

take your
PULSE

November 2010 ❖ Vol. I, No. 1

WA & ID Commission Annual Report

Financial information from fiscal year 2009-10

Safety Net of ACRE Program

How is ACRE playing out in 2010?

Turkey a Target Market for Dry Peas

Growing demand for peas continues

Endless Summer of Plant Breeding

Rebecca McGee utilizes two summers a year



**USA Dry Pea
& Lentil Council**

Q & A: New Chickpea Disease Hits Palouse

with Dr. Weidong Chen, USDA-ARS Research Plant Pathologist

Dr. Weidong Chen has been heading up the effort to learn more about a new chickpea disease that started showing in early to middle June of 2010. Dr. Chen sat down for a Q & A on this mystery.

What symptoms are associated with this new disease?

The initial symptoms included die-back or wilting of growing tips. This happened to growing tips at different levels of the plant canopy including the growing tips of the main stems and growing tips of lateral branches. The tip die-back symptom resembles early symptoms of a fungal disease *Botrytis* gray mold. The symptoms progressed downward in the form of leaves turning bronze. Sometimes the whole leaf gradually turned yellow, and sometimes it was mostly the edge or tip of the leaflets turned yellow. On occasion we did see whole plants wilted, which resembles *Fusarium* wilt. The symptoms were confined to the above ground parts of the plant. Root systems of diseased plants were healthy and robust with nodules and showed no abnormal discoloration.



Top: Chickpea plant with tip necrosis/die-back symptoms.
Bottom: Chickpea plants wilting with leaves still green.

We should keep in mind that the symptoms I described are what we saw in progression, but that does not mean all the symptoms were caused by a single or the same disease agent. There may be multiple causes. I have seen the tip die-back symptoms on a limited scale in previous years, but the symptoms disappeared in about a week.

What geographical locations were hit by this disease?

The disease was first found in areas near Genesee, ID, along the rim and then near Colton, WA, and further north to north of Pullman, WA. The symptoms were also reported (through phone

conversations) from the Tammany area south of Lewiston, ID.

Do you know how this disease is transmitted?

Right now we don't know what caused the disease, and we don't know how it was transmitted. It did not appear to be transmitted from plant to plant. In many instances we saw plants growing side by side. One was diseased and the other was healthy, staying that way for weeks. It ended up that the diseased plants were scattered in the fields. Even in the hardest hit fields, diseased plants were interspersed with healthy plants.

Is there any pre- or post-treatment to apply for this disease?

There is no specific treatment we can recommend for treating this disorder, because we don't know what caused it or how it is spreading. I think growers should take normal precautions like rotation and treating seeds before planting, and practice what they usually do in growing chickpeas.

What is being done to discover what this disease is and how to treat it?

A lot of effort has been made trying to determine the pathogen. We tried to isolate any fungi in the diseased plants. Some of the early symptoms did resemble fungal diseases, but we did not isolate either *Botrytis* or *Fusarium* oxysporum. What we got were usual saprophytes (free living microorganisms). Working with virologists Dr. Rich Larsen of USDA-ARS in Prosser, Dr. Hanu Pappu of Washington State University in Pullman, and a US commercial disease diagnostic lab in Arkansas, we tested 13 different viruses or virus groups on 20 diseased chickpea samples collected from across the region. One sample tested positive for pea streak virus and another sample was positive for pea enation mosaic virus. All other samples were negative for any of the tests.

The scattered distribution pattern resembles aphid-transmitted virus infection. Aphids really don't like feeding on chickpeas. They don't multiply and move from plant to plant. Only the chickpea plants on which virus-carrying aphids landed and fed got infected, resulting in a scattered pattern of infected plants. There is a possibility it was due to a virus that is not in the list of tested viruses or due to a new virus that we didn't test for. To know the answer we need



Pulse Crop Revenue Insurance

by Alex Offerdahl, Crop Insurance Division Head at Watts and Associates

It has been a decade of hard work and disappointing dead ends in the hunt for revenue-based crop insurance for pulses, but developments on a new proposal have been marching forward in another effort to find a revenue insurance solution for pulse crops. Earlier this year, a coalition of pulse crop groups - including the USA Dry Pea & Lentil Council (USADPLC) and the Northarvest Dry Bean Growers - banded together to improve the crop insurance available for pulse crops. Together these two organizations represent producers of dry peas, lentils, chickpeas, and several classes of dry beans.

Late in the summer of 2010, a proposal - Non-Futures Pulse Crop Revenue Option - was submitted to the Federal Crop Insurance Corporation (FCIC), the entity that oversees all federal crop insurance programs, to extend revenue coverage to pulse crops. In a hearing in Washington, D.C., the FCIC board of directors voted to send the proposal on to outside expert reviewers, a first successful step in a time-consuming process intended to ultimately offer a revenue-based insurance plan to pulse producers.

For many years, dry pea, lentil, chickpea and dry bean growers have been able to insure their crops only for

yield losses, but not for any losses due to falling prices.

In contrast, many other crops that compete with pulse crops for acreage, including wheat, soybeans, and corn, can all be insured under revenue-based insurance plans. These revenue plans offer coverage for yield losses, falling prices, or a combination of the two. Over the last several years, revenue plans have been very popular with growers, composing over 85% of the policies sold for the crops on which they are offered. Growers and lenders have both noted that this difference in the availability of coverage puts pulse crops at a competitive disadvantage and effectively discourages producers from planting these soil-restoring crops. The proposal submitted by USADPLC and Northarvest Bean Growers is designed to offer pulse crop growers revenue coverage that is very similar to the coverage that has been available to other crops under the existing revenue insurance programs.



Q & A with Dr. Weidong Chen

continued

to test if there is double stranded RNA in the diseased samples. Double stranded RNA would show presence of any virus in the samples. What we want to do is to test the samples that we still have from the last growing season for presence of any double stranded RNA.

In your estimation, will this disease be an issue next year as well?

That's a big question. I guess nobody really knows the answer at this point. This year we had some unusual weather early in the growing season. It was cooler and wetter in May and June than usual. That could have affected plants, pathogens, virus vectors, and soil conditions. The precipitation could have affected movement of chemicals including herbicides in soil. All those factors come to play. We have to wait and see if this chickpea disorder will occur next year on such a big scale. However, I do encourage growers, when and if seeing any abnormal symptoms next season, to call (509-335-9178) or e-mail (w-chen@wsu.edu). I will be happy to reply and visit their fields. ❖

The FCIC vote this summer was only the first of many steps in the development process. Later this fall, the pulse crop coalition will be provided with the expert review reports that were requested by FCIC this summer. Based on these reports, FCIC will vote again in November 2010 either to approve revenue coverage for pulse crops for development or to send the coalition back to the drawing board.

If the development is approved, a team of crop experts, growers, and insurance professionals led by USADPLC and Northarvest Bean Growers will spend the winter and spring in an intensive research and development effort. If all goes well, revenue coverage could be offered on a pilot basis for green peas, yellow peas, lentils, chickpeas, dark red kidney beans, black beans, pinto beans, and navy beans in select counties for the 2012 crop year. ❖

The Endless Summer of Plant Breeding

by Dr. Rebecca McGee, USDA-ARS

October 1st. It's been raining for a few days now, and there is a slight chance of frost for tonight. The days are warm and the nights quite cool. The seasons are really changing. It feels like spring is almost here and it is the perfect time to plant peas – in New Zealand.

As a plant breeder, I am always looking for ways to accelerate the process of variety development. From the time that I make a new cross until a new variety is released is years. After the cross is made, the progeny spend seven to 10 generations in nurseries. The plants are allowed to self-pollinate and become homozygous (i.e. pure lines that will breed true to type). Then there are several years of yield trials and finally several more years of seed increase. Using traditional methods, this process can easily take 10-15 years. I can speed up the time required for variety development by getting more than one generation each year and by using molecular markers to help make effective selections in early generations. To develop the markers, we are working on a project that will ultimately allow us to select individuals with traits of interest as seedlings. This will be especially useful for traits that have a continuum of expression, that are governed by many genes and traits that are difficult and/or expensive to test for. The completion of this tool kit is several years off.

There are several ways to grow more than one generation each year. The greenhouses are great, but they are small (especially compared to our research farm). They are also expensive to operate, and there is a limited amount of selecting we can do. Another method to get more than one generation each year is by utilizing a second summer. In the southern hemisphere, spring comes in September, and the school children have summer holidays in December and January. Plant breeders commonly utilize a counter-season in the opposite hemisphere – North goes South and South goes North. Throughout the Southern Hemisphere, there are many organizations and companies who offer counter-season nursery services for Northern Hemisphere breeders. In 1996, I started sending material to the winter nursery

division of Crop and Food Research Institute (now Plant and Food Research) in Lincoln, New Zealand. Lincoln is on the South Island about ten miles from Christchurch. I typically send very select material to New Zealand. I like to send the F2's (the second generation after the cross is made). They take up a lot of nursery space as this generation has the greatest amount of genetic diversity, and I only select for qualitative traits (things like leaf type, resistance to powdery mildew) in that generation. I also send seeds for increase from very promising lines (lines that I want to get into the yield trials as fast as possible), breeder's seed and seed that I might have an unexpected need for.

In late September 2010, we sent the F2 peas to Plant and Food Research (www.plantandfood.co.nz) and the seed increases (breeder's seed of a new winter pea, pre-breeder's seed of three spring peas, and seed of *Aphanomyces* root rot tolerant lines for entry into the 2011 yield trials) to Plant Research, Ltd (plantresnz@xtra.co.nz). They were planted in early October. The F2's were planted near Lincoln and the increases were planted near Ashburton. Harvest will be in late January to early February and the seeds will be returned to Pullman, Wash., by early March – just in time for spring planting.

The cost of sending a winter nursery to New Zealand must be weighed against the time that is saved. Our New Zealand cooperators work very hard to keep the costs low. Excluding the costs of transportation, it is usually no more expensive to do a counter-season than a Pullman season. The real benefit comes in the 3-5 years we can slash off the variety development timeline. We also benefit from the extensive knowledge and capabilities of our Kiwi colleagues. Their breeding, genetics, pathology and product development labs rival the best of those in the US. The time the breeders get to spend at their winter nurseries is great. Breeders from across Northern Europe and North America send material to New Zealand and show up in January to select. We have very productive discussions and exchanges of ideas, information, technology, and sometimes, even germplasm. ❖



Photos courtesy Rebecca McGee



Pulse Health Initiative: Part of the Answer

by Erica Beck, USADPLC Communications Manager

It was said the world was going to end at the turn of the century. Since it didn't, a new plan is needed to face the challenges of health and nutrition in diets and sustainability of agricultural assets. With the combined efforts of the USA Dry Pea & Lentil Council (USADPLC) and the US Dry Bean Council (USDBC), a portion of that new plan has come into being in the form of the Pulse Health Initiative (PHI).

The PHI was launched at the end of March 2010 when a group of 50 scientists, researchers and industry experts gathered in Washington DC to put together a strategic plan in the following three areas:

- **Health & Nutrition:** Determine ways pulse crops can provide solutions to critical health (i.e. obesity, diabetes, cancer, cardiovascular disease, etc.) and nutrition problems
- **Functionality/New Uses:** Identify the functional components of pulse crops and increase the foods and ingredients made with pulse crops
- **Sustainability:** Find solutions to environmental, social and economic issues through research on the attributes of pulse crops (i.e. nitrogen fixation)

Since March, there has been a flurry of activity including the publication of the strategic plan and numerous Washington DC trips to meet with members of Congress, government

agencies and even President Obama and his staff in an effort to secure support and funding for the PHI - a hurdle at any time but especially so considering the state of the economy.

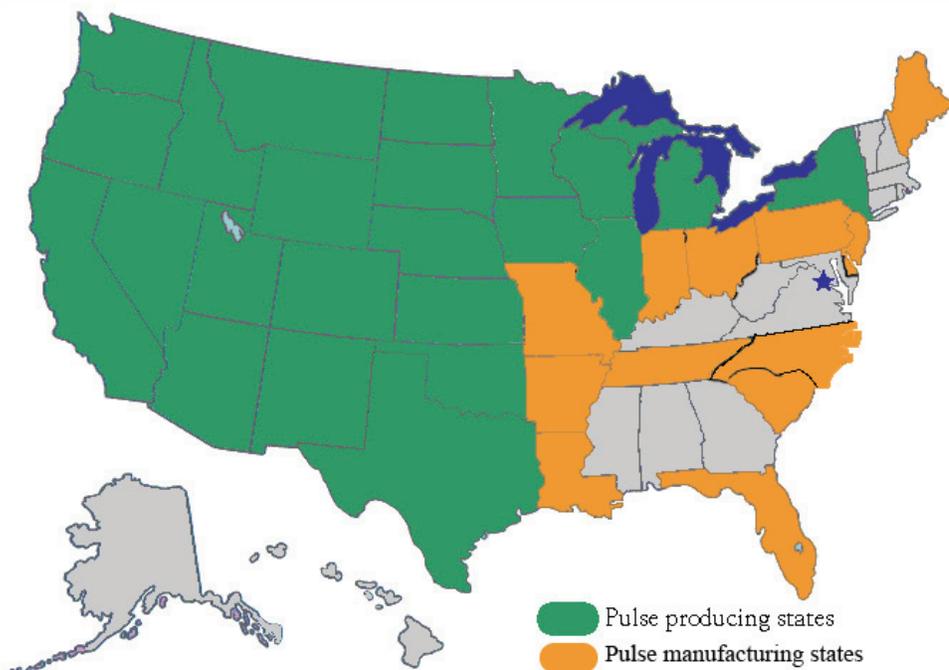
However, the political climate is as ripe for health and sustainability projects as it has ever been, and proof of that came in mid-July when the dual efforts of the USADPLC and the USDBC resulted in language in the Senate Agriculture Appropriations report supporting the PHI. Resources have noted that similar language of support for the PHI is included in the House Agriculture Appropriations report as well though it has not been published yet. Accomplishing report language in the few months since the PHI has been launched is an impressive and encouraging leap ahead in garnering funding for this project.

Work marches forward on the PHI including meetings and letters to members of Congress, government agencies and the White House for continued support of this project, locating a manager for the PHI, and a continuing search for funding.

A lot of effort? Yes, however the potential outcomes from successfully completing each phase of the PHI could have far-reaching effects not only in the health of the nation's population but also the possibility of positive market impacts if demand can be generated for dry peas, lentils and chickpeas. Consider these statistics:

- One third of children and two thirds of adults are overweight or obese in the U.S.
- Heart disease, cancer and diabetes are in the top 10 causes of deaths in the U.S.
- World population is projected to expand to 9 billion by 2050.
- Currently, 1 billion people go hungry each day.
- Two thirds of the available fresh water is used for agricultural purposes.

Those are mighty big problems in health, nutrition and sustainability, but the unique nutrition profiles and nitrogen-fixing attributes of dry peas, lentils, chickpeas and dry beans can be a part of the answer to them. ❖



Marketing Campaign Launched Successfully

by Jennifer William, USADPLC Food Marketing Manager

In 2010, the pulse industry took the first step in building a strong foundation with foodservice professionals in restaurant chains and food manufacturers as well as with consumers. With the assistance of Edelman, one of the top public relations agencies in the country, the USA Dry Pea & Lentil Council (USADPLC) launched Year 1 of a 3-year national marketing/public relations campaign to achieve the following key goals and reach specific target audiences:

Key Goals:

1. Build awareness in the foodservice industry about the nutrition and health benefits, functional properties and product development innovations and usage ideas for U.S. dry peas, lentils and chickpeas.
2. Raise consumer demand for U.S. dry peas, lentils and chickpeas by introducing them to the nutritional attributes, health benefits, and usage ideas.

Research

The most effective public relations campaigns are founded in research. The foodservice culinary course hosted by the USADPLC in August 2009 provided valuable insight about the needs of foodservice professionals. We were able to develop key campaign messages that would resonate with these individuals.

Additionally, the USADPLC asked Kelton Research to conduct a national consumer perceptions study.

Key findings included:

1. The top 3 reasons people are motivated to purchase new food products are coupons, free samples and in-store discounts.
2. Overall, people are unaware about the health benefits (antioxidants, protein, fiber, etc.) dry peas, lentils and chickpeas offer.
3. Most people feel they don't eat enough vegetables in their daily diets.
4. More than half of non purchasers familiar with dry peas, lentils and chickpeas believe they are not tasty but are open to trying them.

Foodservice Outreach

The Edelman team created brochures and banners communicating the benefits of dry peas, lentils and chickpeas. The materials brought the USADPLC's new product formulations to life through foodservice-scaled recipe ideas, photography and product attributes.

Consumer Public Relations

Earlier this summer, the USADPLC initiated consumer outreach by hosting a Foodie Blogger Challenge - the USA Dry Pea & Lentil Recipe Rivalry Contest. The top six food/health bloggers across the country were invited to participate in the challenge that required making seven meals with dry peas, lentils or chickpeas. The bloggers posted recipes and images of all dishes on their blogs, choosing a favorite recipe to submit for the contest. Readers voted for their favorite recipe on "Eat Your Vegetables Day" (June 17), and Jenna from *Eat, Live, Run*, won the grand prize of a lifetime supply of dry peas and lentils as well as Le Creuset cookware.

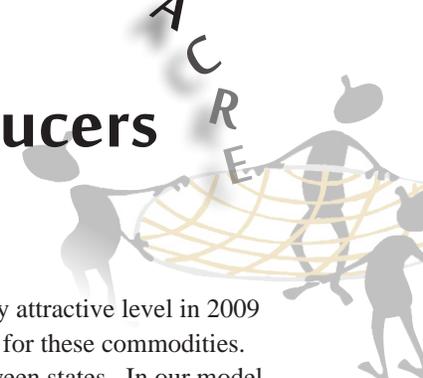
The USA Dry Pea & Lentil Recipe Rivalry was a great success among the blogger community. In fact, it received an astounding 1,896 votes on the contest website (www.reciperivalry.com), 38 posts about dry peas, lentils and chickpeas from our six participating bloggers and a total of 1,824 reader comments!

The USADPLC is gearing up for Year 2 activities of the National Marketing Campaign that will engage the foodservice industry as well as consumers! ❖

USADPLC at U.S. Tradeshows	
Culinary Institute of America - Worlds of Flavor Conference	Nov. 11-14, 2009
American Society of Baking - Baking Tech Show	Feb. 28-March 2, 2010
Research Chefs Association CULINOLOGY Expo	March 18-20, 2010
International Association of Culinary Professionals	April 22-24, 2010
National Restaurant Association Marketing Executive Group (MEG)	May 19-21, 2010
School Nutrition Association Show	July 12-14, 2010
Institute of Food Technologists Food Expo	July 19-21, 2010
Tortilla Industry Association Tech Conference	Sept. 25, 2010
International Baking Industry Expo	Sept. 26-29, 2010
Minnesota IFT Section 36th Annual Suppliers' Expo	Oct. 28, 2010
International Foodservice Editorial Council	Nov. 8-10, 2010

ACRE: Best Safety Net for Pulse Producers

by Tim McGreevy, USADPLC Chief Executive Officer



During the 2008 Farm Bill debate the USA Dry Pea & Lentil Council (USADPLC) worked hard to include dry peas, lentils and large and small chickpeas (pulse crops) in the USDA's Average Crop Revenue Election (ACRE) program. If you are a pulse producer and view farm programs as a risk management tool, the ACRE program is a pretty attractive program.

The Cost of Signing Up for ACRE

The cost of signing up for the ACRE program is a 20% reduction in your direct payment and a 30% reduction in the loan rate of the crops you produce. In today's market it seems unlikely that cereal grains or pulse producers will collect an LDP or Counter Cyclical payment under the DCP program levels. In 2009, pulse producers did not collect any LDP or Counter Cyclical payments. The USADPLC staff does not forecast any LDP or Counter Cyclical payments in 2010 either.

ACRE Guarantee

USDA uses the last two years of price data to establish the price guarantee for each program crop in ACRE. The 2009 ACRE price guarantee for dry pea producers was \$13.25/cwt. for dry peas, \$29.90/cwt. for lentils, \$29.50/cwt. for large chickpeas and \$20.50/cwt. for small chickpeas. In 2010, the ACRE guarantee price will decline for dry peas to \$11.19/cwt. due to lower prices in the 2009-10 marketing year. Lentil prices have been strong this year which resulted in an increased 2010 ACRE price guarantee to \$30.30/cwt. The 2010 ACRE price guarantee is forecasted to dip slightly for large chickpeas at \$31.45/cwt. The small chickpea ACRE price guarantee is projected to increase to \$24.80/cwt. in 2010.

Prices for the past three years were well above average for every farm program crop. This price data coupled with the Olympic Average yield data from each state and farm from 2004-2008 places a per

acre revenue guarantee at a pretty attractive level in 2009 and 2010 given the current price for these commodities. Revenue per acre does vary between states. In our model farm we set up for each state, it showed that ACRE payments will be made to producers of dry peas in Washington, Idaho, and Montana. Chickpea producers in Montana should receive an ACRE payment in our model farm in 2009 as well. There was no ACRE payment for lentils in any of our model farms because of continued strong prices. All pulse yields in North Dakota were pretty outstanding in 2009, so our model farm showed no ACRE payments for pulse crops in North Dakota.

ACRE Information

To learn more about the ACRE program we encourage producers to visit the USDA website: <http://www.fsa.usda.gov/FSA/webapp?area=home&subject=dccp&topic=landing>

Risk Management

Under the ACRE program the guaranteed price is only allowed to go down 10% per year beginning with the 2009 program. The table below shows a scenario where ACRE price guarantees drop 10% per year until the end of the program in 2012. In every case, the 2012 ACRE price guarantee is above the "Target Price" established under the DCP program. In the case of pulse crops it is significantly higher. ❖

See the enclosed chart for the ACRE program summary by state.

ACRE Guarantee Price if Prices Drop the Max. 10% Per Year

	2009 Target Price	2010-2012 Target Price	2009 ACRE Guarantee	2010 ACRE Guarantee	2011 ACRE -10%	2012 ACRE -10%
Wheat (\$/bu.)	\$3.920	\$4.170	\$6.630	\$5.830	\$5.247	\$4.722
Barley (\$/bu.)	\$2.240	\$2.630	\$4.090	\$3.220	\$2.898	\$2.608
Dry Peas (\$/lb)	\$0.083	\$0.083	\$0.133	\$0.112	\$0.101	\$0.091
Lentils (\$/lb)	\$0.128	\$0.128	\$0.299	\$0.303	\$0.273	\$0.245
L.Chickpeas (\$/lb)	\$0.128	\$0.128	\$0.318	\$0.315	\$0.283	\$0.255
S.Chickpeas (\$/lb)	\$0.104	\$0.104	\$0.255	\$0.248	\$0.223	\$0.201

2010 Pea, Lentil Guarantee Prices are Final (Sept. 29 Publish Dates.)

Chickpea prices are Preliminary (Sept. 29, Nov. 30 Publish Dates)

Wheat & Barley Final (Published June 29)



Dear Idaho Grower,

What a year it has been for dry pea, lentil and chickpea growers in Idaho during the 2009-10 crop year. Despite a weak economy and intermittent rainy weeks throughout planting and harvesting, the Idaho pulse crop was high quality and should command a good price.

The Domestic Marketing department continues to march forward with the national media campaign and representing the U.S. pulse industry at trade shows across the nation.

The International Marketing department continues to promote U.S. dry peas, lentils and chickpeas in overseas markets, and exports have run high over this past year to meet demands in key regions such as India, Europe, southeast Asia and the food aid supply chain.

I would like to thank reelected commissioners Ken Frei and Cole Riggers for their continued work on the board.

Enclosed with this publication, there is a survey about your support in continuing the Idaho Pea & Lentil Commission. The Commission plays a vital role in maintaining the viability of the pulse industry, and I encourage you to vote in favor of continuing the progress made in recent years.

Thank you for all your support to the Idaho Pea & Lentil Commission. We have a bright future ahead in the pulse industry, and we continue to work diligently on behalf of the dry pea, lentil and chickpea growers in the state of Idaho.

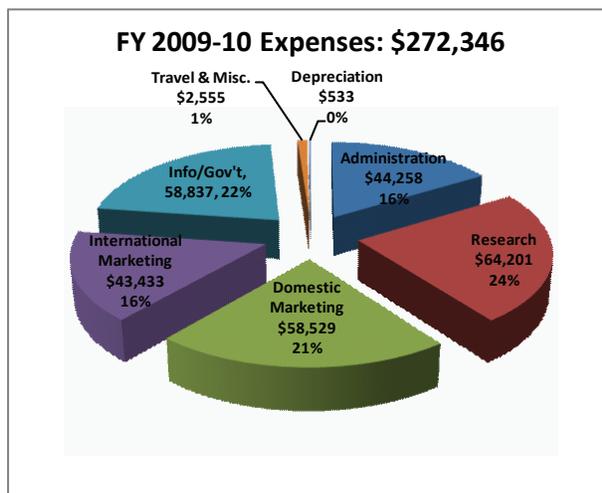
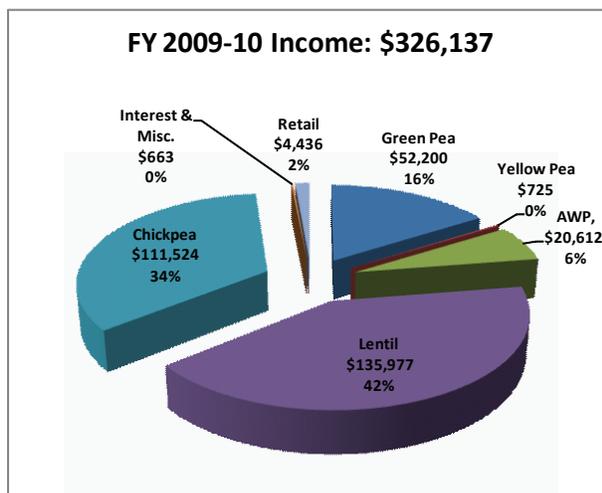
Sincerely,

Brian Silflow, Idaho Pea & Lentil Commission Chairman.

Fiscal Year 2009-10 Budget

Income	
Green Pea	\$ 52,200
Yellow Pea	\$ 725
AWP	\$ 20,612
Lentil	\$ 135,977
Chickpea	\$ 111,524
Interest & Misc.	\$ 663
Retail	\$ 4,436
Total Income	\$ 326,137
Cost of Retail	\$ (560)
Gross Profit	\$ 325,577

Expenses	
Administration	\$ 44,258
Research	\$ 64,201
Domestic Marketing	\$ 58,529
International Marketing	\$ 43,433
Info/Gov't	\$ 58,837
Travel & Misc.	\$ 2,555
Depreciation	\$ 533
Total Expenses	\$ 272,346
Net Income	\$ 53,231





Dear Washington Grower,

It's been an interesting season for dry pea, lentil and chickpea growers in Washington during the 2009-10 crop year. While the economy has continued to struggle, prices have remained mostly steady. In fact, lentils and chickpeas have popped upward in recent weeks due to inclement weather in pulse-growing regions around the world.

The Information/Government Affairs department has been focusing on securing funding for the recently launched Pulse Health Initiative, a project that could positively impact U.S. pulse markets.

The Research department has been instrumental in securing a Section 18 for Linuron (Lorox) on lentils. Of special note, the weed scientist at Washington State University, Joe Yenish, has departed. He was an excellent resource and did a great deal of work on behalf of the pulse industry. However, Dr. Ian Burke has stepped into the role of weed scientist, and we look forward to working with him.

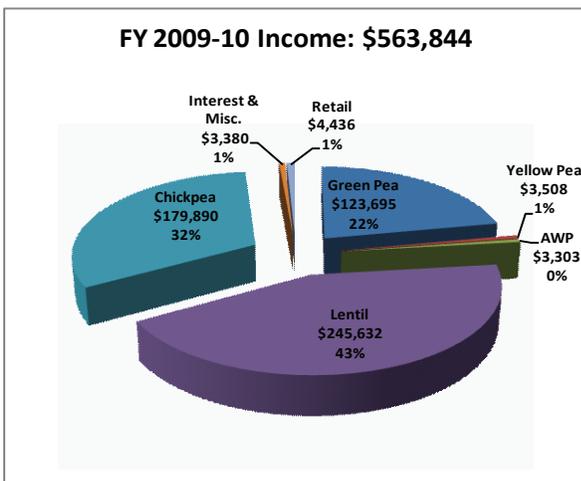
I would like to thank outgoing commissioner Heath Barnes for his representation on the board. A warm welcome goes to incoming commissioner Keith Becker.

Thank you for all of your support to the Washington Dry Pea & Lentil Commission. The future of the pulse industry is shining brightly, and we continue to work diligently to guarantee the viability of dry peas, lentils and chickpeas in the state of Washington.

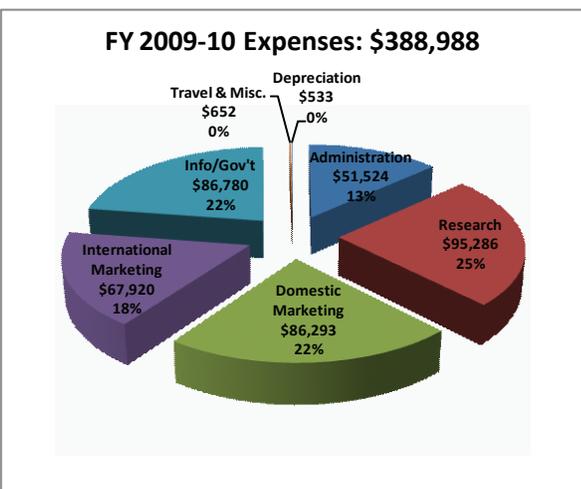
Sincerely,

Aaron Flansburg, Washington Dry Pea & Lentil Commission Chairman

Fiscal Year 2009-10 Budget



Income	
Green Pea	\$ 123,695
Yellow Pea	\$ 3,508
AWP	\$ 3,303
Lentil	\$ 245,632
Chickpea	\$ 179,890
Interest & Misc.	\$ 3,380
Retail	\$ 4,436
Total Income	\$ 563,844
Cost of Retail	\$ 560
Gross Profit	\$ 563,284



Expenses	
Administration	\$ 51,524
Research	\$ 95,286
Domestic Marketing	\$ 86,293
International Marketing	\$ 67,920
Info/Gov't	\$ 86,780
Travel & Misc.	\$ 652
Depreciation	\$ 533
Total Expenses	\$ 388,988
Net Income	\$ 174,296

A Decade-Long Look at Pulse Price History

by Todd Scholz, USADPLC Director of Information & Research

Show me the money! Isn't that the bottom line? While pulse prices have dropped since record highs a couple years ago, a look at how prices have shifted around in the past decade shows that today's prices are well above where they were sitting 10 years ago.

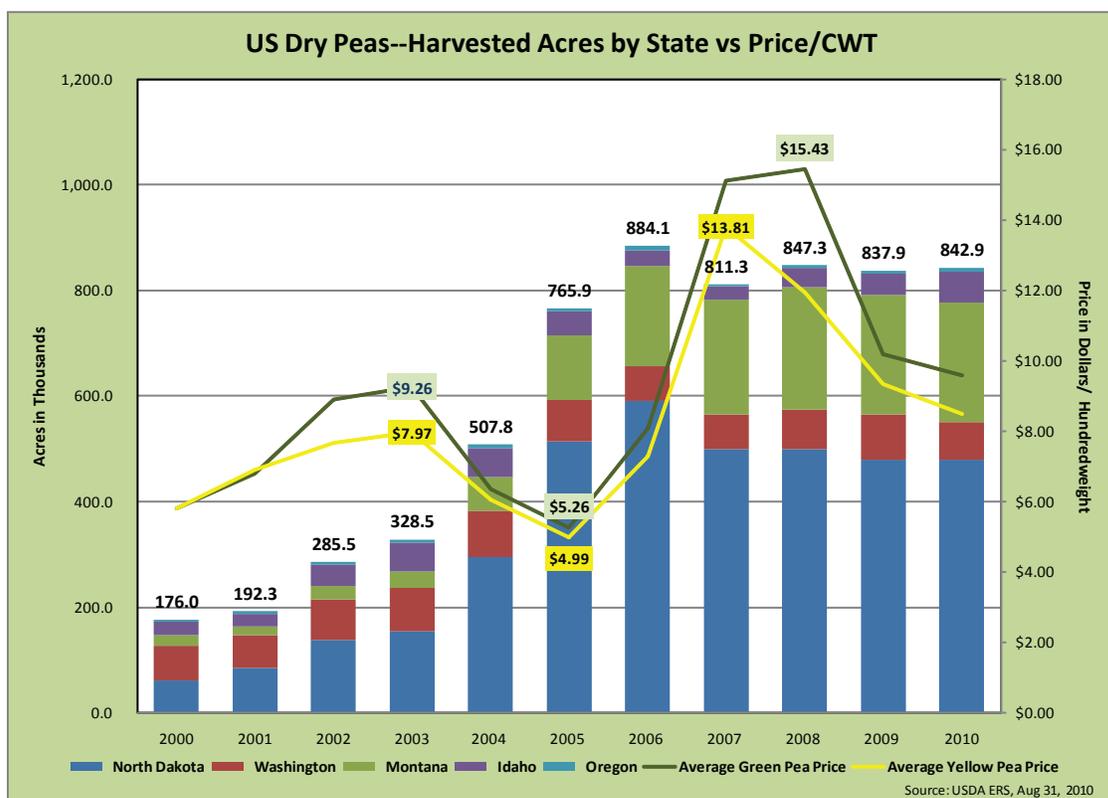
Dry Peas: The market for U.S. dry peas has been relatively volatile over the past decade. Driven primarily by a radical acreage increase in North Dakota in 2002-2006 and another increase in Montana in 2005-2008, harvested acres have remained relatively stable at around 850,000 acres for the last five years. Prices reached record highs in 2008-09 at \$15.00 per hundred-weight due to strong demand from India, Pakistan and the Philippines. With the increase in prices, acreage in Canada expanded considerably and current prices have backed off, due to large stocks and expected production. At the market low in 2005, the markets were strongly influenced by feed uses, but the work of domestic and international marketing staff have shown customers the versatility of pea flours in baked goods and snacks and extrusion seminars have increased demand for these products domestically and internationally. Current market prices of \$9.50-10.00 per hundred-weight are double lows set in 2005.

Lentils: Over the last 10 years, lentil acreage in the U.S. has tripled with corresponding gains in production. With such a high jump in supply, the expectation would be for prices to decline. However, international demand has helped spur a welcome increase in prices from the level of 2002-03. Over the last five years, India has been the best lentil customer for U.S. producers. This demand, coupled with adverse weather in Australia, Turkey, and India, has made U.S. lentils much more competitive. The international marketing staff has helped U.S. lentils rise to the challenge and prices have improved considerably. U.S. quality has been very good and the competitive rate of the

U.S. dollar to the Canadian dollar has increased demand for both yellow cotyledon and green cotyledon lentils. Prices reached record highs in 2008 but have remained around \$22-26.00 per hundred-weight for the last year.

Chickpeas: The trend in chickpea acreage over the last 10 years in the U.S. is up. Harvested acres, primarily in Washington and Idaho have increased steadily since 2002, when Ascochyta resistant varieties were made available by USDA-ARS and effective fungicides were made available with the help of the USADPLC. This allowed producers to manage chickpeas effectively as a crop in rotation with wheat and barley. In 2002 and 2003, world stocks were exceptionally high due to a large increase of acres in Canada which put a negative pressure on the price. Since 2003, U.S. acreage has tripled from a little over 40,000 acres of all chickpeas to over 135,000 acres planted in 2010. In spite of this large scale increase, prices have remained stable at around \$25-32.00 per hundred-weight. The demand for chickpeas, both large and small, has continued to increase in the U.S. due to the increased domestic demand driven by the popular snack spread hummus. Exports have been increasing slightly, but the domestic demand has kept the price stable. ❖

See the insert for lentil and chickpea price charts.



Dry Peas: A Target Market in Turkey



by Pete Klaiber, USADPLC Director of Marketing

With Thanksgiving approaching, it's to be expected that turkey would be on many peoples' minds. But for our industry members, there is increasing attention on Turkey - the country, not the bird.

Turkey's role as an exporter of lentils and chickpeas is well known, but much more recently Turkey has become an importer of dry peas and green lentils as well. The USA Dry Pea & Lentil Council (USADPLC) is one of the reasons for this new development.

Lentils and chickpeas have always been part of the Turkish diet, consumed daily in traditional dishes such as hummus and falafel. Turkish consumers are very knowledgeable about lentils and chickpeas, and appreciate both quality and value. In contrast, they are generally unfamiliar with dry peas, because Turkish dry pea production is negligible, and what is produced is used for animal feed. In recent years, however - due in part to our efforts - Turkish packers have begun offering dry peas as a packaged and canned products. As Turkish customers have become familiar with dry peas, our dry pea exports to Turkey have been increasing.

While lentils and chickpeas are staples in Turkey, dry peas were relatively unknown until the USADPLC began working with Turkish importers, canners and dry packagers to educate Turkish consumers about dry peas. USADPLC

marketing representative for Turkey, Johanna Stobbs, saw an opportunity for U.S. peas during her market research visits to Turkey. She realized that Turkey's urban consumers are increasingly turning to modern supermarkets and hypermarkets for quality and convenience. That created an opportunity for U.S. dry peas to provide consumers with a year-round green pea product when Turkey's own brief fresh pea harvest is sold out.

Our efforts have included multiple trade visits by Johanna to meet with packagers and canners, technical assistance by Dr. Mehmet Tulbek of Northern Crops Institute/North Dakota State University for Turkish canners, and two trade missions to Turkey in the past two years with a third mission scheduled for December 2010. In 2009-10, we joined with US Rice Federation and other trade groups to promote our products to Turkish importers, retailers, and food service professionals through seminars, cooking events, and specially-developed recipes. We also used the services of an Istanbul public relations firm for the development of recipe and nutrition materials in Turkey, in-store cooking/tasting demonstrations, and a publicity campaign that has placed stories and recipes featuring U.S. dry peas in Turkish newspapers and food magazines. In addition, three Turkish packagers have joined the USADPLC Seal of Quality and are using our symbol on their packaged dry peas to identify the contents as Product of USA.

U.S. Dry Pea Exports to Turkey (MT)			
2006	2007	2008	2009
0	381	3,385	4,178

The initial results in Turkey have been good, and we are confident that this country of 77 million people has the potential for strong growth in coming years. As the Turkish population grows more urban and standards of living increase, there will be greater numbers of convenient,

high-quality packaged foods. Packagers will realize they can retain customer loyalty only if they can deliver a consistently good product, and they will continue to make U.S. peas their first choice for consistent size, color, and cooking quality. ❖



Eyes on Legume Viruses in Palouse Region

by Sanford Eigenbrode, Ed Bechinski, Lydia Clayton, Damon Husebye, Shalu Jain, Alex Karasev, Richard Larsen, Kevin McPhee, Hanu Pappu, Lyndon Porter, Diana Roberts, Brad Stokes, Bhadramurthy Vemulapati

A collaborative effort over the past three years has been instrumental in trying to find ways to reduce and manage the risks associated with viruses in cool season legumes. This effort, the “Legume Virus Project” is supported with funding from the National Institute for Food and Agriculture’s Risk Avoidance and Mitigation Program (RAMP).

This project is designed to improve our knowledge of legume virus dynamics and the best practices for managing pea aphid as a virus vector. The viruses of principal concern are Pea enation mosaic virus (PEMV) and Bean leafroll virus (BLRV) although Pea streak virus occasionally causes significant damage in the Palouse region. Periodically PEMV, BLRV, or both viruses cause widespread and severe injury to pea and lentil crops in the Palouse region, even causing total loss of affected field. PEMV and BLRV are transmitted almost exclusively by pea aphid (*Acyrtosiphon pisum*) and aggressive control of this vector during ‘outbreak years’ (approximately every 5-9 years) when the virus is prevalent and symptoms are severe, should result in prevention of virus spread. Additionally, resistant pea and lentil varieties may reduce concern regarding these viruses.

The Legume Virus Project has several objectives:

1. Monitor flying aphids entering the region each spring using pan traps and test these aphids for virus
2. Assess virus symptoms and virus presence within crop plants each year throughout the region to look for patterns in virus prevalence
3. Identify sources of viruses in the landscape
4. Examine weather data over multiple years to develop virus risk forecasting tools
5. Determine thresholds for treating aphids with insecticides depending upon the presence of virus and the stage of crop development
6. Accelerate incorporation of known sources of resistance to BLRV and PEMV virus into new varieties of pea and lentil suitable for the Palouse and other production regions

7. Ensure project findings are communicated to growers and industry and that project activities are responsive to grower interests

Virus and Aphid Monitoring

In 2008, both viruses were virtually absent from the Palouse region. In 2009, symptoms appeared late (after July 4) and affected pea fields primarily in the southern part of the Palouse region. In 2010, symptoms were first observed in the week of June 7 in pea fields near Almota, Albion, and Uniontown, Wash. The 2010 symptoms were predominantly distorted leaves and pods with windowing, typical of PEMV but lab tests indicated BLRV was also present. As the season progressed, scouts reported symptoms in most fields between Colfax and Pullman and between Moscow and Genesee. By the seasons end, 80% of the fields sampled in the south had symptoms with 3% to 80% of sampled plants affected. In the north, 60% of the fields we sampled had some symptoms with one exception: the percentage of affected plants was low (average = 1%). So the north-south differences in virus prevalence observed in previous years was the same in 2010.

Most fields appeared to have symptoms confined to the upper nodes of affected plants which could limit injury to the crop. Growers have estimated yield losses of as much as 30% in severely affected fields, but data are still being collected.

Treatment Thresholds and Insecticides to Limit Spread

In 2010, UI Professor of Entomology Ed Bechinski and his graduate student Brad Stokes conducted a second year of experiments in which pea plants were inoculated with PEMV or BLRV at intervals from 10 days to 7 weeks after emergence. Results show that injury from the viruses tends to be much more severe in plants inoculated early in development and this study will provide a precise estimate of the effect. Coupled with monitoring to determine when virus is entering the system, this information can guide producers in deciding how and when to control pea aphids as part of integrated disease management. In another study, LVP team





Legume Viruses *continued*

members have measured the effect of a range of rates of Cruiser and Gaucho insecticides applied to pea seed on the spread of PEMV and BLRV from a single infected plant to surrounding plants. Seed treatments are being adopted by growers for other reasons but their potential to control virus spread in pea is currently unknown.

Breeding for Resistance

At North Dakota State University, plant breeder Kevin McPhee and his postdoc Shalu Jain are improving marker based selection to accelerate introduction of virus-resistance genes into varieties suitable for production in US cool season legume regions. Current progress has resulted in enhanced marker density and linkages with resistance genes. Screening for resistance in the lines required to do this work was very successful in 2010. ARS scientists Lyndon Porter and Richard Larsen are assisting with the screening effort required for the plant breeding component.

Outreach and Education and More information

The project has several dimensions to comprehensively address the problem of virus diseases in cool season legumes. More importantly, this project aims to communicate our findings effectively to producers and the industry. This has been accomplished through annual grower meetings, cereal schools, and a web site where users can learn about the project objectives and see aphid and virus data as it is collected. Extension educators Lydia Clayton (UI) and Diana Roberts (WSU) work to help us communicate with our growers and other clientele. We have been fortunate to have the support and assistance of several fieldmen in Idaho and Washington, especially Ken Fuchs (CoAg, Oaxdale) and Jerry Mraz and Mike Devoe (PNW, Genesee). For more information, visit the Legume Virus Project at:

<http://www.cals.uidaho.edu/aphidtracker/index.asp> ❖

Pulse Points

Pulse Quality Lab

The nation's first pulse quality and nutrition lab will be housed at North Dakota State University in Fargo, ND, headed up by Dr. Dil Thavarajah. Having access to nutrition facts about dry peas, lentils and chickpeas will have a positive impact for the entire industry.



Follow on Facebook

The USA Dry Pea & Lentil Council has joined the technologically-driven 21st-century. Follow on Facebook for the latest updates, links to industry-related and nutrition articles and great recipes!



High Exports in 2010

Exports of dry peas, lentils, and chickpeas have been booming in 2010, proving to be a record export year in looking through records from 1989 onward. High 2009 production provided a large quantity of quality U.S. product, and overseas markets have responded accordingly.



Calendar



Dates

December 8, 2010

WPLGA Annual Meeting at Best Western in Moscow, ID

Feb. 3-4, 2011

Research Review at the University of Idaho in Moscow, ID

Feb. 8-11, 2011

Annual Washington DC Mission

Pea Flour Tested in Noodle-Making

by Dr. Mehmet Tulbek, Northern Crops Institute Technical Director

Noodles may not be a staple of the U.S. diet, but they are in Southeast Asia and that's translating into big business and an increase in U.S. dry peas into that market. Due to the market diversity and increased interest in U.S. dry peas, Dr. Mehmet Tulbek - the technical director at Northern Crops Institute in Fargo, ND - led a seminar titled "Development of a Healthy Instant Noodle with U.S. Pea Flour" in May of this year. The seminar was sponsored by the USA Dry Pea & Lentil Council (USADPLC) in Kuala Lumpur, Malaysia, and organized by Agrisource staff Tim Welsh, Dee Richmond and Dew Katanchalee, international representatives for the USADPLC.

Instant noodles are by far the market leader within the noodle industry. They are affordable and convenient products which are consumed on an average of 100 billion packets in the region, but the drawback of instant noodles is their poor nutritional content. This seminar, in cooperation with the second largest flour mill in Southeast Asia Interflour Milling Company, provided a hands-on forum on how pea flour can enhance protein, fiber and the micronutrient content of this staple food.

Fifteen of the largest noodle and ingredient manufacturers in the region were in attendance, and Dr. Tulbek presented lectures and provided technical assistance on the utilization of pea flour in noodle products during the first day of the program. All the participants had the opportunity to make instant noodles with varying percentages of pea flour substituted for the more traditional wheat flour. The blind taste test yielded promising results when the group chose noodles made with 10% pea flour over the traditional noodles.

Another variable included using uncooked pea flour compared to pre-cooked pea flour. The uncooked pea flour was more appealing to the attendees, possibly related to the roasted/toasted flavor of the pre-cooked flour. The success of this seminar was significantly enhanced by the opportunity everyone had for a hands-on experience of actually making the noodles with pea flour in the pilot plant.

The promising results at a 10% pea flour substitution could have several impacts. Not only could this substitution significantly improve the nutritional value of instant noodles, it could impact the market for U.S. dry peas into Southeast Asia. Currently, Southeast Asia imports an average of 80,000 metric tons of pulse crops annually. The majority of the pulse imports into this region is dry peas; the U.S. is supplying mostly green peas for canning and snack processors. Snack

processors in the region generally prefer marrowfat peas, but due to the relatively high cost of marrowfats compared to U.S. green peas, demand has significantly increased for whole green peas as snack processors pursue solutions to control costs.

Case in point: Indonesia. In 2004, U.S. exports to Indonesia averaged less than 100 metric tons, however from 2005-2008, U.S. exports rose to 3,000 metric tons per year, and in 2009, Indonesia imported nearly 10,000 metric tons of U.S. dry peas.

Due to the success of this seminar, several attendees indicated they liked the products and decided to try the pea flour in terms of cost and acceptance by the regional consumer. Starting market penetration projects by conducting small scale noodle manufacturing trials with toll manufacturers will be the next step in this exciting new realm for dry peas as a pulse flour ingredient. ❖

Right: Attendees making noodles.
Below: Attendees showing off their hard work.



Moist Cocoa-Lentil Cake

A delightful recipe for the upcoming holidays!

Serves 12

1 1/4 cups U.S. Red Chief lentil puree*
1 1/2 cups granulated sugar
1 cup oil (canola or vegetable)
4 large eggs
1 teaspoon vanilla
2 cups sifted flour
4 tablespoons cocoa
1 1/2 teaspoons baking soda
1/2 teaspoon salt

- ❖ Preheat oven to 350 degrees. Grease and flour two 8" or 9" round cake pans.
- ❖ Beat the sugar, oil, and eggs together for two minutes. Add the lentil puree and vanilla; mix for one minute.
- ❖ Sift the dry ingredients, add to the batter, and beat for two minutes on high speed.
- ❖ Pour into cake pans and bake at 350 degrees for 30-35 minutes or until top springs back when touched lightly. Remove from oven and turn onto cooling racks. Cool completely, and frost with favorite icing.



**To make U.S. Red Chief lentil puree: bring 3/4 cups Red Chief lentils and 2 cups of water to a boil. Cover and simmer for 7-9 minutes. Drain, reserving liquid. Add 1/4 cup of lentil liquid back into the lentils. Puree in a blender or food processor. Yields about 1 3/4 cups. (Excess puree can be frozen.)*

"A Day in the Life of a Farmer" by Rachel Sharp



Editor's Note

Greetings, and thank you for taking time out of your equipment-fixing, dealing-and-wheeling, all-around busy lives to read this first edition of *Take Your Pulse*.

Usually you receive a neat little brochure with a report on all the great happenings in the pulse industry over the past year. That neat little brochure has been retired from service to make way for this new publication that gives a more in-depth view of what's going on. It's similar to trading in for a new combine. On a small scale. A very tiny, miniscule, itty-bitty scale.

I would like to extend a special thanks to all who contributed articles for this edition.

And to all you readers, warmest regards as we head into this holiday season and a new year filled with exciting activities in the pulse industry.

Erica Beck

(Please feel free to contact me ebeck@pea-lentil.com with comments, questions or just to say howdy!)



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