



Oregon Small Farm News

Oregon State University Small Farms Program

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Cover Photo:

An August view of eggplant, peppers and more at the Corvallis Wednesday Farmers' Market.

*Photograph by Lynn Ketchum,
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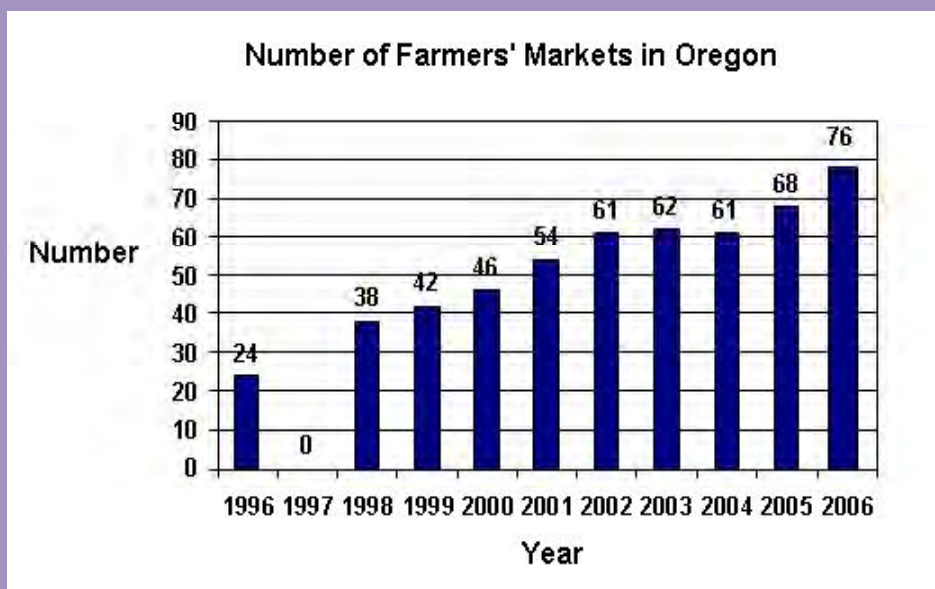
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Farmers' Market Season Begins

By: Garry Stephenson

The picture on the cover is a reminder that spring is here and our local farmers' markets begin operating soon. These markets are an excellent source for locally produced fresh vegetables, fruits, cheese and other processed products, flowers, bedding plants, and more. The customers that shop a farmers' markets support farmers that are their neighbors and also support their local economy by keeping the dollars they spend local.

Farmers' markets in Oregon and across the United States are experiencing exceptional popularity with consumers and growth in numbers. For instance, 76 markets operated in Oregon during 2006. This is an increase of over 50 markets since 1996. Nationally, farmers' markets have been growing at a similar pace numbering over 4,385 as of 2006, an increase of about 2,000 markets since 1996.



* No market count for 1997.

Small farmers are using farmers' markets and other direct marketing channels to create a new entrepreneurial agriculture that operates independently of traditional wholesale commodity market channels and provides a gateway into farming for those with limited resources. Farmers' markets are a crucial marketing channel for small farmers and they play a key role in local food economies and the social life of communities.

This phenomenal growth also brings challenges. Farmers' markets in Oregon generally are operated independently in individual communities and are funded almost entirely by farmers' fees. This situation makes many markets resource poor. With the increase in number of farmers' markets has come a shortage of farmers that operate in a manner to sell at farmers' markets—particularly at smaller markets in rural areas. Lastly, not all markets are successful and many close. The Oregon Farmers' Market Association (OFMA) and Oregon State University are working through organizational efforts, education, research, and public policy advocacy to enhance the success of farmers' markets in Oregon. To find out more about farmers' markets in Oregon or one close to you, go to: <http://www.oregonfarmersmarkets.org/>

Farm Profile: Long Mountain Farm, Eagle Point

By Melissa Matthewson

Pam and Charlie Boyer raise sheep and hay on 60 acres outside of Eagle Point. Their farm slopes slightly upward toward Long Mountain from Agate Road with barn, house, green pastures and farm equipment scattered around the yard. What is unique about their farm is the way they raise and finish their lambs.



Pam and Charlie have a herd of 30 Dorset/Texel cross ewes and each year, they boast a 200% lamb crop. Since 1992, there have only been two years out of fourteen that their lamb yields have been less than 200%. Their lambs and ewes are fed grass and hay harvested from their tall fescue and white clover pastures. They only feed supplemental corn and soybean meal to the ewes during the last six weeks of their pregnancy and through the first six weeks after birth. They do this to maintain the ewes weight and keep them milking at a high level.

Pam and Charlie rotate their lambs and ewes every three days for six months of the year on four acres. When the forage growth is fast April through July, the animals move through 11 permanent paddocks of high-tensile electric fencing, which is 24" high with three wires. In July when the cool season grasses begin to decline in production, Pam and Charlie add eight temporary paddocks to the rotation in order to extend their grazing season. During the spring, Pam and Charlie hay the temporary paddocks to keep the grass productive and vegetative until the sheep are turned in. In October, the lambs and ewes go out onto the hay fields until shearing and lambing February through April. In terms of design, their paddocks are rectangles—25' wide and 350' long—with an alleyway alongside in which they open one paddock gate to let the sheep in to graze.



Mowing is sometimes required in the 11 permanent paddocks during the spring when the forage growth is highest in order to maintain palatability of the grasses.

Every two years, Pam and Charlie take a soil sample of their fields to assess their nutrient base. In general, they will fertilize their fields if they have the resources to do so, but in some years, they forgo fertilization. Charlie has not seen any short-term effects from not fertilizing in




some years. By adding white clover to their pasture mix, they are assisting with the nitrogen fertilization process. The organic matter content is also high with their mixed species pasture, which in turn promotes beneficial soil organisms. They do not have any weed problems because of their intensive rotational grazing system. They do have to battle creeping buttercup occasionally as it comes onto the farm with the irrigation water. They are able to manage the buttercup with an herbicide, which has been applied twice in fifteen years.

The demand for their grass-finished lamb is very high. As a retirement farm, Pam and Charlie are not interested in expanding their flock, but they do think there are many opportunities for new small farmers to get into producing high quality lamb for the local market. Pam and Charlie direct market 50% of their lamb through word of mouth, which they say they will most likely increase this next year. They sell any remaining lambs to a buyer from the Willamette Valley. In general, Charlie says they have worked out their production and marketing system so that the sheep and hay pay for themselves.



Pam and Charlie became interested in the sheep business back when they were considering a career change and looking for a ranch in the West. Through his work with the US Forest Service and BLM, Charlie observed that on the open range, sheep were easier to manage and if you managed them, their impact on the land was less than other livestock. This led them into an analysis of the costs of raising sheep and found that it would be cheaper and easier to raise sheep than cattle. Talk to Charlie and he will tell you what kind of money sheep can make on a small-scale as compared to cattle.

Over the years, Pam and Charlie have found a farming system that works for them—one that provides enjoyment, supplemental income and keeps their working farm alive and well. When asked what advice he has for new farmers, Charlie suggests "Get involved in training opportunities, and I don't mean going back to school, but talk to other ranchers, go on tours, ask a lot of questions.

See how others are doing it." Charlie recommends choosing an enterprise based on information gathered from ranchers and farmers while learning as much as you can. Raising sheep is a good supplemental business for small farmers and all it takes is a bit of creativity, ingenuity, research and some hard work. 

What's That Moss Doing In My Pasture?

By: Melissa Fery

It's that time of year when we notice, in some cases, more moss than grass growing in our pastures. What went wrong? How can the problem be fixed? Most folks want to know what they can do to get rid of the moss, but the root of the issue goes deeper. Often, moss is a symptom rather than the actual problem.

Simply attempting to kill or remove the moss is a "band-aid approach", or a temporary solution. Ferrous ammonium sulfate or ferrous sulfate are fairly expensive products that can be purchased to reduce and perhaps kill moss in pastures. However, the moss or other weeds will reappear, unless changes in pasture management occur.

The conditions that favor mosses over grass include, shade, damp or compacted soils, low soil fertility, acidic soils or some combination of these conditions. If the pasture is in poor condition, the open space allows for moss to creep in, due to lack of competition from desirable plants. Management that improves the conditions for grass production will in turn reduce the amount of moss in the field.

In general, mosses can tolerate more shade than grasses can. Managing grazing animals to leave approximately 3 to 4 inches of grass in the pasture will encourage a strong root system and provide maximum leaf surface areas to intercept the limited sunlight to manufacture food.



Mossy Pasture in Western Oregon
Photo by Melissa Fery

While mosses will grow in well-drained soils, they grow better in wet soil than some grasses do. Improving drainage of the soil may help. Introducing grasses tolerant to wet soils will also help out-compete moss. Soil compaction, another condition which promotes moss, prevents internal drainage of the soil. When the top few inches of the soil are compacted, movement of air, water and nutrients are reduced for the struggling grass roots. Also, it is more difficult for grass roots to penetrate compacted soil. Reducing or eliminating grazing by heavy animals, like cattle or horses on wet soil will help reduce soil compaction.

Soil fertility is often one of the key factors of moss infestations in pastures. In many cases, providing appropriate nutrients will allow grasses and legumes to crowd

out the moss. Acidic soils also favor moss production. Pasture grasses prefer a soil pH of 5.5 to 6.5. Raising the pH requires adding lime to the pastures. The higher pH will not kill the mosses, but will favor grass growth. To determine the pH of the soil and the source and rate of nutrients needed to promote grass growth in your pasture, take a soil sample and send to a laboratory for a nutrient analysis. For information on how to take soil samples, a list of laboratories serving Oregon and the fertilizer guide for pastures, check out the OSU Extension Service Small Farms soil website at: <http://smallfarms.oregonstate.edu/soils/>

Breaking up large mats of moss and broadcasting grass seed in the bare areas will help grass get a better start. Heavy moss infestations may require renovation of the pasture, including working up the soil, fertilizing and liming according to a soil test and reseeding. More information about pasture renovation can be found in "Pasture and Hayland Renovation for Western Washington and Oregon", available on-line at <http://smallfarms.oregonstate.edu/pasture/>



Moss! Up Close and Personal.
Photo by Melissa Fery

Raising Baby Chicks

By: James Hermes, Extension Poultry Specialist, Oregon State University

As winter begins to warm, the ice and snow begin to turn into the rains of early spring; it is time to begin thinking about replacing some or all of your chickens. Chickens are quite suitable for most small farming enterprises. The birds produce eggs and/or meat for the table and a great nitrogen rich fertilizer for the garden. To have a successful flock, all producers, large and small must follow a few simple rules for years of productivity and enjoyment.

First, each producer must consider the reason they are producing chickens. Are they to produce eggs for the table or maybe for sale? Or maybe you plan growing some birds to process, freeze and store so the home grown fryers can be enjoyed all year. Some growers are interested in fancy breeds while others just want a few chickens, any breed or cross will do.

Breed choice can make or break a beginning poultry producer. The wrong breed could increase costs and reduce productivity. So, breed consideration is important. For those that just want a few chickens, most any breed will do, however, one must realize that the exotic (uncommon) breeds tend to have poor egg production, poor meat production, and higher mortality compared to the common breeds and crosses.

Egg breeds:

Most small flock producers desire chickens that produce brown shelled eggs. While there is virtually no difference between white and brown shelled eggs, since the egg industry produces mostly eggs with white shells, they are perceived as more like farm eggs.

Most breeds produce eggs with brown shells. Of these, the best choice for novice poultry producers would be on of the American heavy breeds, Plymouth Rock, New Hampshire, or Rhode Island Red. Even better would be "Production Reds" or "Sex-Links". These latter two come from the heavy breeds but are generally hardier and more productive than their pure-bred cousins. Chicks of these breeds are readily available from the local feed store or by mail-order. (Purchasing chicks by mail has been done for many decades and is quite safe to do.)

Poor choices for egg producers would be the exotic pure bred birds like Polish or Cornish. These birds while striking in appearance are poor producers. White Leghorns, while being excellent producers of white shelled eggs, have a flighty, skittish personality, not particularly suitable for small flock production. And

Cornish cross, or broilers, should be reserved as meat producers. Their large size, fast growth rate, high feed consumption, and poor egg production should keep them out of your egg flock.

Meat breeds:

While any chicken can be used for meat, the best yield by far will be from the Cornish Cross or Broiler. For decades these birds have been selected for fast growth and maximum yield at which they excel. If a breed other than the Cornish cross is desired, then the American heavy breeds can suffice, however the cost of production, quality and yield will be poorer that when producing Cornish cross.

Preparing for chicks:

They should be grown on the floor with some form of bedding. Chicks will require at least 2 square feet of floor space each, more space will give them more room to grow, and will keep the bedding cleaner. However, too much space during the early days of the grow period will encourage the birds to wander far from feed and water. Sawdust (not the type that is fine particles) or shavings is



the best, especially for a small group of birds. These bedding materials are readily available at any feed or farm store. If you intend on using

bedding other than shavings or sawdust it should be soft, dry, clean and without any molds. Grass seed straw is adequate as long as it is not moldy, and chopping the straw dramatically improves its usefulness as bedding.

Start with about 4 to 6 inches of clean bedding on the floor. **DO NOT** put the chicks on a slick floor such as newspaper or cardboard as this can result in spraddles, a dislocation of their hips that can not be fixed.

Make sure that the birds are not exposed to drafts. A brooder ring, or draft shield, a solid wall (cardboard) of

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Estimating Nitrogen & Dry Matter From Cover Crops

By Nick Andrews

Cover crops are used by many farmers, but very few know how much nitrogen (N) or dry matter they are getting from their cover crops. There are some methods in the literature for estimating cover crop contributions. We are evaluating these methods in on-farm WSARE-funded trials in the Northern Willamette Valley to find the most practical and accurate method for use on farms. The vast majority of research in this area has been done with single species cover crops. Since farmers in Oregon often use cover crop mixtures, we are evaluating these methods on mixtures chosen by the farmer collaborators. The three methods described below provide different approaches you can use to evaluate N and dry matter contributions from your cover crops. At the end of the project we will report how they worked for us.



Jim Hinsvark drills cover crops for the SARE trials between his berries.
Photo provided by Nick Andrews

OSU's publication *Using Cover Crops in Oregon* (EM 8704: <http://extension.oregonstate.edu/catalog/>) describes how to measure the fresh weight of a cover crop to get estimates of N-contribution. This method is based on years of research with single species cover crops in the Willamette Valley. The % N in several legume species was tested and conversion factors were developed to simplify estimates the N contribution of a cover crop based on fresh weight of the cover crop. To use this method, cut the leaves and stems from representative 16 ft² sections in your field. This should be done when the canopy is dry but not wilting. Weigh the fresh cover crop and multiply by the conversion factor for your species (table 1) to estimate total N, they recommend dividing the answer by 2 to estimate the lbs N/acre that will be available to the subsequent crop. One challenge using this method is that cover crop canopies are often wet during the spring. The method relies on rough estimates of %dry matter and %N in cover crops that can vary under different moisture regimes and at different growth stages.

Table 1. N factor for various legumes (EM 8704)

Cover crop	N factor
Austrian winter pea	8
Crimson clover	5
Fava bell bean	9
Hairy or lana vetch	9
Karridale subclover	6
Kenland red clover	10

Marianne Sarrantonio's *Northeast Cover Crop Handbook* (1994) describes an entirely different approach to estimating cover crop N and dry matter contributions based on canopy height and % ground cover. This method uses look up tables found in the book that we have not reprinted here. To measure % ground cover one needs a strong piece of cord about 27' long. Every 6" for 24 1/2' draw a thin band around the string with a permanent marker (making

50 bands). Tie each end of the string to a stake and stretch the string tightly across the cover crop. Then walk next to the string and look straight down to count the number of points directly above or below any part of a cover crop plant. Repeat this once in an area and add the two numbers together to get the estimate of % ground cover, and record an estimate of average canopy height. This

procedure should be repeated in at least 3-5 representative parts of the field. Next, use the look up tables published in the *Northeast Cover Crop Handbook* (pp. 31-34) to find an estimate of the dry matter contribution. Finally, use the table on pg. 41 of the book to estimate the %N in the dry matter to estimate total N contribution. Remember to divide this value by 2 to estimate plant available N.

A third method, also described in the *Northeast Cover Crop Handbook* uses laboratory forage analysis for total %N and % dry matter analysis. If the lab only reports results as % crude protein, divide this value by 6.25 to estimate total %N. In our project we are cutting the cover crop from representative 4ft² quadrants in the cover crop stand. Be sure to take at least 3-5 samples from a field. Record the fresh weight of the 4ft² sample, remove a representative subset of the sample and record the fresh weight. Immediately send the samples to the laboratory for analysis. The following formulas will help you convert the lab results into estimates of lbs dry matter/acre and total N/acre contributed by the cover crop.

- Total lbs dry matter/A = 4ft² quadrant fresh weight x % dry matter x 10890
- Total lbs N/A = Total lbs dry matter/A x %N
- Estimated plant available N = (Total lbs N/A) / 2

The final method we are using in the WSARE trials involves separating each species from the 4ft² quadrant to test them separately. This will allow us to get more accurate estimates of the proportion of each plant in the mixture. We will compare the results of the three simpler methods to this more labor intensive method to find the most accurate and practical method for estimating cover crop N and dry matter contribution from multi-species cover crops on farms. In the meantime, you can choose the method that best suits your situation. Be aware that all these methods can only provide estimates of cover crop N and dry matter contributions, but they are likely to be more accurate than guesswork. *✍*

A Burrowing Pest: Controlling Gophers on Your Small Acreages

By Melissa Matthewson

Gophers are useful animals in the wild as they aerate the soil, eat insects and mix surface soil layers, but they are a nuisance on the farm when conflict surfaces between the farmer and the gopher over land use. Their economic impact on the farm can be enormous from damaging roots of fruit trees to tunneling through hay fields.




Gophers spend most of their time building extensive burrow systems, which are 4 to 12 inches underground and contain over 500 tunnels. The gopher mound is a unique shape, which extends laterally across the surface in the shape of a fan with plugs or dents placed at the end of the pile. These mounds can range from 12 to 24 inches in diameter and 4 or more inches in height.

Trapping is an effective non-toxic control method on small acreages. The most common type of gopher trap is the u-shaped, spring-type Macabee trap. Find the main runway of the tunnel by poking around in the fresh mounds. You know you have found the main runway when the probe sinks 4 to 12 inches into the ground. It is important to locate the main runway as gophers may not return to lateral tunnels for some time. Dig an opening into the tunnel and place two traps. Attach a wire to each and anchor with a flag for relocation. Leave the hole open as the gopher will return when he senses his burrow has been disturbed. When he comes back to cover the hole, the gopher will trip the trap. The best time to trap is in the fall and spring when gophers are most active. Check traps often and reset when necessary. If you do not catch a gopher within a few days, move the trap to a different location.

Using barn owls to control gophers is an option as well. Installing barn owl boxes will encourage barn owls to make their home on the farm. While barn owls prey on gophers, their habit is to range far from their nesting boxes, so using them as your main control is somewhat unreliable. When a single gopher is damaging an entire farm or crop quickly, quick fixes like trapping or baiting are necessary.

Poison baits are also available for gopher control,

but the small farmer must take precautions not to affect other animal populations. Gopher baits contain strychnine and are very effective, but they can also be harmful to hawks, seed-eating birds, owls, and mammalian predators and scavengers including bobcat, foxes and coyotes. When applying bait into a main runway tunnel, make sure not to spill any on the soil surface and close up burrow holes after application. Make three to five bait placements per cluster of fresh mounds. Bait in the spring when gopher food is in low supply.

There are several other methods for controlling gophers including flood irrigating, exclusion, habitat modification and tunnel blasting, but trapping and baiting are the most common. For more information on gopher control as well as vole, mole and squirrel control, go to the OSU Extension catalog for publications on all of these small farm pests. 

Sources: *Controlling Pocket Gopher Damage to Conifer Seedlings* OSU EC1255, *Controlling Pocket Gopher Damage to Agricultural Crops* OSU EC1117, *Pocket Gophers* UC Pest Notes 7433

Goats on Small Farms

Plan on joining other small acreage farmers to learn more about opportunities to integrate goats as part of their business and land management strategies.

Speakers will include:

- + Dr. Aurora Villarroel, OSU Extension Service Veterinarian
- + Linda DeHart, Oregon Meat Goat Producers
- + Melissa Fery, OSU Small Farms Extension Agent
- + Local goat producers



The workshop will be held Thursday, June 7, 2007 from 3:00 to 8:00 p.m. at the Linn County Extension Service. A cost of \$15 per person includes a light dinner and educational materials. **Registration materials will be available on-line at <http://smallfarms.oregonstate.edu/> or by calling (541) 766-3556**

Photo provide by Melissa Fery

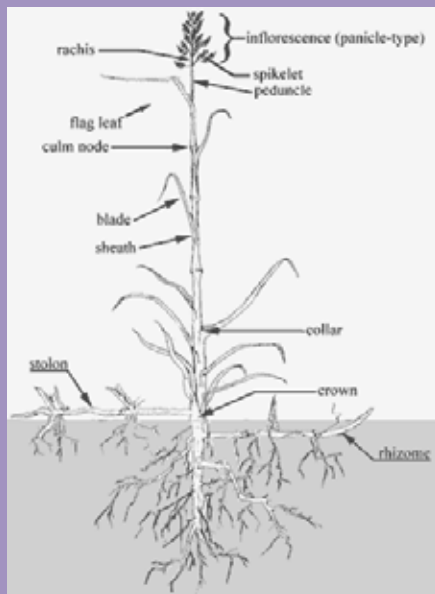
Fertilizing For Hay Production

By: Sam Angima

Forages and all green plants require moisture, nutrients, heat, and light for growth. To make hay, you need good nutrition to maximize on productivity and quality of the final product. You might want to treat hay fields and pasture fields differently in terms of when you apply fertilizers especially nitrogen even when soil test results are the same. To see how this works first let us look at the grass plant. In spring, all perennial grasses grow from the crown that developed the previous year. Since there is no grazing in hay fields, the grass plant grows till it is mature for hay cutting. When there isn't enough nutrition, you may end up with just one plant per crown and several weeds, however, when you supply plant nutrients at the proper time, the crown develops new tillers that fill up the space and hence gives you more hay at harvest time. Manipulating this nutrition the right way will maximize on hay produced.

Initiation of plant growth in spring is regulated by temperature and light. Phosphorus and potassium that form half of the macronutrients needed for plants aid forages in new root development, building of new cell walls, energy metabolism & conversion, and development of new enzyme systems. These two nutrients should be applied as per the soil test results whenever it is physically possible (with all our winter rains) to go out in the field. Sulfur and boron should be applied in the spring if deficient.

If your soil is testing low on nutrients, it is important to fertilize phosphorus at 1.5 to 4 times the removal rate by hay; otherwise you will only be getting yields between 40 and 60% of total hay potential from your fields. Hay generally removes between 8-16 lbs P_2O_5 /acre for one ton of hay (depending on your soil type). Optimal rates of phosphorus also increase leaf content of magnesium and calcium further enhancing photosynthesis and the quality of hay. Nitrogen use efficiency is also significantly increased by P fertilization.

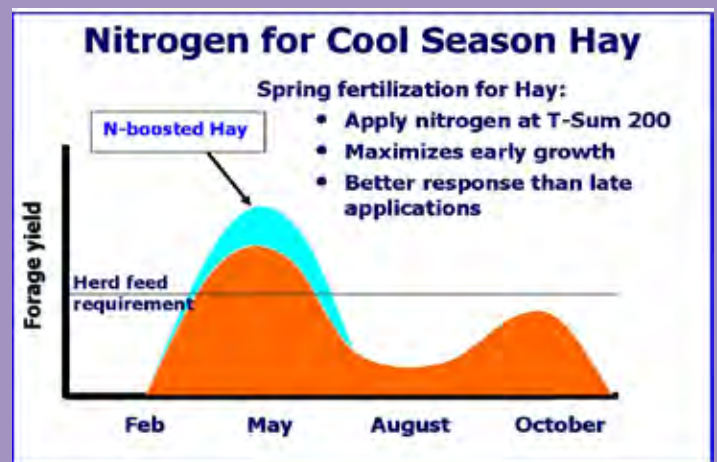


Vegetative Structures of a grass plant

Optimal soil phosphorus level in your soil should be about 46 lbs/acre. Potassium on the other hand should be applied at the removal rate.

Nitrogen, however, requires some timing and proper manipulations to get good yields and reduce losses. This is because nitrogen serves two important functions. These are to manipulate population (increasing tiller numbers) and to supply the nutritional needs of the crop to produce protein. It should be noted here that small amounts of nitrogen will increase early growth but when nitrogen is depleted, the resultant hay will be low in proteins (measured as total digestible nutrients – TDN). So how much nitrogen should you apply and when should you apply it? I highly recommend a soil test since there are many different soils in Oregon. Any-one figure for one region will be misleading to other areas. Timing wise, for the Pacific Northwest, we use the T-Sum 200 guidelines that use cumulative temperature measurements. The T stands for temperature, and 200 accumulated heat necessary for grass growth to begin on the basis of plant physiology. The OSU calculator (<http://ipcc2.orst.edu>) gives you current cumulative temperatures around the state for your area. For details on how to individually calculate T-Sum 200, get the OSU guide EM 8852 at <http://extension.oregonstate.edu/catalog/pdf/em/em8852-e.pdf>. Scroll to page 4-5 and follow the procedure outlined.

After applying nitrogen at T-Sum 200, it takes anywhere between 1-2 weeks for plants to start responding giving a flush of growth. At this point, nutrients stored in the root system are made available for tiller development and growth. I would recommend applying only a quarter to



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Resources

Targeted Grazing: A Natural Approach to Vegetation Management and Landscape Enhancement, A handbook on grazing as a new ecological service

A new handbook from the University of Idaho focuses on using sheep and goats to manage vegetation and enhance landscapes was recently completed. It is a collaborative effort by researchers, educators, and producers from across the United States. The handbook covers topics such as using targeted grazing to control invasive species of weeds and using sheep and goats to create fire breaks. It also includes grazing prescriptions that can be used to target specific plant species and examples of how sheep and goats are being used to manage vegetation. It is available online at: <http://www.cnr.uidaho.edu/rx-grazing/Handbook.htm>

Whole Foods Market Local Producer Loan Program

Whole Foods Market has begun a new initiative that will make \$10 million available each year for low-interest loans to small, local agricultural producers. To qualify, producers must: meet Whole Foods Market's quality standards and animal compassion standards; and have a viable business plan and adequate cash flow to service debt. For more information: <http://www.wholefoodsmarket.com/products/locallygrown/lplp/index.html>

Directory of Flower and Herb Buyers

A listing of 37 companies that who want to purchase directly from growers and wildcrafters the more than 400 species of floral and herbal botanicals including roots, leaves, blossoms, nuts, seeds, fruit, barks and more. Available from Prairie Oak Publishing, 221 S Saunders St, Maryville MO 64468, 660-541-1040. (From: Ag Opportunities—Missouri Alternatives Center, February 2007)

Resource Guide Helps Get Local Foods into Low-Income Neighborhoods


The Institute for Agriculture and Trade Policy has published a new resource guide to help community leaders address public health issues associated with poor diets and food insecurity in low-income neighborhoods. *10 Ways to Get Healthy, Local Foods into Low-Income Neighborhoods: A Minneapolis Resource Guide* provides a number of useful ideas and creative approaches, as well as links and other resources, that can help officials get started with programs that increase low-income access to local, healthy foods. The publication is available at: <http://www.iatp.org/iatp/publications.cfm?accountID=258&refID=97319>

[From: ATTRA Weekly Harvest 2007]

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half of the recommended nitrogen at this time because of the possibility of leaching as plant growth is still restricted. Depending on your location, you may then apply the second half of nitrogen 30-50 days later to reinvigorate and flush up all tillers that have so far developed. This also coincides with warmer weather that fully gives the plant the opportunity to grow into healthy hay plants.

Harvesting of hay should ideally be done at boot stage. As grass hay matures, forage quality drops rapidly. Research has shown that crude protein content declines rapidly between boot & mature seed stages. Crude protein levels in well fertilized hay harvested at early heading, range from 10 to 18%, but drop rapidly after heading to about 8%. Decreases in crude protein levels by as much as ½ % per day after heading have been recorded. In Oregon, it is sometimes impossible

to harvest hay due to wet weather but any break in the weather that gives you a chance to harvest at or near this physiological period will ensure good quality hay. After harvesting and before selling or feeding your hay, it is a good idea to run a forage test to get nutrient composition of what you harvested. Forage testing is also recommended even for those who buy hay to feed their livestock. Laboratories that perform hay testing for Oregon can be found at <http://extension.oregonstate.edu/catalog/html/em/em8677/>. To interpret your hay test results consult Oregon State University website for Hay testing terminologies and meanings at <http://extension.oregonstate.edu/catalog/html/em/em8801/> 

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between 18 and 24 inches in height, encircling the chicks will keep drafts away from your chicks. The ring will also serve to keep the birds confined close to the heat, feed and water. A draft shield is especially important if the birds will be kept in a barn or shed. The brooder ring can be removed after a couple of weeks, or sooner depending on conditions.



Temperature management:

The chicks will need supplementary heat for the first few weeks to survive and grow properly. For a small flock of birds the most economical method of providing heat is heat lamps. One or two, 250 watt, heat lamps are adequate.

Note: If only one heat lamp is used, watch that it doesn't burn out, with two, there is a backup. For best results, use red heat lamps because the white heat lamps may encourage the birds to pick the feathers of pen mates.

The temperature should be measured at chick height about 12 in. from hottest spot, usually directly under the lamp. The temperature should be 95 F for the first week and reduced 5 degrees per week until ambient temperature is reached, or until the birds are fully feathered. It is better to leave the lamp(s) on longer than removing them too soon. Temperature is adjusted by raising or lowering the lamps.

IMPORTANT NOTE: Please do not allow the heat lamps to contact any combustible materials, bedding, draft shield, etc. These lamps can become very hot and could cause a fire.

Another method of temperature management is to watch the birds; they will tell you if they are too hot or cold. If they are cold, they will be huddling under the lamp, chirping loudly, lower the lamp until this behavior ceases. If they are hot, they will be as far from the lamp as possible. Ideal temperature is reached when the birds appear to be acting normally, some eating, some drinking, some sleeping, etc. In addition, when they lay down to sleep they should form a "donut" around the heat lamp with the hole directly under the lamp. It is imperative that there are both warm and cool areas in the enclosure. If the birds get too hot, they will move to a cooler spot and visa versa. If this option is not available to the chicks, they may become chilled or overheated.

Feeding:

Begin feeding a chick starter diet which contains about 20% crude protein. (If Cornish cross type chicks are grown, feed a starter formulate for meat type chickens). This diet should be fed for about 6 weeks then switch to a grower/developer diet (Meat birds can remain on the starter until slaughter.). At about 18 to 20 weeks of age, they should be fed a layer diet which contains about 15 or 16% protein and 3 to 4% calcium. Be sure to feed only fresh feed,

no more that 4 weeks old, and keep feed available to the birds at all times. Feed your birds from feeders, a couple of small troughs early and larger troughs or hanging tube feeders later. For the first few days you may want to place paper towels in the brooding area and sprinkle some feed on the towel. This will encourage the birds to begin eating. At all ages, provide enough feed space so that all of the birds can eat at the same

time. Limited feeder space can contribute to increased back scratches and reduced growth rate.

Feed supplementation is not suggested as this practice will usually cause slight nutritional deficiencies. All of the nutrients that these birds require are in the diet you purchase. Supplementation with scratch, table scraps, garden trimmings, grass, etc. only serves to dilute their nutrient intake resulting in poor development. If you must supplement their diet, feed only what they will clean up in about 15 minutes.

Water:

Provide clean fresh water daily. Use one or two gallon jug waterers, or drinkers, for the first week or so, and spread them around in the enclosure so there is more than one place the birds can find water. It is a good idea to put the drinkers on a small piece of cardboard or wood which raises the trough above the litter preventing the litter from being kicked into the trough. Drinkers should be cleaned daily, especially during the brooding period. This does two things, first it keeps things clean and secondly, it keeps the water cool. Birds do not like to drink warm water. Larger tank waterers or automated water systems can be used as needed when birds get older.

Picking:

If you begin to observe your birds picking, or you notice localized feather loss on any of your birds; back, tail, back of the head, etc., you must take measures quickly. The best way to stop this is to trim your birds beaks. Using a dog nail trimmer, or toenail clipper, remove about 1/4 or the upper beak on all of your chickens. This will stop the picking. You will not loose points during judging if the birds have trimmed beaks, but feather picked birds will loose points. Be observant.

More detail can be found in a couple of OSU Publication: PNW 477 *How to Feed Your Laying and Breeding Hens* PNW 491 *Brooding and Rearing Baby Chicks* 🐣

Oregon's Pesticide Use Reporting System Started

January 2007 By Sunny Jones, Oregon Department of Agriculture,



The Pesticide Use Reporting System (PURS) passed by the 1999 Oregon Legislature (Chapter 1059, Oregon Laws 1999) requires all users to report pesticide use online. The term "pesticide" is often misunderstood to refer only to insecticides but it also applies to herbicides, fungicides, rodenticides and various other substances used to control pests. Defined in statute, a pesticide user is "any person who uses or applies a pesticide in the course of business or any other for-profit enterprise, or for a government entity, or in a location intended for public uses or access." This covers the agriculture and forestry industries, government agencies, utility companies, pest control companies, and landlords and managers of rental property, motels, hotels, restaurants, stores, etc.

One common question is what qualifies as a farm? In determining if you are required to report pesticide applications made on your farm, ODA is using the USDA definition of a farm: any place from which \$1,000 or more of agricultural products (crops and livestock) were sold or normally would have been sold during the year under consideration.


Another common question is are organic products pesticides and do I have to report them? The answer may be yes! There are a number of EPA registered products allowed for use in organic production; such as, boric acid, lime sulfur, horticultural oils, coppers and insecticidal soaps, to name a few. The basic answer is if a pesticide product has an EPA registration number on the product label and it is not an antimicrobial, then that pesticide product needs to be reported into PURS.

ODA has developed a Web site for users to submit their pesticide use information. In order to fulfill the confidentiality requirements of SB 290, ODA separated the system into two databases. One database retains reporter's demographic information while the other

database contains pesticide use reports. The PURS databases have been available since January 2007 to receive reports of pesticide use in 2007. Any pesticide use prior to 2007 does not need to be reported to PURS.

Worksheets posted on the PURS Web site clearly identify the required information. Additionally, in order to better serve users, PURS Help classes have been scheduled in various locations around the state. At the PURS Help classes, ODA staff will be on-hand to provide one-on-one assistance in registering and filing one or two reports online. Users need to bring their application records with them to take advantage of these classes.

PURS is to be a comprehensive, statewide system. With that in mind, an additional component is households. A specially designed Household Pesticide Use Survey, including a phone survey and three month "use diary," is being utilized to obtain information from over 250 new households each quarter across the entire state. This survey is designed to be representative of household use throughout Oregon rather than just large metro areas. Because this component did not require the web system, data for 2006 was collected and will be available in the 2006 Annual Report. The Household Use Survey is on-going through 2007.

If you have questions or need additional information, visit the PURS Web site at http://www.oregon.gov/ODA/PEST/pus_index.shtml or call the PURS Information Line at 503-986-6472 to speak with staff working in the PURS system. 

3rd Annual - Washington State University Women & Agriculture Conference

March 23 - 24, 2007

The 3rd annual Statewide Women & Agriculture Conference, Cultivating Our Reality, will be held on March 23 - 24 in East Wenatchee, Washington. The conference is being conducted by Washington State University Extension to give women the tools and information they need to help their family farm operations and agribusinesses succeed. The conference begins with a social and networking event on Friday evening followed by a full-day of featured speakers and workshop sessions on Saturday. For conference program and registration information, visit the web site: <http://www.ncw.wsu.edu/> and click on Women & Agriculture Conference. WSU Extension is sponsoring the event in cooperation with the WSU Western Center for Risk Management Education, Chelan/Douglas County & Washington State Farm Bureau, COUNTRY® Insurance & Financial Services and more than 40 other businesses, lenders and commodity groups.

13 Strategies to Reduce Direct Marketing Risks

1. Carefully evaluate your options before investing.
2. Grow, pack and deliver quality products.
3. Know your potential. Make realistic customer and sales projections.
4. Pick the right size market for the size of your operation.
5. Be intentional about your marketing. Have a written plan.
6. Dedicate yourself to being professional in meeting buyers' needs.
7. Communicate with customers and exceed their expectations.
8. Be prepared to conform to market place standards.
9. Sell through several complementary marketing channels.
10. Track marketing costs by channel. Know costs and returns for each.
11. If sales aren't covering costs, change your strategy.
12. Don't stick with unreliable buyers.
13. Carry adequate product and general liability insurance.

(Adapted from: Small Farm Quarterly, January 2007)

Nutrient Management for Blueberries in Oregon

A new publication available through OSU Extension Service publication addresses nutrient management of northern highbush blueberries in western Oregon. Where data are available to support management differences by blueberry type, this information is provided.



The following questions are addressed in this publication. How much fertilizer should be applied? When should the fertilizer be applied? What source of nitrogen should be applied? What method of application should be used?"

The publication is available on-line at <http://extension.oregonstate.edu/catalog/pdf/em/em8918.pdf> or by contacting your local Oregon State University Extension Service Office.

Understanding Farmers' Market Rules Booklet Available

Farmers' Legal Action Group, Inc. (FLAG) of Minnesota has released a new booklet entitled Understanding Farmers' Market Rules. The booklet contains important legal information for farmers who sell their vegetables, fruits, flowers, meats, and other foods at farmers' markets. FLAG wrote the booklet to help answer questions it received from farmers. Farmers' markets are especially popular among beginning farmers, immigrant farmers, specialty crop farmers, and limited resource farmers. Many farmers who are interested in direct marketing and value-added agriculture begin by selling at farmers' markets. Because farmers' markets appeal to new farmers and to farmers with little direct marketing experience, there is a greater need for information for farmers to turn to when they have questions. The booklet is intended to help farmers understand their responsibilities and rights as farmers' market vendors. FLAG attorney Jill Krueger notes that, "Even though the details of the rules may be different from market to market, there are a few commonly used rules of the market that most often give rise to misunderstandings." The focus of the booklet is on preventing problems by improving understanding of market rules. But the booklet offers practical suggestions farmers can follow to try to resolve any problems that may arise. It also gives ideas on how to learn about other requirements that may apply to sales at a farmers' market. In addition to market rules, a market vendor's rights and responsibilities may also be governed by federal, state, and local laws. A free copy of the article can be requested by calling FLAG's office at 651-223-5400. The article can be also downloaded from FLAG's website at: <http://www.flaginc.org/topics/pubs/arts/FarmersMarket.pdf>

Calendar

March

16 to 18 - Guinea Fowl Breeders Association Convention

This event is hosted by Penn State University, and offers programs and demonstrations on guinea fowl research, reproduction, processing, and more. Guinea fowl are touted as one of the world's best non-pesticide bug and weed control options. State College Pennsylvania For more information: <http://www.gfba.org/convention/>

21 - Reproduction of Beef Cattle

Topics include Bull Evaluation & Testing, Reproductive Diseases, Biological Cycle of a Cow, Calving Interval, Calf Weaning Strategies, Reproductive Physiology & Anatomy, Nutrition, Cow Body Condition, and Reproductive Efficiency. Evelyn Downing Room, Linn County Extension Office, Albany, OR 97321. For more information visit <http://extension.oregonstate.edu/douglas/L&F/pdf/2007/beefreproalby07.pdf> \$25

April

1 to 4 - National Farmworker Conference

"Sowing the Seeds of Success: Harvesting the American Dream" is the theme for the National Farmworker Conference, which has a special Latino Farmers and Ranchers track. The event addresses Latino-related issues as well as farmworker programs and services. San Antonio, Texas. For more information: <http://www.mafofarmworker.com/2007/quick2007.pdf>

20 to 22 - Draft Horse & Horsesdrawn Equipment Auction

This annual auction sponsored by Small Farmer's Journal offers a swap meet, networking and educational opportunities, as well as the opportunity

to purchase hard-to find horsedrawn equipment. Sisters, Oregon. For more information: http://www.smallfarmersjournal.com/.docs/pg/2006_auction.html

April

7 - Celebrating Water

A free, fun, family event to celebrate water with informational booths, speakers, and hands-on activities for kids. Gregory Forum, 19600 S. Molalla Ave. Oregon City, OR \$0

9 - Exploring Cheese and Introductory Cheese Making Class

Instructors Marc Bates, Sarah Masoni, and Lisbeth Goddik. This course introduces principles of cheese making and will include a cheese tasting. 8:30 am – 4:30 pm, Valley River Inn. Eugene, OR To register please go to: <http://www.wsu.edu/creamery/education/registration.htm> \$79.

June

7 - Goats & Small Farms

Join other small acreage landowners to learn about opportunities to integrate goats as part of your business and land management strategies. Speakers include representatives from Oregon State University Extension Service and the Oregon Meat Goat Association. For registration forms visit <http://smallfarms.oregonstate.edu> or contact Chrissy at (541) 766-3556 \$15

Want to add your event to our calendar, please submit your information <http://calendar.oregonstate.edu/20070421/extension-smallfarms/>

