."



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- 6) If off rows, plant is cut as long as plant contacts the end of knife.

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## Grilling beans?

To help consumers figure out how to increase bean consumption, the American Dry Bean Board offered these ideas through articles to newspapers and magazines:

- Use beans in spreads. Mash any variety of drained, cooked beans with herbs and spices for a healthy sandwich spread or vegetable dip.
- Grill beans. Add pureed or mashed beans to homemade hamburger patties for flavor and a nutritional boost.
- Make soups. Mix mashed beans into soups as a creamy thickener or make any canned soup healthier and heartier by adding one can or 1 1/2 cups of cooked beans. For example, add Kidney beans to vegetable beef soup or Navy beans to chicken noodle.
- Add beans to salads. Sprinkle any side or main dish salad with beans, from Black beans to Kidney beans to Garbanzo beans.
- Make bean smoothies. Raise the nutritional value of your smoothie by adding pureed beans.



We know beans are good for you – now the government agrees. Its new dietary guidelines call for Americans to triple the amount of beans they eat. It also will allow food companies to put a new label on food products containing dry beans saying that they can help reduce heart disease and certain kinds of cancers.

### For more information

For more ideas and recipe suggestions, ranging from traditional beans and franks to blueberry bean muffins, visit the American Dry Bean Board's Web site, [www.AmericanBean.org](http://www.AmericanBean.org).

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# Be'an Busy

## Welling's work keeps him young

Mark Welling, Montevideo, Minn., is a fulltime corn and soybean grower. He farms about 1,200 acres of corn and works with two uncles, Ken and Rick Olson, who each grow approximately 1,200 acres of corn and soybeans, too.

So what is Welling doing growing 80-100 acres of navy beans every year?

Making money – most years, perhaps.

“It is usually one of our best cash crops,” says Mark, who has been growing approximately the same number of acres of dry beans for the past 15 years.

Welling grows only 80-100 acres of dry beans because dry beans are only suited to lighter ground, and he maintains a four-year-rotation.

“I also don’t like to grow any more dry beans than I can afford to lose,” he says.

But because he doesn’t have any special dry bean equipment, growing 80-100 acres in rotation with more than 1,000 acres of corn and soybeans is profitable. He uses the same planter,

sprayer, cultivator and tillage equipment for all three crops. He has his beans custom combined.

Welling drives the grain truck during dry bean harvest. That way he is in the field to make decisions about when to shut down harvest and how to adjust the combines to minimize field loss and threshing damage.

“I ride in the combine to keep on top of it,” he says.

Having a few acres of dry beans also fits Welling’s approach to farming. Not content to grow just corn and soybeans, he also puts up small bales of wheat straw and hay for horses. He sells most of it direct or through a horse supply auction in nearby Hutchinson.

“We put the bales in 50 bale lots, which is just enough to fit in a pickup,” he explains.

Welling also makes use of livestock facilities and pasture on his family’s farm by buying six to eight beef calves

## Welling's favorite

Mark Welling says the following bean salad recipe, made by a Florida relative, is one of his favorites.

### Bean Salad

#### Ingredients:

2-15 oz cans whole kernel corn  
2-15 oz cans black eyed peas  
2-15 oz cans black beans  
1 chopped onion  
3 diced tomatoes (Roma)  
1 cup chopped parsley  
1 chopped green pepper  
1 chopped yellow pepper  
1 chopped red pepper  
1 16 oz jar salsa (thick)  
1 cup. olive oil  
1/2 cup. vinegar (cider)  
1T. tabasco  
Salt and pepper to taste

#### Method

Mix all ingredients and place in refrigerator for 24 hours prior to serving.

## Coping with corn

Managing corn residue is one of the toughest things about growing navies after corn, Mark Welling says.

There are two challenges - breaking up the stalks so the planter runs without bunching up the residue and knocking the dirt out of the root balls so that at harvest, when an old corn root ball goes through the combine, it doesn't smear the bean seed coats with dirt.

### Here's what Welling does:

- Chops corn stalks.
- Runs a ripper 9-12 inches deep in the fall to take out the compaction layer and improve internal soil drainage.
- Levels the field in the spring with a field cultivator.
- Applies Sonalan with broadcast sprayer.
- Incorporates the chemical with a field cultivator twice, once right before planting. A coil packer is attached to the cultivator. It helps firm up the soil to create better seed-to-soil contact.
- Vigorously controls volunteers and weeds. He applies Sonalan to the soil and then follows up with Raptor/Basagran. He rotary hoes and cultivates once and goes through the field with hand labor, if necessary.
- Sprays for insects and white mold when conditions reach economic thresholds.

each year. He fattens them and then sells beef sides and quarters direct to neighbors, relatives and friends.

Welling works off the farm, too. He helps out a company that digs graves and, in the winter, operates a Minnesota Department of Transportation snowplow. He serves on the county Farm Service Agency Board and for the

past six years has been a member of the Minnesota Dry Bean Council.

When he's not on the farm or at one of his several jobs, you'll find Welling at the local school attending his children's activities. He and his wife, Brenda, have three children, ages 13, 10 and 6. Brenda works as a deputy district court administrator.

In his spare time, Welling restores antique tractors. He and his sons are currently working on his grandfather's 1952 Minneapolis Moline. The local threshing show is going to feature Moline this summer.

"I like to keep busy," Welling says. "It keeps me young."



### Gary W. Fuglesten, Manager

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# EPA labels Cruiser for use as seed treatment

Cruiser® seed treatment insecticide has received approval from the U.S. Environmental Protection Agency for use on peas and dry beans to guard against a broad spectrum of early season sucking and chewing insect pests.

“Cruiser offers large-seeded vegetable growers superior protection against some of the most economically important insects of peas and dry beans. It offers growers an alternative to planter-box, in-furrow and early season foliar insecticide applications,” says Jerry Johnson, crop manager for Syngenta Seed Treatment. “With the option to add a fungicide seed treatment like Apron XL® and Maxim® 4FS, growers are protected against insects and diseases from the start, which results in improved stand establishment, enhanced plant vigor and increased

yield potential.”

## Controls insects

For dry bean growers, the biggest insect threats are potato leafhopper, seedcorn maggot, beetles, wireworms and aphids. Hopperburn, caused by leafhoppers sucking juices from leaves, reduces early plant health early and limits crop development. Seedcorn maggot burrows into the seed, thereby slowing emergence and reducing stand establishment. Cruiser improves stand establishment, giving growers a head-start toward a successful harvest by protecting against early season damage caused by these insects.

## How Cruiser works

Cruiser protects against insects through both contact and stomach ac-

## At a glance

- EPA labels Cruiser for use as seed treatment.
- Cruiser helps control seed corn maggots and other insects.
- Can be mixed with fungicides to protect seed from both insects and diseases.

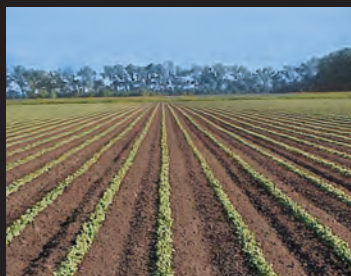
tivity. Once absorbed through contact or feeding, the active ingredient in Cruiser, thiamethoxam, interferes with the receptors in the insect that transmit the message to feed. As a result, the insect stops feeding and the plant is protected.

Cruiser is commercially applied by certified seed application facilities at low use rates, offering added convenience compared to conventional insecticide management programs.

For more information about Cruiser, contact your Syngenta crop protection or seed treatment representative, or ask your seed dealer.

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# Three steps reduce root rot

Three steps can significantly reduce the incidence of root rot in dry beans, says Jim Percich, U of M plant pathologist.

**1** Rotate with non host crops. U of M research indicates that root rot pathogens don't colonize buckwheat, oat, rye and soybean.

**2** Use deep tillage to disrupt compacted soil layers. In U of M trials, moldboard tillage increased dry bean yield by 50% over chisel plowing. Chiseling 6-8 inches deep caused the formation of capaction layer that inhibited soil drainage and interfered with root growth and development. The increased yield obtained from moldboard tillage was a result of enhanced root growth and reduced root rot severity (28% reduction) resulting from less penetration resistance and improved drainage. More extensive

root development reduces plant susceptibility to moisture and nutrient stress. Enhanced drainage shortens periods of soil saturation that favor root rot development. Irrigation may exacerbate root rot severity in plants growing above the impedance layer by increasing the number and duration of episodes when soils are saturated.

The combined use of moldboard tillage and biocontrol seed treatments (*B. subtilis* and *Rhizobium*) at the Central Lakes Agricultural Center and in a grower's field significantly increased

average yields 20 and 27%, respectively, as well as enhancing edible bean root development and decreasing disease severity when compared to chisel tillage.

**3** Apply biological seed treatment consisting of the *Bacillus subtilis* (Kodiak or Subtilixâ) and *Rhizobium tropici*. They reduced root rot and increased yield 10 to 30% compared to untreated seed. If you use biological seed treatment, don't also treat the seed with Captan and Streptomycin.

In U of M lab and field research, Captan and Streptomycin significantly reduced the effectiveness of biological seed treatments (*B. subtilis* and *Rhizobium*) and did not increase yield compared to biological seed treatments. However, the insecticide Lorsban had no effect on the biological seed treatments.

## At a glance

- Rot doesn't colonize buckwheat, oat, rye and soybean.
- Breaking up compaction layer reduces rot by improving drainage.
- Biological seed treatments increased yields 10-30%.

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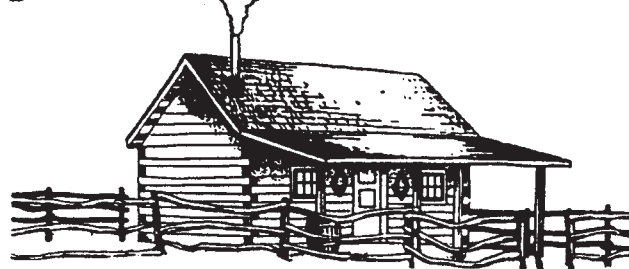
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# Getting closer: White mold resistance

The bean industry is getting closer to developing white mold resistant beans. USDA recently announced the release of two pinto germplasm lines that have partial resistance to white mold.

The lines are not good enough to be used commercially themselves, but they can be used in breeding programs

to pass on white mold resistance to new commercial varieties.

The lines come from crosses between Astec, an upright pinto, and Bunzi, a white mold resistant navy.

USDA ARS, North Dakota Agriculture Experiment Station and Michigan State University developed the lines.



## Crop insurance dates

The following are important crop insurance dates for 2005:

### All beans except Garbanzo types

Earliest planting date (North Dakota) (depending on county)	May 1 or May 5
Earliest planting date (Minnesota)	April 26
Final planning date	June 10
Acreage reporting date	June 30
Premium billing date	Oct. 1
Production reporting date	April 29, 2006



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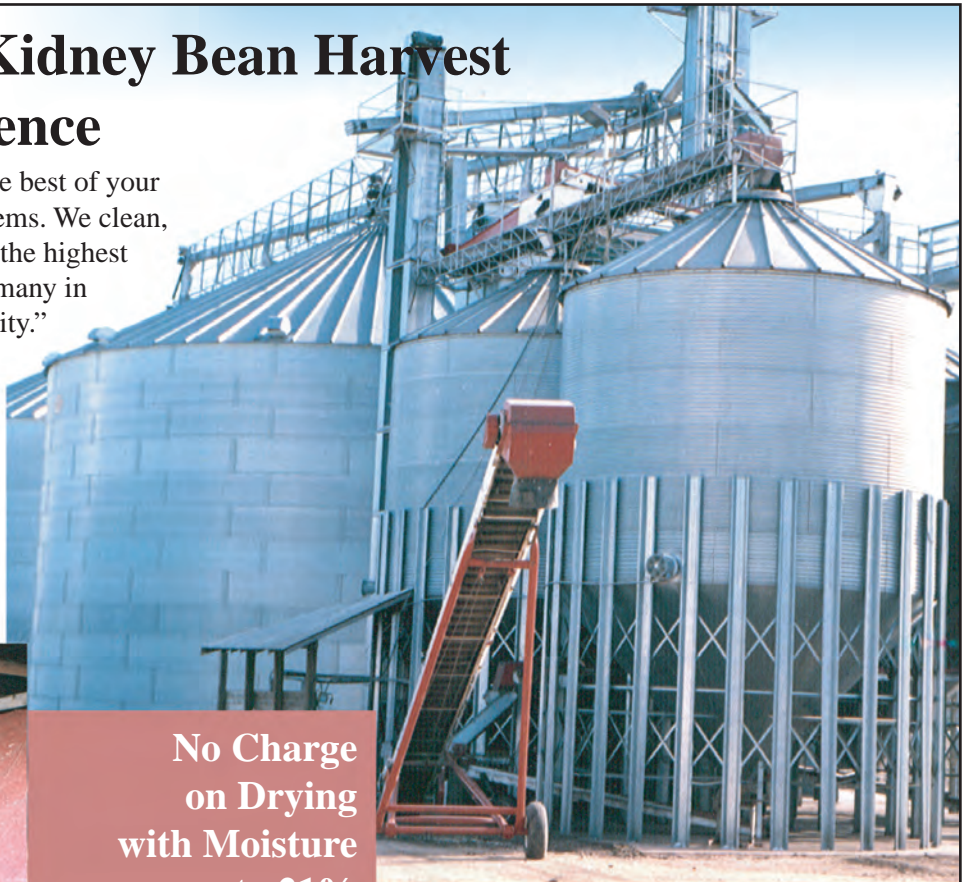
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# Bean Recipes From Lynne

## Spice up leftovers in Crockpot Cassoulet

By Lynne Bigwood  
Northarvest Home Economist

I consulted two references to define "cassoulet."

One, from The Encyclopedia of Cooking: "Cassoulet - A haricot bean stew originating in the Languedoc region of France. It is prepared from pork, mutton, and goose (or duck) and is made in an earthenware utensil known as the cassole d'Issel: this name has evolved into the word cassoulet. There are as many recipes for this dish as there are cooks."



Lynne Bigwood

The second, from Mastering the Art of French Cooking, by the original

French cooking experts Julia Child, Louisette Bertholle and Simone Beck: "French Baked Beans. Cassoulet is a rich combination of beans baked with meats, as much a part of southwestern France as Boston baked beans are of New England. As cassoulet is native to a relatively large region of France, each part of which has its own specialties, arguments about what should go into this famous dish seem based on local traditions. Fortunately all the talk can be regarded as so much historical background, for an extremely good cassoulet can be made anywhere out of beans and whatever of its traditional meats are available: goose, game, pork, sausages, lamb, mutton. The important item is flavor, which comes largely from the liquid the beans and meats are cooked in."

The recipe from this book "makes no attempt to cut corners, for the concoction

of a good cassoulet is a fairly long process. You can prepare it in one day, but two or even three days of leisurely on-and-off cooking are much easier. It calls for roast loin of pork, shoulder of lamb braised in wine, homemade sausage cakes, and beans cooked with pork rind, fresh bacon or salt pork, and aromatic vegetables. The meats are cut into serving pieces and arranged in a casserole with the beans and various cooking juices. Then the dish is baked in the oven for an hour to blend flavors" and crisp the breadcrumb topping. "... the splendid braising liquid (*from the meats*) gives character to the cassoulet. But after you have made the dish once or twice, you will see that you can pretty well invent your own formula as long as you supply excellent flavor through one means or another."

In summary, a cassoulet is a French stew made by slowly simmering beans with more than one kind of meat. It can be made with leftover or uncooked meats including game.

All of the recipes I found in my cookbooks used pork, poultry and sausage and a little ground cloves in place of the allspice in the French sausage. Just a little bit of that unexpected spice adds a distinctive, delightful flavor.

This easy variation is a recipe from The Bean Cookbook with a breadcrumb topping added. Dry white wine could be substituted for the fruit juice to make the recipe more authentic. Well-trimmed, cooked pork chops may also be added to the stew. Adding more meat will increase the calories and fat in each serving.

A traditional use would be to use this recipe and clean out the fridge after two or three days of cooking for a big holiday. All the miscellaneous leftovers would be put to good use in a "new" dish. Dry beans to the rescue!



Leftover meats, including wild game, can be added with beans to Crockpot Cassoulet.

# Crockpot Cassoulet

8 Servings

395 calories/serving

19% calories from fat

## Ingredients:

3 medium carrots, cut into ½ inch pieces (1 cup)  
1 medium onion, chopped (1/2 cup)  
2 bay leaves  
1/3 cup water  
3 cans (15 ½ ounce) navy beans, drained and rinsed  
1 6-ounce can tomato paste  
½ cup apple or white grape juice concentrate  
1 teaspoon garlic powder or dry or fresh minced garlic  
½ teaspoon thyme, crushed  
1/8 teaspoon ground cloves  
4 boneless, skinless chicken breast halves, frozen individually  
½ pound fully-cooked low-fat turkey sausage, sliced in ¼-inch thick slices

## Crockpot Method:

1. Put carrot, onion, bay leaves and water in a small saucepan and bring to a boil. Simmer, covered, for 5 minutes.
2. Pour the carrot and onion mixture into the crockpot. Add the beans, tomato paste, juice concentrate and seasonings. Stir.
3. Place the frozen chicken on top of the bean mixture. Lay the sausage slices on top of the chicken.
4. Cook on low heat setting for 9 – 10 hours or on the high heat setting for 5 ½ to 6 hours. By using frozen chicken, the chicken will be tender but not overdone after cooking all day.
5. Before serving, remove bay leaves and skim off any fat.
6. Serve with a green salad, bread and fruit.

## Oven Method:

1. Follow steps 1, 2 and 3 substituting a 9 x 13 aluminum or glass pan for the crockpot. The pan should be approximately 2/3 full.
2. Bake @ 200° F covered with foil or a lid for 4 – 5 hours.
3. One half hour before serving, turn the oven up to 350° F. Remove and uncover the casserole. Sprinkle 1 ½ - 2 cups of breadcrumbs over the top. Return the casserole to the oven checking frequently after 15 minutes of baking to prevent over browning the topping.



## Back cover recipe

### Chicken Salad Chapala

Makes 6 servings (about 1 cup each)

Preparation time: 20 to 25 minutes

## Ingredients

Vegetable cooking spray  
4 flour tortillas (8-inch)  
16 ounces chicken breast, cooked, shredded or cubed  
1 can (15 ounces) Pinto or Red Kidney beans or 1 1/2 cups cooked dry-packaged Pinto or Red Kidney beans, rinsed, drained  
1 can (15 ounces) Black beans or 1 1/2 cups cooked dry-packaged Black beans, rinsed, drained  
1 cup cubed mango  
1 medium zucchini, cut in half, sliced  
1/2 cup chopped red bell pepper  
1/4 cup chopped green onions and tops  
6 cups torn salad greens  
Honey-Cumin Vinaigrette (recipe follows).

## Preparation

1. Cut each tortilla into 6 wedges; spray tops with cooking spray. Bake on cookie sheet at 375° F. until browned and crisp, 5 to 8 minutes; reserve.
2. Combine chicken, beans, mango, zucchini, bell pepper and green onions in bowl; pour Honey-Cumin Vinaigrette over and toss.
3. Arrange salad greens on serving plates and spoon chicken salad over; garnish with reserved tortilla wedges.

## Honey-Cumin Vinaigrette

Makes about 2/3 cup

1/2 cup orange juice  
1-2 tablespoons olive oil  
1 tablespoon honey  
2-3 teaspoons lime juice  
1/4 teaspoon ground cumin

## Preparation

1. Mix all ingredients.

Tortilla wedges can be made 3 to 4 days in advance; store at room temperature in airtight container.

NOTE: Although B.E.A.N. recipes usually call for a specific variety, any canned or dry-packaged bean variety can be easily substituted for another.

## Nutrient Information

Per serving: Calories 343; Fat 7g; % Calories from Fat 18; Calcium 131mg; Carbohydrate 49g; Folate 210mcg; Sodium 564mg; Protein 27g; Dietary Fiber 10g; Cholesterol 46mg



# Bush Brothers knows beans

by Marlen Dufault

“Roll that beautiful bean footage.”

That’s the tag line on what may be one of the most successful ad campaigns by a dry bean processor.

The line comes from Bush Brothers & Company, the makers of Bush Beans

In 1993, Bush Brothers & Company set out to do a unique commercial using Jay and his “talking” dog, Duke, to sell the baked beans. The result? The company doubled the national market share in baked beans and in 1995, the ad won a Gold Effie, one of the most prestigious awards in TV advertising.

At that time, Bush had 48 % share in the national market in baked beans. It jumped to 80% eight years later.

The commercials have Jay Bush touting the great taste of Bush Beans and keeping the family’s recipe a secret, with Duke in the background willing to sell the recipe for a price.

You can see all of the TV ads on Bush’s web site at [www.bushbeans.com/jayduke/ads.jsp](http://www.bushbeans.com/jayduke/ads.jsp). These comical ads include Duke’s favorite line, “Roll that beautiful bean footage.”



## Bush Bean facts:

- 1) Top 2 months for chili consumption are January and December.
- 2) Bush Brothers sells more than 55 million pounds of chili, kidney and pinto beans in one year – the weight equivalent to 4,200 male African elephants.

## At a Glance

- Bush Brothers has 80% share of the baked bean market.
- Ads featuring Jay and his talking dog, Duke, helped increase sales.
- Bush buys 65% of navy beans and 80% of pintos from Northarvest.

## Many products

Bush’s Baked Beans are the flagship of the company and come in many varieties including Original, Barbecue, Bold and Spicy and even a vegetarian product. Chili is another product line of Bush Beans.

Other products include black beans, black eyed peas, cannelline beans, navy, butter beans, garbanzo, kidney dark red beans, pinto beans and even sauerkraut. You can add these to your own dish or use them as a side dish.

For the cooks that are kitchen challenged, Bush Beans has several product lines available that you can add your own meat and tomatoes. A new product on the market is a microwavable cup in a convenient 7.5 oz size – the Original Baked Bean.

The Bush Bean’s web site supplies a variety of recipes, ranging from Shake-A-Leg Chicken with Cool Kraut to My Big Fat Greek Stew.

*Dufault is a Red Lake Falls, Minn., writer.*



## 65% from Northarvest

According to Lynn Murray, senior manager of dry bean procurement at Bush Brothers, 65% of the company’s navy beans come from the North Dakota/Minnesota growing area. Approximately 80% + of the pintos come from the area as well and slightly over 50% of the dark red kidney beans come from Minnesota and Wisconsin.



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# Bean Day 2005

If the blizzard on Bean Day 2005 drove you home early, or prevented you from venturing out in the first place, you can catch up on what you missed – all from the comfort of home.

The CD on the opposite page contains all the presentations from Bean Day. You view all the slides, and hear the speakers – just as if you were at Bean Day in person. The CD contains an audio of the speakers that coincides with the slides they presented.

## CD use instructions:

This CD is meant for playback on a computer running Microsoft Windows 98 or later. Insert the CD in your computer's drive. It should start automatically. If not, launch the file called "autorun.inf" directly from the CD.

## Viewing the presentations:

Once the menu is launched, you may select the presentation you wish to view. The slides will advance automatically. To skip ahead in the presentation, click the primary mouse button or use the up and down arrows on computer keyboard. To end the presentation, click the secondary mouse button and select "End Show" from the popup menu.



**Eric Delahoyde**

Graduate research assistant  
Plant Science Department, NDSU  
Presentation: Weed Control,  
Pre-Harvest Weed Control and  
Desiccants: What's New for Dry  
Beans in 2005?



**Dr. James Percich**

Professor & Plant Pathologist  
University of Minnesota  
Presentation: Effect of Nitrogen  
Fertilization and the Liming of Acid  
Soils on Kidney Bean Root Rot



**Steve Junghans**

USDA Risk Management Agency  
Billings, Mont.  
Presentation: Risk Management: An  
Update on Crop Insurance in North  
Dakota for 2005.



**Kevin Erickson**

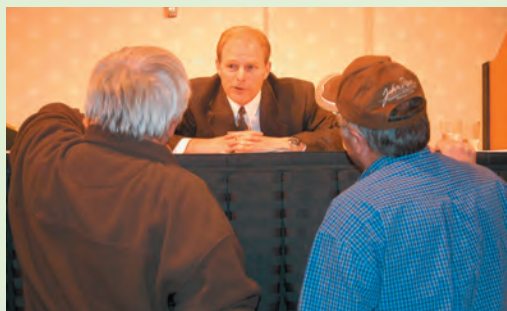
USDA Risk Management Agency  
St. Paul, Minn.  
Presentation: Risk Management:  
An Update on Crop Insurance in  
Minnesota for 2005.



**Lynn Preator**

Preator Bean Company  
Burlington Wyo.  
Presentation: U.S. Dry Bean Seed Supplies  
for 2005: Short, Adequate, Plenty?





**Scott Stofferahn**  
Deputy State Director  
Sen. Kent Conrad  
Presentation: Unfolding the Crop Disaster Aid  
Program for 2004



**Jim Bendt**  
President,  
Gabriel, deGrood, Bendt  
Presentation: Marching On With  
the Beaning of America  
National Campaign



**Randy Duckworth**  
Executive Director & International  
Marketing Director  
U.S. Dry Bean Council  
Presentation: An In-depth Look at  
China as a World Supplier of Dry Beans



**Deborah Tye**  
Ag Marketing Specialist  
Export Operations Division  
USDA-FSA-KCCO  
Presentation: U.S. Food Aid Demand Outlook



**Tom Gilley**  
Larson Grain Company  
Englevale, N.D.  
Presentation: 2004 U.S. Dry  
Bean Council Harvest Tour: The  
Outlook for Mexico



**Paul Montgomery**  
PW Montgomery  
Detroit Lakes, Minn.  
Presentation: What does the locomotive North  
American Dry Bean Market Promise for 2005?



**Ken Bertsch**  
Seed Commissioner  
North Dakota State  
Seed Department  
Fargo, ND  
Presentation: U.S. Dry  
Bean Seed Supplies for  
2005: Short, Adequate,  
Plenty?







## The lighter side of Bean Day

At left, Jim Teter has a little fun with Clayton Day of ADM Specialties, whose magic wand goes limp during a trick. Below, Teter displays his cast of ventriloquist dummies that he used in his show at the pre Bean Day banquet.



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# More scenes from Bean Day



Tim Courneya, Northarvest Bean Grower Association executive vice-president, presents Leann Schafer, New Rockford, N.D., with the door prize of a TV and VCR. AgCountry Farm Credit Services and Farm Credit Services of Grand Forks, N.D., sponsored the door prize for North Dakota or Minnesota growers registering for Bean Day 2005. If this picture looks familiar, you're right. Schafer won the door prize last year, too. Her number wasn't the first one drawn this year at Bean Day. Because of worsening weather, many of those who registered in the morning left by early afternoon before the door prize was drawn.



Gary Friskop, Wahpeton, N.D., immediate past president of the Northarvest board of directors opens the 30th annual Bean Day with a hearty welcome.

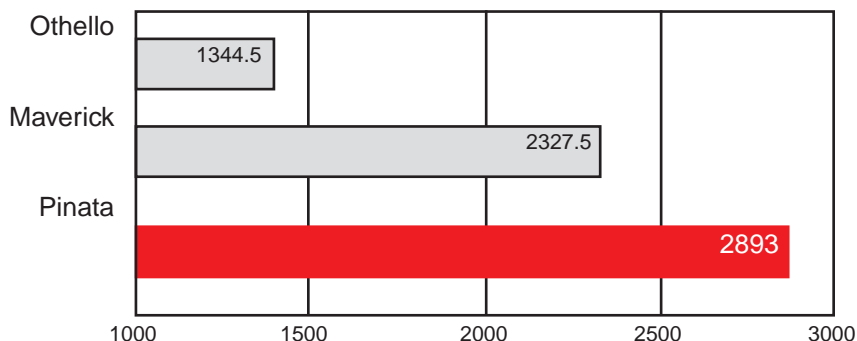


The trade show featured dozens of booths and gave attendees a chance to see what was new and to meet industry representatives.

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Maverick	103	2136	2519	2327.5	s	t	s
Othello	105	1262	1427	1344.5	s	s	s

\*Adjusted for moisture; t=tolerant, mt=moderately tolerant, s=susceptible, ms=moderately susceptible. Pinata is under Plant Variety Protection.



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# U.S. explores market potential in Russia

The opportunity to sell Russia dry beans is growing, according to a report by a U.S. Dry Bean Council trade team that attended the country's largest food show in Moscow recently.

Kevin Anderson, East Grand Forks, Minn., and Gary Paur, Gilby, N.D., represented the Northarvest Bean Growers Association on the team.

The following is a summary from the team's report. For the complete report, visit the Northarvest Web site, [www.northarvestbean.org](http://www.northarvestbean.org).

## Emerging demand

Russia's economy is growing by 5% to 6% per year. Oil prices are up, creating a trade surplus and personal income has been increasing by 7% to 8% yearly.

Russia has the world's fastest growing retail food market, which may double in size by 2008 as it did between 2001 and 2004.

### At a glance

- **Russia hold potential for U.S. dry bean exports**
- **There is growing demand for quality products.**
- **Importers need beans, especially from September-March when local, fresh supplies become depleted.**
- **Navies, pintos and dark red kidneys may be on its shopping list in the future.**

Imported and foreign-branded products in all categories are fashionable and sought after by a growing consumer segment.

New Western-style supermarkets are rapidly expanding to meet consumer demand for variety

and service, creating a good venue for imported products.

Russian importers need supplies of dry beans espe-

cially during from September through March when fresh vegetables (often grown by Russians themselves in their own small gardens at their country homes) become depleted.

When the potato season is finished, Russians turn to dry beans as a replacement, adding beans to soups, in particular, for extra taste, color and texture. Russians also tend to consume dry beans during Lent, when it is customary to give up meat.

Russia imported approximately 17,000 MT of dry beans in 2004, mostly from China and Eastern Europe. But processors say they are interested in higher quality beans. The same situation exists with rice. Russia has plenty of domestic production and cheap imports, but buys higher quality U.S. rice and U.S. food products containing rice.

## Beans that Russia wants

Russian buyers are interested dark red kidneys and Great Northerns for canning and dry packaging; and navies, pintos and cranberries for dry packaging.

Pintos and cranberries are similar to the speckled beans that Russia imports from Ukraine and Uzbekistan. There also is moderate interest in large lima, small red and black beans.



Kevin Anderson, left, and Gary Paur check out a Russian supermarket.

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# Middle East holds export potential

A trade team that attend a food show in the Middle East reports that there is some potential demand for U.S. dry beans in the region.

Alan Juliuson, Hope, N.D., represented the Northarvest Bean Growers Association. The follow are highlights of the team's report:

## Staging area

Large volumes of red lentils, yellow and green peas, chickpeas and beans are imported and re-exported through the free trade zone in Dubai.

The majority of buyers are smaller-sized companies that re-sell into the region's local markets. Some also produce consumer pack-aged products. Many of these companies sell to the affluent hotel and restaurant market and are looking for higher quality legumes than are generally traded in the region. These companies generally buy legumes in single or mixed container volumes, but it is a growing niche that would seem to hold the best prospects for U.S. legume exporters.

### At a glance

- **Many Middle East buyers are looking for higher quality product to re-sell to affluent hotels and restaurants.**
- **Iraq commercial trade will likely grow as the country becomes more stable.**
- **USAID opens new port facility in Dubai to pre-position relief aid.**

## Iraq market

Food is currently being shipped to Iraq from Dubai through private commercial channels. Many people expect that as the country stabilizes this commercial trade will grow. USAID

has opened a facility Dubai to pre-position relief aid for disasters and emergencies.

## Conclusions

The U.S. industry may not be able to benefit with large export sales of beans to the region until its prices are competitive with Canada's, Argentina's and Peru's. However, demand is growing for high quality legumes.

The culture and distance from the U.S. will make the Persian Gulf market a challenge for many exporters. Rules, regulations and politics change rapidly.

For the complete report, visit Northarvest's Web site, [www.northarvest.org](http://www.northarvest.org)

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## Showing beans to the little sprouts

Beverly Zink (left) and Lynne Bigwood (below) teach children attending the Living Ag Classroom at the recent KFYP Ag Expo in Bismarck about dry bean production by helping them play "Bean Crazy." It is a board game that helps children see how beans are grown, processed and used in food products. Students learn about how their decisions, weather and markets affect their success (\$\$\$ earned) as bean farmers. The Northharvest Bean Growers Association was one of 13 groups that presented lessons about agriculture production in North Dakota, ag careers, safety and soil conservation during Living Ag Classroom in Bismarck and Minot. Approximately 1,000 fourth grade students from 53 different classrooms around the region attended.

-- Lynne Bigwood, Northharvest Home Economist.



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Black Varieties**



# 2005 Weed Control guide

Compiled by Richard Zollinger, NDSU extension weed specialist

## Notes:

**E1. Navy bean** generally is less tolerance to herbicides than other dry beans types or soybean. Rotary hoe before crook stage or after emergence up to 1 to 2 trifoliates.

**E2. Basagran** (bentazon) applied in sequential treatments provides improved broadleaf weed control compared to a single application. Basagran at 1 pt/A plus petroleum oil applied before weeds are 0.5 to 4 inches tall with repeat application 7 to 10 days later will control cocklebur, lambsquarters, annual smartweed, Venice mallow, and wild mustard. Common ragweed, kochia, pigweed, and sunflower may be partially controlled. Refer to label for information on weed sizes at application. NDSU research has shown greater control of lambs—quarters, redroot pigweed and kochia by applying Basagran as split treatments either twice each at 1 pt/A, 3 times each at 0.67 pt/A, or 4 times each at 0.5 pt/A as compared to one application at 2 pt/A.

**E3. Eptam** (EPTC) at 2.3 to 3.5 pt/A or 11 to 15 lb 20G/A plus Prowl, Sonalan, or trifluralin controls many grass and broadleaf weeds including wild oat and common lambsquarters. Incorporate at a 4 to 6 inch depth immediately after application. Do not use Eptam on soybean.

**E4. Intrro** (alachlor) only PPI at 2 to 3 qt/A, **metolachlor** or **S-metolachlor** PPI or PRE at 1 to 2 pt/A, or **Outlook** (dimethenamid) PPI, PRE or EPOST up to the third trifoliolate at 1 to 2 pt/A controls annual grasses and some broadleaf weeds. PPI may provide more consistent weed control since rainfall is essential for activation. **Outlook** can be applied in sequential treatments for improved nightshade control in dry bean. Outlook PPI or PRE provides greater nightshade control than Dual or Lasso but may degrade in the soil before nightshade emergence ceases. Apply Outlook EPOST alone or with Basagran up to third trifoliolate dry beans to reduce late nightshade emergence.

Herbicide	Product/A (lb ai/A)	Weeds	When to Apply	Remarks and Paragraphs
Glyphosate	<b>1 to 3 pt of a 3 lb ae/gal conc.</b> (0.38 to 1.125 ae) <b>See Remarks.</b>	Emerged grass and broadleaf weeds.	Preplant or anytime prior to crop emergence.	<u>lb ae/gal</u> <u>lb ai/gal</u> <u>0.38 ae</u> <u>0.57 ae</u> <u>0.75 ae</u> <u>1.125ae</u> 3 4 = 16 fl oz 24 fl oz 32 fl oz 48 fl oz 4/4.17 5.4/5.1 = 12 fl oz 18 fl oz 24 fl oz 36 fl oz 4.5 5.5 = 11 fl oz 16 fl oz 22 fl oz 32 fl oz 5 6.1 = 10 fl oz 15 fl oz 20 fl oz 30 fl oz Non-selective, non-residual, systemic, foliar herbicide. Apply with AMS fertilizer. Refer to label for adjuvant use. A4-6 Q3 X1
<b>Gramoxone Max</b> (paraquat) <b>RUP</b>	<b>1 to 2.7 pt</b> (0.375 to 1)			Non-residual, contact, foliar herbicides. Apply with a NIS at 0.25% v/v to small weeds. Thorough plant coverage is essential. B4 S1 S3-4 Q5 X1
<b>Aim</b> (carfentrazone)	<b>1/2 to 1 fl oz EW</b> (0.128 to 0.256 oz)	Small broadleaf weeds.		
<b>Eptam</b> (EPTC)	<b>3.5 to 4.5 pt</b> (3 to 4)	Grass and some broadleaf weeds.	PPI.	Weak on wild mustard. PPI immediately after application. Consult label for rate range for specific tank mix. A1 A2 A3 E3 S4
<b>Prowl</b> <b>Prowl H2O</b> (pendimethalin)	<b>2.4 to 3.6 pt EC</b> <b>2.1 to 3 pt ACS</b> (1 to 1.5)			No wild mustard and poor wild oat control. Adjust rate according to soil type. Refer to label for rotational restrictions and tank-mix options. A1 E5 S7 Y20 Y25
Trifluralin	<b>1 to 2 pt</b> <b>5 to 10 lb 10G</b> (0.5 to 1)		PPI. Fall or spring.	No wild mustard and poor wild oat control. PPI within 24 hours after application. Refer to label for tank-mixtures and crop rotational restrictions. A1 A3 E5 S7 X1 Y1 Y20 Y25
<b>Sonalan</b> (ethalfuralin)	<b>1.5 to 4.5 pt</b> <b>5.5 to 11.5 lb 10G</b> (0.55 to 1.15)		PPI. Fall: After October 15 or Spring. Spring: PPI for EC formulation only.	No wild mustard and poor wild oat control. Adjust rate according to soil type. Use highest rate allowed for nightshade control. Refer to narrative for rotational restrictions. Can be applied with Eptam. A1 A3 E5 S7 Y20 Y25 X1
	<b>7.5 to 11.5 lb 10G</b> (0.75 to 1.15)	Foxtail.	Fall incorporated between October 1 to December 31 or Spring.	Use in reduced or conservation tillage systems. Incorporate twice at 2 to 3 inches deep using a V-blade undercutter or rotary hoe at 5 mph. For fall application, incorporate once in the fall and once in the spring before seeding. A1 A3 E5 S7 Y20 Y25 X1
Metolachlor S-Metolachlor	<b>1 to 2 pt</b> (0.95 to 1.9)	Grass and some broadleaf weeds.	Spring: PPI or PRE.	Metolachlor products: Me-too-lachlor, Parallel, Stalwart. S-Metolachlor products: Cinch and Dual Magnum. S-metolachlor may give greater weed control than metolachlor at equal product rates.
<b>Outlook</b> (dimethenamid-P)	<b>16 to 21 fl oz</b> (0.75 to 1)		PPI, PRE, or EPOST.	Poor on wild mustard and wild oat. Adjust rate according to soil type and OM. PPI improves consistency of weed control.
<b>Intrro</b> (alachlor) <b>RUP</b>	<b>4 to 6 pt</b> (2 to 3)		PPI.	Can be tank-mixed with Eptam, Prowl, Sonalan, or trifluralin. Outlook provides greater nightshade control. Outlook can be applied EPOST with Basagran and Pursuit. A1 C15 E4 S4
<b>Spartan</b> (sulfentrazone)	<b>1.5 to 4 oz DF</b> <b>2.2 to 6 fl oz F</b> (1.125 to 3 oz)	Small-seeded broadleaf weeds including kochia, pigweed species, lambsquarters, nightshade, and b. wormwood.	Fall, EPP, shallow PPI, and PRE.	Use lower rates on light soils with OM < 3%. Do not use on sand soil with < 1% OM. Requires precipitation to activate herbicide. May give 6 to 8 weeks residual weed control. See label or narrative for tank-mix options, application information, rate structure, and crop rotation restrictions. D2 D19 J4 S1 S3-5 S7 Y21 Y25
<b>Pursuit</b> (imazethapyr)	<b>2 fl oz</b> <b>0.72 oz WDG</b> (0.5 oz)	Broadleaf weeds including nightshade and wild buckwheat.	Shallow PPI, PRE. POST. Drybean: After 1 <sup>st</sup> trifoliolate but <b>prior to flowering.</b>	User assumes all risk of crop injury. Reduced crop growth, quality, yield and/or delayed maturity may result. Do not apply prior to during stress conditions (cold/wet). Allow a 60 day PHI. Refer to label for tank-mix options, application information, weed size, crop rotation restrictions, and other use information.
<b>Raptor</b> (imazmox)	<b>4 fl oz</b> (0.5 oz)	No control of ALS resistant kochia.	POST. Drybean: After 1 <sup>st</sup> trifoliolate but <b>prior to flowering.</b>	A7 E6 G1 H1 S4-5 X1 Y2 Y25

**E5. Prowl/Prowl H2O** (pendimethalin), **Sonalan** (ethalfuralin), and **trifluralin** are discussed under the soybean section. Trifluralin, Prowl and Sonalan applied PPI controls annual grasses, redroot pigweed, and common lambsquarters. Adjust rate for soil type and incorporate in the top 2 to 3 inches of soil within 2 days of application. Sonalan 10G at 7.5 to 12.5 lb/A

10G applied in the fall or spring suppresses foxtail in dry edible bean and sunflower grown in reduced tillage systems. Apply in the fall between October 10 and December 31, or spring PPI before planting. Apply to tilled land or standing or chopped stubble. Incorporate twice 2 to 3 inches deep using a V-blade undercutter or other implements such as a rotary hoe that leave a maximum

amount of crop residue on the soil surface. The first incorporation should be performed within 48 hours after application. The second incorporation should be performed at an angle to the first incorporation and must be delayed at least 14 days after the first incorporation. Sonalan 10G applied in the fall should be incorporated once in the fall and the second time in the spring

Herbicide	Product/A (lb ai/A)	Weeds	When to Apply	Remarks and Paragraphs
<b>Basagran</b> (bentazon)	<b>1 to 2 pt</b> (0.5 to 1)	Wild mustard, cocklebur, sunflower, ragweed, Venice mallow and suppression of Canada thistle.	POST. Dry bean: After emergence. Broadleaf weeds: Small seedlings.	Thorough spray coverage is essential. Apply with oil adjuvant at 1 qt/A. Partial control of biennial wormwood.
	<b>1 pt / 1 pt</b> (0.5/0.5)		Apply twice. Make second application 7 to 10 days after first.	Two applications at a 7 to 10 day interval improves overall weed control and controls biennial wormwood and Canada thistle. Apply the first treatment to unifoliate to first trifoliate dry bean. D5 E2 S4 S7 T2
<b>Rezult</b> (Co-pack of bentazon + sethoxydim)	<b>1.6 + 1.6 pt</b> (1+ 0.2)	Grass and broadleaf weeds.	POST. Dry bean: Emergence to 30 days prior to harvest.	Add oil adjuvants at 1 to 2 pt/A. Provides economical weed control. Refer to Basagran and Poast sections for additional information. D5 D12 S7
<b>Reflex</b> (fomesafen) <b>Section 18</b> <b>Exemption</b> <b>Pending</b>	<b>0.75 pt</b> (0.19)	Annual broadleaf weeds including ragweed and ALS susceptible and ALS resistant nightshade.	POST. Dry bean: Prior to bloom.  Weeds: 1 to 4 inches.	Apply with NIS at 0.125 to 0.25% v/v or oil adjuvant at 0.5 to 1% v/v. Allow a 30 day PHI. Oil adjuvant may increase risk of crop injury. Refer to label for weeds controlled, application information, risk of crop injury, and crop rotation restrictions. A7 E8 S3 S4-5 Y14 Y25
<b>Assure II</b> (quizalofop)	<b>8 to 10 fl oz</b> (0.88 to 1.1 oz)	Annual grasses and quackgrass.	POST. Dry bean: 30 days or more prior to harvest.	Apply with oil adjuvant to actively growing weeds. Apply: Assure II with oil adjuvant at 1 % v/v. Poast with oil adjuvant at 1 qt/A. Select and Arrow with oil adjuvant at 1pt/A. See soybean section, label, or narrative for tank-mix options, possible grass antagonism with broadleaf herbicides, and avoiding reduced grass control. Lack of yellow foxtail control may result if Assure II is applied at reduced rates or with broadleaf herbicides. D4 D12 D16 D23 X1
<b>Poast</b> (sethoxydim)	<b>0.5 to 1.5 pt</b> (0.1 to 0.3)	Annual grasses.		
<b>Select</b> <b>Arrow</b> <b>Prism</b> (clethodim)	<b>Select and Arrow:</b> <b>4 to 8 fl oz</b> <b>Prism:</b> <b>8.5 to 17 fl oz</b> (1 to 2 oz)	Annual grasses and quackgrass.	Grass: 2 to 6 inches tall.	
<b>Rezult</b> (bentazon + sethoxydim) + <b>Raptor</b> (imazamox) + <b>Reflex</b> (fomesafen) + <b>Select</b> (clethodim) + MSO adjuvant  <b>NDSU Micro-Rate</b>	<b>0.6 + 0.6 pt</b> (0.375 + 1.2 oz) + <b>0.9 fl oz</b> (0.11 oz) + <b>0.3 pt</b> (0.08) + <b>2 fl oz</b> (0.5 oz) + 1 to 1.5 pt/A	Grass and broadleaf weeds, including kochia, pigweed, wild mustard, eastern black and hairy nightshade.  May not control wild buckwheat.	POST. Weeds. Small - Must be less than 2 to 3 inches tall.	<b>User assumes all risk of inadequate weed control and/or dry bean injury if Rezult, Raptor, Reflex, or Select is used at less than labeled rate.</b> Micro-Rate must be applied with MSO or MSO + Basic Blend adjuvant. Select can be excluded if grass infestation is light. See sections on individual herbicides above for other precautions. See label for crop rotation restrictions, and additional information. Provides economical weed control. A5 A7 D5 D8 D12 D15-16 E7-8 S3-4 X1 Y2 Y14 Y25
<b>Preharvest Application</b>				
<b>RU OriginalMax</b> (glyphosate)	<b>22 fl oz</b> (0.77 ae)	Weed control - NOT FOR CROP DESICCATION.	After drybean pods have turned yellow in color and leather in texture.	DO NOT USE AS CROP DESICCANT. Non-selective, non-residual, systemic, foliar herbicide. Apply at hard dough bean seed stage and 30% or less seed moisture. Allow a 7 day PHI. <b>Do not apply to drybean grown for seed because reduced germination/vigor may occur.</b> A4-6 Q3 X1
<b>Gramoxone Max</b> (paraquat)  <b>RUP</b>	<b>0.8 to 1.3 pt</b> (0.28 to 0.49)	Desiccant.	POST. Dry bean: At least 80% pods are yellow/brown.	Apply when no more than 40% (bush type beans) or 30% (vine type) of the leaves still green. Allow a 7 day PHI. Q5
<b>Drexel Defol</b> (sodium chlorate)	<b>1 gal of a</b> <b>6 lb/gal conc.</b> (6)		After pods are brown.	Thorough coverage of foliage is essential. Allow a 7 day PHI.

before planting. Refer to label for application rate according to soil type. The higher rate should be used in high crop residues and heavy weed populations.

**E6. Pursuit** (imazethapyr) at 2 fl oz/A or Pursuit DG at 0.72 oz/A or 10 acres per water soluble packet applied PPI, PRE or POST controls many broadleaf weeds including wild mustard and nightshade in most dry bean types, field pea. Pursuit can be applied ONLY PPI within 1 week of planting or PRE up to 3 three days following planting to chickpea/garbanzo bean and lentil at rates listed above.

DO NOT apply POST to chick-pea/ garbanzo bean or lentil. Do not apply after crop has begun flowering. Reduced crop growth, yield, and/or delayed maturity may result from application. Do not apply if planting is delayed, or cold and/or wet weather are present or predicted to occur within one week of application. Do not apply to Domino variety black turtle bean. Pinto varieties UI-111 and Olathe are more sensitive to injury than other Pinto varieties. Apply with NIS at 0.25% v/v to dry beans with at least one trifoliate leaf. DO NOT use oil additives or liquid fertilizer. Refer

to the Raptor paragraph in the soybean section for additional information on application use and restrictions. See Pursuit under the herbicide residue section for information on crop rotation restric—tions. **User assumes all risk of liability for injury.**  
**E7. Raptor** (imazamox) at 4 fl oz applied POST controls or when preceded by a soil applied grass herbicide registered in dry bean controls many annual grass and broadleaf weeds with limited crop rotation restrictions. Raptor control nightshades and may control or suppress wild buckwheat applied PPI. Refer to the Raptor

paragraph in the soybean section for information on application, adjuvant use, and restrictions.

**E8. Reflex** (fomesafen) may be labeled through ND Section 18 emergency labeling for control of several broadleaf weeds including nightshade and common ragweed. Apply Reflex POST at 0.75 pt/A with NIS at 0.25 to 0.5% v/v or oil adjuvant at 0.5 to 1% v/v. Oil adjuvant may increase weed control but also increases risk of dry bean injury. Refer to the Flexstar paragraph in the soybean section for information on application and adjuvant use and restrictions.



# Insect Guide



*Compiled by Phil Glogoza, NDSU extension entomologist, in cooperation with Janet Knodel, Mark Boetel, Denise Olson and Gary Brewer, Department of Entomology, NDSU.*

## LEAFHOPPERS

**Management:** The adult is wedge shaped and pale green in color. Adults are very active, jumping or flying when disturbed. Nymphs are wingless. Both adults and nymphs will run backwards or sideways rapidly. Large numbers of adults may appear early in the season. Nymphs usually complete their growth on the leaf where they hatched, feeding on the underside of the leaf. Damage by leafhoppers is referred to as hopper-burn. Foliage becomes dwarfed, crinkled, and curled. Small triangular brown areas appear at the tips of leaves, gradually spreading around the entire leaf margin.

**Threshold:** The threshold for basing spray decisions is when an average of one leafhopper per trifoliolate leaf is found. Do not let infestations and damage progress to the point that yellowing of foliage is easily detected.

## APHIDS

**Management:** The bean aphid has not been a major pest in North Dakota,

though it can be found. It is nearly black in color and 1/8 inch long. They feed along stems and the underside of leaves. Infestations may result in a build up of honeydew on leaf surfaces, promoting the growth of a black "sooty" fungus.

**Threshold:** No guidelines for control have been established for North Dakota.

## ARMYWORMS

**Management:** Armyworms are more of a problem in small grains and corn. Damage to dry beans can occur when their usual host plants become depleted. They are inactive during the day, resting under plant trash, clumps of grass or lodged plants. They feed at night by crawling up on plants and consuming foliage.

**Threshold:** Control of armyworms is recommended when 25 to 30% of the foliage is destroyed or if significant injury to pods is evident.

## BEAN LEAF BEETLE

**Management:** This beetle can vary in color from yellow to reddish brown, and may have three to four black spots and a black border on the wing covers. Adults emerge from overwintering, moving into bean fields as the seedlings emerge. The white larvae develop

in the soil, feeding on the roots and nodules. New adults emerging in July feed on foliage and pods. The injury to pods results in secondary infections by fungi and bacteria, causing rotting and discoloration.

**Threshold:** Due to low incidence of this insect in North Dakota, no local control guidelines have been developed. University of Missouri entomologists suggest treatment when 40 to 70% of the bean plants show feeding injury on one or more of the pods per plant.

## CUTWORMS

**Management:** Most damage by cutworms occurs when bean plants are in the early stage of development. Damage consists of young plants being chewed off slightly below or at ground level. Some cutworm feeding injury may occur on foliage. Cutworms primarily feed at night. When checking bean fields for cutworms during the day, dig down into soil an inch or two around recently damaged plants; there you can find the gray to gray-brown larva.

**Threshold:** Treatment is warranted when one cutworm or more is found per 3 feet of row and the larvae are small (<3/4 inch long).

# Field Crop Insecticide Products - Quick Reference Chart

Insecticide	Leafhoppers	Aphids	Armyworms	Bean Leaf Beetle	Cutworms	Green Cloverworm	Grasshoppers	Seed Corn Maggot
acephate (Orthene 75S, Address 75S)	○	○	○	○	○	○	○	
Asana XL	○	○			○	○	○	
carbaryl (Sevin)			○	○	○		○	
Di-Syston G	○	○						
diazinon								○
dimethoate (Digon 400, Dimethoate 400)	○	○						
endosulfan 3EC (Phaser, Thiodan)	○	○						
Lannate LV	○	○						
Lorsban 30 F								○
Malathion ULV						○		
Malathion 57EC	○	○						
Methoxychlor 2EC				○				
Mustang	○	○	○	○	○	○	○	
PennCap-M	○	○				○		
Proaxis	○	○	○	○	○	○	○	
Thimet 20 G	○	○						○

## FOLIAGE FEEDING CATERPILLARS

(Green Cloverworm, Cabbage Looper, Velvetbean Caterpillar, Thistle Caterpillar, and Alfalfa webworm )

**Management:** Populations of these caterpillars have been negligible in North Dakota and little treatment to control them has been required. The exception was the 2001 growing season when many of these caterpillars affected bean fields. Sampling for these insects is accomplished through the use of a drop cloth or a vertical beat sheet, placed between two rows of plants. The larvae are dislodged from the plants and counted on the cloth or collection tray to arrive at an estimate of the number per row feet.

**Green cloverworm:** These caterpillars are green with two, narrow, white stripes down the side. When mature, the worms are 1 ¼ inches long. These caterpillars have only three pairs of fleshy prolegs on the abdomen, plus the pair on the back tip. When moving, the worms move by arching the middle of the body, or “looping”. Young worms scrape leaf tissue creating a transparent skin, or “window”, on the leaf surface. Older clover worms eat holes in the

leaves.

**Cabbage looper:** These caterpillars are light to dark green with lighter colored stripes, along the side and on the top, running the length of the body. When mature, the worms are 1 ½ inches long. These caterpillars have only two pairs of fleshy prolegs on the abdomen, plus the pair on the back tip. When moving, the caterpillars move by arching the middle of the body, or “looping”. These worms feed on leaves on the interior and lower portion of the plant. As defoliation occurs, worms feed higher in the plant. Feeding injury is similar to the cloverworm.

**Velvetbean caterpillar:** This insect does not overwinter in the region, instead, moths migrate from southern locations. These caterpillars have dark lines bordered by lighter colored, narrower lines running the length of the body. The background color ranges from a pale yellow-green to brown or black. These larvae have four pairs of fleshy prolegs to distinguish them from the cloverworm and the looper. Young velvetbean caterpillars feed on the underside of leaves in the upper portion of the plant. Older larvae consume the entire leaf, except for the leaf veins.



**Thistle caterpillar:** This insect is the larva of the butterfly known as the Painted Lady. This butterfly does not overwinter in the region, but migrates

**continued on next page**



from southern locations each spring. These caterpillars are brown to black in color with yellow stripes along each side of the body. They are covered with spiny-hairs that give the caterpillar a prickly appearance. Full grown larvae are about 1 ½ inches long. The caterpillars feed on the leaves, webbing them together at the feeding site.

**Alfalfa webworm:** These larvae are 1-inch long when full grown. They are greenish to nearly black with a light stripe that runs down the middle of the back. There are three dark spots, each with hairs, on the side of each segment. These larvae feed for about 3+ weeks. Infestations are characterized by light webbing over the leaves. Beneath the web is where the larvae feed, consuming the leaves. These larvae move very rapidly, forward or backward, when disturbed.

**Threshold:** Control of these dif-

ferent caterpillars is normally not warranted until greater than 30% of the foliage is destroyed. This usually requires an average infestation of 10 to 15 larvae per row foot.

### GRASSHOPPERS

**Management:** In the northern plains, grasshopper egg hatch normally begins in late April to early May. Most grasshoppers emerge from eggs deposited in uncultivated ground. Bean growers should expect to find grasshoppers feeding first along bean field margins adjacent to these sites. Later infestations may develop when grasshopper adults migrate from harvested small grain fields. Grasshoppers will attack leaves and pods, creating holes. Due to these migrations, bean fields become sites for significant egg laying.

**Thresholds:** Grasshopper control is advised whenever 20 or more adults per

square yard are found in field margins or 8 to 14 adults per square yard are occurring in the crop.

### SEED CORN MAGGOT

**Management:** Seed corn maggot attack bean seed, preventing sprouting or weakening seedlings. The yellowish white maggot is found burrowing in the seed or emerging stem. The adult flies emerge in spring when soil temperatures reach 50. They deposit eggs in soil where there is abundant organic matter and decaying crop residue, or on the seed or seedling. Seed corn maggots are usually most severe in wet, cold seasons and on high organic matter soils.

**Thresholds:** When conditions are wet and cool or planting into high crop residue conditions, seed treatments will provide the best defense against injury.



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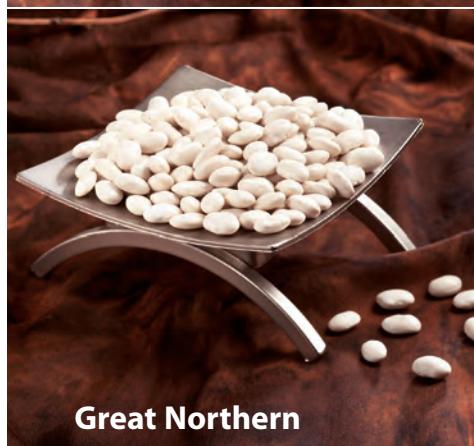
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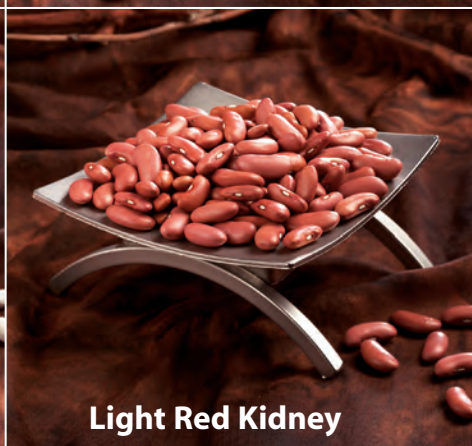
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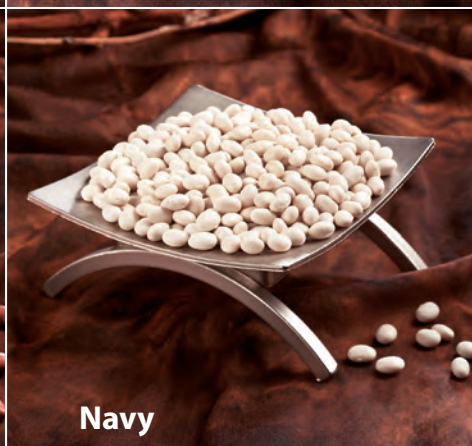
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# 2004 North Dakota dry bean variety trial results

Which varieties performed best in last year's cool summer?

The North Dakota dry bean variety trials can give you some clues.

Duane Berglund, NDSU extension agronomist, compiled the reports.



## 2004 Weather summary

**May** -- Up to a foot of snow fell over most of the north May 11-13. Three to five inches of rain fell in the east during the last half of May, causing some local flooding.

**June** -- Cool temperatures persisted. Lows were in 40s and 50s and highs in the 60s and 70. On June 18, temperatures at several west-central and south-west locations reached the low to mid-

30s, resulting in widespread frost.

**July** -- Relatively cool weather continued throughout July. Lows were 4-7 degrees below normal throughout most of the state.

**August** -- Concern that dry beans would not reach maturity was widespread. Temperatures were 6 to 11 degrees below normal. On August 19-20 minimum temperatures fell into the low 30s nearly everywhere in the state.

**September** -- During the last three weeks of the month, temperatures climbed into the 70s, 80s and at times even a few 90s. Minimum temperatures were 2-8 degrees above normal. Most of the state remained dry.

**October** -- Killing frost in the low 20s occurred during the first few days of the month.

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JD925, 925F, 930, 930 F flex heads

Speedy 6/30" cutter

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## 2004 Navy Variety Trial Forest River, N.D.

Variety	Maturity days	Plant Height in.	100 Seed Wt. gms.	2004 Yield Cwt/A	3-Yr. Ave. Cwt/A
Seahawk	92	54	19.7	15.5	–
Navigator	93	68	16.8	15.2	15.9
Mayflower	95	71	18.1	14.2	16.5
Vista	95	60	16.7	13.7	–
Ensign	90	58	21.4	13.6	18.1
Norstar	92	56	14.0	11.2	14.7
Regent	96	59	16.2	10.9	–
Schooner	97	48	15.6	9.7	15.6
Arthur	92	77	14.2	9.3	13.0
EXP MEAN	92	61	17.1	12.8	
C.V. %	1	9	5.2	11.2	
LSD 5%	2	8	1.3	2.0	

## 2004 Pinto Variety Trial Forest River, N.D.

Variety	Maturity days	Plant Height in.	100 Seed Wt. gms.	2004 Yield Cwt/A	3-Yr. Ave. Cwt/A
Winchester	93	49	34.3	16.9	17.6
Topaz	91	42	30.4	11.8	–
Buster	98	44	29.1	11.6	16.3
Othello	99	35	29.8	10.8	15.3
GTS-900	99	52	29.2	10.7	17.8
Maverick	97	52	30.4	10.1	14.8
Rally	102	55	29.9	9.9	15.7
Grand Mesa	104	47	29.3	8.4	–
EXP MEAN	98	47	30.4	11.5	
C.V. %	2	14	7.9	24.1	
LSD 5%	2	9	3.4	3.9	

## 2004 Miscellaneous Bean Variety Trial - Park Rapids, Minn.

Variety	Class	Maturity days	Plant Height in.	100 Seed Wt. gms.	2004 Yield Cwt/A	2-Yr. Ave. Cwt/A
Cal. Early	LRK	99	42	58.5	24.1	17.9
Red Hawk	DRK	104	50	52.8	23.6	18.2
Redcoat	RWK	105	49	56.1	23.1	–
Montcalm	DRK	107	51	62.7	22.7	16.9
Chinook 2000	LRK	107	48	54.8	20.7	–
EXP MEAN		102	49	59.8	20.2	
C.V. %		15	9	7	13.5	
LSD 5%		NS	6	6	3.9	



## 2004 Pinto Bean Variety - Williston, N.D. Research Extension Center


Variety	Bloom Date fr plntg	Plant Height in	Test Weight lb/bu	Grain Yield			
				2002	2003	2004	3-yr. Avg.
				lb/A			
Buster	49	15	58.0	702	568	951	740
GTS 900	53	15	59.1	–	–	944	–
Maverick	49	12	59.1	693	779	992	821
Othello	48	17	60.6	806	915	843	855
Rally	51	16	59.7	–	–	916	–
Topaz	47	19	56.5	854	–	853	–
Winchester	48	12	62.0	–	–	747	–
MEAN	49	15	59.3	745	717	892	–
C.V. %	5	11	0.5	19	19	16	–
LSD 5%	NS	2	0.7	207	209	NS	–
Planting Date: June 6 on fallow Harvest Date: Sept. 28							

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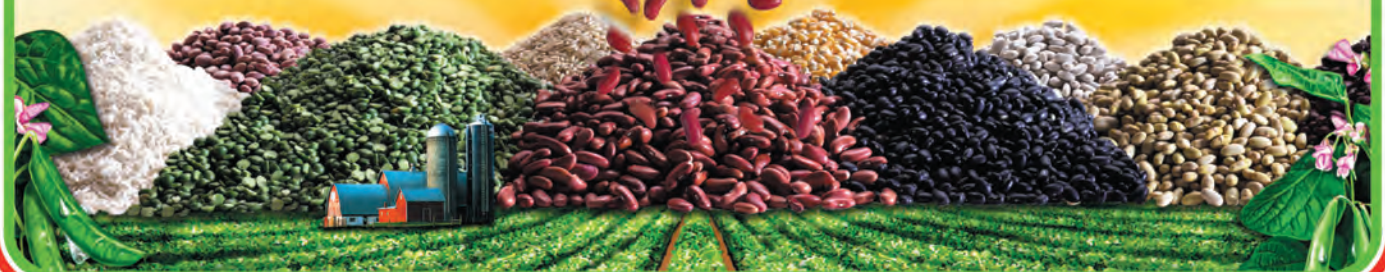
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## 2004 Dry Bean - Cavalier, N.D. - Pembina County

Variety	Type	100 Seed Wt. grams	Yield				
			2002	2003	2004 lbs/A	2 yr	3 yr
Buster	Pinto	37	3,604	2,540	1,280	1,910	2,475
GTS901	Pinto	31	-	-	1,053	-	-
Maverick	Pinto	34	3,449	1,964	1,209	1,587	2,207
Othello	Pinto	40	3,083	2,248	1,706	1,977	2,346
Rally	Pinto	30	-	-	949	-	-
Topaz	Pinto	35	2,924	2,116	1,616	1,866	2,219
Winchester	Pinto	41	-	-	2,419	-	-
Arthur	Navy	16	2,842	1,968	1,172	1,570	1,994
Navigator	Navy	19	2,638	1,928	1,635	1,781	2,067
Norstar	Navy	19	2,520	1,803	1,321	1,562	1,881
Seahawk	Navy	24	-	-	1,934	-	-
Vista	Navy	18	3,103	2,116	1,851	1,984	2,357
T-39	Black Turtle	18	2,502	1,992	1,105	1,548	1,866
Eclipse	Black Turtle	17	-	-	1,400	-	-
Red Hawk	Red Kidney	58	1,730	1,896	2,471	2,184	2,032
Trial Mean		29.1	3,023	2,044	1,542	-	-
C.V. %		5.3	13	6	8	-	-
LSD 5%		2.6	642	198	194	-	-

White mold levels were high in the trial. Yields were affected and differences between varieties may be due in part to a variety's tolerance to the disease.

## 2004 Pinto Variety Trial - Prosper, N.D.

Variety	Maturity -days-	Plant Height -cm-	100 Seed Wt. gms	Yield Cwt./A
Buster	101	46	34.7	19.6
Maverick	101	48	35.5	19.2
Rally	104	51	35.2	18.8
Grand Mesa	106	51	31.8	17.7
Othello	102	46	36.9	17.3
GTS-900	103	50	34.6	17.3
EXP MEAN	102	47	35.5	17.3
C.V. %	1	9	6.2	14.4
LSD 5%	2	6	3.1	3.5



## 2004 Dry Edible Bean Variety Trial - Wells County, N.D.

Variety	Maturity	Plant Height in	Lodge 0-9	Shatter 0-9	Seed Weight g/1,000	Test Weight lb/bu	Seed Yield				
							2002	2003	2004 lb/A	2 Year	3 Year
Black											
CDC Espresso	ML	15	3.5	0.8	200.6	65.0	–	–	1,957	–	–
Eclipse	ML	17	1.3	0.0	218.0	63.8	–	–	2,177	–	–
T-39	L	17	5.6	0.0	205.6	62.7	–	–	1,749	–	–
Kidney											
Red Hawk	ML	13	2.4	4.5	500.6	57.5	–	–	1,719	–	–
Navy											
Arthur	ML	19	4.1	0.5	184.7	63.1	–	–	1,333	–	–
CDC Whitecap	ML	11	2.3	0.3	225.3	62.8	–	–	1,104	–	–
Navigator	M	17	1.0	0.3	205.6	64.1	–	–	2,357	–	–
Norstar	L	17	4.8	0.0	203.4	65.4	–	–	1,310	–	–
Regent	ML	16	1.6	2.8	186.7	64.5	–	–	2,184	–	–
Seahawk	ML	13	4.0	1.3	233.3	64.7	–	–	1,623	–	–
Vista	L	19	3.9	0.0	202.3	64.5	–	–	2,170	–	–
Pinto											
Buster	E	18	4.8	0.3	403.4	59.4	–	–	2,323	–	–
GTS 900	ME	20	4.8	0.0	352.8	60.94	–	–	2,438	–	–
Maverick	E	17	6.3	0.0	385.8	60.3	–	–	2,440	–	–
Othello	ML	16	4.6	0.8	390.9	61.6	–	–	2,558	–	–
Rally	ME	17	5.6	1.0	373.6	60.8	–	–	1,929	–	–
Topaz	E	17	4.9	0.8	353.9	58.1	–	–	1,943	–	–
Winchester	ML	17	3.5	0.0	374.1	61.2	–	–	2,487	–	–
Scarlet Red											
AC Scarlet	M	17	7.3	0.9	374.2	62.8	–	–	2,264	–	–
MEAN		16	4.0	0.7	293.4	62.3	–	–	2,003	–	–
C.V. %		10.2	25.2	121.5	2.7	0.7	–	–	10.9	–	–
LSD 5%		2	1.4	1.3	16.5	0.6	–	–	308	–	–
Maturity: E=early, ME=medium early, M=medium, ML=medium late Lodging score based on scale 0-9 (0=upright, 9=flat) Shatter score based on scale 0-9 (0=no shatter) No data for 2002 or 2003, first year in rotation of counties.											

## 2004 Miscellaneous Variety Trial - Perham, Minn.

Variety	Class	Maturity days	Plant Height in.	100 Seed Wt. gms	Yield Cwt/A
Otebo-Hime	Otebo*	93	41	30.4	19.9
Cal. Early	LRK	93	36	70.8	13.7
Chinook 2000	LRK	100	44	59.8	13.6
Redcoat	RS**	98	46	57.4	12.3
Montcalm	DRK	100	44	59.4	11.1
Red Hawk	DRK	98	44	56.4	10.4
EXP MEAN		96	43	63.1	13.5
C.V. %		1	10	7.1	19.6
LSD 5%		1	6	6.4	3.8

\*White Otebo bean - new class  
\*\*Red Soldier market class



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## 2004 Dry Edible Bean - Irrigated - Carrington, N.D.

Variety	Market Class	— Seeds per Pound —		Seed Weight gram/100	Test Weight lb/bu	— Seed Yield —	
		2004	3-yr Avg.			2004 lb/A	3-yr Avg.
Buster	Pinto	1,307	1,334	35	60	1,815	2,062
Eclipse	Black	2,610	—	18	63	1,649	—
Erimo	Adzuki	3,267	—	14	—	483	—
GTS 900	Pinto	1,388	—	33	60	1,471	—
Hokkai	Kintoki	571	—	80	59	2,600	—
Maverick	Pinto	1,358	1,276	34	59	1,868	2,060
Navigator	Navy	2,522	2,493	18	64	1,579	1,793
Norstar	Navy	2,574	2,675	18	66	1,459	1,493
Othello	Pinto	1,279	1,269	36	60	1,437	1,800
Rally	Pinto	1,270	—	36	60	1,635	—
Red Hawk	Dark Red Kidney	725	937	63	58	2,155	1,278
Seahawk	Navy	1,922	—	24	65	1,588	—
T-39	Black	2,333	2,407	20	62	1,581	1,775
Topaz	Pinto	1,327	1,325	34	58	1,684	1,377
Vista	Navy	2,492	2,622	18	64	1,538	1,835
Winchester	Pinto	1,174	—	39	62	2,165	—
MEAN		1,738	—	31	61	1,719	—
C.V. %		5.7	—	5.3	1.1	21.7	—
LSD 5%		140	—	2.3	1.0	528	—

Planting Date = 28; Harvest Date = Oct. 6; Previous Crop = Corn

\*\*All varieties were significantly damaged by the frost that occurred on Aug. 20.

\*\*The variety Arthur was planted but no data is reported due to poor stands.

## 2004 Navy and Black Bean Variety - Williston, N.D. Research Extension Center

Variety	Bloom Date fr plntg	Plant Height in	Test Weight lb/bu	Grain Yield			
				2002	2003	2004	3-yr. Avg.
				lb/A			
Navy							
Arthur	53	10	62.6	1,027	–	598	–
Navigator	51	12	63.5	–	741	827	–
Norstar	50	12	65.6	1,011	780	748	846
Seahawk	46	11	64.2	–	–	776	–
Vista	53	13	63.5	–	787	565	–
Black							
T-39	53	11	64.8	1,026	828	792	882
Eclipse	53	13	63.6	–	–	744	–
MEAN	51	12	64.0	895	750	721	–
C.V. %	1	11	0.4	16	16	17	–
LSD 5%	1	NS	0.6	212	NS	NS	–

Planting Date: June 6 on fallow

Harvest Date: Sept. 28

## 2004 Dry Edible Bean - Dryland - Carrington, N.D.

Variety	Market Class	Seeds per Pound	Seed Weight gram/100	Test Weight lb/bu	Seed Yield	
					2004	3-yr Avg.
					lb/A	
Buster	Pinto	1,385	33	61	1,294	2,031
Eclipse	Black	2,540	18	64	1,341	-
Erimo	Adzuki	3,677	12	63	353	-
GTS 900	Pinto	1,518	30	61	743	-
Hokkai	Kintoki	712	64	60	1,800	-
Maverick	Pinto	1,506	30	60	804	1,890
Navigator	Navy	2,610	17	64	1,055	1,726
Othello	Pinto	1,426	32	62	1,590	1,999
Rally	Pinto	1,522	30	61	1,056	-
Red Hawk	Dark Red Kidney	935	49	57	1,015	1,339
Seahawk	Navy	2,425	19	65	910	-
T-39	Black	2,570	18	63	1,275	1,770
Topaz	Pinto	1,468	31	58	1,640	1,730
Vista	Navy	2,672	17	64	1,169	1,714
Winchester	Pinto	1,484	31	61	1,605	-
MEAN		1,890	28	62	1,149	-
C.V. %		6.1	5.3	0.9	25.2	-
LSD 5%		164	2.1	0.8	410	-

Planting Date = May 28; Harvest Date = Oct. 6; Previous Crop = Oats

\*\*All varieties were damaged significantly by the frost that occurred on Aug. 20.

\*\*The varieties Arthur and Norstar were planted but no data is reported due to poor stands

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## 2004 Dry Edible Bean Variety Trial - Minot, N.D.

Variety	Maturity	Plant Height in	Lodge 0-9	Shatter 0-9	Seed Weight g/1,000	Test Weight lb/bu	Seed Yield				
							2002	2003	2004	2 Year	3 Year
							lb/A				
Black											
CDC Espresso	M	118	13	2.0	237.8	62.3	–	–	1,039	–	–
Eclipse	M	117	20	2.0	209.1	63.5	–	–	2,116	–	–
T-39	M	120	20	3.3	204.0	62.4	1,954	2,014	1,993	2,003	1,991
Kidney											
Red Hawk	M	117	13	1.8	563.5	56.8	1,601	1,347	1,382	1,364	1,423
Navy											
CDC Whitecap	M	117	18	3.3	212.8	64.5	–	–	1,141	–	–
Navigator	ML	116	19	0.3	207.2	64.9	1,501	1,894	2,479	2,187	1,958
Norstar	ME	117	20	4.0	–	65.1	1,018	1,925	1,084	1,505	1,342
Regent	ME	118	18	0.8	145.6	67.9	–	–	1,551	–	–
Seahawk	ML	118	18	2.0	245.8	65.1	–	–	1,228	–	–
Vista		ML	119	21	1.5	187.7	63.9	–	1,915	2,113	2,014
Pinto											
Buster	ME	114	22	4.0	401.7	59.2	3,577	2,227	1,616	1,922	2,473
GTS 900	L	116	20	4.3	362.9	60.2	–	–	1,198	–	–
Maverick	ME	112	23	3.8	379.6	61.4	1,879	2,288	2,606	2,447	2,258
Othello	E	114	20	2.0	427.1	61.6	2,912	2,064	1,793	1,929	2,256
Rally	ME	116	22	4.8	390.7	61.2	–	–	1,470	–	–
Topaz	E	112	21	2.8	401.9	58.6	–	–	1,614	–	–
Winchester	ME	115	21	2.5	414.9	61.5	–	–	2,296	–	–
Scarlet Red											
AC Scarlet	E	115	19	5.0	364.1	63.7	–	–	2,124	–	–
MEAN		116	19	3.1	313.5	62.1	2,419	1,942	1,720	–	–
C.V. %		1.6	7.9	33.5	3.3	2.7	22.7	13.1	16.5	–	–
LSD 5%		3	2	1.5	21.5	2.4	78	368	405	–	–

Maturity: E=early, ME=medium early, M=medium, ML=medium late

Lodging score based on scale 0-9 (0=upright, 9=flat)

Shatter score based on scale 0-9 (0=no shatter)

Class and Cultivar	Origin	Mat <sup>3</sup>	Plant Type <sup>2</sup>	Variety Descriptions		—BCMV—		Fusarium Root Rot	White Mold	Rust <sup>1</sup>
				— Blight —						
				Common	Halo	Type	NY15			
NAVY										
Agri-1	Agri-Sales	M	B	S	T	R	R	-	A	R
Arthur	NDSU	ME	USV	S	T	R	R	A	R	-
Avanti	Seminis	M	USV	-	-	R	R	-	-	R-MS
CDC Whitecap	U. Sask	M	USV	S	-	-	-	-	S	R
Compass	Ag. Can.	E	B	S	-	-	-	-	-	-
Envoy	GenTec	M	B	-	-	R	R	-	S	R
Ensign	Roger	M	USV	-	-	R	R	-	-	R
Huron	MSU	M	USV	-	-	R	R	-	T	R

Variety Descriptions										
Class and Cultivar	Origin	Mat <sup>3</sup>	Plant Type <sup>2</sup>	— Blight —		—BCMV—		Fusarium Root Rot	White Mold	Rust <sup>1</sup>
				Common	Halo	Type	NY15			
Laser	U. Ontario	VL*	UV	S	T	R	R	-	T	-
Mackinac	MSU	M	USV	S	T	R	R	-	T	R
Mast	Ag. Can.	ML	UV	S	-	R	R	-	-	R
Mayflower	MSU	ML	USV	-	T	R	R	T	T	R
McHale	Seminis	ME	B	S	T	R	R	-	-	R
Navigator	Rogers	M	USV	-	-	R	R	-	T	R
Norstar	NDSU	ME	USV	S	T	R	R	-	T	R
Premiere	Ag. Can.	M	UV	S	-	R	R	-	-	R
Regent	Ag. Can.	ME	UV	S	-	R	R	-	-	R
ROG 331	Rogers	M	UV	S	-	R	R	-	A	R
ROG 372	Rogers	M	UV	S	-	R	R	-	A	R
Schooner	Rogers	ML	USV	-	-	R	R	-	S	R
SeaHawk	MSU	ML	USV	S	-	R	R	-	T	S
Skipper	Ag. Can.	E	B	S	-	-	-	-	-	-
Stingray	W.G. Thompson	ML	UV	S	-	R	R	-	T	R
Thunder	U. Ontario	VL*	UV	S	T	R	R	-	T	-
AC Trident	Ag. Can.	ML	UV	S	-	R	R	-	T	R
Vista	Ag. Can.	ML	USV	-	-	R	R	-	T	R
Voyager	Rogers	ME	V	-	-	R	R	-	S	S-MS
*Cultivar has a tendency to express a green stem trait which may lead to quality problems.										
<b>CRANBERRY</b>										
Cran-09	GenTec	M	B	-	-	R	R	S	S	R
Hooter	Seminis	M	B	VS	S	R	R	MR	S	R
Mich. Imp	MSU	L	V	-	-	-	-	-	S	R
Taylor Hort.	Unknown	E	B	-	-	-	-	S	S	R
UI-50	U. Idaho	M	B	-	-	R	R	-	-	-
UI-686	U. Idaho	M	V	-	-	R	R	-	-	R
<b>SMALL RED</b>										
AC Earl's Red	Ag. Can.	E	V	S	-	-	-	-	S	S
AC Scarlet	Ag. Can.	ME	USV	S	S	-	-	S	S	S
Cajun	Rogers	E	UV	-	-	-	-	-	-	MR
Garnet	Rogers	M	V	-	-	R	R	-	S	S
NW59	USDA-Prosser	ML	V	S	T	R	R	T	S	S
NW63	USDA-Prosser	ML	V	S	T	R	R	T	S	S
UI-239	U. Idaho	ME	V	-	-	-	-	-	S	S
UI-259	U. Idaho	M	V	-	-	-	-	-	S	S
<b>BLACK</b>										
Black Knight	U.I./NY	L	USV	-	-	R	R	-	-	R
Black Magic	GenTec	L	USV	S	T	R	R	T	T	R
Blackhawk	MSU	L	USV	S	T	R	R	T	T	R
Blackjack	GenTec	ML	USV	-	-	R	R	-	-	R
CDC Espresso	U. Sask.	E	USV	-	-	-	-	-	T	-
Domino	MSU	L	USV	S	T	R	R	T	T	R
Eclipse	NDSU	M	USV	-	-	R	R	T	T	R
Jaguar	MSU	M	USV	-	-	R	R	-	T	R



Class and Cultivar	Origin	Mat <sup>3</sup>	Plant Type <sup>2</sup>	Variety Descriptions						
				— Blight —		—BCMV—		Fusarium Root Rot	White Mold	Rust <sup>1</sup>
				Common	Halo	Type	NY15			
Midnight	SUNY	L	USV	S	S	R	R	T	T	R
Onyx	Rogers	ME	USV	-	-	R	R	-	T	R
Panther	Rogers	M	USV	-	-	R	R	-	T	R
Phantom	MSU	E	UV	S	R	R	R	R	A	R
Raven	MSU	ME	-	-	-	R	R	-	S	R
Shadow	Rogers	ME	USV	-	-	R	R	-	T	R
Shiny Crow	CSU	M	V	-	-	R	R	-	S	R
T-39	U. Calif.	M	USV	S	T	R	R	T	T	R
UI-911	U. Idaho	M	V	-	-	R	R	-	-	R
PINK										
Alberta Pink	U. Alberta	E	V	S	-	S	S	-	S	S
Flamingo	Idaho Seed Bean	E	V	-	-	-	-	-	S	S
ROG 922	Rogers	M	V	-	-	R	R	-	S	S
Rosalee	U. Sask.	E	V	S	-	-	-	-	S	S
UI-537	U. Idaho	E	V	-	-	R	R	-	S	S
Viva	USDA-Prosser	M	V	-	-	-	-	R	S	S
LT RED KIDNEY										
California Early	U. Calif.	E	B	S	S	R	R	S	S	S
Chinook 2000	MSU	M	B	-	T	R	R	S	-	R
Foxfire	Rogers	ME	B	T	R	R	R	T	T	R
Redkanner	Cornell U.	ML	B	S	T	-	-	T	-	-
Sacramento	Agri-Sales	E	B	S	S	S	S	S	S	S
DK RED KIDNEY										
AC Calmont	Ag. Can.	ML	B	S	S	R	R	S	S	R
Cabernet	Rogers	ML	B	VS	S	R	R	MR	S	R
Drake	Seminis	M	B	S	S	R	R	S	T	R
Isles	MSU	M	B	S	T	R	R	T	T	R
Montcalm	MSU	ML	B	TV	TV	R	R	S	T	R
Nichols	U. Calif.	L	B	VS	S	R	R	MR	S	R
Redhawk	MSU	M	B	S	T	R	R	-	T	R
ROG 802	Rogers	ME	B	S	T	R	R	T	T	MR
WHITE KIDNEY										
Beluga	MSU	M	B	S	T	R	R	S	S	R
Lassen	Agri-Sales	E	B	S	S	R	R	S	S	R
GREAT NORTHERN										
Matterhorn	MSU	ME	USV	S	T	R	R	-	A	R
Beryl	Rogers	M	V	S	S	-	-	-	S	-
UI 59	U. Idaho	E	V	S	R	R	R	-	S	S
UI 465	U. Idaho	M	V	S	-	R	R	T	S	R
US 1140	USDA-Prosser	E	V	S	R	R	-	-	S	S
Weihing	U. Neb.	ME	USV	T	T	R	R	-	A	R

<sup>1</sup>Disease reactions based upon field observations in North Dakota. A=Avoidance; S=Susceptible; T=Tolerant;

R=Resistant; MS=Moderately Susceptible; MR=Moderately Resistant.

<sup>2</sup>V=Vine; B=Bush; UV=Upright Vine; USV=Upright Short Vine.

<sup>3</sup>RM=Relative Maturity; E=Early; ME=Medium Early; M=Medium; ML=Medium Late; L=Late.



Loren Halverson, Galesburg, N.D. , won first prize in the pinto bean crops judging contest at the recent North Dakota Winter Show at Valley City. The Northharvest Bean Growers Association sponsored the division. Congratulations Loren! Photos by Roger Hoffman, ADM Specialties, Galesburg, N.D.



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# USDA ERS Dry bean outlook – Feb. 2005

With stocks dwindling, dealer prices and grower bids have continued to strengthen for many of the major bean classes as the marketing season progresses. The U.S. aggregate grower price for all dry beans averaged 43 percent above a year earlier during the initial 5 months of the marketing year (September 2004 through January 2005). With the exception of blackeye beans (down 4 percent), the dealer price for every major dry bean class averaged above that of a year earlier during Sep.-Jan. During this time, wholesale (dealer) prices for several of the major classes changed as follows:

- Pintos, \$36.40—up 75 percent from a year earlier;
- Navy, \$31.55—up 41 percent;
- Great Northern, \$25.30—up 13 percent;
- Black, \$26.99—up 17 percent;
- Light red kidney, \$36.87—up 27 percent;
- Dark red kidney, \$35.88—up 32 percent;
- Baby lima, \$41.45—up 32 percent.

In the year ahead, average weather should result in improved output, which could raise stocks and put pressure on both grower and dealer prices for the major bean classes. In turn, increased availability and lower prices could help stimulate lagging export demand.

## Exports Down 24 Percent

During the first 4 months of the 2004/05 marketing year (September-December), dry bean export volume declined 24 percent from a year earlier and 29 percent from 2 years earlier. Exports were down for virtually every bean class except large lima (up 109 percent), navy (up 35 percent), and blackeyes (up 11 percent). Among the top bean classes, volume was lower for black (down 57 percent), pinto (down 32 percent), and Great Northern (down 30 percent).

Table 15--U.S. dry beans: Monthly grower prices for selected classes, 2004-2005

Commodity	2004		2005		Chg. prev. year:	
	Jan.	Feb.	Jan.	Feb. 1/	Jan.	Feb.
--- Cents per pound ---						
All dry beans	17.20	17.50	27.00	--	57.0	--
Pinto (ND/MN)	14.63	15.13	32.00	31.50	118.7	108.2
Navy (pea bean) (M)	17.50	17.50	26.00	26.00	48.6	48.6
Great Northern (NE/WY)	15.00	15.00	17.50	17.50	16.7	16.7
Black (M)	18.25	18.13	18.88	20.75	3.5	14.5
Light red kidney (M)	22.75	22.50	27.50	27.50	20.9	22.2
Dark red kidney (MN/W)	21.75	22.50	28.75	28.00	32.2	24.4
Small red (ID)	21.00	21.00	22.50	22.50	7.1	7.1
Baby lima (CA)	30.00	30.00	39.63	39.50	32.1	31.7
Large lima (CA)	41.00	41.00	42.38	42.00	3.4	2.4
Blackeye (CA)	28.00	28.00	29.17	28.50	4.2	1.8
Pink (ID)	20.00	20.00	22.50	22.50	12.5	12.5

-- = not available. 1/ Partial month estimate.

Source: *Bean Market News*, AMS, USDA except "all dry bean" price from NASS, USDA.

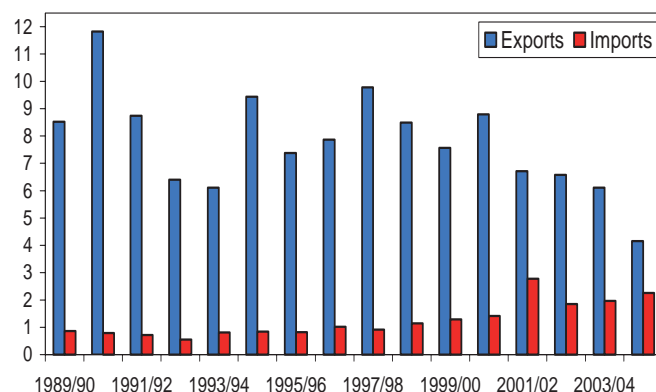
The leading export markets were Mexico (21 percent of total volume), the United Kingdom (11 percent), and Canada (9 percent). While exports to Mexico (down 37 percent) and Canada (14 percent) each declined because of sharply higher prices, shipments to the United Kingdom advanced 41 percent due to stronger interest in U.S. navy beans and lower average export prices (down 2 percent) compared with a year earlier. Exports to France (up 66 percent) and Japan (8 percent) also increased during the first 4 months of the crop year. Although average U.S. dry bean export prices were up 21 percent from the previous year, unit prices for the mix of dry beans imported by France and Japan averaged below those of a year earlier.

On the import side, due largely to sharply higher prices for U.S. dry beans, import volume from September to December rose 14 percent from a year earlier. Imports were lower for pinto, dark red kidney, and Great Northern beans but were higher for most other classes including large and small chickpeas, navy, light red kidney, and black beans. Pinto bean imports were down 49 percent despite low stocks and record-high prices. Imports from Canada (down 24 percent) were lower but volume from Mexico (up 104 percent) was higher.

Figure 7

## U.S. dry bean trade volume, 1989/90 - 2004/05

Mill cwt



Source: Bureau of the Census, USDC except 2004/05 forecast by ERS.

Table 16--U.S. drybean export volume

Item	Crop year	September - December			Change
	2003/04	2002/03	2003/04	2004/05	2003-04
	1,000 cwt				Percent
Pinto	2,002	661	633	430	-32
Navy	1,212	435	341	460	35
Black	816	311	474	202	-57
Great Northern	427	170	256	180	-30
Lgt red kidney	57	211	25	19	-22
Dk red kidney	192	118	94	81	-14
Small red	232	47	79	31	-61
Garbanzo	149	15	37	30	-18
Baby lima	195	79	76	63	-17
Large lima	99	75	28	59	109
Blackeyes	20	31	12	13	11
Cranberry	97	57	56	17	-71
Other	610	315	258	215	-17
Total	6,106	2,525	2,368	1,799	-24

Source: Bureau of the Census, U.S. Department of Commerce.

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**Chicken Salad Chapala** combines the sweetness of mango with black and kidney beans. For the recipe, see page 17. For more recipes, see the Northarvest Bean Growers Association Web site, [www.northarvestbean.org](http://www.northarvestbean.org) or the American Dry Bean Board Web site, [www.americanbean.org](http://www.americanbean.org)