



Oregon Small Farm News

Oregon State University Small Farms Program

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Cover Photo:

An autumn view of SweetWell Farm from its market garden. Located near Scio, the farm is owned and operated by Lise and Ellen Hubbe and Nancy Sowdon. Embracing the spirit of small scale farming, SweetWell Farm integrates a variety of pasture-based livestock enterprises with vegetable gardening. Draft horses perform many of the farm's chores.

Photo by Garry Stephenson

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The First Issue

By: Garry Stephenson

This first issue of *Oregon Small Farm News* is the beginning of a big future. It is produced for you by the Oregon State University Extension Small Farms Program. It will include information by OSU faculty and researchers, farmers, experts from other universities and agencies along with non-government organizations interested in small farms and our food system. *Oregon Small Farm News* will be published online quarterly. In about a year we will evaluate how valuable readers think it is.



Small farms faculty pose during historic first program meeting, March 2006. Back row (L-R): Garry Stephenson, Sam Angima, and Nick Andrews. Front row (L-R): Melissa Matthewson and Melissa Fery.


The OSU Extension Small Farms Program consists of six core faculty members (the sidebar lists their names and locations) plus other faculty from OSU that are interested in small farm programming. Currently, individuals are assigned to the north Willamette Valley, south Willamette Valley, southwest Oregon, and Lincoln County. A position in central Oregon is in the works. There are needs for positions in other areas too, such as the central Willamette Valley.



Small farms program assistant Chrissy Lucas identifies grasses during a forage training

Like the OSU Extension Small Farms Program, *Oregon Small Farm News* concentrates on both commercial small farm entrepreneurs as well as non-commercial small acreage landowners. Our focus embraces organic/biological and conventional farming systems and emphasizes three areas:

- **Small Acreage Stewardship**
Addressing enterprises, land management and soil and water quality for non-commercial small acreages.
- **Commercial Small Farms—Entrepreneurial Agriculture**
Addressing high value horticulture, livestock and poultry, and alternative crop production emphasizing organic and pasture-based systems and specialty and niche production. Value-added product development is often integral with production.
- **Community Food Systems**
Address alternative and specialty marketing through creation and enhancement of local and regional food systems and farm direct marketing channels.

Basically, our overall goal is to change the world. We live by the advice of Basil King, the Canadian clergyman who said, "Be bold and mighty forces will come to your aid." Small farmers are a mighty force in Oregon. 

Top Ten Things I Learned from Buying a Small Farm

By: Melissa Matthewson

Most recently, my husband and I purchased a small farm in southern Oregon—ten acres in the Applegate Valley, a mixture of pasture, woodland, hills and weeds. We were delighted when we went into escrow and could not wait to be on the land mapping out our ideas and dreams. We did not expect the process to take six months and turn into an arduous and exhausting real estate bonanza. Despite the work it took to land the property and receive the warranty deed in the mail, I have learned a tremendous amount about buying a small farm and in turn, it has helped in my work as a small farm extension agent. Many of the inquiries I receive are from people who are interested in buying a farm (or who already own one) and they do not have the knowledge necessary to make appropriate decisions. Now, I have experience and knowledge to draw on when I give advice. I was in the same boat as many new landowners when I started, but it was only because of due diligence that we were able to work out many of the hidden challenges that went along with buying a small farm. Here are some of the things I learned along the way.



Photo by Melissa Matthewson

10. Find a Quality Farm/Rural Land Real Estate Agent

Many real estate agents are knowledgeable only about city property and turnkey house buying, so find an agent who knows about farming and the details that are important like soil types and water rights. A good real estate agent will take the time to seek out critical information and guide you in decisions regarding zoning, easements and other complicated issues. Rural real estate is complex, so finding a good agent experienced in land purchasing is a necessary investment.

9. Proximity to Markets

How close is the farm to your local markets and distribution channels? If you have to drive fifty miles before you reach your local farmers' market, is it worth the cost, energy and time associated with the distance? Are there other farms in your neighborhood that also have to make the commute?

8. Land History—Cultural and Physical

What sort of people lived on the land and what are the stories associated with the buildings? For instance, our farm is the location of an old ghost town, an early stopping place for horse teams that found its place in our pasture and on our hills. See if you can find out about the previous land management practices. From a local neighbor, we learned the history of the water usage, flood irrigation, cattle and hay ground. As well, scratched into a cabinet door in the barn, we found an old recipe for mixing DDT—"good for lice and flies." The stories we inherit with the land influence the way we engage with it.

7. Infrastructure

Is there a barn or other outbuildings on the property? Does the farm come with any equipment or fencing? It is important to know what your investment will be once you buy the place, i.e. will you have to fence the pastures or build a barn? Our farm came with fenced pastures, a barn, irrigation pumps and seasoned firewood. These are all assets to your new home and workplace.

6. Site Evaluation

If possible, visit the farm a couple of times while in escrow to evaluate the site for your farming purposes. Check the slopes on the land, which will in turn affect your management options. Does the farm have good sunlight exposure? Is the farm located in a high valley that has its own microclimate? What about flood zones? If you are thinking you want to grow fruits or vegetables, you'll want to know that you have solid ground with access to full sunlight for production of your crops.

5. Easements/Encumbrances

Make sure you read the entire title report and the full attachments that go along with it. Get your title officer to explain any incongruities. After reading through our title report, we found a number of confusing easements included with the land that required review by a lawyer. Typical easements include road, power and irrigation easements. Know who can come onto your property and to what extent. Hire a lawyer if need be. The fewer surprises you have after you close, the better.

4. Neighbors

Neighbors are an important asset to country living. Make sure you try to meet your neighbors beforehand, if possible, and get on good footing before you buy. A neighbor who does not like you from the beginning will end up being a thorn in your side. On the contrary, a good neighbor is indispensable in the rural setting. There *will* be times when you need them.

Top Ten Things continued on page 4

3. Tax Status & Zoning

What are your property taxes per year? What is the farm's zoning class? We ran into big problems on this front. According to local zoning laws, our farm is exclusive farm use, which means the farm falls into a special tax assessment program, which has us paying less property tax per year than other properties. This special tax, of course, is dependent upon active farming. Unfortunately, the previous landowner had stopped farming the property and the farm fell out of the tax program. We can reapply for the special tax assessment as long as we prove that we are farming the property once again. In general, it is tough to permanently lose the special farm tax status unless some drastic changes were to occur on your land. The lesson is to check in with your county tax assessor to see where you stand and know the limitations for development or use depending on your zoning status.


2. Soils

Accessing your soils information before closing on the farm is also a good idea. The NRCS web soil survey is available online and is very easy to use. You can type in the farm's site address and bring up an aerial map of the property. From there, you can view all sorts of information related to your soils including classification, type, drainage class, and yield data for various crops and livestock (hay, animal units per acre, vegetables, etc.). It is a tremendous resource and important to know what your soil limitations may be before buying your land. Also, if you are interested in organic production, it would be

wise to test your soil for residues and other heavy metals that may inhibit your ability to grow organically. This can be expensive but worth the investment.

1. Water

If you plan on farming, this is by far the most important resource to consider before you buy a farm. Water rights law is very complex and making sure you understand your rights and usage is extremely critical. Talk with the water master in your county. Read the water certificate and understand what it means in terms of usage of water and area allowed for irrigation. Know if your rights are currently valid and active. Landowners must irrigate at least once every five years in order to retain the validity of their rights. Also, what are the water sources on your property? Do you have an irrigation ditch and an association that manages the water? It is also important to know what year your rights date back to. Senior water rights always get the water first. Do you have ponds, creeks, or wells that you are legally able to irrigate from? Many landowners do not know that you can only irrigate up to a 1/2 acre from your well for residential purposes only. Also, what is your drinking water source? If from a well, test your water for metals and other contaminants. Your water may be high in lead or arsenic and treatment may be necessary. By far, the most common problem in rural real estate transactions is when a buyer does not understand the complexity of water law.

In general, do your homework. Use your state and county resources and be willing to spend some extra time and money for peace of mind. Knowledge is everything. 

Resources

Parasite Management for Natural and Organic Poultry: Coccidiosis

Both small and large poultry producers are interested in the sustainable management of the parasitic disease coccidiosis. This new 2006 publication from ATTRA (Appropriate Technology Transfer for Rural Areas) and written by Anne Fanatico (former Oregon State University student) provides information on its life cycle, transmission in free-range production, management in the brooder and on pasture, natural treatments, drugs, and vaccines. On a small scale, coccidiosis can be handled without medication by careful management, especially during brooding, and adequate pasture rotation; however, on a larger scale, it is more difficult and vaccines are an important alternative to drugs in organic production. References and further information follow the narrative. Find it at: <http://attra.ncat.org/attra-pub/PDF/coccidiosis.pdf>

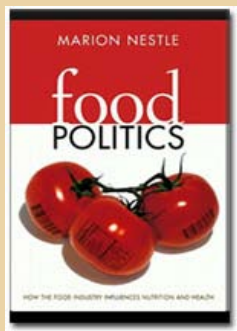
Starting a Pasture-Based Livestock Business: Would It Work for You?

Starting a new business venture requires careful analysis before an investment is made. A new book, *Managing and Marketing for Pasture-Based Livestock Production*, provides fundamental and essential information a producer needs to manage and market a goal-oriented forage-livestock system. How this knowledge applies to a producer's unique situation will help determine whether or not this business venture will be feasible. The first of four books on pasture-based livestock systems to be published this year, this book covers the basics of a forage-based system; sustainability; developing mission statements and goals; resource evaluation; evaluation of the marketplace; and much more. For ordering info, contact NRAES at 607-255-7654, NRAES@cornell.edu, www.nraes.org [ATTRA Weekly Harvest]

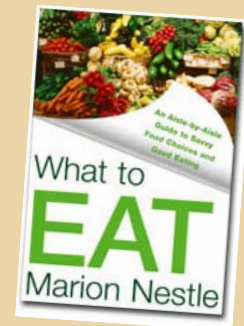
Join Us for the 2007
Small Farms & Farm Direct Marketing Conference
Saturday February 17th
LaSells Stewart Center, Oregon State University

Keynote Speaker is **Marion Nestle**

Marion Nestle is the author of *Food Politics: How the Food Industry Influences Nutrition and Health*, and *What to Eat*. She is Professor of Nutrition, Food Studies, and Public Health at New York University. Her research focuses on the factors that influence federal dietary policy.



"In this fascinating book we learn how powerful, intrusive, influential, and invasive big industry is and how alert we must constantly be to prevent it from influencing not only our own personal nutritional choices, but those of our government agencies. Marion Nestle has presented us with a courageous and masterful exposé." --Julia Child



Workshop sessions include Novel Crops for Niche Markets, Marketing Methods, Soil Fertility Management, Women and Small Farms, Food Policy and More.

Registration is \$30 per person or \$50 for two people registering together.
Lunch including local food and refreshments are provided.

For Registration Materials:

Call 541-766-3556 or 800-365-0201

<http://smallfarms.oregonstate.edu> (registration available mid-December)
Attended the conference before? Brochures will be mailed early January

Sponsored by:

Oregon State University Extension Small Farm Program
Oregon Department of Agriculture

Wait & Lois Rising Lectureship Fund in the OSU College of Agricultural Sciences
Oregon State University Department of Horticulture

Extension Family & Community Development Program, OSU College of Health and Human Sciences

Organic Fertilizer Calculator

A New Planning Tool for Comparing the Cost, Value and Nitrogen Availability of Organic Materials

By Nick Andrews

Choosing between different organic fertilizers can be difficult as their nutrient ratios, nitrogen (N) availability, ease of use, and cost can vary widely. At Oregon State University (OSU) we have developed a fertilizer calculator to help you compare fertilizer cost, nutrient value and nitrogen availability. By calculating these factors up front, you can plan a cost effective program that avoids excessive or deficient fertilizer applications.

The first step to calculating fertilizer application rates is to conduct a soil test to determine soil pH, organic matter and nutrient levels. N management in organic systems is a little more complex than under conventional management, we recommend mid-season soil or petiole analysis to monitor nitrogen availability and uptake.

Version 2		"As-is" basis = weight of % nutrient in product at nutrient level (lb. N/lb. solid or liq. wet weight)		"PAN" = plant available nitrogen		Protection payment = crop								
Instructions: enter your information in yellow cells, results are in green cells														
MATERIAL		FERTILIZER ANALYSIS (%s) (ppm/10,000-%s)												
 Oregon State OSU Donna Beatty	Total % N (from label "as-is") (% of product)	Total % dry matter ("as-is") (% of product)	PAN after 28 days ("as-is") basis (% of Total N)	PAN after full season ("as-is") basis (% of Total N)	P ₂ O ₅ (%)	K ₂ O (%)	Ca (%)	Mg (%)	S (%)	B (%)	Cu (%)	Zn (%)	Mn (%)	Fe (%)
UNCOMPOSTED MATERIALS														
Alfalfa seed (2.5-2.5)	2.5	92	10	24	0.5	20								
Red grass - high N (0.5-1.0)	10.0	96	10	90	1.0	10								
Red grass - high P (0.5-1.0)	0.8	96	10	3	1.0	10								0.0
Bluegrass seed (2.5-3.5)	12.5	91	10	90	1.5	0.8								
Barley seed (2.5-2.5)	2.5	92	10	31	20.0	0.3								
Chicken manure - dried (1.5-2.0)	2.5	85	10	40	2.0	20	1.0	1.0	0.5					
Corn gluten meal (8.0-10.0)	9.0	96	10	0.0	0.0	0.0								
Cottonseed meal (6.0-10.0)	6.0	96	10	0.0	0.4	1.5								
Feather meal (12.0-12.0)	12.0	92	10	0.0	0.0	0.0								
Feather meal (available) (13.0-13.0)	13.0	91	10	10	0.0	0.0								
Fertilizer (1.0-1.0)	0.8	0	0	0										
Fish meal (10.0-10.0)	10.0	92	10	0.0	4.0	20				13.0				
Guano (10.0-10.0)	0.8	91	10	0.0	0.0	10								
Meat and bone meal (1.0-1.0)	1.0	91	10	0.0	0.0	0.0							0.0	0.0
Pigeon meal (1.0-2.0-2.0)	1.0	88	10	1	2.2	2.2								
Meat and bone meal (1.0-1.0)	1.0	91	10	0	0.0	0.0								

The organic [fertilizer calculator](#) is written in Excel and is available with instructions on the OSU Small Farms web site. The calculator includes the following five worksheets:

1. "Fertilizer analysis" – enter the percent dry matter and the "as-is" nutrient analysis for the fertilizers. The calculator will estimate percent *plant available nitrogen* (PAN).
2. "Nutrients provided" – enter nutrient requirements and fertilizer application rates and get estimates for each nutrient provided including PAN after 28 days and by the end of the season.
3. "Costs" – enter the price/lb. of each fertilizer and see the cost per acre and the price/lb. of each nutrient.

4&5. "Table 1" and "Data set" show the background information we used to estimate the percentage of total N that will be mineralized and made available to crops (PAN).

Nutrient values and costs are calculated on an "as-is" basis throughout the calculator. "As-is" refers to the nutrient content information provided on the fertilizer label at the % dry matter in the material as it is sold. If you are calculating the application rate and cost of compost or manure, it will

be necessary to first have the material analyzed or ask your supplier for this information. It will also be necessary to determine if your material is uncomposted manure or compost as composted materials are more stable and their release of N is generally slower. Nutrient values in manures and compost vary considerably so while the fertilizer calculator provides representative averages from Oregon suppliers we highly recommend you have your material analyzed.

The calculator will enable you to estimate plant available nitrogen (PAN) using equations that were developed by researchers at OSU and Washington State University. In order to generate PAN estimates, the model asks for an estimate of % dry matter of the material used. Typical dry matter estimates are provided in the calculator, or ask your fertilizer supplier for this information.

Plant Available Nitrogen (PAN) is an estimate of the amount of N a given fertilizer will release through mineralization over a certain time period. It is expressed as a percentage of the total % N. The amount of N shown on fertilizer labels is the total N in the product. Except for slow release synthetic fertilizers, all of the N in conventional fertilizers is generally available to plants very quickly, but non-synthetic or organic fertilizers tend to have a gradual N release as it is necessary for microorganisms to first break down the material. We tested 31 different organic fertilizers ranging from 1.6-15% total N and found a correlation between total N and % PAN (Table 1 and Figure 1). We have used this information to create the fertilizer calculator. The calculator estimates PAN after 28 days and a full season (approximately 125 calendar days).

Table 1. PLANT-AVAILABLE NITROGEN (PAN) ESTIMATES

Amendment total N	Amendment C:N	Plant-available N estimate	
		28 days	full season
% dry wt.		% of total N	% of total N
Uncomposted materials			
1	35	< 0	0
2	18	0	15
3	12	15	30
4	9	30	45
5	7	45	60
6+	less than 6	60	75
Composts			
1	30	0	5
2-3	15 to 10	5	10

Adapted from Gale et al. (2006) and Sullivan (personal communication)

Fertilizer Calculator continued on page 12

Winter's coming don't get stuck in the mud!

Is this Horse Farm Management Workshop for you?

Attention all horse owners! Are you tired of trying to combat mud in the winter time, having a large pile of stall waste stacked behind your barn, or wondering why your pasture won't grow? This full day workshop may be just what you're looking for.

The keynote speaker, Alayne Blickle, program director for Horses for Clean Water, is a lifelong equestrian, and educator who has worked with horse and livestock owners for over 12 years. Horses for Clean Water is a program in Washington, run by horse owners in support of horse owners. It offers farm management techniques that work for you, your horses, your farm and the environment. Workshop sessions include:

Mud, Paddocks and Horses -- If you have horses, then you have mud, right? Wrong! There are many great ways to manage mud on your farm. In this session we will discuss what causes mud and how it affects horse health. We'll also cover six key steps you can take that will reduce and even prevent mud on your property. See great ways to set up & manage horse paddocks – for chore-efficiency and year around use.

Got Horses? Got Manure! -- Manure management techniques can make your place healthier for horses, reduce the insect population, help your farm become more productive during the growing season, AND make it a chore-efficient place for you to enjoy! Learn about composting horse manure and many other useful options for manure management.

Natural Ways to Control Mud, Dust & Bugs – Learn “natural” techniques for insect control, dust barriers, visual screens between neighbors, cooling of buildings, summer shade for horses, low-cost/low-care landscaping as well as water conservation tips and how to manage creeks or wetlands on horse properties.


Grow Grass Grow! – Learn basic techniques for good



Photo by Melissa Fery

pasture management including how grasses grow, the importance of sacrifice areas and rotational grazing. Learn about changes you can make now so your pastures will be more productive.

The Horses & Mud workshop will take place in Canby at the Clackamas County Fairgrounds on Saturday, January 27. The workshop requires pre-registration, along with a \$25 registration fee to cover lunch and refreshments. Registration forms are available on-line at <http://smallfarms.oregonstate.edu> or by calling Chrissy at the Benton County Extension Service at (541) 766-3556.

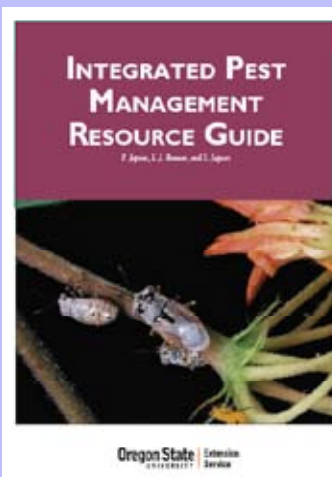
Horses and Mud is sponsored by Oregon State University Extension Service Small Farms Program, Oregon Department of Environmental Quality, Horses for Clean Water and the Clackamas Soil and Water Conservation District. 

Oregon State University Extension Service released an Integrated Pest Management Resource Guide (EM 8898) in June, 2006.

The publication lists resources for growers of any size or crop, and is appropriate for a wide variety of production systems. It includes suggestions for getting started in IPM and provides contact information for experts, labs and other services to growers, and web-sites, publications and more resources for growers in the Pacific Northwest. It was produced by the Departments of Horticulture, Integrated Plant Protection Center and Botany and Plant Pathology, Oregon State University in Corvallis.

The document can be downloaded at: <http://extension.oregonstate.edu/catalog/> for no cost or paper copies cost \$5.00 each; by US Mail at:

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Is Agroforestry Appropriate For Your Small Farm?

By: Sam Angima

Agroforestry combines agriculture and forestry technologies to create a more integrated, diverse, productive, profitable, healthy, and sustainable land-use system that is especially beneficial to the small scale farm. In the Pacific Northwest, the best combination integrates woody perennials like conifers and hardwoods with improved forage species and pastures for grazing animals in what is called silvopasture. Sheep or goats are most suitable due to the quantity of forage biomass available with time as the trees mature. Since forests take longer to mature, adoption of this technology can increase profitability, reduce overall risk, and increase environmental benefits from overall land management.

Most people who want to practice silvopasture usually start by asking which species of trees are suitable for the technology to work. Virtually all trees can work, but the linear arrangement of these trees will vary. Douglas fir, ponderosa pine, red alder, black walnut, black locust, maple, cherry and poplar can be used depending on your local ecology and climate. For forage species, orchard grass, tall fescue and perennial rye along with legumes such as white clover and subclover in a mixed pasture system work very well. The clovers provide high quality feed plus needed nitrogen for the grasses. At the same time, adjacent trees benefit from this nitrogen, often maturing quicker than conventional forest systems. In deeper soils, tall fescue and white clover are better choices to extend growth throughout the season when competition for moisture is strong during the drier months; whereas, orchard grass and subclover are better choices than perennial rye grass for shady conditions. For dry sites, perennial ryegrass and subclover are preferred, although total forage yields are lower.



Thinning of trees allows grass to recover for grazing

If you are interested in starting this silvopasture system, you might ask which ones should I plant first; the trees or the forages. It will be more meaningful to plant trees into existing or recently seeded pasture so that you start with a known good stand of preferred pasture species. Due to variations in available moisture for tree use, it is advisable to have 20-30%

of the planting area be weed free for the first 3-4 years of starting this system especially on drier climates. This is equivalent to a vegetation free zone of 4-6 feet wide around the tree seedlings.



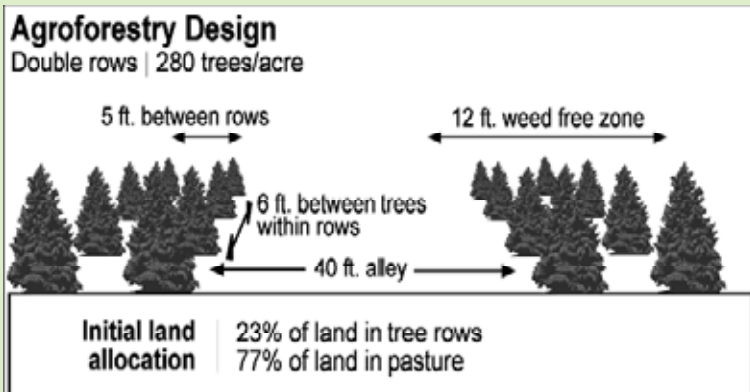
Closely spaced trees reduce the amount of forage produced

The tree pattern or design sets distinguishes agroforestry practices from conventional forestry. On most commercial timber farms, trees are planted 300-

600 trees/acre, thus taking care of loss due to death and commercial thinning. However, in silvopasture systems, trees are planted at lower initial densities of 200-300 trees/acre, and in this case, all the trees are nurtured to grow to maturity or harvest time.

A grid pattern is used where you maximize competition between trees and ground vegetation but minimize competition between trees. Trees are arranged into single rows or multiple rows/clusters so that wide open alleys (dependant on size of your farm equipment) for forage production are created to allow grazing, haying, fertilizing, spraying, and hay harvesting. Grouping trees into double rows or clusters creates a local forest effect enhancing growth that produces good quality timber. Usually tree species such as Doug fir trees are combined with hardwoods to take advantage of their different growth habits and nutrient requirements.

Agroforestry continued on page 9



Finding Market Information for Agriculture Products - Where Can You Go?

Bibliography of Web sites Devoted to Value-Added Markets Internet Resources

Agriculture Market Resource Center—AgMRC

<http://www.agmrc.org/homepage.html>

If there is one national information resource for value-added agriculture, this is probably it. Top notch resource. Sometimes contains too much information without a filtering mechanism. The website flow is good, however. Once you find some good sources, follow the links. These also lead to great information. The following categories contain articles, references, and research bulletins useful in obtaining information on agricultural businesses:

- Investigate Value-Added Products
- Explore Market and Industry Trends
- Create and Operate a Business
- Locate Consultants and Businesses

Appropriate Technology Transfer for Rural Areas (ATTRA)

<http://www.attra.org>

This is a super resource about sustainable agriculture. The publications are excellent, and they provide additional information about grants, breaking news, ask the expert, a "question of the week" and highlights of local, regional, USDA and other federal sustainable ag activities.

Economic Research Service

<http://www.ers.usda.gov/>

Truly a wealth of information provided on their website. It provides more technical data about consumption and markets than the websites above, but is the best place to go for historical databases. You might want to go directly to their Food Sector page at: <http://www.ers.usda.gov/Browse/FoodSector/> for more information directly applicable to the ag sector. Don't ignore, however, their Food and Nutrition Assistance and Diet, Health, and Safety sites if you have a business proposition which would involve these issues.

National Agricultural Statistics Service

<http://www.nass.usda.gov>

Again a wealth of databases at your finger tips. NASS provides production-level, or farmgate, information.

Ag Innovation & Commercialization Center—Purdue University

http://www.agecon.purdue.edu/aicc/Educational_Materials.asp

This page is also from Purdue and can be accessed from the New Ventures website. This site contains a web-based business plan workbook. All you need to do is register (for free) and you can run through the tutorial and workbook planner. This does require sitting in front of the computer, so if you want something that you can pick up and put down on a moments notice, you might want to use a workbook on hard copy (you can find an excellent pre-planning guide at: http://www.nyfarmviability.org/aic/pre-planning_guide.htm)

Michigan State University Product Center for Agriculture and Natural Resources

<http://www.aec.msu.edu/product/strategic.htm>

This is a link to **The Strategic Marketing Institute** at Michigan State University, which has a number of opportunity assessment papers and white papers pertaining to market development for agricultural, food and natural resource industries. The papers are excellent information resources.

Agriculture Utilization Research Council—State of Minnesota


<http://www.auri.org/research/research.htm>

AURI was created and is supported by the Minnesota state legislature, and its purpose is to help develop new uses and new markets for the state's agricultural products. Contains reports and studies of alternative agriculture, energy sources, and more. Do some digging around on this site. It is not as logically laid out as AgMRC's (above), but there is a lot of very interesting information hidden in the newsletters and research reports. A lot of their grant projects offer confidentiality; however, they do offer a lot of useful information about what, how, and where on many agricultural projects.

From material by Kristen Park, Extension Support Specialist, Food Industry Management Program, Cornell University. The complete article may be accessed at: http://hortmgt.aem.cornell.edu/pdf/smart_marketing/park8-06.pdf

Agroforestry continued from page 8

When you finally introduce livestock, there is a high chance of trees being browsed by animals. This does not kill the tree but will slow growth, especially conifers that have a strong terminal leader. At this time, it is advisable to hay the forage for the first 1-4 years to give trees a chance to root and develop. However even after the initial years, it might be a good idea to protect your seedlings with a mesh or solid tube or electric fencing. It is most important to use rotational grazing in a silvopasture system to get good forage utilization and reduce tree browsing.

Lastly, it is advisable to prune trees to increase the value of saw logs and reduce tree/pasture competition while improving movement within the system. Pruning the trees also will reduce competition for water resources by the complex system. Studies have shown that tree growth will exceed 10% when forages are managed properly to balance water relationships in a silvopasture system. 

[Agroforestry information: Dr. Steven H. Sharrow, Professor, & Rick Fletcher, Professor, Oregon State University]

Keep the Compost Cooking This Winter

By: Melissa Fery

Manure and bedding collects rapidly on most livestock farms, especially in the winter. Instead of pitching the waste out the back of the barn, consider turning the materials into a valuable, usable product. Compost. If an active compost pile is started now, by spring you may be pleasantly surprised with compost that may be incorporated into the vegetable garden or flower bed, applied to pastures or used as mulch.

Composting manure and bedding properly will reduce viable weed seeds and pathogens and create a product that handles more easily and smells much better. Not to mention, the amount of material may be reduced by 50%.

The first step is selecting a location for composting that is away from surface water and wells. Preferably, a place that has a concrete, gravel or compacted soil pad. The location should also be close to the barn for convenience.


Compost piles must be covered in the winter, to exclude excess rain or snow. Ideal moisture content for composting materials is approximately 50 to 60%. The compost should feel like a wrung out sponge. A cover will also help insulate the pile by excluding cold air. If the composting materials get too dry, add some water using a garden hose. A tarp is an easy and inexpensive way to cover the pile.

The size of the compost pile is a factor for success, especially in the winter. A pile needs to have at least 1 cubic yard of material. Larger piles help insulate themselves, as the inside of the pile will be creating heat. As microorganisms decompose manure and bedding, their body heat causes the temperature in the pile to increase. A hot pile will compost much faster than a cold pile. If

possible, invest in a composting thermometer. The ideal temperature range for effective composting is 130 to 150 degrees F. At higher elevations or in areas with cold prevailing winds, straw or hay bales placed around the pile will help insulate and protect the compost.

Microorganisms need oxygen to properly decompose materials. Turning or mixing the pile should occur when the internal temperature begins to decrease. Perforated PVC pipes inserted into the piles may also help with air circulation, especially if actively turning the piles isn't an option.

Keeping the carbon to nitrogen ratio (30:1 is best) of composting materials is always important, no matter the time of year. Nitrogen is a nutrient that will be supplied by the manure and urine and carbon is the main element in bedding materials. Using urine soaked bedding, along with manure should compost fairly well. If too much bedding is added to the pile, the composting process will slow down, due to excess carbon resources. Only remove soiled bedding when cleaning the barn.

Composting in the winter is a slower process than when the air temperature is warmer, but it's definitely possible! 



Tarp Covered Compost Bins
Photo by Garry Stephenson

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Selenium Fertilization of Forages

By: Sam Angima

Selenium (Se) is a micronutrient that is not essential for forage growth but is essential to the health of animals that graze the forages. Parent rock material in western Oregon is deficient in Selenium; therefore, our soils lack this micronutrient. Selenium is needed to maintain good health of cattle. Cows fed inadequate amounts of selenium are at higher risk for white muscle disease, retained fetal membranes, reduced immune system response, and mastitis. Current US FDA regulation allows ruminant diets to be supplemented with 0.3 ppm selenium from either sodium selenite or selenate.



Healthy forages sustain healthy herds
Photo by Melissa Fery

Selenium has commonly been supplemented in livestock through injections and mineral mixes. These strategies often do not provide adequate blood Se levels for an extended amount of time and are expensive. Injections provide only short-term increases in Se blood levels (about 30 days), and animal consumption of mineral mixed is inconsistent. Mineral mixes commonly contain inorganic forms of selenium, poorly utilized by the animal. However, plants actively take up selenium and convert it to organic forms that are easily and effectively utilized by animals. Therefore, the addition of Se to commercial fertilizers can help reduce deficiency of Se in animals.

Recent studies by Amy Peters (OSU Extension) in Coos Bay County found that the addition of Se as fertilizer in amounts of 0.5 to 2 pound per acre selenium increased selenium content in the forage clippings. Pasture clippings showed adequate levels of Se for two straight years. This study also found that animals grazing in Se fertilized fields for even a short amount of time had adequate blood Se levels in their systems. Work at the Union Experiment Station showed that even lambs and calves

from dams grazing the pasture had adequate blood selenium levels. Selenium is consumed with each bite of pasture or hay. Selenium applied with fertilizer is an effective



"The addition of Se to commercial fertilizers can help reduce deficiency of Se in animals." Photo by Melissa Fery

way to provide adequate levels of dietary Se for livestock.

Cost and Availability

Fall is the best time to apply fertilizers and time to perform that long awaited soil test to see if you need to supplement with selenium in your fertilizer mix. Selenium, as an added ingredient to fertilizer, is available commercially at a cost of about \$2.50 - \$4.0 per acre. Such fertilizer will sustain adequate levels of Se in forage for approximately two years. This is more cost effective than using mineral blocks and injections. Some fertilizer dealers in western Oregon market a commercial preparation called Selcote which is a mixture of readily available Se along with encapsulated, slow-release Se. In this way, some Se is immediately available to the plant, while the remaining Se is available over an extended period of time. Private producers are using this approach and are finding that Se levels in their livestock blood have improved already. A word of caution though is that you should not provide other forms of supplemental Se if you fertilize your pastures with Se every other year. You should, however, continue to provide other minerals needed by the animals. It is a good idea to include blood mineral level screenings during routine health exams on your livestock, not only for Se but also for other required minerals. *ℳ*

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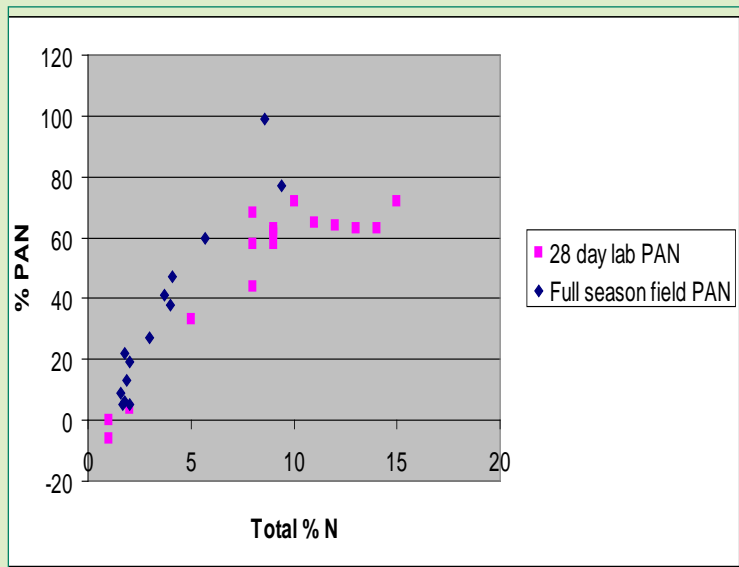


Figure 1. Total %N and % PAN (plant-available nitrogen).

Limitations of the fertilizer calculator

- ☐ Be sure to use “as-is” values for all products; this is the guaranteed analyses provided on the fertilizer label.
- ☐ Calculated values are estimates only since nutrient content of organic materials and their availability vary. Results from the calculator should not be considered exact.
- ☐ Caution is needed when using manure or compost analyses as results will vary depending on whether they are on a fresh weight or dry weight basis. Calculated values for manure or compost that are based on our averages and not on analysis of the actual material are only estimates and calculator results should not be considered exact.
- ☐ Nutrient analyses in organic fertilizers can be variable (i.e., not all bloodmeals are identical in nutrient value); the values shown in the calculator may not be the same as those in the fertilizer you are using. **Be sure to check the guaranteed analysis on the product label or lab tests of the exact product you are using and adjust values accordingly.**
- ☐ Data for the PAN model were from solid organic fertilizers applied to soil. These PAN estimates are not designed for use with liquid fertilizers, but other nutrients based on guaranteed label analyses are valid.
- ☐ The calculator estimates mineral nutrients and does not estimate the value of microorganisms or organic matter in organic materials. Amounts of dry matter applied can provide a rough estimate of the relative ability of different materials to contribute to soil organic matter.
- ☐ The calculator estimates plant available nutrients for the year of application; it does not estimate the slow release of nutrients in the years following application.
- ☐ The calculator does not account for loss of ammonium nitrogen in manure if the manure is not incorporated into the soil immediately after application.
- ☐ For an amendment with high levels of non-organic material (i.e. soil), C:N ratio is more useful than total N in estimating PAN.

We invite you to test the fertilizer calculator and let us know how it works for you. We will continue to update the calculator based on your input and new research findings, so be sure that you’re working with the most recent version by checking the OSU Small Farms web site. If you would like help using the calculator, or have questions about how to monitor N during the season, please contact Nick Andrews at OSU Extension: (503) 678-1264 ext. 49, nick.andrews@oregonstate.edu.

For More Information:

Bary, A., Cogger, C. and D.M. Sullivan. 2004. Fertilizing With Manure. Pacific Northwest Extension Publication 533. Washington State University Cooperative Extension. Pullman, WA. <http://cru.cche.wsu.edu/CEPublications/pnw0533/pnw0533.pdf>

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Gale, E.S., D.M. Sullivan, C.G. Cogger, A.I. Bary, D. Hemphill, and E.A. Myhre. 2006. Estimating plant available nitrogen release from manures, composts, and specialty products. Journal of Environmental Quality. [Accepted for publication pending minor revisions].

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Gilmour, J.T. 1998. Carbon and nitrogen mineralization during co-utilization of biosolids and composts. P. 89-112. In S. Brown, J.S. Angle, and L. Jacobs (ed.) Beneficial co-utilization of agricultural, municipal and industrial by-products. Kluwer Academic Publ., Dordrecht, the Netherlands.

Oregon Department of Agriculture Unveils New Guide to Farm Direct Marketing

The Oregon Department of Agriculture has updated its useful Oregon Direct Marketing Handbook as an online resource now titled the Oregon Guide to Farm Direct Marketing. The guide is intended to provide Oregon farm and seafood producers with a basic understanding of opportunities and regulations regarding direct marketing of Oregon agricultural products. The information presented is based on current Oregon law as of June 2006.

The contents include four sections:

1. Information related to specific direct marketing ventures. Descriptions of specific opportunities and regulations for direct marketing ventures, e.g., farmers’ markets, on-farm sales, roadside stands, online sales, etc.
2. What everyone needs to know. Describe topics common to all types of direct market sales, e.g., starting a business in Oregon, employing others, labeling, packaging, weighing and measuring.
3. Requirements for production and sale of specific commodities. Describes regulatory requirements for many common agricultural commodities in Oregon.
4. Resources. Provides a list of resources and contact information that will be useful for further research.

Find the guide at: http://egov.oregon.gov/ODA/pub_fd_toc.shtml

Calendar

December

7 - CORE Training for Private Pesticide Applicators

Sessions include Pesticide Calibration and Sprayer Tune-up, Learning from PURS violations, Pesticides and Water Quality, and Pesticide Labels. 8:00am to 12:15pm. OSU Lane County Extension Service Auditorium. Eugene, OR For more information contact 541-682-4243.

12 -Farming on the Wild Side

This exciting seminar taught by farmer and conservationist Tim Franklin will discuss and cite examples of farming in nature's image, agro-forestry systems, enhancing biodiversity on farms and ranches, maximizing ecological functions in agro-ecosystems. 6:00 - 8:30 p.m., OSU Extension Jackson County, 569 Hanley Road, Central Point, OR 97502. Pre-register at 541-776-7371. <http://extension.oregonstate.edu/sorec/> \$10

January

20 - Vegetable Gardening Symposium

A one day class featuring experts Nick Andrews, Carol Miles and others, sharing variety selections, organic practices and pest control. Book and seed sales will be available. 8:00 a.m. to 4:00 p.m., in the Gregory Forum. Pre-registration is required. For registration contact Loretta at 503-657-6958 ext. 2246. \$40

27 - Horses & Mud

Tired of trying to combat mud in the winter time, having a large pile of stall waste stacked behind your barn, or wondering why your pasture won't grow? Come join us at the Clackamas County Fairgrounds (Canby) for the Horses & Mud workshop. Registration forms are available on-line at <http://smallfarms.oregonstate.edu> or by calling Chrissy (541) 766-3556. \$25

February

6 to 7 - Pacific Northwest Weed Short Course

For more information and registration visit <http://extension.oregonstate.edu/lane/horticulture/index.php> or contact Ross or Linda at 541-682-4243 Lane Community College Conference Center. Eugene, OR. \$76

6, 13, 20, 27- Living on the Land Stewardship for Small Acreages

Workshop series for Benton county residents. Topics include pasture and grazing management, weed identification and control, understanding wells and septic systems, and managing for soil productivity. Registration forms at <http://smallfarms.oregonstate.edu> or contact Chrissy at (541) 766-3556

10 - Fruit Tree Pruning

Demonstration and practice of pruning methods appropriate for a variety of fruit trees. Bring your pruning tools and appropriate outdoor wear. 9:00 a.m. to 12:00 p.m., at Clackamas Community College Home Orchard Society Arboretum. For registration contact Loretta at 503-657-6958 ext. 2246 \$10

17 - Small Farms and Farm Direct Marketing Conference

Workshop sessions include Novel Crops for Niche Markets, Marketing Methods, Soil Fertility Management, Women and Small Farms, Food Policy and More. Held at the LaSells Stewart Center - Corvallis, OR. For Registration call 541-766-3556 or 800-365-0201 (registration available mid-December). Registration is \$30 person or \$50 for two people registering together.

Want to add your event to our calendar then please submit your information via email to Chrissy.Lucas@oregonstate.edu