Field pea in a crop rotation improves soil health and reduces clubroot

Pulse crops like lentil, field pea and chickpea are beneficial to crop rotations because they optimize water and nutrient usage, minimize disease and weed problems and add to total farm earnings. With the recent discovery of clubroot disease of canola in many areas of Alberta, pulse crops in a crop rotation can play a major role to prevent this potentially devastating disease from reaching epidemic proportions. There are many benefits when including field pea strategically into a cropping sequence.

“When one crop type is repeatedly or frequently grown on the same soil for numerous years, resting spores of pathogens specific to this crop type build up their numbers in the soil,” says Neil Whatley, crop specialist with Alberta Agriculture and Food, Stettler. “These spores are then ready to attack its host plant’s roots again and again. Without the availability of effective seed treatments or resistant crop varieties to prevent disease damage, these resting spores will soon devastate this frequently grown crop.”

As this process continues over the years, soil spore population increases, which causes upwards of 100 per cent plant infection and consequent crop losses. This is the situation that has occurred with clubroot disease of canola, caused by the pathogen Plasmodiophora brassicae. This disease is currently affecting canola growers in numerous counties in the wetter areas of Alberta. In the spring of 2007, clubroot was declared a pest in Alberta’s Agricultural Pests Act, which legislates authority for enforcement of control measures.

“In most situations the fields where clubroot has been identified have been planted to either continuous canola, or to a canola/cereal–canola/cereal crop rotation,” says Whatley. “Accumulation of the clubroot resting spores in the soil is rapidly occurring in these fields. Clubroot is a particularly serious plant disease because its spores can stay viable in the soil for upwards of 20 years. Without an effective seed treatment or resistant canola variety, a more proactive approach must be taken to prevent this disease from seriously reducing future canola yields.”

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Regardless of the presence of clubroot disease, canola can continue to be produced as a crop in infected fields if a longer crop rotation is used. Plant researchers are finding that canola can be safely planted once in four years. However, under the Agricultural Pests Act, some counties may legislate longer rotations than one in four years. These longer rotations allow for some build-up of the clubroot resting spores in the soil, but never enough to cause an epidemic. For growers who have not discovered clubroot in their fields, this is an important strategy to use to prevent the field from becoming infected.

“Using a one-in-four year rotation for canola requires that other profitable crops be grown in the other three cropping positions,” says Whatley. “Since canola has been a very profitable crop for growers, replacements may not appear to measure up. However, with the potential danger to future canola yields by using tight canola rotations, proactiveness is of paramount importance. With careful foresight, some cropping alternatives may appear more agronomically and economically attractive in the long run than previously thought. This is made more attractive when one considers current high commodity prices and steep nitrogen fertilizer input prices.”

Cereal crops are a natural choice to use to lengthen a cropping rotation. However, since some soil borne diseases such as fusarium head blight and other common seedling blight diseases affect wheat, barley, oats and other small cereal grains, repeatedly planting too many cereal crops may also backfire. Therefore, it is wise to use crops from other plant families as well to prevent disease problems within cereal crops. This is where pulse crops from the legume plant family can be valuable, both to prevent a clubroot epidemic and to improve financial and agronomic choices. Viable pulse crops for Alberta are field pea, lentil and chickpea. However, the adaptability of field pea to the wetter soil zones of Alberta makes field pea the best pulse crop choice for growers who are facing a clubroot problem.

Pulse crops have a shallower root system than cereals and oilseeds, penetrating approximately half the soil depth. This means that field pea utilizes less soil water and soil nutrients than a cereal crop or an oilseed crop, leaving more for successive crops. Due to its ability to fix atmospheric nitrogen, a pulse crop contains a higher proportion of nitrogen in its plant parts than oilseeds and cereals. When decomposing, this plant material mineralizes, causing a flush of available nitrogen for subsequent crops. Dr. Slinkard, professor emeritus at the University of Saskatchewan’s Crop Development Centre, explains that in general 50 per cent of the nitrogen in the pulse crop residue (leaves, stems, roots, nodules) is mineralized and available for the next year’s cereal crop and about 50 per cent of the remainder is available to the second crop after a pulse crop. Dr. Slinkard says the beauty of it is that this nitrogen is slowly mineralized during the growing season and becomes available during flowering and seed development, when available soil nitrogen is nearing depletion. This results in increased protein concentration of a cereal crop and, if available soil moisture is adequate at this time, increased yield.

“The inclusion of a pulse crop into the cropping rotation assists with nutrition and water conservation, as well as reducing the incidence of clubroot in canola,” says Whatley. “Taking these factors into consideration, a beneficial four-year crop rotation is to sequence crops in the following manner: barley/field pea/wheat/canola--barley/field pea/wheat/canola. Sclerotinia fungal disease potentially affects both field pea and canola, however semi-leafless field pea varieties cause less build-up of sclerotinia than do the vining types, so are more acceptable in a rotation with canola.”

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**Economic and welfare considerations for sow housing options**

The housing of pregnant sows has become a major animal welfare issue in the North American swine industry. The practice of keeping pregnant sows in gestation crates has been regarded as the industry standard and currently the majority of sows in Alberta are housed in gestation crates. Dr. Nigel Cook and Kelly Lund with Alberta Agriculture and Food along with partners recently completed a comparative study on the economic and welfare implications of housing gestating sows in conventional stalls and in three different group housing situations. The study compared gestation stalls (GS) and free access stalls (FA) and the second study compared FA stalls with an electronic sow feeder (EFS) and open access stall system with two tiered space provided by a mezzanine (2T).

The difficulty in comparing conventional housing with alternative group housing systems is the lack of consistent welfare standards. Each system has benefits and costs associated with it. This table attempts to rank the costs and benefits from different housing systems.

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“Sows in this study housed in GS receive fewer injuries when compared to sows in FA group housing; however, group housed sows received mostly minor injuries such as superficial skin scratches. These minor injuries are the consequence of allowing sows to have freedom of movement and social interaction. Most of the injuries and fights occurred shortly...”

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after mixing sows, demonstrating that sows required an adjustment period and that prolonged aggression was unlikely.”

When comparing types of group housing systems in this study the ESF poses potential technical challenges to producers as well as significant costs to install or retro-fit barns. In terms of welfare, the sows in the ESF system experienced more aggressive encounters and received more minor injuries than any other housing system.

“It is possible that the levels of aggression seen in ESF would be reduced with more ESF stations and with the presence of straw bedding,” says Herron. “The aggression seen in ESF was likely due to competition for access to the feed source.”

The sows housed in FA stalls in this study avoided the competition for food resources, but the stall size and difficulties with gate mechanisms made this housing option challenging. Producers considering the FA or 2T systems need to consider the increased labour challenges that are posed by systems that feed to the lowest weight sow.

“The open system with two tiered space provided by the mezzanine appears to be the best option for increasing common space while avoiding increased aggression and costs/problems of equipment,” says Herron. “Retro fitting barns with gestation stalls would be easily accomplished by removing the back of the conventional gestation stall and installing the mezzanine to increase available space. The difficulty with increasing floor space is the temptation by producers to further increase stocking densities which negates the benefit of increased space.”

It is likely that despite what science and economics indicate as most efficient, the final decision will be made by consumer pressures and meat suppliers. If consumers demand crate-free pork, suppliers will respond to this demand and, in turn, place pressure on producers. Societal concern over animal welfare is likely to increase in the future.

“Wellfare-friendly housing systems are likely to become the standard in Canada if public interest remains high,” says Herron. “However, the potential benefit of group housing systems is difficult to quantify as market trends towards ‘welfare-friendly’ foods remains unclear.”

A more comprehensive study measuring chronic stress from social isolation in sow housing is planned between Alberta Agriculture and Food and the Prairie Swine Research Centre. For further information, contact Adrienne Herron at 403-755-2047.


Contact: Adrienne Herron  
403-755-2047

Scholarship helps local meadery gain new insight at International Mead Festival

Lifelong learning is one of the cornerstones of the Agri-preneur Scholarship. This scholarship, offered by Alberta Agriculture and Food and the Renewal Chapter of the Ag Policy Framework, supports continuous learning and innovative educational opportunities for agripreneurs to attend educational out-of-province, national and international conferences, tours or workshops. This scholarship is open to Alberta farm direct marketers, ag tourism operators, farmers’ market managers and staff or board members of appropriate industry associations.

“It’s not just about attending learning events,” says Marian Williams, lead of the Agri-Preneur Scholarship team. “It’s about being able to take the key things learned and apply them to your situation and make your business more successful, or to sometimes change direction in your business because you have learned what not to do from others.”

Art and Cherie Andrews, owners of the Chinook Honey Company near Okotoks, received an agri-preneur scholarship to attend the International Mead Festival in Denver, Colorado in February 2007. This festival attracts more than 1,000 people from around the world. It consists of a mead competition, mead tastings and conference sessions.

“The networking opportunities are amazing,” says Andrews. “Mead is a relatively unknown product in Alberta so this was a chance to talk to people from around the world who not only make mead, but who have taken it to the next level. The quality of the product is top notch and their experiences with pairing mead with different foods was invaluable.”

What started as a hobby for Art in 1995 has blossomed into a full-time, two-person, 280-hive operation that includes a farm store and a newly licensed meadery. In fact, the Chinook Honey Company is the first licensed meadery in Alberta going by the name Chinook Arch Meadery. “The first batch of mead should be ready by the end of May 2008 and then we can start to sell it from our farm store,” says Andrews. “Attending the Mead Festival gave us lots of contacts and it also gave us the confidence to move forward with our project to open our own licensed meadery. We feel our mead is comparable to the best in the world, and we hope to enter some of our mead in the competition at the next festival.”

Probably the most significant learning for the Andrews was how different foods can be paired with mead. Just as a good red or white wine goes well with different foods, so does mead. Their future plans include partnering with chefs and other local food producers to enhance the flavor of the foods with different meads.
The next scholarship application deadline is February 1, 2008. All eligible travel must be completed before the end of March 2008. Application information is available online at www.exploredirect.ca under the Scholarships and Awards heading. Additional program information is available from Marian Williams with the Farm Direct Marketing Initiative at 780-679-5168 or by emailing: marian.williams@gov.ab.ca.

The Agri-preneur Scholarship was funded through the Renewal Chapter of the Agricultural Policy Framework, a federal-provincial-territorial initiative that aims to make Canada the leader in food safety, innovation and environmentally responsible agriculture production.

Veggie Basics – an introduction to field vegetable production and direct marketing

In the last few years, there has been a great deal of interest in horticultural crops, particularly for the direct market channels. Field vegetable production is being considered by a number of Albertans.

“To address this growing interest in horticultural crop production, a one-day workshop has been developed, targeting new or beginning producers and interested parties,” says Robert Spencer, irrigated and specialty crops specialist with Alberta Agriculture and Food, Stettler. “This workshop will outline the basic considerations involved in all aspects of direct market business ventures related to field vegetables.”

Some of the questions that will be answered include:

- What exactly is involved in starting a direct marketing business venture and making it a success?
- What are the economics of this type of operation?
- What are some of the things you need to think about when it comes to producing one or many different vegetable crops? This discussion includes irrigation, soils, seed/varieties, equipment, pest management, post-harvest handling, and more.
- Where can you find the information necessary to make your new vegetable venture a success?

The workshop, being held in Leduc on March 13, 2008, will feature specialists from Alberta Agriculture and Food, as well as a producer presentation on lessons that have been learned. This is a great opportunity to gather useful information to make decisions that will bring success.

The cost of the workshop is $30 and includes lunch. Registration is open until March 10, 2008 by calling the Alberta Ag-Info Centre Registration Desk toll-free at 1-800-387-6030. For more information, check out Coming Events on Alberta Agriculture and Food’s website at www.agric.gov.ab.ca.

Contact: Robert Spencer 310-FARM (3276)

Integrate, connect and collaborate at the Step It Up conference

“What does integrate, connect and collaborate mean? For farm direct marketers and farmers’ market managers, they really describe everything being done to be successful,” says Eileen Kotowich, Alberta Approved Farmers’ Market Program, Alberta Agriculture and Food, Vermilion. “They also describe the Step It Up conference being held in Leduc on February 6 and 7, 2008. The Alberta Farmers’ Market Association and Alberta Farm Fresh Producers Association are collaborating to bring an integrated, industry-driven conference to Alberta. There is an amazing line-up of keynote speakers and select-a-session industry presenters along with networking opportunities that will help participants connect with others and learn from their successes.”

There are many session choices to choose from:

Select-A-Session 1

- Marketing Food Safely – as the demand for local products increases, ensuring food products are safe is critical. In this session, learn about food handling, food recalls and developing food safety protocols for your business.
- Turf to Table – have you ever considered selling your products to restaurants? Learn what a top chef is looking for and what the Dine Alberta program is all about.
- Visions of Farm Direct Marketing – keep your options open! There’s more than one way to sell your products direct to the end consumer and this session will give your three terrific examples.

Select-A-Session 2

- Grower to Retailer – you have a great product and now for the checkout. Get tips on the transaction itself and the many things you should consider in this cash and electronic world.
- Climbing to Success – farmers’ markets are the #1 ag-tourism attraction in Alberta. What makes one more successful than another? Find out from a panel of experts what they have done to contribute to the success of their markets and how to adapt those ideas to your market.

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• Creating Experiences – trends clearly show that the popularity of buying local will continue. So what keeps the customers coming back to a farm or a market? Learn from a dynamic trio of Alberta Agriculture and Food specialists who have some insight into how you can enhance your business.

Select-A-Session 3

• Creating the WOW! – keynote speaker, Pete Luckett also shares his exciting merchandising hints in this session.

• Ideas, Ideas…We’ve Got Ideas! – on-farm events are a great way to drive more customers to your farm — and drive up sales. Two presenters will share their creative and practical ideas that will make your farm events more successful.

• Growing Your Business – one thing we all know is that change is constant. Transforming a business to meet the changing demands of the marketplace is critical and in this session, a panel will talk about what they have done to continue down the path to success.

Seating is limited, so early registration is advised. Phone toll-free 1-800-661-2642 for information and registration details, or e-mail director@albertamarkets.com or webmaster@albertafarmfresh.com. Final registration deadline is January 25, 2008.

Funding for Step It Up is made available through the Agriculture and Food Council which is responsible for delivering Agriculture and Agri-Food Canada’s Advancing Canadian Agriculture and Agri-Food (ACAF) program in Alberta.

Contact: Eileen Kotowich
780-853-8223

Agri-News Briefs

Irrigated Crop Production Update conference

The Irrigated Crop Production Update – 2008 conference is being held in Lethbridge on January 22, 2008. The conference, organized by Alberta Agriculture and Food, Southern Applied Research Association and the Lethbridge College, includes presentations on topics such as:

• irrigated crop production in 2007
• irrigated crop rotation research
• practical crop rotations under irrigation
• potential for irrigated crops
• irrigation water supply outlook for 2008
• zone tillage of sugar beets
• conservation system research for dry beans
• disease and insect synopsis and forecast for 2008
• irrigation water management

Registration is $45 per person. For further information, contact Ross McKenzie, Lethbridge College, at 403-320-3202, ext. 5518, or Roger Hohm, Alberta Agriculture and Food, at 403-381-5152. To register, contact Bev McIlroy at 403-381-5171 or Judy Lee at 403-381-5849.

Canada’s framework for the management of health claims for food

Health Canada is beginning consultations on Canada’s framework for the management of health claims for food. The consultation will gather input on the management of health claims from a wide variety of stakeholders, including health professionals, consumers, health/disease organizations, academia, industry, and other federal, provincial, territorial or municipal government representatives. To participate in the web-based consultation visit www.hc-sc.gc.ca/fn-an/consultation/init/man-gest_health_claims-allegations_sante_e.html, read the discussion document, Managing Health Claims for Foods in Canada: Towards a Modernized Framework and answer the accompanying questions by February 29, 2008. Regional workshops on the discussion document are being held across Canada. Each workshop will be one day long and will focus on issues such as:

• the scientific substantiation of claims
• the management of a broader range of function claims, and
• the principle of eligibility criteria for foods to carry claims

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Those interested in participating, are asked to send an expression of interest that includes your name, title, affiliation, e-mail address and phone number, to the contact person by January 18, 2008. A response to the expression of interest and information about the final participation list will be returned by January 25, 2008. The Alberta workshop is being held in Edmonton on February 6, 2008. Contact for this workshop is Hanna Wajda, 780-442-7356, fax 780-495-5551 or e-mail hanna_wajda@hc-sc.gc.ca. This review is a component of Health Canada’s Regulatory Modernization Strategy for Food and Nutrition as part of the Blueprint for Renewal initiative. A report on consultation input will be posted once consultations are closed and analysis is completed.

**Farm succession planning workshops**

Succession planning is a process that deals with the managerial, financial and ownership issues of a family business. Everyone experiences these issues when transferring their business from one generation to the next generation. To provide Alberta farm owners with the tools they need for successful farm succession planning, workshops are being hosted throughout Alberta by Adult Learning Councils. At the workshops, a succession specialist will detail:

- the seven steps of the succession process
- the three essential elements of a succession plan
- the five different ways of passing a business down to the next generation
- the pros and cons of each of these five alternatives
- the working agreement between siblings when one prefers to give their farm to more than one (or all) of their children
- the cost associated with each of the five alternatives

These workshops are designed for those who want to ensure their farm or business passes to the next generation smoothly and cost effectively with their family being their most important concern. Workshops are being held in the following locations:

**January 21 11:30 St. Paul**  
Contact — Diana at 780-645-4099

**January 22 11:30 Two Hills**  
Contact — Debbie at 780-657-3358

**January 28 11:30 Thorhild**  
Contact — Carol at 780-398-3978

**January 30 11:30 Strathmore**  
Contact — Joyce at 403-934-3616

**January 31 11:30 Claresholm**  
Contact — Kate at 403-625-4107

**February 4 11:30 Oyen**  
Contact — Sherri at 403-664-2060

**February 5 11:30 Coronation**  
Contact — Kimberley at 403-578-3817

**February 6 11:30 Three Hills**  
Contact — Cheryl at 403-443-5556

**February 9 10:00 Bentley**  
Contact — Iwa at 403-782-7955

**February 9 12:00 Bentley**  
Contact — Iwa at 403-782-7955

**February 13 11:30 Pincher Creek**  
Contact — Sherry at 403-627-4478

**February 23 10:00 Lacombe**  
Contact — Iwa at 403-782-7955

**February 23 12:00 Lacombe**  
Contact — Iwa at 403-782-7955

**February 26 11:30 Barrhead**  
Contact — Nancy at 780-674-7535