

# Colorado Bean News

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## Winter 2003

Volume 16, Issue 1

Sponsored by the Colorado Dry Bean Administrative Committee

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## PUBLIC NOTICE

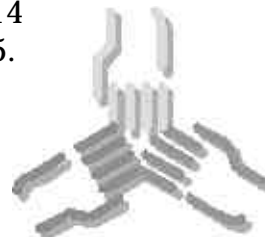
A public hearing will be held by the Colorado Department of Agriculture to hear and record testimony regarding a proposed amendment to the Marketing Order Regulating the Handling of Dry Edible Beans Grown in the State of Colorado. The proposed amendment will eliminate the limitation on terms of office for the Colorado Dry Bean Administrative Committee.

Friday, February 21, 2003, 9:45 a.m.

Colorado State University  
ARDEC Campus  
4616 NE Frontage Road  
Fort Collins, CO 80524

Verbal and/or written testimony will be accepted. Written testimony may also be mailed or faxed, prior to February 15, 2003 to the Colorado Department of Agriculture, Markets Division, 700 Kipling, #4000, Lakewood, CO 80215.

Phone: 303-239-4114  
FAX: 303-239-4125.



ADDRESS SERVICE REQUEST  
Please send changes to:  
Dr. H. F. Showalter, GBN Editor  
C205 Plant Science Building  
Colorado State University  
Fort Collins, CO 80523-1177



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The **Colorado Bean News** is supported in part by your voluntary check-off dollars administered by the **Colorado Dry Bean Administrative Committee**, 31221 Northwoods Circle, Buena Vista Colorado 81211. Phone 800.318.8049

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**COLORADO DRY BEAN ADMINISTRATIVE COMMITTEE  
TO AMEND MARKET ORDER**

The Marketing Order for Dry Beans currently requires that board members end their service after two consecutive terms in office. As dry bean production and the numbers of producers continue to decline, it has become more difficult for the Colorado Dry Bean Administrative Committee to retain experienced board members. One option is to eliminate the provision for term limits for board members.

To accomplish this, a public hearing will be held to take testimony regarding a proposed amendment to eliminate the term limit provision in the Colorado Dry Bean Marketing Order. The hearing will be held at 9:45 a.m., Friday, February 21, 2003, at the CSU's ARDEC Campus in Fort Collins, Colorado 80524. (See the Public Notice posted on the Front Page of this issue of the Colorado Dry Bean News.)

Colorado law requires that to amend a marketing order, the first step is to hold a public hearing open to all interested parties. After the public hearing, a referendum is conducted among producers and handlers of dry edible beans. If the referendum is passed, the Colorado Commissioner of Agriculture amends the order.

If you qualify as a producer or handler of dry edible beans in Colorado, you are eligible to vote on this proposed amendment. If you have questions about the public hearing or the vote itself, please call Jim Rubingh, Colorado Department of Agriculture, 303-239-4114.

**CDBAC Budget as of December 31, 2002**

|                              | BUDGET          |                 |                 |
|------------------------------|-----------------|-----------------|-----------------|
|                              | YTD             | vs              |                 |
|                              | BUDGET          | ACTUAL          | ACTUAL          |
| Assessments                  | 93,000          | 78,135          | (14,865)        |
| Interest                     | 3,000           | 912             | (2,088)         |
| <b>Total Income</b>          | <b>96,000</b>   | <b>79,047</b>   | <b>(16,953)</b> |
| Research                     | 41,500          | 41,500          | 0               |
| Administrative               | 3,000           | 3,000           | 0               |
| Promotional                  | 5,000           | 2,581           | 2,419           |
| Meetings & Travel            | 14,400          | 11,387          | 3,013           |
| Dues                         | 27,500          | 27,500          | 0               |
| Magazine                     | 8,000           | 10,000          | (2,000)         |
| Accounting and legal fees    | 2,500           | 2,240           | 260             |
| Refund of assessments        | 2,500           | 535             | 1,965           |
| Telephone, postage, supplies | 2,500           | 2,753           | (253)           |
| <b>Total Expenses</b>        | <b>106,900</b>  | <b>101,496</b>  | <b>5,404</b>    |
| <b>Excess (Shortage)</b>     | <b>(10,900)</b> | <b>(22,449)</b> | <b>(11,549)</b> |

[Dues include membership in the National Dry Bean Council & American Dry Bean Board]

*CDBAC Highlights*



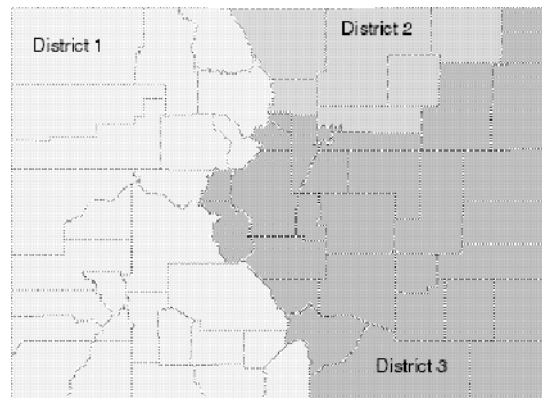
At their November 2002 meeting at CSU-ARDEC near Fort Collins, the Colorado Dry Bean Administrative Committee Executive Board approved the 2003 Budget which included support for the following research and extension projects at Colorado State University. In addition, \$10,000 was approved to help cover costs for the quarterly newsletter Colorado Bean News; reflecting a \$500 increase per issue in response to increasing postage and printing charges.

| <b>2003 CSU Research Project</b>   | <b>\$ Amount Requested</b> |
|--|----------------------------|
| <i>Dr. Mark A. Brick</i><br>Genetic Improvement of Dry Beans for Yield and Disease Resistance<br>Emphasize seed increase & testing of promising lines                  | 14,000                     |
| <i>Dr. Howard F. Schwartz</i><br>Dry Bean Integrated Pest Management and Technology Transfer<br>Emphasize variety development with plant breeding / agronomy personnel | 10,000                     |
| <i>Dr. Jerry J. Johnson</i><br>Colorado Dry Bean Variety Performance Trials (3 sites in eastern Colorado)  | 7,500                      |
| <i>Dr. Scott J. Nissen</i><br>Weed Control in Dry Beans  | 5,000                      |
| <i>Dr. Abdel Berrada</i><br>Dry Bean Nursery and Variety Testing at the Southwestern Colorado Research Center – Yellow Jacket  | 2,000                      |
| <i>Dr. Calvin Pearson</i><br>Agronomic Dry Bean Research at the Western Colorado Research Center – Fruita  | 2,000                      |
| <i>Dr. Frank Schweissing</i><br>Dry Bean Research at the Arkansas Valley Research Center - Rocky Ford  | 1,000                      |
| <b>Total:</b>  | <b>\$ 41,500</b>           |

The CDBAC reviewed other budget items (including reduced support of ADBB, NDBC, and bean industry meetings), and based the conservative 2003 budget on an estimated crop of 1,700,000 cwt and revenues of \$85,000. The next board meeting was set for 10 am on February 21, 2003 at ARDEC. The meeting will be preceded by a public hearing at 9:45 am coordinated by the Colorado Department of Agriculture to hear and record testimony regarding a proposed amendment to the Marketing Order Regulating the Handling of Dry Edible Beans Grown in the State of Colorado. The proposed amendment will eliminate the limitation on terms of office for the Colorado Dry Bean Administrative Committee.

The Committee heard a report from Steve Brown and others regarding the filing of papers necessary to start a non-profit corporation, the Colorado Bean Research Foundation. The goal of the foundation is to maximize the amount of money available for bean seed research at CSU. This foundation will be completely separate from the CDBAC, and hopefully would provide additional funding for research from future royalties from seed sales.

*CDBAC Membership*





**Colorado Bean Network  
EXECUTIVE BOARD**

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970-463-5468

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970-491-6987

Steve Krosky, Greeley Elevator Treasurer  
970-352-2575

**COLORADO BEAN NEWS** is published quarterly by the Colorado Bean Network, a non-profit organization which supports the dry bean industry in Colorado. Address all editorial, advertising and mailing materials to: H.F. Schwartz, Dept of Bioag. Sci. & Pest Mgmt. Colorado State University, Fort Collins, CO 80523-1177, or call Mark McMillan at (970) 491-7846.

**Advertising Material Deadlines and Rates for the Colorado Bean News**

**Circulation:** . . . . . 3800 Bean Growers and Dealers in Colorado and Adjacent Area

**Publisher:** . . . . . Colorado Bean News

**Editor:** . . . . . Dr. Howard F. Schwartz, (970) 491-6987  
. . . . . hfspp@lamar.colostate.edu

**Layout:** . . . . . Mark S. McMillan, (970) 491-7846  
. . . . . msmcm@lamar.colostate.edu

**Publication Material Due Dates:**

|              |                                 |        |
|--------------|---------------------------------|--------|
| Winter Issue | [Promotion, Nutrition Emphasis] | Jan. 7 |
| Spring Issue | [Planting, Production Emphasis] | Apr. 7 |
| Summer Issue | [Pest Mgmt., Harvest Emphasis]  | June 7 |
| Fall Issue   | [Market Emphasis]               | Oct. 7 |

**Advertising Rates:**

|                       |                       |        |
|-----------------------|-----------------------|--------|
| 1/4 Page (3.5"x4.5")  | B/W                   | \$100* |
| 1/2 Page (7.0"x4.5")  | B/W                   | \$180* |
| Full Page (7.0"x9.0") | B/W                   | \$350* |
| Back Page             | B/W                   | \$400* |
|                       | Each Additional Color | \$75   |

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\*PMT's - 85 lines preferred  
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Please provide Camera-ready Copy. Make check payable to the Colorado Bean News. Send to Howard F. Schwartz, Colorado Bean News, C205 Plant Sciences Building, Colorado State University, Fort Collins, CO 80523-1177

**BEAN BYTES**

**Vitamin C Protects Stressed-out Plants**

USDA Agricultural Research/January 2003 reported that ozone tolerance in snap beans is associated with elevated vitamin C in leaf tissue. People aren't the only ones in need of antioxidants to neutralize free radicals. USDA-ARS scientists are looking into ways that plants use vitamin C to defend against ozone, which damages more plants than all other air pollutants combined. Plant physiologist Kent Burkey hopes that research will lead to finding genes associated with a plant's ability to pump vitamin C into the leaf tissue.

**This Small Bean's a Big Performer**

USDA Agricultural Research/January 2003 reported that Rojo Chiquito is the first Central American market-class bean of this type bred for production on U.S. soils. The cultivar was developed by Phil Miklas & George Hosfield - USDA/ARS in cooperation with Washington State University. It differs in several ways from small, red, dry beans now grown, beginning with improved resistance to bean common mosaic virus. It also grows upright, rather than prone, which helps reduce the incidence of white mold. This allows farmers to plant in ultra-narrow rows for increased yield. The shiny seeds of Rojo Chiquito are smaller than those of other small, red, dry bean cultivars, but they stay firm and retain their dark-red color during canning and cooking. Though Rojo Chiquito grows best in the Pacific Northwest, field tests at 20 different U.S. locations showed this new bean to mature in 100 days and to yield an average of 2061 pounds per acre. Primarily developed as an export crop to meet the demand for edible dry beans in Central America, this new variety provides an important niche market for U.S. bean growers.

**Colorado Bean Seed Law**

At a recent meeting of the Colorado Dry Bean Administrative Committee, Jim Stanelle - Manager of the Colorado Seed Growers Association reviewed a portion of the Colorado seed law that pertains to the movement of beans into the West Slope counties.

"Part 13. SALES OF DISEASE FREE SEED BEANS. 13.1 Any beans sold for seed in Mesa, Montrose or Delta County, or any beans sold in any other

See LAW on page 5

**Colorado Dry Bean Administrative Committee  
Variety/Crop Year CWT Summary**

|                   | 1988-92    | 1993-97    | 1998      | 1999      | 2000      | 2001      | 2002      | Total      |
|-------------------|------------|------------|-----------|-----------|-----------|-----------|-----------|------------|
| Pinto             | 12,913,340 | 10,669,721 | 2,438,676 | 2,187,853 | 1,489,225 | 1,509,272 | 373,247   | 31,581,334 |
| LRK               | 169,396    | 575,594    | 228,202   | 109,946   | 122,223   | 123,057   | 99,518    | 1,427,936  |
| GN                | 9,155      | 36,133     | 0         | 0         | 36,645    | 0         | 0         | 81,933     |
| Navy              | 53,731     | 25,000     | 3,089     | 8,204     | 0         | 0         | 0         | 90,024     |
| Blacks            | 0          | 34,858     | 5,998     | 9,125     | 0         | 2,328     | 0         | 52,309     |
| Pinks             | 39,182     | 7,453      | 0         | 0         | 0         | 0         | 0         | 46,635     |
| Anasazi           | 4,655      | 12,526     | 7,906     | 18        | 0         | 0         | 0         | 25,105     |
| Sm White          | 19,629     | 0          | 0         | 0         | 0         | 0         | 0         | 19,629     |
| Reds              | 13,972     | 7,159      | 0         | 0         | 2,478     | 453       | 0         | 24,062     |
| Cranberry         | 0          | 798        | 0         | 0         | 0         | 0         | 0         | 798        |
| Yellow            | 0          | 275        | 770       | 45,417    | 39,443    | 2,310     | 0         | 88,215     |
| Total Assessments | 13,223,060 | 11,369,517 | 2,684,641 | 2,360,563 | 1,690,014 | 1,637,420 | 472,765   | 33,437,980 |
| Crop Estimate     | 15,849,000 | 12,837,000 | 2,868,000 | 2,755,000 | 1,980,000 | 1,785,000 | 1,700,000 |            |
| % of Estimate     | 83.43%     | 88.57%     | 93.61%    | 85.68%    | 85.35%    | 91.73%    | 27.81%    |            |

## U.S. Pinto Bean Supply-Demand Estimates

USDA estimates for pinto beans as of August 12, 2002; provided by Steve Brown of Jacks Bean Company


|                             | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 |
|-----------------------------|---------|---------|---------|---------|---------|
| <i>Acreage (Acres)</i>      | 977,100 | 705,200 | 718,500 | 549,100 | 801,900 |
| <i>Yield (lb/A)</i>         | 1,485   | 1,537   | 1,485   | 1,559   | 1,409   |
| <i>Production (MT)</i>      | 658,215 | 491,654 | 483,988 | 388,324 | 512,546 |
| <i>Carry In (MT)</i>        | 71,295  | 206,383 | 184,905 | 146,129 | 36,643  |
| <i>Stocks (MT)</i>          | 729,509 | 698,037 | 668,893 | 534,454 | 549,189 |
| <b>Disappearance to:</b>    |         |         |         |         |         |
| <i>Europe</i>               | 5,277   | 2,853   | 6,911   | 2,900   | 2,100   |
| <i>Americas</i>             | 90,918  | 59,434  | 76,119  | 52,700  | 50,200  |
| <i>Other</i>                | 7,773   | 14,728  | 18,667  | 36,700  | 34,800  |
| <i>Total Exports (MT)</i>   | 103,967 | 77,015  | 101,697 | 92,300  | 87,100  |
| <i>Domestic</i>             | 358,893 | 373,915 | 372,933 | 337,412 | 356,838 |
| <i>Seed, Feed, Waste</i>    | 60,265  | 62,202  | 48,134  | 68,099  | 76,752  |
| <i>Total Usage (MT)</i>     | 523,126 | 513,132 | 522,764 | 497,811 | 520,690 |
| <i>Ending Stocks</i>        | 206,383 | 184,905 | 146,129 | 36,643  | 28,499  |
| <i>Stocks/Use Ratio (%)</i> | 39.5    | 36.0    | 28.0    | 7.4     | 5.5     |

LAW from page 4

county intended for planting as seed in Mesa, Montrose or Delta County must be either: (a) Certified and labeled as such by an official seed certifying agency, or (b) Accompanied by a phytosanitary certificate issued by a regulatory agency which states that the beans were field inspected during active growth and were apparently free of field exhibited symptoms of seed borne diseases. 13.2 Any inspections done pursuant to the enforcement of this section of the seed law shall be paid for by the person selling such bean and shall be billed at actual cost for the inspection."

### **Colorado Ag. Mediation Program**

The Colorado Department of Agriculture established the Colorado Agricultural Mediation Program in 2002 to help farmers and ranchers who are dealing with contentious issues. CAMP provides alternative dispute resolution opportunities for Colorado agricultural borrowers and creditors; provides dispute resolution for farmers with non-credit issues such as crop insurance, wetlands, grazing, water rights and land; helps Colorado farmers facing financial adversity through the mediation; and revitalizes the economic base of rural communities. For more information on the cost and access, contact Colorado Agricultural Mediation Program, Colorado Department of Agriculture, 2331 W. 31st Avenue, Denver, CO 80211-3859. Tele: 303-477-0054; fax: 303-480-9236; web site: [www.ag.state.co.us](http://www.ag.state.co.us)



## WESTERN INTERNATIONAL GRAIN

**DRY BEAN RECEIVING &  
PROCESSING**

|             |        |                |
|-------------|--------|----------------|
| Burlington: |        | 1-800-827-9559 |
|             | Mobile | (719) 340-1223 |
| Keenesburg: |        | (303) 732-4241 |
| Milliken:   |        | 1-800-635-2326 |



## Was Dry Bean Weed Control Easier in the Good Ol' Days?

By Scott J. Nissen, Weed Scientist, Colorado State University

It is not uncommon to hear growers complain that there are more weeds to contend with these days than 15 or 20 years ago. Dry bean producers and extension specialist across the central high plains appear to be seeing the same thing. It does seem to be more difficult to design a weed management program that provides acceptable weed control at a reasonable cost.

There are definitely new weed species that have become more prevalent. Good examples are toothed spurge (*Euphorbia dentata*), tall water hemp (*Amaranthus rudis*) and common water hemp (*Amaranthus tuberculatus*). These weeds are not controlled by many common weed management strategies and so their numbers have increased. This is called a weed shift and it can happen in two ways. This type of shift is called an inter-specific weed shift, which means there is a change in the composition of the weed community over time. The second kind of weed shift is called an intra-specific weed shift and this involves an increase in a subpopulation (called a biotype) of a weed species. These biotypes could be resistant to herbicides or could emerge later in the season, avoiding chemical and mechanical control. We are probably seeing the results of both types of weed shifts caused by applying similar selection pressures to weed populations over a long time period. This has resulted in the general observation that there are more weeds to deal with today than 15 or 20 years ago.

There are ways to reduce the selection pressure on weed populations since producers control decisions on crop rotations, cultural practices and herbicide programs. Each crop and cropping system can select for certain weed species so the more complex the rotation the less a single type of selection pressure will be applied. Tillage is an effective method of weed control, but the effects are temporary and may actually cause some weed species to germinate. The failure to control weeds during any part of a crop rotation can have significant long-term impacts. Seeds of many weed species can persist in the soil for 10 years or more making one failure a long-term headache. In Colorado and other western states, herbicide resistant weeds are very common. Field surveys indicate that 60% of kochia (*Kochia scoparia*) populations are resistant to Atrazine (photosynthesis inhibitor) or Raptor (amino acid inhibitor) or both. Producers need to select weed control strategies that combine or alternate herbicide modes of action to reduce the potential for intra-specific weed shifts. Herbicides with the same mode of action as Raptor can be used in a variety of crops so selecting alternative modes of action can be difficult.

Any strategy that makes the bean crop more competitive should improve weed control. Combining narrow row spacing with an adapted bean variety is one strategy to improve competitiveness. In this situation, variety selection is critical because narrow rows increase the potential for diseases like white mold. Inter-row ripping is another strategy that has improved bean competitiveness. Ripping improves root growth, reduces root diseases, increases water use efficacy, and improves nutrient utilization.

Producers should also remember that dry beans do not necessarily need to be weed free the entire growing season to provide acceptable net income. Field research examining weed competition in dry beans using time of removal experiments clearly indicates that dry bean yields will not be

| Bean Resource Personnel: | Expertise:          | Telephone #:           |
|--------------------------|---------------------|------------------------|
| Howard Schwartz          | Plant Pathology     | 970-491-6987           |
| Mark McMillan            | Plant Pathology     | 970-491-7846           |
| Kristen Otto             | Plant Pathology     | 970-491-0256           |
| Mark Brick               | Plant Breeding      | 970-491-6551           |
| Barry Ogg                | Plant Breeding      | 970-491-6354           |
| Jerry Johnson            | Variety Testing     | 970-491-1454           |
| Cynthia Johnson          | Variety Testing     | 970-491-1914           |
| Jim Hain                 | Variety Testing     | 970-345-2259           |
| Jessica Davis            | Soil Science        | 970-491-1913           |
| Scott Nissen             | Weed Science        | 970-491-3489           |
| Frank Peairs             | Entomology          | 970-491-5945           |
| Pat Kendall              | Food Sci./Nutrition | 970-491-1945           |
| Reg Koll                 | ARDEC Station       | 970-491-2405           |
| Frank Schweissing        | Arkansas Valley     | 719-254-6312           |
| Mike Bartolo             | Arkansas Valley     | 719-254-6312           |
| Abdel Berrada            | S.W. Colorado       | 970-562-4255           |
| Mark Stack               | S.W. Colorado       | 970-562-4255           |
| Calvin Pearson           | West Slope          | 970-858-3629           |
| Fred Judson              | West Slope          | 970-858-3629           |
| Jerry Allredge           | Weld Cnty.          | 970-356-4000<br>x 4465 |
| Jim Stanelle             | Certified Seed      | 970-491-6202           |
| Paul Aravis              | Boulder Cnty.       | 303-776-4865           |
| Bruce Bosley             | Morgan Cnty.        | 970-867-2493           |
| Randy Buhler             | Logan Cnty.         | 970-522-3200<br>x 1308 |
| Wayne Cooley             | Montrose Cnty.      | 970-249-3935           |
| Dan Fernandez            | Dolores Cnty.       | 970-677-2283           |
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| Bill Hancock             | Otero Cnty.         | 719-254-7608           |
| Gary Lancaster           | Sedgwick Cnty.      | 970-474-3479           |
| Tom McBride              | Adams Cnty.         | 303-637-8100           |
| Ron Meyer                | Kit Carson Cnty.    | 719-346-5571           |
| Ken Smith                | Montezuma Cnty.     | 970-565-3123           |
| Frank Sobolik            | Pueblo Cnty.        | 719-583-6566           |
| David Peebles            | Delta Cnty.         | 970-874-2195           |

### Websites of interest to bean growers

[www.csuag.com](http://www.csuag.com)

[www.coagmet.com](http://www.coagmet.com)

[www.colostate.edu/Orgs/VegNet/beanlinks](http://www.colostate.edu/Orgs/VegNet/beanlinks)

[www.csuag.com/cbn](http://www.csuag.com/cbn)  
(for back issues of Colorado Bean News)

## **2002 Census of Agriculture**

Only America's farmers and ranchers can supply the answers needed to produce an accurate and useful picture of our Nation's agriculture. Benefits to You - Census data are used to evaluate and propose programs and policies that help you determine locations of marketing and distribution facilities that will help you market your products better; draft legislation to help resolve problems and meet the changing needs of America's largest industry - agriculture; conduct agricultural research and extension programs, and plan rural development; and develop new technology for your use. Check the mailbox - you should have received the report form in recent weeks, forms are due back by February 3, 2003. If you did not receive a form, call 1-888-4AG-STAT or 1-888-424-7828. Additional information is available at: [www.usda.gov/nass/](http://www.usda.gov/nass/) Your Response is Important!

## **Chickpea Update from Nebraska**

The Nebraska Bean Bag Fall 2002 Issue included information on Panhandle interest in growing chickpeas - climbing from under 1000 acres in 1995-2001 to more than 2500 acres in 2002 and possibly up to 10000 acres in 2003. The University of Nebraska research and extension team at Scottsbluff has developed a production package to help growers deal with new challenges in growing the crop under dryland and irrigated conditions. According to David Baltensperger,

agronomist at the Panhandle Research and Extension Center at Scottsbluff, chickpeas could boost grower income and perhaps create processing and related jobs in the region. For more information and latest happenings concerning chickpeas, contact Brad hensen of Hemingford at 308-760-0189 or email [bhansen@bbc.net](mailto:bhansen@bbc.net). Hansen is the acting president of the High Plains Dry Pea Growers Association, with pulse crop producers from Nebraska, Colorado and Wyoming.

## **NDBC Funds University Course & Survey on Dry Beans**

The Nebraska Bean Bag Fall 2002 Issue reported that the Nebraska Dry Bean Commission provided more than \$21,000 in funds for two projects with David Jackson - Professor in the Dept. of Food Science and Technology at the University of Lincoln to: (1) develop a modular university course unit on dry edible beans: bean types, bean processing and bean ingredients; and (2) identify critical strategies to support increased bean use and profitability for Nebraska bean producers.

## **Bean Rot Team - Minnesota Project**

Minnesota growers and a university research team (Dr. C. Estevez de Jensen et al.) have been working on the problem of increasing root rot and declining yields in their state and region. The team's on-farm experiments showed that altering tillage practices significantly reduced root rot severity and increased yields of both dry bean and soybean. When chisel or moldboard tillage was compared, moldboard tillage increased dry bean yields by 50 %. Moldboard tillage enhanced root growth and reduced root rot severity (28% reduction) as a result of lower penetration resistance and improved drainage. More extensive root development reduces plant susceptibility to moisture and nutrient stress. Improved drainage shortens periods of soil saturation that favor root rot development. Chisel tillage, on the other hand, caused formation of a dense soil "impedance" layer that inhibited soil drainage and interfered with root growth. Irrigation exacerbated root rot severity in plants growing above the impedance layer by increasing the number and duration of soil saturation episodes.

The team also change ideas and methodology involved in seed treatment. The previous standard seed treatment for dry bean was a combination of Captan, Lorsban and Streptomycin. The team found these chemical treatments unnecessary. They used *Bacillus subtilis* (biocontrol) alone or in combination with *Rhizobium leguminosarum* (inoculant) plus low to moderate nitrogen fertility, and found consistent increases in yield and lower disease severity.



ADM - Edible Bean Specialties, Inc.

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Red Kidney Bean Needs

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affected if fields are kept weed free for six weeks after planting. While this rule of thumb may apply to many weeds, most producers would say that for maximum bean quality hairy nightshade must be controlled for the entire growing season.

The difference between providing weed free conditions for six weeks versus weed free conditions for the entire growing season can be a significant amount of money, and the extra cost may not increase net income. The best weed control program is one that provides sufficient weed control at the lowest cost and combines as many different control strategies as possible (chemical, mechanical, and cultural).

There have been very few recent changes in chemical weed control for dry beans. Raptor is the most recently registered herbicide for dry bean weed control. Raptor is closely related to Pursuit, but has considerably more grass activity and shorter rotational restrictions than

Pursuit. Frontier was replaced by Outlook, a more concentrated formulation of the active isomer dimethenamid-p. Outlook remains the only herbicide that could be used as a layby treatment in dry beans. Layby is defined as an herbicide that is applied post-emergence (POST) to the crop, but pre-emergence (PRE) to the weed. Layby applications of Outlook could provide growers with a strategy to extend weed control later in the growing season. Season long weed control will require a combination of PPI or PRE herbicide applications combined with tillage and/or POST herbicide treatments. Cost per acre for this type of program could exceed \$50/ac, while programs designed to provide six weeks of control would cost \$17 to \$27/ac. Producers need to have some idea about weed spectrum and severity when deciding where to plant dry beans and avoid fields that present a high risk for failure. Some options for chemical control are provided in Table 1..

**Table 1: Some options for weed control in dry beans.**

| Treatment   | Timing  | Nightshade Control   | General Comments  |
|---|---|--|---|
| Sonalan + Eptam <b>or</b><br>Sonalan + Dual Mag <b>or</b><br>Sonalan + Outlook                                    | PPI   | Would provide early but not late season nightshade control.  | Programs would provide excellent early season weed control.   |
| Eptam + Prowl<br>Eptam + Treflan  | PPI   | Same   | Same  |
| Outlook (band) <b>or</b><br>Dual Magnum (band) +<br>Cultivation   | PRE<br>POST                                   | Would protect the crop row from weed competition, and would provide early season nightshade control. | Least expensive program, requires good crop competition.  |
| Outlook (band) <b>or</b><br>Dual Magnum (band)<br>+ Cultivation<br>+ Outlook                                      | PRE<br>POST<br>LAYBY                          | Should provide extended nightshade control with layby application.                                   | Band applications reduce herbicide costs, requires very clean cultivation, would not work well for kochia   |
| Sonalan + Eptam <b>or</b><br>Dual Mag <b>or</b> Outlook<br>Raptor + Basagran                                      | PPI <b>or</b><br>PRE<br>POST                  | Should provide season long control of hairy nightshade.  | Expensive treatment that could include tillage before POST application  |
| Sonalan + Eptam <b>or</b><br>Dual Mag <b>or</b> Outlook<br>Raptor + Basagran +<br>Outlook <b>and/or</b><br>Select | PPI <b>or</b><br>PRE<br>POST<br>LAYBY<br>POST | Good option for fields with heavy nightshade pressure.   | Very expensive treatment. Outlook should be applied no later than third trifoliolate. Should provide excellent grass, proso millet and sandbur control. |

## 2002 Colorado Dry Bean Variety Performance Trial Results

Jerry Johnson, Colorado State University, Extension Crop Production Specialist

Even with declining dry bean acreage and production in Colorado over the last ten years, Colorado was still the third biggest producer of dry beans in the U.S. in 2001 with 1.785 million pounds produced on 115,000 acres. Colorado producers annually spend over \$5 million on pinto bean seed to plant which means that the bean variety decision is extremely important. The average yield performance over multiple locations is a powerful tool and unbiased, reliable performance results from a uniform variety trial help Colorado dry bean producers make better variety decisions.

2002 was the fourth year that the uniform variety trial was planted at six locations. It was planted at four eastern Colorado trial locations: Proctor (Platte River Valley), Fort Collins (Front Range), Burlington (Golden Plains), and Rocky Ford (Arkansas River Valley) and it was also planted at two western Colorado locations: Fruita and Yellow Jacket. The Fort Collins trial was

planted late, had poor emergence, and suffered from soil compaction and high temperatures which resulted in low and variable yields. The Burlington trial results reported here could not be interpreted due to stunted plant growth resulting from a combination of soil compaction, residual herbicide effects, and severe high temperature stress.

The uniform variety trial serves a dual purpose of screening new CO lines emerging from CSU's pinto bean breeding program, allowing fast and reliable selection of promising new, high yielding and disease resistant lines. The uniform variety trial is made possible by funding received from Colorado dry bean producers via the Colorado Dry Bean Administrative Committee.

Contact Jerry Johnson for a copy of the 2002 Dry Bean Variety Performance Report at 970-491-1454; email: [jjj@lamar.colostate.edu](mailto:jjj@lamar.colostate.edu) or [www.colostate.edu/Depts/SoilCrop/extension/CropVar/index.html](http://www.colostate.edu/Depts/SoilCrop/extension/CropVar/index.html)

### **DRY BEAN STATISTICS - by Market Class**

USDA Estimates, Oct. 14 - 2002, Provided by Steve Brown of Jacks Bean Company

| Market Class | Acres Planted |           | Yield (lbs/A) |       | Production (MT)* |           |
|--------------|---------------|-----------|---------------|-------|------------------|-----------|
|              | 2001          | 2002      | 2001          | 2002  | 2001             | 2002      |
| Large Lima   | 14,800        | 19,000    | 2,203         | 2,047 | 14,787           | 17,641    |
| Baby Lima    | 12,200        | 20,500    | 1,926         | 2,289 | 10,660           | 21,281    |
| Navy         | 213,300       | 336,100   | 1,084         | 1,453 | 104,872          | 221,450   |
| Gr Northern  | 108,500       | 98,300    | 1,924         | 1,627 | 94,711           | 72,547    |
| Small White  | 1,800         | 1,400     | 2,167         | 2,205 | 1,769            | 1,400     |
| <b>Pinto</b> | 549,100       | 801,900   | 1,559         | 1,398 | 388,324          | 508,374   |
| Lt Red Kid   | 71,800        | 72,900    | 1,178         | 1,507 | 38,374           | 49,838    |
| Dk Red Kid   | 56,900        | 67,700    | 1,295         | 1,476 | 33,430           | 45,318    |
| Pink         | 20,000        | 34,900    | 1,630         | 1,727 | 14,787           | 27,346    |
| Small Red    | 18,800        | 31,700    | 915           | 1,956 | 7,802            | 28,132    |
| Cranberry    | 30,700        | 24,200    | 498           | 1,470 | 6,940            | 16,133    |
| Black        | 94,400        | 194,000   | 829           | 1,546 | 35,517           | 136,033   |
| Blackeye     | 32,000        | 31,600    | 1,728         | 1,619 | 25,084           | 23,206    |
| Garbanzo     | 147,700       | 79,500    | 1,087         | 1,267 | 72,848           | 45,687    |
| Other        | 57,900        | 60,600    | 1,297         | 1,355 | 34,073           | 37,239    |
| <b>TOTAL</b> | 1,429,900     | 1,874,300 | -             | -     | 883,978          | 1,251,626 |

## DRY BEAN NEWS FROM THE AMERICAS

### **Mexico Bean Information**

The NDBC Mexico office reported in November of 2002 on the status of the bean crop harvested that summer and fall.

**ZACATECAS:** due to the lack of rainfall in September, bean production will be damaged. Pods didn't develop as they should, and have less grain than expected. Zacatecas is not expecting more than 330,000 MT of beans this year because of this situation.

**DURANGO:** is expecting a good crop. Production is estimated at 128,000 MT with yield of over 1 MT per hectare in many areas. No frosts are expected in this area. Harvesting season will start late October to early November due to the late planting in this state.

**CHIHUAHUA:** the beans did not get any water during September. This is expected to cause total damage in 30 % of the planted surface and partial damage in the remaining 70 % due to the lack of water in the growing cycle. Total production is expected to be at 50,000 MT, but almost all of those beans will be consumed locally.

## DRY BEAN STATISTICS<sup>1,2</sup>

Excerpts from National Agr. Statistics – Lance Fretwell, Colo. Agr. Statistics Service

| State             | Area Planted<br>(000 acres) |              |              | Area Harvested<br>(000 acres) |              |              | Yield<br>(lbs/acre) |              |              | Production <sup>3,4</sup><br>(000 cwt) |               |               |
|-------------------|-----------------------------|--------------|--------------|-------------------------------|--------------|--------------|---------------------|--------------|--------------|--|---------------|---------------|
|                   | 2000                        | 2001         | 2002         | 2000                          | 2001         | *2002        | 2000                | 2001         | 2002         | 2000                                   | 2001          | 2002          |
| California        | 115                         | 88           | 92           | 112                           | 85           | 89           | 1,840               | 1,760        | 2,030        | 2,059                                  | 1,496         | 1,807         |
| <b>Colorado</b>   | <b>120</b>                  | <b>115</b>   | <b>90</b>    | <b>110</b>                    | <b>105</b>   | <b>85</b>    | <b>1,800</b>        | <b>1,700</b> | <b>2,100</b> | <b>1,980</b>                           | <b>1,785</b>  | <b>1,785</b>  |
| Idaho             | 90                          | 75           | 95           | 88                            | 73           | 93           | 1,950               | 1,950        | 2,000        | 1,716                                  | 1,424         | 1,860         |
| Kansas            | 18                          | 15           | 18           | 16                            | 14           | 15           | 1,810               | 1,850        | 1,100        | 289                                    | 259           | 160           |
| Michigan          | 285                         | 215          | 270          | 275                           | 130          | 265          | 1,500               | 600          | 1,850        | 4,125                                  | 780           | 4,903         |
| Minnesota         | 165                         | 115          | 170          | 150                           | 105          | 150          | 1,600               | 1,500        | 1,650        | 2,400                                  | 1,575         | 2,475         |
| Montana           | 40                          | 44           | 27           | 35                            | 29           | 23           | 1,400               | 1,320        | 1,630        | 486                                    | 376           | 374           |
| Nebraska          | 165                         | 160          | 185          | 156                           | 148          | 165          | 2,070               | 2,150        | 2,100        | 3,230                                  | 3,185         | 3,465         |
| New Mexico        | 11                          | 15           | 8            | 11                            | 15           | 8            | 2,090               | 2,000        | 1,800        | -                                      | 300           | 144           |
| New York          | 25                          | 23           | 25           | 24                            | 22           | 25           | 1,460               | 870          | 1,360        | 358                                    | 194           | 333           |
| North Dakota      | 610                         | 440          | 790          | 525                           | 400          | 690          | 1,450               | 1,550        | 1,530        | 7,613                                  | 6,200         | 10,557        |
| Oregon            | 12                          | 10           | 10           | 11                            | 10           | 9            | 1,800               | 1,810        | 1,730        | 211                                    | 172           | 157           |
| South Dakota      |                             | 18           | 21           |                               | 17           | 16           |                     | 1,590        | 1,630        | 226                                    | 270           | 261           |
| Texas             | 20                          | 30           | 38           | 16                            | 26           | 33           | 950                 | 1,320        | 970          | 158                                    | 348           | 315           |
| Utah              | 5                           | 6            | 2            | 3                             | 6            | 0            | 330                 | 300          | 1,670        | 10                                     | 17            | 5             |
| Washington        | 32                          | 34           | 41           | 32                            | 34           | 41           | 2,000               | 1,700        | 2,000        | 640                                    | 578           | 818           |
| Wisconsin         | 8                           | 6            | 7            | 8                             | 6            | 7            | 1,800               | 1,800        | 1,960        | 146                                    | 110           | 137           |
| Wyoming           | 36                          | 27           | 30           | 34                            | 24           | 27           | 2,240               | 2,140        | 2,200        | 762                                    | 514           | 594           |
| <b>USA Totals</b> | <b>1,757</b>                | <b>1,436</b> | <b>1,918</b> | <b>1,606</b>                  | <b>1,249</b> | <b>1,740</b> | <b>1,652</b>        | <b>1,551</b> | <b>1,739</b> | <b>26,409</b>                          | <b>19,583</b> | <b>30,150</b> |

\* Forecasted

1. Excludes beans grown for garden seed

2. Summary for all dry edible beans

3. 2001 estimate is 27 % lower than in 2000 and 41 % lower than in 1999 for U. S. total

4. 2001 estimate is 10 % lower than in 2000 and 35 % lower than in 1999 for Colorado

## Dry Bean Outlook

Excerpts from Northarvest Bean Grower, Jan-Feb 2003  
 Source: Bean Market News, AMS, USDA

The estimate of 2002 U.S. dry edible bean production was increased recently to 30.2 million cwt - 54 % above the drought-shortened crop of a year ago. Harvest area was up 39 % from a year ago and yield was 10 % higher. As a result, U.S. dry bean supplies are expected to be much greater than the drought-shortened supply of last season. Carryover stocks at the start of the marketing season on September 1 were reportedly light - being low or exhausted for most classes.

The larger crop this year reflects double-digit increases in most Northern-tier states and California, with the greatest improvements from a year earlier in Michigan (up 529 %), North Dakota (up 70 %) and Minnesota (up 57 %). Other observations of state production include:

- North Dakota's 10.6 million cwt crop was record-large and the largest output ever in any state;
- North Dakota produced a record-large pinto bean crop and the second-largest navy and black bean crops in the state;
- Michigan's navy bean crop was that state's third-smallest on record, while black bean output was third largest;
- In Nebraska, the signature bean crop, Great Northern, was the third smallest since 1980, while the light-red

kidney bean crop was second largest;

- California's dry bean crop was the fifth-smallest since records began in 1919 as lima and blackeye output continue to trend lower;
- Extreme weather (largely drought) in several states (e.g., Colorado, Utah, Texas and Nebraska) increased abandonment of non-irrigated fields, with irrigated acreage faring well despite the heat.

Pinto bean output is estimated to have increased 49 % to 13 million cwt - the largest crop since 1998. Area harvested was up 45 % to 736,500 acres and average yields gained 3 % to 17.6 cwt per acre. Output was up in most major pinto bean states, with the notable exception of Colorado, where drought conditions, particularly in the non-irrigated western slope areas, forced planted acreage down 22 %. The reduction in non-irrigated land boosted state dry bean yields to a record-high, with pinto yields reaching 21.5 cwt/A.

With production up, pinto stocks have likely recovered from the lows of a year ago, adequately supplying the market but sapping strength from grower and wholesale prices. Grower prices (MN/ND) began the marketing year in September at \$20.25 per cwt - down 4 % from the highs of a year earlier. Prices had slumped to \$14.00 by early December - a third lower than a year earlier, but just 4 % below the average of the previous 5 years. The gain in stocks, lower pinto bean prices, and improved

See OUTLOOK on page 12

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OUTLOOK from page 11

prices for competing grains will likely set the stage for a decrease in pinto bean area and production in 2003.

Pinto bean exports declined 23 % to 157 million pounds during the 2001/02 crop year. After a strong year in 2000/01, exports to Mexico declined last season. Better crops in Mexico during the 2001/02 season reduced U.S. pinto exports to that country 57 %, accounting for much of last season's reduction. This September, pinto bean export volume got off to a strong start due largely to PL-480 sales to Mozambique (22 million pounds) and strong movement into Mexico (13 million pounds). With good supplies, lower prices, and continued food aid demand, pinto exports are expected to increase in 2002/03.

## Into Africa

Excerpts from Northarvest Bean Grower, Jan-Feb 2003  
Source: Amy Philpott, National Dry Bean Council

National Dry Bean Council (NDBC) representatives visited prospective food aid clients in Kenya and Southern Africa in last August last year. The purpose of the trip was to consult with food aid sponsors and U.S. Government officials to promote the use of dry beans in food aid programs.

Feed the Children Program: FTC operates a direct feeding program for orphans, abandoned babies and slum dwellers. Feed the Children is interested in a bean/rice combination product that can be distributed in their direct feeding programs. The NDBC is partnering with USA Rice to develop with USDA a co-pack of beans and rice. By delivering beans and rice in a 50-kg bag with individual packs of beans and rice included, the U.S. Private Voluntary Agencies (PVOs) can ensure that a nutritious ration is available on site. This co-pack also reduces losses due to repackaging and avoids logistical problems.

Cooking Research Project: NDBC is conducting a research project with FTC to utilize the Vitacow cooker/processor to develop quick cooking methods, preparation and recipes. The goal of the research is to demonstrate to PVOs and WFP that dry beans can be cooked in about 20 minutes and without soaking through the utilization of steam under pressure.

Massive Feeding Program: While South Africa is not a recipient of food aid, Johannesburg is the regional headquarters for major food aid agencies such as the World Food Programme (WFP), World Vision (WV), Catholic Relief Service and Jesus Alive Ministries (JAM). Since there is a very severe drought in nearby southern Africa countries, the headquarters was very active in the programming of large quantities of U.S. food aid. The original estimate was a requirement of 1.2 million tons

of food aid for the region to be delivered over the next six months. The U.S. is the single largest donor and is expected to meet 50 % of the total emergency requirement. Only a portion (about 23 %) of this requirement has been committed and purchased.

We had meetings with WFP, WV and JAM officials to discuss the current situation and to explore the utilization of beans (and possibly, a bean and rice combo pack) in this massive feeding operation. JAM is also distributing food aid in the region, with particular emphasis on Angola and Mozambique. One of the project coordinators for JAM's relief efforts in the region commented that to get food quickly, they were buying beans on the commercial market, but that South Africa's supply is very low so they have had to buy beans on the Angolan market to meet demand.



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## National Sclerotinia Initiative

The goal of the National Sclerotinia Initiative is to implement a coordinated research strategy to eradicate the devastating effects of Sclerotinia (white mold) on soybean, canola/rapeseed, sunflower, and pulse crops (dry edible bean, dry bea, lentil, and chickpea).

**Background:** Sclerotinia has proven very difficult to control or minimize. Sclerotinia is a serious fungal disease that affect ts most broad-leaf plants, including canola/rapeseed, edible bean, soybean, sunflower, pea, lentil and chickpea. The fungus generates hard, black bodies called sclerotia that remain on the soil surface after the infected crop is removed. Sclerotinia spores can spread for miles with the wind, and can overtake a field in a period of days. Afterwards, sclerotia can survive in fields for many years.

**Economic Impacts:** Sclerotinia impacts yields and crop quality. Yield losses alone are estimated to exceed \$150 million per year. Sclerotinia has reduced the canola industry by 20 % of the total crop value. The disease has devastated the bean industry in the Dakotas, Nebraska and Minnesota, amounting to a total loss of \$50 to \$60 million annually. Sunflower losses in the same region amounted to almost \$100 million. Scientists estimate that the disease reduces soybean and pulse yields by up to 12 bushels per acre for every 10 % increase in

Sclerotinia incidence; Sclerotinia has been the cause of major soybean and pulse yield reduction in four of the last six years.

**Proposal:** A lack of funding and coordinated research has impeded progress in addressing Sclerotinia. However, the National Dry Bean Council, American Soybean Association, U.S. Canola Association, National Sunflower Association, and the USA Dry Pea and Lentil Council are supporting the establishment of a National Sclerotinia Research Initiative administered by USDA/ARS. This program is patterned after the National Wheat and Barley Scab Initiative, whereby stakeholders and researchers provide input for a multi-state, multi-crop national research effort identifying ways to address the disease. The research effort will focus on the areas of genetics and breeding, disease epidemiology, and crop management practices. Congress awarded \$900,000 in fiscal year (FY) 2002 to begin the National Sclerotinia Initiative. To continue progress, stakeholders recommended the additional ARS funding as follows:

- FY 2002 - \$900,000 appropriated to ARS. USDA has awarded competitive funds to 20 research projects, after input from the stakeholder Sclerotinia Working Group;
- FY 2003 - \$2.5 million requested to continue the program;
- FY 2004 - \$5.4 million requested to maximize the program;
- FY 2005 - \$5.4 million requested to continue the program and sustain the research.

### 2002 Funded Plans of Work - Dry Beans

- North Dakota State Univ. - K. Grafton, Identify and introgress molecular markers for white mold resistance in dry bean.
- North Dakota State Univ. - L. del Rio et al., Use of Intercept for control of Sclerotinia on dry beans, canola and sunflower in North Dakota
- USDA-ARS at Prosser - P. Miklas, Towards marker-assisted breeding for white mold resistance in common bean.
- Univ. of Idaho - S. P. Singh & Colorado State Univ. - H. F. Schwartz, Introgressing white mold resistance from the secondary gene pool of common bean
- Colorado State Univ. - H. F. Schwartz & M. A. Brick, Eco-tillage, biopesticides and resistance management of white mold in dry bean
- Oregon State Univ. - J. Myers & H. Stotz, Transfer of total Sclerotinia resistance from Phaseolus coccineus to P. vulgaris
- Michigan State Univ. - J. Kelly, Combining conventional and contemporary approaches to develop white mold resistance in dry bean



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**Sharing Bean Genes in Latin America**

Excerpts from CIAT in Perspective 2001-2002

The smooth flow of seeds and other plant genetic resources across national borders has long been seen as vital to the design of better food crops and to the fight against rural poverty around the world. A recent CIAT (international bean research center in Colombia) analysis of the genetic origins and benefits of improved bean varieties that were derived in whole or in part from material in the CIAT germplasm bank lends credence to that conventional wisdom.


Reported in January 2002, the study lays out the patterns and economic impact of Latin America's longstanding international exchanges of bean genes. Its authors conclude that nearly three-quarters of the more than US \$ 1 billion in regional benefits gained from planting improved CIAT-related varieties of common bean between 1970 and 1998 can be attributed to foreign genetic material.

For 11 of the 18 countries in the study, more than 70 % of the genes present in released bean varieties originated in other countries. Colombia was the biggest contributor to the international flow, followed by Mexico, Costa Rica, and El Salvador. Not surprisingly, the greatest beneficiaries were Brazil and Argentina. These large countries have long been major bean producers and their breeders rely heavily on foreign germplasm. "Clearly, everyone is both borrowing and lending germplasm for mutual benefit. Patters of country inter-

dependence in sharing bean genes are rather similar to those for maize, rice, and wheat."


The emerging, often thorny issue of intellectual property rights over plant genes was one of several factors that led CIAT to conduct the study. On the one hand, international agreements like the Convention on Biological Diversity explicitly recognize national ownership of these resources. They call for greater fairness in the exchange and use of genetic materials, a domain that until recently was largely unregulated except for measures to prevent the spread of disease. On the other hand, the prospect of countries attempting unilaterally to profit from plant gene sales presents clear dangers. Such behavior could end up restricting the international flow of germplasm.

The study findings echo those of earlier CIAT research which analyzed the potential benefits of introducing an international system of germplasm royalties. Under such a scheme, user countries would pay source countries a fee, proportional to the latter's genetic contribution to the commercial variety being planted. The analysis concluded that, overall, the economic gains from planting better crop varieties would far outweigh those from any royalty scheme, even at the generous rate of 10 % of local seed prices. Thus, if any future royalty scheme is to have a positive net effect - namely, a combination of just payment for germplasm and continued improvement in agricultural productivity - it must be designed to promote, not hinder, gene sharing.



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| <p>Montrose Potato Growers<br/>Steve Mosher<br/>38 West Main, P.O. Box 65<br/>Montrose, CO 81402<br/>Ph 970-249-6623<br/>Fax 970-249-0426</p> | <p>Thunder Mountain Bean Co.<br/>Robert Proctor<br/>1588 B Road<br/>Delta, CO 81416<br/>Ph 970-874-7737<br/>Fax 970-874-1462</p>   |

**Yield Performance**

Montrose has performed well in replicated trials in Colorado during the past four years of evaluation by the Colorado Crops Testing Program. The table below shows the average seed yields of the four highest yielding varieties tested in 1997, 1998, 1999 and 2000.

| Cultivar | 4 Yr. Average* |
|----------|----------------|
| Montrose | 2698           |
| Bill Z   | 2624           |
| Chase    | 2670           |
| Vision   | 2216 (3 yr.)   |

\*Average of 17 locations-years

## NUTRIPLANT AG - Growth Enhancer

Research at the Yuma Irrigated Research Farm has demonstrated that Nutriplant AG can enhance growth of agricultural crops such as dry bean. It is a biologically-complexed growth enhancer that increased crop yield and improves overall quality according to the distributor, Amway. It helps the plant through crucial physiological changes such as flower formation and fruit set, and improves the plant's resistance to environmental stresses, allowing a better expression of the genetic potential of the crop.

Nutriplant SD is a powdered nutritional supplement to enhance seed germination, emergence and root growth. It provides seed and seedlings with the necessary nutrients for development, improves resistance to environmental stresses, promotes rapid germination and

emergences, and develops a larger and stronger root system to maximize the plant's initial development. Nutriplant AG and SD are produced using an exclusive multi-stage fermentation process. It contains a balance of biologically-derived compounds, which include proteins, amino acids and carbohydrates that combine with micro- and macro-nutrients to promote optimal yields.

Research in recent years has shown a 10% increase with SD (4 oz/cwt seed) and 16% increase with AG (16 oz/Acre @ pre-bloom).

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- Greeley, CO .....970-352-0346
- Sterling, CO .....970-522-3595
- Wheatland, WY .....307-322-2550

### Dry Bean Outlook

Excerpts from Northharvest Bean Grower, Nov/Dec 2002

The USDA Economic Research Service reported that production was up 41 %. The estimate of 2002 U.S. dry edible bean production has increased since the initial August crop forecast. Output of all classes is currently estimated at 27.6 million cwt - up 41 % from the short crop of a year earlier. Output will likely rise for most classes with the exception of garbanzo, blackeye, and great northern.

With the October crop estimate reinforcing August's production forecast, dry bean prices at all levels of the marketing chain continued to decline as the new harvest replenished pipelines, warehouses, and elevators. The 2003/03 season opened with the preliminary industry aggregate grower price (\$17.80/cwt) estimated to be 2 % below a year earlier. Although prices have dropped for most classes, the greatest downward price pressure has been on black, navy, and pinto beans, with output for these classes expected to rise substantially.

A few classes could see higher prices in 2002/03. Drought-reduced yields in Texas have strengthened prices for blackeyes, while a smaller great northern crop in Nebraska has allowed prices to remain 15 to 20 % above year-earlier levels. A smaller garbanzo/chickpea crop in the U.S. and weather-reduced or damaged output in Canada will likely combine with stronger exports to help strengthen prices, which have been sliding lower for several years as growth in supply has outpaced demand.

## Factors Affecting Dry Bean Consumption in the U. S.

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 USDA Economic Research Service, April 2000 Excerpts

Total per capita dry bean consumption has increased markedly in the United States over the past two decades. However, little is known about the distribution of dry bean consumption across different marketing sectors, geographic regions, or population groups. Using data from USDA's 1994-96 Continuing Survey of Food Intakes by Individuals, this article examines the consumption distribution of cooked dry beans in the U.S. The analysis indicates that cooked bean consumption is greatest in the southern and western areas of the country. About 55 % of black beans, one of the fastest growing classes in terms of per capita use, are consumed in the southern region of the country. Although people of Hispanic origin represented approximately 11 % of the population, they accounted for 33 % of all cooked dry edible bean consumption. Relative to their share of the population, low-income consumers ate substantially more navy, lima, and pinto beans than those with greater means.

Percent change in consumption of market types from 1987-89 to 1997-99 :

|                 |       |
|-----------------|-------|
| Total Dry Beans | .28 % |
| Pinto           | .39   |
| Navy            | .5    |
| Great Northern  | .3    |
| All Kidney      | .59   |
| Black           | 1,125 |

[5.99 lb/capita in 1987/89 to 7.67 lb/capita in 1997/99]

U.S. dry bean consumption by racial/ethnic makeup:

|                     |       |
|---------------------|-------|
| White, non-Hispanic | .54 % |
| Hispanic            | .33   |
| Mexican             | .21   |
| Puerto Rican        | .3    |
| Other Hispanic      | .9    |
| Black, non-Hispanic | .10   |
| Asian               | .2    |
| Others              | .1    |

Men (perhaps because of their larger caloric intake) consume 61 % of all cooked dry beans. Accounting for just 27 % of the population, men between the ages of 20 and 59 consume 41 % of all cooked dry beans. Children under the age of 12 represent 18 % of the population; yet consume just 9 % of all cooked dry beans. Refried pintos and limas appear to be the most favored bean of this group as they consume nearly 12 % of the national total for each. Teenage boys consume 13 %, with girls right behind at 10 %. The popularity of fast food restaurants and Mexican-style food among teenagers likely accounts

for the high consumption ration. Adults over 60 years of age represent 16 % of the population and consume 12 % of all cooked dry beans. Older adults favor blackeye cowpeas (25 %), lima beans (21 %), and navy beans (20 %) but largely avoid products containing refried beans (1 %).

Important findings of this study were:

- Slightly more than 75 % of all cooked dry bean are purchased in retail stores. The at-home vs away-from-home use pattern varies greatly among bean variety, with lima beans most concentrated in home use, while refried pinto beans are mostly used in restaurants.
- Cooked dry bean consumption concentrates in the Southern and Western states of the country, accounting for 39 and 38 % of all bean consumption. This regional consumption pattern is consistent with California, Texas, and Florida being the three populous states in these regions, and they have a high concentration of Hispanic populations.
- Rapid growth of the Nation's Hispanic population has indeed contributed to the increasing popularity in cooked dry bean consumption. People of Hispanic heritage represent 11 % of the U.S. population and account for 33 % of cooked dry bean consumption. Hispanics of Mexican descent are the largest consumers of cooked dry beans, with nearly 21 % of total volume - more than four times their proportion of the population. The Nation's Hispanic population is expected to continue rising over the next few decades.
- Cooked dry beans as a whole are favored by lower income households. While the poor tend to consume more pinto and lima beans, black and garbanzo beans could be termed the upscale members of the cooked dry bean community.
- Cooked dry bean consumption varies by age and gender. Men consume more beans than women, likely because of their larger food consumption. As children grow up, they tend to frequent fast food restaurants and develop a taste for Mexican-style food and hence consume more beans.

