Agri-News

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Soil testing to determine nutrient deficiencies

Nutrient deficiencies in the soil have a direct impact on crop growth and yield. The wide diversity of soil types and the variety of crops being grown result in very different fertilizer requirements across the province.

Nitrogen (N), phosphorous (P), potassium (K) and sulphur (S) are the four main nutrients that crops take from the soil and that need to be replaced with fertilizer. Soil testing is the most efficient way to check the nutrient levels in fields and make informed decisions about the nutrients and the amount of fertilizer is needed.

"Every year is a good year to soil test," says Ross McKenzie, agronomy research scientist with Alberta Agriculture and Rural Development, Lethbridge. "It may not be necessary to soil test and sample all fields, but producers should pick representative fields and sample those fields year-after-year to get a sense of how nutrient levels vary."

Farmers are encouraged to test at least some of their fields each year going into spring, particularly for N and S. These two nutrients can be quite variable from year to year, depending on the crops being grown and environmental conditions. Although P and K do not tend to vary much from year to year, when testing for N, the same extraction solution is used for P and K, so soil testing usually gives data on all three of those nutrients. A good soil testing regimen will provide information on N, P, K, S, soil pH and electro-conductivity (a measure of salt levels in soil).

"When it comes to fertilizer recommendations, it's important to remember that labs, which do a very good job of analysis, are not in the business of making fertilizer recommendations," says McKenzie. "While labs will give recommendations if asked, the recommendations will be general and won't be based on crop value or fertilizer costs. Producers should take their test results and make the final fertilizer decisions themselves, based on their past experience or working with industry agronomists and fertilizer dealers."

There are some new fertilizer products on the market. It is very important to know the benefits of the different fertilizers, the method being used to apply the fertilizer and the amount needed to give the best economical and agronomical results. It's also important to remember that each crop has different nutrient needs.

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This Week

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Alberta AGRICULTURE, FOOD AND RURAL DEVELOPMENT

An Alberta Agriculture and Rural Development computer program, AFFIRM (Alberta Farm Fertilizer Information Recommendation Manager) is a very effective tool that producers can downloaded from the website. Producers input their soil test data values, the crop being grown, the area the field is in, the soil moisture conditions, the fertilizer price and the expected crop value. The program then provides evaluations to determine the optimum amount of fertilizer that is needed.

"Although fertilizer prices have gone up, crop values have gone up as well," says McKenzie "An advantage of using this program is that it lets producers determine the upper limits of fertilizer needs for their intended crop from both an agronomic and an economic point of view."

Further information on soil sampling and testing is available on the Alberta Agriculture website at www.agriculture.alberta.ca.

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It's Always the Season to Buy Direct

A misconception that many people have is that they can no longer buy food direct from a farmer. This is not true! In both Alberta and B.C. there are active and growing farm direct industries.

"I'm not sure what's driving consumers to think they can't buy direct anymore," says Karen Goad, farm direct marketing specialist with Alberta Agriculture and Rural Development, Grande Prairie. "Perhaps it's the change that brought B.C. regulations in line with Alberta's. This change means that now all meat, poultry and related products sold in both Alberta and B.C. must be processed in an inspected facility. While this was always the case in Alberta, it's a new requirement for B.C."

Farmers have several options to sell the food products that they grow direct to consumers: Alberta Approved Farmers' Markets, pick-your-own operations, farm gate sales and on-farm retail shops, to name just a few.

"Fresh, quality, locally grown foods can be found in abundance at a local farmers' market," says Goad. "In her blue coveralls, sporting a hoe and basket of fresh produce, Sunny Girl™ tells you you've found one of the over 85 Alberta Approved Farmers' Markets where community-based entrepreneurs can sell the products they make, bake, or grow. Bring cash, a shopping bag and your curiosity. Ask about what's in season and how it's grown. Growers love what they do and are always eager to share stories from the garden or farm.

"While you're filling your grocery basket, look for unique items from a variety of producers who make crafts, woodwork, pottery, jewellery and art. At Alberta Approved Farmers' Markets, 80 per cent of the vendors make, bake or grow in Alberta."

Many urban farmers' markets are open year-round and most seasonal markets are now open for the summer. A list of Alberta farmers' markets is available online at www.albertamarkets.com and www.sunnygirl.ca.

Consumers who would rather buy direct at the farm gate have lots to choose from. The Alberta Farm Fresh Producers Association (Farm Fresh) has over 160 members listed in their annual printed ***Come To Our Farms*** guide. The association also posts the information on their website at www.albertafarmfresh.com. Either format provides information needed to locate farm-fresh, flavourful, Alberta grown berries and fruit, vegetables, meat, poultry, eggs, honey, herbs and specialty items. The guide includes a comprehensive map listing association members, their phone numbers, directions to their farms and what they sell. Call 1-800-661-2462 for a free copy of ***Come To Our Farms***.

"Buying farm direct is fertile ground to cultivate relationships with the people who grow your food," says Goad. "Many operators offer heritage and specialized varieties of fruits, vegetables and meats that don't routinely make it onto grocery shelves."

Whether you shop at a farmers' market or go right to the farm gate make it a family experience. You're never too young to learn where food comes from. Many farm direct operators welcome kids to their farm with play areas and site tours. Dogs are not allowed at Alberta Approved Farmers' Markets.

"Enjoy the trip to your favourite farm direct venue this summer," adds Goad. "Take in the sights, smell the flowers and taste the fresh produce. Put a cooler and ice packs in your car to keep your fresh picks cool for the trip home. Experience Alberta's best products direct from the people who grow them."

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New General Manager and Members for Agricultural Products Marketing Council

Dave Burdek has been appointed the new general manager of Alberta's Marketing Council Secretariat. Burdek took on responsibilities with Alberta's Marketing Council in April 2009, replacing Cornelia Kreplin.

As general manager, Burdek will be responsible for strategic leadership, direction and operations of Marketing Council Secretariat in administering a contemporary *Marketing of Agricultural Products Act* (MAPA) and its regulations to ensure that Alberta's agricultural producers maintain a competitive position in a global marketplace. Another of his key responsibilities will be liaison with the Alberta Agricultural Products Marketing Council chairman to support the council in achieving their mission, vision and goals.

Burdek brings to the position, 20 years experience in the agriculture industry working with government, producer organizations and boards of directors. For the past 10 years, he has worked with Alberta Agriculture and Rural Development as conservation coordinator and manager with regional advisory services in Barrhead, as branch head of various branches in industry development and rural development sectors, and most recently, as lead for the Minister's task team to address regulatory barriers in Alberta's livestock industry. Prior to joining Alberta Agriculture, Burdek worked as an agrologist and manager with various producer groups and ran his own farm business in northeast Alberta.

In addition to Burdek as new general manager, two new council members were appointed to the Alberta Agricultural Products Marketing Council by Agriculture and Rural Development Minister Groeneveld. Bruce Beattie and Jurgen Preugschas begin their three-year term with Council on April 17, 2008, replacing Reginald Ference, Ken Jersch and Klaas Slomp.

Beattie and his wife, Valarie have lived on their farm near Sundre for the past 35 years where they operated West Hawk Holsteins. West Hawk Farms is now focused on forage and beef production and since 1998, Beattie has operated a joint venture with a partner at Cottonwood Holsteins near Innisfail.

Beattie has a long history of working in the dairy industry. He joined Alberta Milk Producers in 1998 and worked with the Alberta milk foundation to form and chair the Dairy Nutrition Council of Alberta. He served as Alberta Milk director for the Central Region to 2007, represented Alberta at the Dairy Farmers of Canada, and has been involved with Canadian Bovine Research Network, Canadian Agriculture Research Council, Agrifoods International Co-op and CIDA projects in Cuba and China.

Preugschas lives in the Mayerthorpe area where he owns and operates a pork, grain, oilseed and alfalfa farm with his son Niko. He is a founding shareholder and director of Peak Swine Genetics and runs a nucleus swine herd for the company. He was honored in 1988 as a Progressive Pork Producer at the Alberta Pork Congress. Preugschas has served as a member of the Board of Directors of Alberta Swine Breeders Association, the Canadian Swine Breeders Association, the Lacombe Swine Breeders Association, Alberta Pork, Canadian Agrifood Trade Alliance and the Canadian Federation of Agriculture.

The Agricultural Products Marketing Council is a Crown corporation established by MAPA. The Act charges council with responsibilities for facilitating the establishment and supervising the operations of agricultural boards and commissions in Alberta. There are currently 20 producer commodity groups that operate boards or commissions under MAPA.

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Welfare Considerations of Laying Hens Housed in Furnished Cages

The type of housing and stocking densities of egg laying hens has become a growing concern for the egg laying industry and a point of interest for animal welfare conscious consumers. The typical conventional battery caged hen in Alberta receives 432 square centimetres floor area. New requirements in the European Union (EU) will require all hens by 2012 to be provided with enriched cages and receive 750 square centimetres of floor area per bird. The EU decision was driven by the recognition that the performance of natural behaviours is important for hen welfare. Enriched cages are furnished with nest boxes, scratch pads and perches.

"There are many variables to consider when designing and stocking enriched cages," says Adrienne Herron, livestock welfare technical transfer specialist, with Alberta Agriculture and Rural Development, Edmonton. "To answer some of the welfare and housing questions a research study was conducted at the Lacombe Research Station by Dr. Nigel Cook. The principle objective of this research was to assess the benefits of converting a commercially available system from battery cages to furnished colony cages. The research used several measures to determine hen welfare: direct behavioural pattern observations, fecal and blood biomarkers, and thermal heat imaging to determine feather wear patterns."

"In this study, hens exhibited very strong preferences to roost on perches and the provision of perches improved hen welfare," says Cook. "Hens also showed a preference for using the nest box by the number of eggs laid within the nest box and

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for using the scratch pads by the reduced length of the nail on the middle toe. The strong preferences for hens to use the furnishings in this study suggest that conventional cages do not allow for sufficient expression of natural behaviours."

There was no significant difference in the levels of stress hormones seen in the blood and fecal materials from either housing group. It is possible, however, that these measures may not be sensitive enough to detect the differences in housing conditions. It is also possible that the space allocated to each bird in the conventional cages in this study may have affected the results as birds received nearly double the floor space of a commercial bird.

The use of heat imaging or IRT appears to have many scientific and practical applications. The thermal imaging used in this study was able to detect the heat losses due to feather loss and determine if the feather loss was due to feather pecking or wear. Feather losses seen in this study were accounted to wear on furnishings rather than feather pecking.

"Important notes from this study included the demonstration that commercial conventional cages could be easily converted into furnished colony cage systems," says Herron. "The ideal colony size is probably between 10 and 20 birds, and 20cm of perch access per bird was an excellent compromise between loss of insulation and the hens' urge to perch. The cost of feather wear or heat loss in terms of greater feed consumption is an area that requires further study."

Financial support for this research was provided by a grant from the Alberta Livestock Industry Development Fund (ALIDF) with contributions from Alberta Egg Producers and Alberta Farm Animal Care (AFAC).

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Cows Gone! What Now?

When the last cow finally leaves the ranch, a lot of perennial forage remains. The reasons for herd reduction are varied, one of which is slumping feed margins mainly due to rising feed costs. In relation to the current grain outlook, this may pose an opportunity to grow something different, if the proper machinery and resources are available.

"On the Canadian prairies, direct seeding of annual crops into unwanted pasture and hayland is an emerging trend," says Ron Heller, extension agronomist with Alberta Reduced Tillage LINKAGES (RTL), Vermilion. "Commonly referred to as sod seeding, this practice has achieved a high degree of success in different soils and crops. Technically feasible, the economics surpass traditional tillage-based removal methods, such as plough and disc, mainly due to an extreme savings in fuel, time and machinery."

Sod seeding research done in Western Canada stipulates three conditions in order to maximize profit:

1. forage termination initiated in the year ahead of seeding, with herbicide
2. adequate forage and weed control achieved before seeding
3. subsequent in-crop strategies to control volunteer forage and weeds

"There is still more to discover about sod seeding and its fit in further diversifying crop rotations," says Heller. "For example, some forgotten data from old research work indicates superior yields for peas. In two Alberta studies (Keng and Sprout, 1995-97), sod seeding peas into fall-applied glyphosate forage stands was consistently best when compared with spring-applied or tillage treatments of barley or canola. This advantage is likely due to large seed size of pea and low fertilizer-N needs - peas being a crop that fixes its own nitrogen."

According to most trials Heller has seen, forage termination last August would have been the preferred strategy to start the important decomposition and moisture-saving benefits that make sod seeding work so well. "However, peas can be seeded earlier or later than just about any other crop," he says, "provided the sod has been properly terminated and weeds have been controlled, especially perennials such as quackgrass and dandelions. If time and opportunity permit a grower to terminate perennial forage in the spring, peas' short-maturity nature might benefit with such an approach."

Planning and preparation for cropping a spring-terminated forage stand can be intense, but possible. A plus for peas into sod is that only simple single-shoot machinery is required if no fertilizer is used, except for perhaps some seed-placed starter amounts.

"Old sod tends to be nutrient deficient, so growers should have a soil test to determine if there are any nutrient deficiencies and that crop needs will be met. Finding clean seed and inoculants might be the biggest problem," warns Heller. "There normally shouldn't be any carry-over danger for peas in sod from herbicide residue, disease pathogens, or insect pests. Agronomically, peas fit better than canola or wheat, but there is always the question of growing season outcome if peas go in the ground too late, the risk for any crop, but certainly more so on spring-killed sod."

Another common practice in peas is to roll the field before emergence. Rolling helps at harvest since peas often lay down when mature. This practice will certainly be important for seeding into freshly terminated sod this spring.

"The difference between well-rotted sod sprayed out the previous fall and a spring-time termination will be most evident in the way the seeding implements perform and field-finish," adds Heller. "It is likely best to slow down and run as shallow as possible without stranding the seed in the thatch layer. It's vital that seed is set and covered in moist soil. Some

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direct seeding systems achieve this better than others. Experience counts, although the best way to learn is to try, so maybe start with only a small field."

Growers considering sod seeding for the first time may want to discuss it with someone who has done it. "RTL's Farmer-to-Farmer direct seeding network is a great way for novice sod seeders to get some inside-training," says Heller. "We can match someone to their circumstances, almost like a mentor. Based on experience, machinery and location, what works, what doesn't and why can quickly be identified."

Sod seeding of peas and even Round-Up Ready corn are two different, but good cropping options with rotation potential for direct seeders or the cattleman who wants to try something different.

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Agri-News Briefs

Managing Allergen Issues

Allergen contamination is the number one cause of recalls in Canada, and it costs the food industry millions of dollars each year. To provide an in-depth understanding of how to manage allergens in a plant, the Alberta Food Processors Association (AFPA) is hosting a two-day course ***Detection & Managing of Allergens: Preventing Cross-Contamination in Your Plant***. Being held in Edmonton on May 28 and 29, 2008, the course will cover:

Day One

- intolerance vs. allergic reactions
- food allergens, sources/approval of ingredients
- Canadian and U.S. regulatory and labelling issues
- managing product flow (storage, transportation, production) of allergen-containing products

Day Two

- Canadian Food Inspection Agency's (CFIA) requirements for allergen controls on the nine priority allergens and for written allergen management plans
- steps for developing, implementation and testing allergen management plans
- hands-on sessions in developing an allergen management plan and assess where current shortfalls may be

This course is of specific interest to production managers, quality assurance and quality control coordinators, R&D managers, regulatory affairs managers, quality managers and coordinators.

For Lifetime Learners:

- 1.6 Technical Education Units (TEU) will be awarded for participation in this course
- 1.4 Continuing Education Units (CEU) will be awarded for participation in this course

A complete course listing is available online at www.afpa.com/snq/train.shtml. For more information or to register, contact the AFPA at 403-201-3657.

Rural Matters Conference

Rural Matters: Forging Healthy Canadian Communities is a national symposium, being held in Edmonton on July 5 to 8, 2008. Rural communities are at a critical juncture where they need to communicate their key issues and concerns with a united voice. The conference will be a unique opportunity to:

- network with rural peers from coast to coast
- share and learn about critical rural issues
- mobilize and endorse a united national rural policy declaration

The conference program includes educational workshops and inter-active policy development sessions within four thematic streams: governance and sustainability, environment, infrastructure, and economics and industry. Specific workshops and sessions will also focus on youth and aboriginal issues within the rural context. The conference promises to be a celebration of rural Canada's diversity, vitality, and importance to all Canadians. For further information and for a full registration package, visit the conference website at www.ruralmatters.ca/. The AAMDC has launched a user-friendly online portal (*Accommodation & Travel* on the website) for symposium attendees to book their hotel accommodations and have secured a toll-free number (1-888-674-7978) for hotel bookings.