

Colorado Bean News

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Bette Blinde, Executive Director

Colorado Foundation for Agriculture, PO Box 10, Livermore, CO 80536
(bjb333@aol.com) • Phone: 970-881-2902 • Fax: 970-881-2587

MAILING LABEL UPDATE

Please send changes to:
Dr. H.F. Showalter, CBN Editor
E207 Plant Science Building
Colorado State University
Fort Collins, CO 80523-1177



**Colorado Dry Bean
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Robert Schork **Manager**
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**NATIONAL DRY BEAN COUNCIL
HIGHLIGHTS**



Mexico Bean Situation

The NDBC Monthly Report from August 2001 provided some insight into the 2001 summer crop in northern Mexico. Zacatecas plantings were delayed until late July and early August due to late rainfall conditions. These late plantings will jeopardize the crop from early frosts in October. Programmed plantings were estimated at 733,000 hectares and was only 63% completed by early August. Officials projected that 2001 would be similar to 1998 when there were production problems with the weather.

In the Durango area, 90% of the programmed 281,000 hectares of beans were planted by early August. Rainfall was regular then, and officials expect a very good production.

In the Chihuahua area, rainfall was normal and officials expect a good production. Only 58 % of the 200,000 hectares were completed by early August, and they expect to close the planting season by August 17th.

El Financiero News, July 31, 2001, reported that specialists from the National University's Social Research Institute in Mexico declared the national basic grain production depends on 11 million producers, from which 40 % grow for self-consumption only. In 10 years, Mexico switched from 40 % of imports to 80 % from the U. S., while the Mexican market opened its doors to other countries such as Argentina, which last year exported into Mexico 60,000 MT of beans, provoking a price drop from \$ 8.00 to \$ 3.80 pesos per kilo.

See NDBC on page 8

In this Issue

Show Your Support of Agriculture!1
Mexico Bean Situation2
CDBAC Budget2
American Dry Bean Board Highlights3
Food Safety, Biotechnology, Bioterrorism,
Medical, and Meat and Poultry4
Anthracnose Found in Pinto Beans in North
Dakota4
Dermot Coyne Retires5
Bean Disease IPM Reminder5
Council for Agricultural Science and Technology
News Release6
NDBC July 2001 Meeting Notes8
2002 Colorado Agricultural Outlook Forum9
Mexico Sets Import Auction Schedule9
National Agr. Statistics10
Soil Testing, Agriculture and the Environment11
REINVENTING THE BEAN12
Holiday Baking14
BEAN ROOT HEALTH15
VegNet Weather Summary16

CDBAC Budget as of August 31, 2001

	BUDGET		
		YTD	vs
	BUDGET	ACTUAL	ACTUAL
Assessments	96,000	62,232	(33,768)
Interest	4,000	3,040	(960)
Total Income	100,000	65,271	(34,729)
Research	38,500	38,500	0
Administrative	8,400	5,600	2,800
Promotional	5,000	3,552	1,448
Meetings & Travel	9,000	10,074	(1,074)
Dues	27,500	10,625	16,875
Magazine	8,000	6,000	2,000
Accounting and legal fees	2,500	2,140	360
Refund of assessments	2,500	819	1,681
Telephone, postage, supplies:	2,500	2,515	(15)
Total Expenses	103,900	79,825	24,075
Excess (Shortage)	(3,900)	(14,553)	(10,653)

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

American Dry Bean Board Highlights

Excerpts from The Bean Bag, Fall 2001 Issue

The ADBB's programs benefits everyone's bottom line:

- Resource for bean industry data and information
- Referral for recipes for beans grown in major U. S. production regions
- Distribution of over 3.5 million nutrition and recipe brochures since 1987
- Gallup National Consumer Market Research to identify primary consumer groups
- Internet website to reach millions of consumers
- Unites all facets of the industry: producers, canners, processors, packagers, and related industries

The 2001 Bean Education and Awareness Network (B. E. A. N.) public relations program includes:

- World of Beans Series of six releases that provide a "passport" to the world of beans
- Bean features in Woman's Day Special Interest Publications "Holiday Cooking & Entertaining" and "Eating Light"
- Chef spokespersons on beans' role in ethnic food trends
- Dietitian spokesperson on health topics related to beans
- Ongoing contact with more than 1,200 food and health editors
- Special effort with the Associated Press

In nine years, the B. E. A. N. has:

- Placed more than 15,000 stories about beans in newspapers, magazines, trade publications, radio, television, and the Internet
- Generated more than 900 million impressions with positive messages about beans
- Increased internet involvement and featured bean recipes on the following web sites
 - www.recipecenter.com
 - www.thriveonline.com
 - www.mealsforyou.com
 - www.ichef.com
 - www.mycookbook.net
 - www.meals.com
 - www.shesgotnetwork.com
 - www.newmaturity.com



Montrose PINTO BEAN

Montrose combines mid-season maturity, high yield potential, and resistance to the prevalent races of rust and bean common mosaic virus in the High Plains .



Your sources for Montrose PINTO BEAN:

Delta Potato Growers
Ray Rubalcaba
515 West 7th
Delta, CO 81416
Ph 970-874-9737
Fax 970-874-0703

Red Beard Bean Co.
Larry Proctor
269 State Highway 348
Delta, CO 81416
Ph 970-874-7488
Fax 970-874-9859

Montrose Potato Growers
Steve Mosher
38 West Main, P.O. Box 65
Montrose, CO 81402
Ph 970-249-5623
Fax 970-249-0426

Thunder Mountain Bean Co.
Robert Proctor
1588 B Road
Delta, CO 81416
Ph 970-874-7737
Fax 970-874-1462

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	2893
Bill Z	2524
Chase	2670
Vision	2216 (3 yr.)

*Average of 17 locations-years



**Colorado Bean Network
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- Harley Ross, Kelley Bean Chairman
970-463-5468
- Howard Schwartz, CSU Secretary
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.

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- 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

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

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- 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
- *Negatives to be stripped in 100 lines

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BEAN BYTES

Food Safety, Biotechnology, Bioterrorism, Medical, and Meat and Poultry

FDA Science Forum Set for February 20 - 21 in Washington, DC

In announcing the Science Forum, FDA stated: " ... The 2002 FDA Science Forum will focus on how FDA's many different scientific and regulatory disciplines support the public health programs of the agency. The first day will discuss the importance of research, policy development, and review in public policy decision-making. The second day will emphasize how the principles of public health surveillance, from both domestic and global perspectives, can be applied to FDA's science issues. An integral part of this year's science forum will be interactive breakout sessions that discuss in depth the importance of research, review, policy and regulation in the development of FDA's public health policies. The break out session topics will include bioengineered foods, botanicals, bioterrorism, antibiotic resistance, children's health issues, tissue engineering, genomics, and bovine spongiform encephalopathy. The break out sessions on the first day will focus on the importance of sound research and review in responding to public health issues. The break out sessions on the second day will focus on impact of policy and regulation on public health programs. ..." Details are posted at: <http://www.fda.gov/oc/meetings/2002sciforum.html>

Anthracnose Found in Pintoba Pintos in North Dakota

The Northarvest Bean Growers Association reported in Talkin' Beans on Sept. 16, 2001 that anthracnose was detected in a number of north central North Dakota fields planted to Pintoba pintos. The original seed source was believed to be from Manitoba, Canada. Yield reduction and reduced quality are the major concerns of this type of disease. Bean anthracnose is not toxic and is "not a food safety issue" for human consumption. The disease anthracnose is a seed-borne disease that spreads during cool, wet weather by rain splash or center pivot irrigation. It also can be spread by movement through the fields via harvest equipment, cultivators, humans and animals walking if the foliage of bean plants is wet. North Dakota growers are being urged to NOT save commercial seed for replanting in 2002.

Colorado Dry Bean Administrative Committee Variety/Crop Year CWT Summary

	1988-92	1993-97	1998	1999	2000	Total
Pinto	12,913,340	10,661,963	2,426,706	2,130,313	1,397,015	29,529,337
LRK	240,180	733,012	109,946	117,931	101,050	1,302,119
GN	41,740	80,955	0	0	1,826	124,521
Navy	53,731	25,000	3,089	8,204	0	90,024
Blacks	17,028	32,953	0	2,328	6,842	59,151
Pinks	39,182	7,453	0	0	0	46,635
Anasazi	9,034	16,071	0	5,441	0	30,546
Sm White	19,629	0	0	0	0	19,629
Reds	13,972	7,159	0	0	2,478	23,609
Cranberry	0	798	0	0	0	798
Mayo Cuba	0	275	770	45,417	39,443	85,905
Total Assessments	13,347,836	11,565,639	2,540,511	2,309,634	1,548,654	31,312,274
Crop Estimate	15,849,000	12,837,000	2,868,000	2,755,000	2,035,000	
% of Estimate	84.22%	90.10%	88.58%	83.83%	76.10%	

***Dermot Coyne Retires as
Bean Breeder at Nebraska***

NU IANR Editor, Vicki Miller - reported in the Fall 2001 Bean Bag Issue that Professor Dermot P. Coyne officially retired June 30 after 40 years of contributions to plant breeding, including dry beans at the University of Nebraska. Coyne is internationally recognized for his research on disease resistance in dry beans. He developed 14 Great Northern and pinto varieties, many of which have been widely grown in Nebraska and beyond. Dermot will continue working part-time through year's end.

"Biotechnology is changing plant breeding and public plant breeder's role. Private companies are increasingly involved in developing new crop varieties, Coyne said, leaving public breeders to concentrate on niche crops and focus increasingly on basic research in functional genetics, or understanding how genes function." "I see a combination of classical and molecular breeding going hand-in-hand to use our germplasm more effectively, especially wild germplasm," Coyne said. With the growing emphasis on genomics and basic research, Coyne wonders whether future public breeders will get to turn their discoveries into new varieties.

Bean Disease IPM Reminder

By Dr. Howard F. Schwartz & Res. Assoc. Mark S. McMillan
Colorado State University

- Rotate out of dry beans for at least 2 years.
- Eliminate bean debris and sources of volunteer beans during the fall of 2001 and spring of 2002.
- Plant high quality, certified, treated seed of disease resistant varieties, if available, and suitable for your market needs and seed quality demands.
- Follow recommended production practices to avoid stress from extremes of moisture, temperature, and soil compaction.
- Manage water and fertilizer inputs to provide adequate, but not excessive components for the crop need to avoid excess canopy development; if Rhizobial inoculants are used, do not over-fertilize.
- Carefully scout fields to detect foliar infection as early as possible, get confirmation of disease diagnosis from appropriate experts.
- Monitor reports on weather patterns, disease forecasts, and confirmed sightings in your region via the CSU VegNet (www.csuag.com).
- When infection is confirmed in or near your field, implement a timely program of fungicides and bactericides with protectant and/or systemic modes of action. Rotate appropriate fungicide chemistry, apply labeled rates, use an adjuvant, and stay within recommended spray intervals.
- Adjust combine at harvest to maximize seed quality, and reduce loss of seed which can overwinter and germinate next spring to produce volunteer plants.
- Thoroughly incorporate each season's crop debris + pathogens to reduce carryover and potential disease pressure the following season. Rely upon cultivation and herbicides in next year's rotation crop to reduce volunteer bean emergence and possible infection by pathogens which can then be spread to next year's host crop by wind, water, implements and animals.

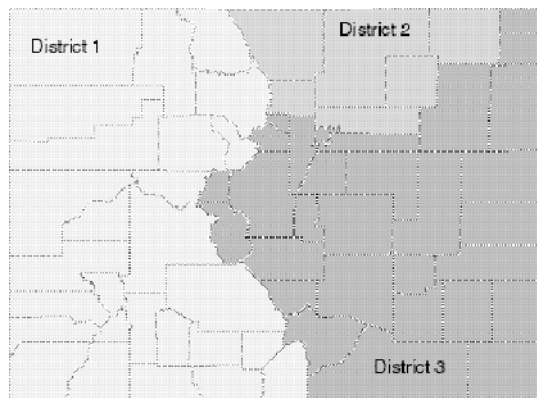


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Keenesburg:	(303) 732-4241
Milliken:	1-800-635-2326

CDBAC Membership





Council for Agricultural Science and Technology News Release

For Immediate Release, October 11, 2001

CAST Scientists Issue Evaluation of U.S. Biotechnology Regulatory Process and Urge Government to Increase Public Access to How Regulators Make Decisions

Washington, D.C. Regulators need adequate resources to make more information available to the public about how decisions on biotechnology are made, according to a new Council for Agricultural Science and Technology (CAST) issue paper. The "Evaluation of the U.S. Regulatory Process for Crops Developed through Biotechnology" paper includes recommendations for policy and research in agricultural biotechnology. It is particularly timely as the Environmental Protection Agency is making decisions regarding the registration fate of biotechnology-derived crops, such as Bt corn.

A group of nine science and policy experts prepared the issue paper for CAST, which represents 36 food and agricultural scientific organizations. "Having accepted the unenviable task of evaluating how U.S. regulatory agencies determine the safety of biotech crops, we decided to describe the process, then comment on how the process can be improved," explained food safety expert Bruce Chassy of the University of Illinois.

The paper's authors found that the U.S. regulatory process for evaluating biotechnology-derived crops is comprehensive and meets its charge of ensuring that biotechnology-derived foods are at least as safe as foods derived using traditional breeding techniques. "The greatest challenge is not having access to the documentation on how regulators come to their decisions," said Chassy. "We believe the public would have more confidence in the process if they knew the rationale for regulatory decisions to accept or reject new biotech crops. Safety testing data are available to the public. Now we need to provide adequate resources so the regulators can explain their decision-making rationale."

Four Key Questions Evaluated

The authors address (1) How are safety assessment and regulatory reviews conducted? (2) Can obvious strengths and weaknesses of that process be identified? (3) Can improvements be made in conduct and direction of independent research, in performance of safety assessments, in opportunities for consumer participation, or in any other aspects of the regulatory process that will both enhance the quality of the assessments and further ensure the ultimate safety of biotechnology-derived crop products? and (4) Are there improvements to the regulatory review process for biotechnology-derived plants that will enhance public confidence in the process?

Policy Recommendations

1. Retain the current case-by-case safety assessment approach and continue to emphasize regulatory conditions carefully tailored to address risks identified for individual biotechnology-derived plant products.
2. Finalize the Food and Drug Administration's (FDA) current proposal for a mandatory, premarket notification in lieu of the present policy of voluntary consultation for all food products of agricultural biotechnology.

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 Pears	Entomology	970-491-5945
Don Lybecker	Agr. & Res. Econ	970-491-5496
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 Alldredge	Weld Cnty.	970-356-4000 x 4465
Paul Aravis	Boulder Cnty.	303-776-4865
Bruce Bosley	Morgan Cnty.	970-867-2493
Randy Buhler	Logan Cnty.	970-522-3200 x 1308
Wayne Cooley	Montrose Cnty.	970-249-3935
Dan Fernandez	Dolores Cnty.	970-677-2283
Assefa Gebre-Amlak	Phillips Cnty.	970-854-3616
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
Stan Pilcher	Washington Cnty.	970-345-2287
Ken Smith	Montezuma Cnty.	970-565-3123
Frank Sobolik	Pueblo Cnty.	719-583-6566
Brent Young	Delta Cnty.	970-874-2195

Websites of interest to bean growers

www.csuag.com

www.colostate.edu/Orgs/VegNet/beanlinks

3. Provide the public with rapid, comprehensive accessibility to applications and supporting health and safety data submitted to regulatory agencies for biotechnology-derived products
4. Issue approvals for both food and feed use for crops intended to enter commodity streams.
5. Provide the additional resources sorely needed for key regulatory review functions.

Research Recommendations

1. Conduct additional research on selected topics to ensure that present-day questions can be answered and that future developments will be assessed adequately.
2. Develop rapid screening methods for biotechnology-derived crop proteins in raw agricultural commodities, such as grain and vegetables.
3. Conduct additional research to support regulatory oversight and product stewardship of biotechnology-derived crops currently on the market.
4. Carry out additional research on the potential health, safety, and environmental effects of biotechnology-derived products that are not designed to be substantially equivalent to their conventional counterparts (sometimes referred to as next generation biotechnology-derived crops).
5. Conduct additional research on food allergies and identification and characterization of allergenic food proteins.



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CAST and the Authors

CAST publications are prepared by teams of volunteer scientists and science policy experts assembled by CAST. All CAST publications reflect the expertise and views of the authors. The following multi-disciplinary group of scientists and science policy experts prepared this paper:

- Bruce M. Chassy, Ph.D. (Chair), College of Agricultural, Consumer, and Environmental Sciences, University of Illinois, Urbana
- Stanley H. Abramson, J.D., Arent Fox Kintner Plotkin & Kahn, PLLC, Washington, D.C.
- Anne Bridges, Ph.D., Medallion Laboratories, a division of General Mills, Minneapolis, Minnesota
- William E. Dyer, Ph.D., Department of Plant Sciences, Montana State University, Bozeman
- Marjorie A. Faust, Ph.D., Department of Animal Science, Iowa State University, Ames
- Susan K. Harlander, Ph.D., Biorational Consultants, New Brighton, Minnesota
- Susan L. Hefle, Ph.D., Department of Food Science and Technology, University of Nebraska, Lincoln
- Ian C. Munro, Ph.D., Cantox Health Sciences International, Mississauga, Ontario, Canada
- Marlin E. Rice, Ph.D., Department of Entomology, Iowa State University, Ames

The complete paper, as well as many of CAST's other numerous scientific reports, is available on the CAST web site, www.cast-science.org. CAST is an international consortium of 36 scientific and professional societies. It assembles, interprets, and communicates science-based information regionally, nationally, and internationally on food, fiber, agricultural, natural resource, and related societal and environmental issues to its stakeholders - legislators, regulators, policy makers, the media, the private sector, and the public.

Contacts:

Dr. Bruce M. Chassy, phone (217) 244-7291; bchassy@uiuc.edu

Cindy Lynn Richard, CIH, phone 202-675-8333, ext. 12 or crichard@cast-science.org

Dr. Teresa A. Gruber, phone 202-675-8333, ext. 11 or tgruber@cast-science.org

Karen C. Edwards, phone (703) 281-7600 or karen@kcegroup.com

Robert J. Ver Straeten, rverstraeten@cast-science.org
Manager, Information Services
Council for Agricultural Science and Technology
P.O. Box 25828, St. Paul, MN 55125-0828, USA
phone: 651-731-0042, fax: 612-605-0061

NDBC from page 2

**NDBC July 2001 Meeting
Notes – Park City, Utah**



Export Subsidy - The NDBC may pursue what will prove to be a highly controversial legislative initiative as part of new policy positions adopted by the board of directors. Executive Director Phil Kimball told the U. S. Dry Bean Convention here the council supports an export incentive option which will help the U. S. dry edible bean industry compete with countries with weaker currencies and lower costs of production. Essentially the industry is looking for some kind of export subsidy to offset the perceived effect of lower valued currencies in countries such as Canada, Australia, and Argentina on their asking prices. At the same time, the initiative would provide support when it can be shown a country has lower production costs on account of lower land values, labor rates, and other factors. Such efforts reflect the deepening frustration on the part of the U. S. industry over rising competition on world markets, with U. S. origin product losing market share in the face of stiff price competition from Canada and elsewhere for available demand.

The fact the industry feels pressure, especially from Canada, was made clear by the council's Mexican representative Raul Cabellero who asked whether the U. S. can maintain its massive presence in the Mexican market


once all trade is duty free in 2009. The recent explosion of chickpea acreage in western Canada made it clear to the U. S industry that once acceptable dry edible bean varieties are available, production in Canada could explode upward. The key to sudden expansion in Canadian output is Saskatchewan. But this increase may be tempered by competition from other pulses and the province's short growing season, according to Ivan Sabourin of Roy Legumex Inc.

Production Insurance - Another potentially controversial policy initiative announced by Kimball was NDBC support for production insurance which would give dry edible bean growers in the United States a safety net of up to 100 % of the cost of production.

Food Aid - The NDBC will also push for increases in the quantity of beans purchased by the USDA for use in food aid programs. Amy Philpot said this initiative will be supported by reverse trade missions. Representatives of non-governmental aid agencies will be brought to the United States to view processing plants and learn about the benefits of eating beans.

Kimball said accomplishing such legislative goals takes hard work, involving local NDBC representatives and the industry. Paying close attention to state Senators and Congressional representatives has earned the bean

See NDBC on page 9



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NDBC from page 8

industry strong core support in Washington. Of 26 Senators representing states which produce beans, the NDBC believes it has core support from 16. Kimball suggested more work needs to be done with Congressional representatives, suggesting there is not a strong core of supporters in the 36 house representatives whose electors grow beans.

Production Estimates Low for 2001 – The world’s major dry edible bean exporting nations appear to be facing production problems this year, judging from reports presented at this year’s dry bean convention in Park City, Utah. North American production will be down on the basis of steep reductions in seeded area in the United States; while weather problems hurt black and white alubia bean crops in Argentina; and dry conditions are expected to compromise production levels in China.



2002 Colorado Agricultural Outlook Forum

Don Ament, Colorado Commissioner of Agriculture, has announced that the 2002 event will be held on Tuesday, February 19 at the Adam’s Mark Hotel in Denver. The Colorado Agricultural Outlook Forum is visionary, informative, and brings together top thinkers and doers from our nation’s agricultural industry. For 10 years, 400 leaders from Colorado agriculture and related fields have been attracted to this premier, one-day event.

The theme of the 2002 Colorado Agricultural Outlook Forum is: “The Colorado-Mexico Connection: Agricultural Trade, Labor & More.” We believe this topic is very timely and important for Colorado and U. S. agriculture. Mexico is now the second largest export market for Colorado agricultural products and third largest market for the U. S. This increased trade has spawned other issues such as labor and transportation. Colorado’s food and agricultural system also depends heavily upon workers from Mexico.

The Forum is sponsored by the Colorado Department of Agriculture, Colorado State University Cooperative Extension, and the Colorado Agricultural Leadership Association. Telephone: 303-239-4112, Fax: 303-239-4195, Email: david.carlson@ag.state.co.us, Web Site: www.coloradoagforum.com

Mexico Sets Import Auction Schedule

Excerpts from Article by Brian Clancy in *Northwest Bean Grower*, Fall 2001 Issue

The Mexican government has given the NDBC a written commitment to hold auctions for dry edible bean import licenses on a regular schedule. Raul Cabellero, the NDBC rep to Mexico, told NDBC delegates that the auctions are to be held March 1 and June 1 each year. It will start with the 2002 import permit auctions and last until there is free trade in dry edible beans in the year 2009.

Next year’s auction will cover an estimated 63,339 metric tons of U. S. origin dry edible beans. The quantity covered by the permit auctions will rise in future years, while duty rates on beans will decline to zero.

Cabellero said Mexico has not indicated the quantity of beans which will be covered by the individual permit auctions; but he believed the permits would only be valid for 90 days. If that is the case, then mainly old crop beans will be shipped to Mexico and markets in the United States could find themselves facing more price pressure after harvest than in the past as other consumers know they will not need to compete with Mexico for available supplies.

Such timing allows the Mexican government to ensure imports do not interfere with the main spring and summer harvest. It also ensures imports are opened up during a period when domestic bean supplies are tightening.

Cabellero expects the average price paid for import permits to trend down during the remaining years of the transition into free trade. The reason is prices paid for this year’s permits were remarkably close to the import duty rate which applies to over-quota beans. The duty rate is falling each year, and it is unreasonable to expect importers to pay a premium for permits.

Clancy is editor of STAT, a specialty crop marketing newsletter, PMB 803, 250 H Street, Blaine, WA 98230. Tele: 604-535-8505 • Web Site: www.statpub.com



Excerpts from National Agr. Statistics (Oct. 1, 2001) - USDA

U. S. planted acreage changes by class, include a 38 % drop in navy beans. Pintos are down 20 %, great northern are off 15 %, light red kidneys fell 12 %, and dark red kidneys declined 4 %. Garbanzos are up 6 %, blackeyes jumped 38 %, blacks rose 2 %, and cranberry beans gained 3 %. Pinto beans make up 40 %, navies represent 15 %, garbanzos and great northern cover 8 % each, and blacks are 7 % of all planted acres. The remaining classes represent 22 % of the planted acreage in 2001.

The USDA dramatically reduced the projected size of this year's dry edible bean crop from its earlier estimates; the smallest harvest since the drought savaged the 1988 crop. It should come as no surprise that the available supply of all classes of dry beans produced in the United States is down from last year. Not only did the 2000-01 marketing campaign finish with a lower ending stock of all classes of beans than was the case the previous year, dry bean growers in the U. S. slashed seeded area for all classes of beans.

Drought conditions severely limited the Michigan dry bean crop with average yield forecasts falling to their lowest level since 1936; 1500 pounds/acre last year to 600 pounds this year. Late August rains came too late to salvage the crop. Yields in Wisconsin were left unchanged, while those in New York dropped 400 pounds per acre. This is an important region for black, kidney and navy bean production in the United States. Both domestic and export sales activity need to drop to prevent the U. S. from falling into a deficit. Pinto bean production is affected by the shifting yield projections, but the impact on the initial supply-demand outlooks for the crop are not as significant.

Prices have risen 28 % above last season's average. Some processors are looking for U. S. \$ 50 per cwt black bean markets to develop in the coming months.

DRY BEAN STATISTICS^{1,2}

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

State	Area Planted (000 acres)			Area Harvested (000 acres)			Yield (lbs/acre)			Production ^{3,4} (000 cwt)		
	1999	2000	2001	1999	2000	2001	1999	2000	2001	1999	2000	2001
California	135	115	100	132	112		1860	1880		2455	2100	1513
Colorado	155	120	90	145	110		1900	1800		2755	1980	1785
Idaho	105	90	90	103	88		2050	1950		2112	1716	1351
Kansas	22	18	15	20.9	16		1850	1810		387	289	259
Michigan	350	285	200	350	275		2100	1500		7350	4125	1230
Minnesota	205	165	120	165	150		1550	1600		2558	2400	1450
Montana	26	40	50	25.5	34.8		1730	1400		441	486	397
Nebraska	210	165	140	187	156		2000	2070		3740	3230	2860
New York	31	25	30	30.2	24.5		1370	1460		414	358	248
North Dakota	630	610	500	570	525		1450	1450		8265	7613	6300
Oregon	11	12	11	10.8	11.7		1610	1800		174	211	176
Texas	50	18	18	47	15.5		1490	950		701	148	300
Utah	7	5	6	6.6	3		800	330		53	10	21
Washington	36	32	30	36	32		2080	2000		750	640	665
Wisconsin	8	8	8	8	8.1		1550	1800		124	146	114
Wyoming	40	36	34	39	34		2020	2240		788	762	500
USA Totals	2023	1756	1453	1877	1606		1763	1646		33,085	26,440	19,396

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

Soil Testing, Agriculture and the Environment

Excerpts from CAST Issue Paper, No. 15, June 2000

Soil tests are widely used to predict the probability of crop responses to application of fertilizers, particularly phosphorus (P), potassium (K), and in some instances manganese (Mn), copper (Cu), zinc (Zn) and iron (Fe), and application of lime. Soil-test levels at which no response is obtained are defined as critical soil-test levels that have been determined by greenhouse and field experiments.

The commonly used soil-test extractants for P in the United States are the Bray-1 (Midwest), Mehlich 1 and 3 extractants (southeastern United States), and the Olsen extractant (calcareous soils). The Mehlich 3 extractant is being used by many laboratories because it is suitable for measuring soil-test P over a wide range of soil properties and also is a multi-element extractant.

Because nitrogen (N) can be a very mobile element, most laboratories do not routinely run a N soil test. Nitrogen recommendations are made on the basis of yield goals for a given crop. Where nitrate-leaching potential is at a minimum, the amount of residual nitrate in the soil profile before planting has been related to the need for fertilizer N. In certain humid regions, nitrate levels of the soil have been measured before N side dressing of

corn, and the values interpreted as to the amount of fertilizer N to apply.

There is interest at present as to whether soil tests can be used to determine if application of fertilizers and/or waste materials will result in pollution of surface and ground waters. Using soil testing to identify the potential for an environmental impact may have value, but only if a comprehensive approach is taken. Response parameters for other uses of soil testing have not been so well defined, and linkages often remain intuitive or based on the best professional judgment of a team of scientists. Although agronomic responses have been used as surrogates for other secondary effects, including water-quality degradation, this approach is conservative and does not consider adequately the existence of in-field soil processes, multiple loss-pathways, and nutrient retaining processes beyond the field's edge and in streams.

Progress in soil testing is facilitating assessment of soils likely to act as sources of nutrients for surface and ground water. Extractable soil concentrations of nutrients (or of nonessential elements, organics, etc.) are only a few of the many factors, including transport phenomena, management practice effects, and adjacent water sensitivity to an increase in nutrient concentration that must be considered in determination of an appropriate loading rate for nutrient sources potentially affecting water quality.



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REINVENTING THE BEAN

By Ron Pickarski, Eco-Cuisine, Boulder, Colorado

Editor's Note: The Colorado Bean Network and Colorado Dry Bean Administrative Committee are pleased to feature this series of articles by Chef Pickarski on bean cuisine. His vision and success in the field offer an exciting path for the marketing and promotion of our bean products.

John Foster Dulles once stated that, "The measure of success is not whether you have a tough problem (I call it a challenge) to deal with, but whether it's the same problem you had last year." If it is the same old challenge either it isn't being addressed or is ineffectively being addressed by management. After defining the challenge my focus is on creating a strategy to resolve the matter. That entails asking the right questions in order to extrapolate the right answers. In my involvement with the Colorado Dry Bean Administrative Committee over the past few years the challenge doesn't seem to be that farmers are producing too many beans, nor is it necessarily the influx of inexpensive Canadian Beans. The essential issue, with almost 300 million Americans with diet related chronic health problems, is to inspire and entice them to consume a healthier diet of foods they can relate to and enjoy in their dining experience.

Bean consumption is both a marketing and culinary challenge. Marketing's foundation and ability, in part, to succeed is reliant on a sound culinary program to develop innovative bean recipes. The culinary applications have to appeal to many markets such as fast food, foodservice, casual and upscale dining with the later being the least desirable. While there are many other consumer areas to consider from a culinary perspective, from a marketing position, the focus has to be reinventing the beans image with consumers and to position it as a value added food (cost and nutrition) with immense culinary potential. In part, this entails giving the bean a new face lift by re-establishing the bean from a food commodity product, that already has a mediocre consumer perceived value to one of a nutritious and ancient food with innovative and modern culinary applications.

When I am working with any product, my first question is to address the consumer's perception of the product and then to find out what drives that perception. With beans, there is a traditional consumer perception similar to vegetarian cuisine of the 1960's. What the bean has in its favor is consumer familiarity. There isn't a major educational curve involved with understanding beans. What the bean has going against it is the consumer's

perception of beans as a flatulence producing poor mans food. The consumer doesn't see the bean in the context gourmet cuisine or trendy foods.

My second approach is one of thinking outside the box. Essentially it is creating new applications for an American staple. The culinary invention of any new food ingredient generates consumer excitement. It is like creating a new restaurant menu. Unless the menu is seasonally updated, it becomes the same old boring menu. Beans have fallen into the boring category, even though they are a whole food and nutrient dense. The solution to resolving bean sales flat lining is that they are not being reinvented in the culinary arena. This reinventing takes place in two areas, which are: 1) integrating beans into culinary trends and 2) By creating innovative culinary applications within the context of classical and traditional cuisine. Essentially, this is taking the bean outside it's traditional culinary perception.

Here is an example of my strategy. In traditional cuisine, the butter sauce (Classical French term is Beurre Blanc) is approximately 90% butter with 7% liquid (wine/lemon

See REINVENTING on page 13

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REINVENTING from page 12
 juice) and 3% solids. The emulsification of the liquids, butter and solids takes place through a culinary process called "reduction" in which the liquids are reduced to a point where the solids will hold them in suspension with the fat system. It is often served with seafood. I thought "What if I could reduce the fat by 50% and retain the flavor with a natural emulsifier while eliminating the reduction process". My culinary mind started playing with many options. The final version was using a drained, over cooked (mushy) white bean with lemon juice, white wine, salt and 45% warmed butter. All ingredients were put into a blender, blended until smooth and placed in a sauce pan on medium heat to bring to a simmer (to heat infuse the flavors and cook the wine). While giving a cooking demonstration at the University of Virginia last Spring, the chef instructors, executive chefs and students, who understood the classical sauce version were in awe of the sauce.

The above culinary application imparts my strategy. It reduces the cholesterol by 50% while increasing the fiber, nutrient density of the sauce and takes a great deal of the culinary skill out of creating it. In addition, it reduces the cost significantly by using cooked beans in place of butter. There are a variety of beurre blancs created by French chefs. How about creating a Cajun Black Bean Beurre Banc (Cajun cuisine is so often associated with unhealthy cuisine)? Taking this concept

to another level, I have created an Italian Olive Sauce using the same concept. The culinary possibilities are infinite.

Another area of interest is the mixed medium (combining beans with meat proteins to enhance the nutrient density of the meat while contributing additional flavors and textures to the recipe. Actually, this is an old idea being reinvented in the sense of "Pork and Beans" in which Pork was added to the beans to intensify the flavor. I have developed recipes such as the "Chick'n & Navy Beans Piccata" as part of the recipe development program for the Colorado Dry Bean Administrative Committee.

Fusion Bean Cuisine is another term I coined for reinventing the bean. The strategy is to marry dry beans with soybeans. Soy has received significant market presence and consumer attention. Using beans in combination with soy products (i.e. Tofu) to create culinary applications is one way that dry beans can ride the successful marketing crest of the soybean. An example is the Smoked Pinto Bean loaf where I mix pinto beans with sauted vegetables and a tofu pate to create a smoked bean loaf that cuts and eats like a meatloaf, has eye appeal and is great tasting.

At the University of Dartmouth a marketing research team working with cranberries came to the conclusion that the market for cranberries exceeded the traditional Thanksgiving and Christmas applications. According to the marketing survey, the berries could find applications as popsicles, single serve juice boxes and in energy bars. The marketing team was thinking outside the box of traditional culinary applications and looking at culinary trends (energy or health bars etc.) to market their product. Fusion Bean Cuisine, Mixed Medium and innovative culinary applications are in line with the Dartmouth study as a means of increasing market share.

The obvious challenge in marketing beans is primarily culinary applications. As a chef, I see the bean as a sleeping giant in the world of culinary potential. In my next article, I will address culinary trends and how the bean industry can utilize them to stimulate consumer interest and bean consumption. Then I will address specific culinary applications as relates to those trends.





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Holiday Baking – Almost Guilt Free

By Anna Aughenbaugh, Fort Collins, Colorado

Most of our social events call for desserts. Mashed pintos or applesauce can replace half or all of the shortening in most recipes and they will still taste delicious. This will help us relax and enjoy the holidays by eliminating the guilt we often feel about eating treats.

Pintos mash up smoothly to the consistency of shortening in a food processor. Cooking a big pan full of pintos, mashing them and freezing in one or two cup containers will have them ready to thaw and use on baking day. Cookies made with mashed pintos may be less crisp than those made with all shortening. Put your imagination to work and experiment with substituting beans for shortening in your own, or try the following recipes.

Pinto Pecan Pie

- 2 cup hot, cooked pintos, pureed and cooled
- 2 cup sugar
- 1 cup brown sugar
- 4 eggs, beaten
- 1/2 cup margarine
- 1 cup milk
- 1 cup pecans, coarsely chopped
- 1 t vanilla

Mix all ingredients and pour into 2 unbaked 9" pie shells. Bake at 350 degrees for 1 hour, or until knife inserted in center comes out clean.

Red Bean Cake

- 6 T cocoa
- 2 T butter
- 3 cup kidney bean puree
- 1/2 t baking soda
- 3/4 t baking powder
- 3 eggs
- 1.5 cup sugar
- 3/4 cup Canola oil
- 1/2 cup walnuts, chopped

Mix puree, baking soda, baking powder, eggs, cocoa, and butter in large bowl; beat well. Add sugar and oil; mix well. Stir in walnuts. Pour batter into two greased 8" round cake pans, lined with waxed paper. Bake at 350 degrees for 35 minutes or until toothpick inserted in center comes out clean. Cool on wire racks for 15 minutes, then turn out of pans and remove waxed paper. Cool completely, then frost.

Icing

- 1/2 cup margarine
- 8 oz low-fat cream cheese
- 1 lb powdered sugar
- 1/2 cup cocoa

Beat margarine and cheese until smooth. Add sugar and cocoa; beat well. Spread on cake and between layers. Store cake in refrigerator.

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BEAN ROOT HEALTH
Colorado State University
Extension Note

By Howard F. Schwartz and Mark A. Brick
 Professors in the College of Agriculture
 Dept. of Bioagricultural Sciences & Pest Management
 and Soil & Crop Sciences, Fort Collins, CO

Soil-borne diseases, environmental stresses and production practices can contribute to reduced plant stands, greater soil compaction, and economic losses of dry beans grown in Colorado and the surrounding high plains states. Profitability of pinto beans (and other market classes) has become more difficult in recent years due to declining bean prices and increasing operating costs. Monitor every aspect of the crop to maintaining profitability; this may require cutbacks in some inputs with investments in other inputs to increase plant health and net returns. This Extension Note provides a brief review of common soil borne diseases, and 9 steps to enhance bean root health and crop productivity.

- Step 1 Soil test prior to planting and carefully plan your fertilizer and inoculant needs. In Colorado, the most important nutrients are nitrogen, phosphorus, and zinc.
- Step 2 Use crop rotations in 3 - 4 year cycles to minimize the damage caused by plant pathogens, insects, weeds, herbicide carryover, soil compaction and crop residue; avoid back to back cycles of bean - potato - sugar beet, alternate with small grains.
- Step 3 Reduce soil compaction and improve drainage by deep chiseling or ripping in the fall, prior to planting or early post-emergence; avoid all cultural practices when the soil is wet.
- Step 4 Plant high quality certified seed of a market class and varieties adapted to your farming situation and resources; treat seed with recommended pesticides to reduce seedling damping off and reduce root vigor from soil-borne insects and pathogens.
- Step 5 Control weeds by cultivation and the timely use of herbicides formulated to control the weeds specific to your field and soil type. Minimize direct bean plant (growing point) contact with post-emergence herbicides.

- Step 6 Plant bean seed 2 - 2.5 inches deep in a firm weed-free seedbed when the morning soil temperature reaches 60F at planting depth; generally between May 25 to June 15.
- Step 7 Planting rates on 30" wide rows should produce approximately 75,000, 85,000 and 95,000 emerged seedlings/acre for most pinto/great northern, black/navy, and red kidney/yellow beans, respectively.
- Step 8 Irrigate when approximately 50% of the available soil moisture has been depleted; irrigate early and often to avoid stress to plant roots and to refill the rote zone (12 - 24" depth) as needed throughout the season.
- Step 9 Inspect bean fields weekly to detect and manage problems associated with nutrient deficiencies, moisture deficiency, compaction, salinity, insects, diseases and other factors before they reduce yields.



Effects of soil compaction on bean roots

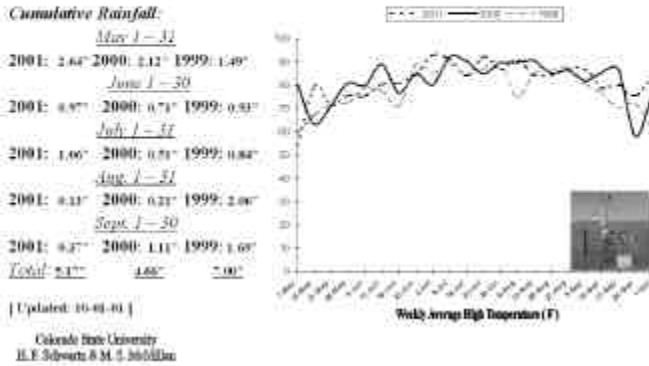


Effects of fusarium wilt on bean roots

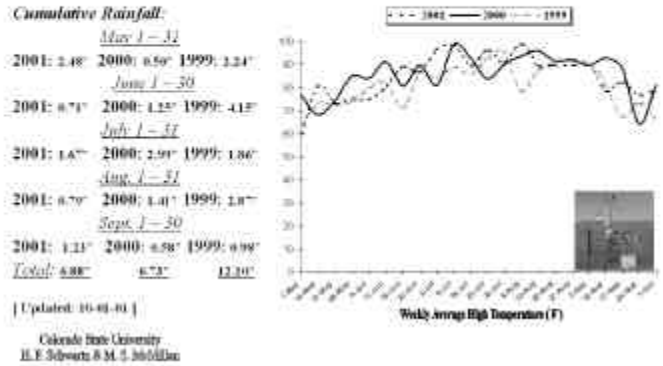
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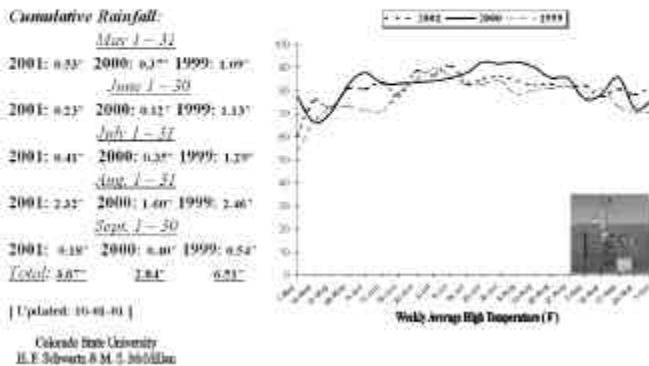
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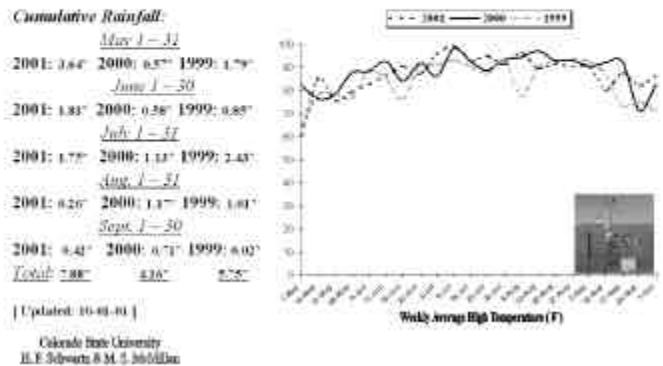
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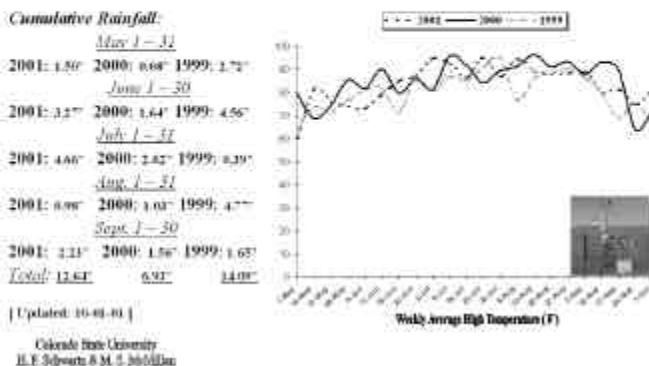
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