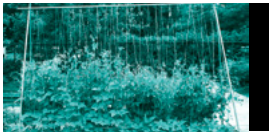
# 5 AGRICULTURE

Marion County is currently the leading agricultural county in Oregon with an annual sales value of $493,022,080 (2009). Agricultural production helps create jobs throughout the region from the planting of the seed, to the processing, and selling of the commodity.

Agriculture in Marion County is more than just a means of making a living; it is a way of life and culture. Many farms in Marion County have been owned and run by local families for generations. These farmers' commitment to the land creates value to them and to our community. Their farms give the county its special character, in addition to the environmental and economic contributions that provide an essential cultural resource for current and future generations. New farmers can be proud of joining this valuable sector of Marion County.

## SECTIONS



# SMALL FARMS

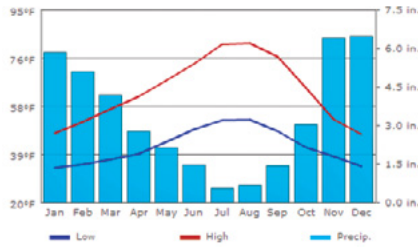
*It can be gratifying*

Developing a small farm on your property is like starting any small business. It requires long hours, determination and a long-term commitment. When evaluating the available options for a piece of property, property owners should consider these factors; goals of the farm, physical resources on the farm, family resources and skills, and the type(s) of agricultural commodity that will be grown. These initial factors will help shape your decisions.

## Climate

Marion County has a maritime climate that is characterized by cool, wet winters and warm, dry summers. The county's growing season is long, with an abundance of moisture for most of the year. Fifty percent of the annual rainfall in the county occurs from December to February. During the summer months the county is fairly dry and requires irrigation for most agricultural production. Frost is a common agricultural issue in the county and may require additional management techniques for the success of certain crops.

Be aware that a single property can have multiple micro-climates caused by the terrain and natural features. Micro-climates have the ability to affect the lands' capacity to grow certain crops. With the right micro-climate, uncommon crops can be grown where commonly grown crops will not thrive. Property owners should assess these factors before selecting their crops.




Salem Climate Graph
*courtesy u.s. climate data*

## Farm Goals

Before establishing an agricultural business, property owners should identify their intentions in becoming a farmer; hobby, tax deferral, or the creation of supplemental or regular income. This decision should be realistic and based on site conditions, available labor, your financial situation, your family's abilities, and your knowledge of agricultural practices. Start small and expand slowly as knowledge about your crops and site increase. Some aspects of farming can be learned from books, but with each year of practical experience you will greatly improve the productivity of your land.

## Site Resources

The characteristics of a site such as soil type, orientation to the sun, topography, elevation, water availability and micro-climates may restrict the types of crops that can be grown, or might provide unlimited options. Matching crops with the capabilities of the land is a farmer's best bet for success.

## Family Abilities

A family's knowledge and agricultural abilities should be directly related to the scale and intensity of an agricultural operation. Financial security should also be taken into consideration. Property owners who overextend themselves can destroy the possibility of long-term success. Caring for the crop can require a fair amount of time depending on the scale of the operation. It is good practice to choose agricultural commidities based on their management requirements and your family's work schedule. During the summer, most crops need to be cared for on a daily basis. This can hinder summer vacation trips or traveling for certain holidays.

## Tax Deferral

An agricultural tax deferral lowers the property tax burden on lands that are producing income from farming. In order to receive and maintain an agricultural tax deferral, farms must meet specific annual income requirements based on the size of their land. These requirements will need to be met for three out of five years; otherwise the deferred taxes will need to be paid back in full. Before buying a piece of property check with the local tax assessor on the current state of a property's tax deferral because the back property tax liability created by the previous property owner can be passed on to the new owner.

Agricultural production is not the only activity for which a property owner can acquire a tax deferral; forestry, wildlife habitat or entering into certain state and federally funded conservation programs can provide property owners with a tax deferral. Check with your local tax assessor on options for acquiring a property tax deferral.

### Additional Resources

***Marion County Assessor's Office***
*www.co.marion.or.us/AO/*

***OSU: Small Farms***
*smallfarms.oregonstate.edu*

***WSU: Small Farms***
*smallfarms.wsu.edu*

***NOAA National Weather Service***
*www.nws.noaa.gov/*

# AGRICULTURAL WATER QUALITY

*Keep it out of the water*

Oregon and the federal government have implemented policies and plans that address water quality related to agricultural production and that work to protect the public and natural environment from unnecessary pollution. These policies guide the regulatory process of the Oregon Department of Environmental Quality (DEQ) and Oregon Department of Agriculture (ODA). Knowing these laws and what they regulate will help property owners to minimize their risk of committing infractions which could result in penalties.

## Pollution Sources

When thinking about agricultural water quality and the regulations that shape the laws, property owners need to first understand the difference between point and non-point source pollution.

> Point Source: Defined by the EPA as any recognizable transporting agent in which pollutants are or may be discharged; pipe, ditch, channel, tunnel, conduit, well, etc. (section 502(14) of the Clean Water Act)
>
> Non-point Source: Generally refers to runoff, precipitation, drainage or any source that does not meet the legal definition of "point source." Excessive fertilizer or chemicals from agricultural land, sediment from erosion, and bacteria from livestock and pet waste are all examples of non-point source pollution.

Non-point source pollution, the leading cause of water quality problems in the county, is of high interest to local, state and federal agencies. Through regulations and proactive conservation programs DEQ and ODA work to minimize the amount of pollution from all sources that leave a property.

## Agriculture Water Quality Management Act

This act is also known as "Senate Bill 1010" and was passed in 1993 by the Oregon Legislature to help reduce water pollution from agricultural and rural sources throughout the state. It applies to all lands outside of urban growth boundaries with the exception of land that is covered under the Forest Practices Act. This act takes a proactive approach to conservation and is voluntary, but also law. Water quality complaints in violation of the local plan are investigated and regulated by ODA.

Marion County farmers and stakeholders have developed an Agricultural Water Quality Plan titled the "Molalla-Pudding-French Prairie-North Santiam Sub-basins Plan". This plan identifies strategies to reduce water pollution through education, suggested land treatments, management activities, and monitoring. The complete document can be found on ODA's website.

## Clean Water Act

The federal Clean Water Act makes it unlawful to discharge any pollutant from a point source into navigable waters without a permit. It also sets water quality standards for all contaminants in surface water. Any surface water that does not meet these standards is placed on the 303d list and must be given high priority by the state and assigned Total Maximum Daily Loads (TMDL's) that set thresholds for pollutants in those waters. A number of streams in Marion County are on the 303d list, including the Pudding River and Zollner Creek, for multiple reasons: temperature, bacteria, and toxin levels.

## The Oregon Plan for Salmon and Watersheds

The Oregon Plan is a state effort to restore salmon runs, improve water quality and achieve healthier watersheds. It is funded through lottery dollars and salmon license plates. Implementation of the plan relies upon volunteerism and local stewardship. The state works with all stakeholders: citizens, the timber industry, conservation groups, government agencies, tribes, fishermen, and businesses to sustain salmon for the long term. The Oregon Watershed Enhancement Board (OWEB) has taken the leadership role in coordinating actions and administering a restoration grant program. In addition to helping support priority actions and volunteer-based projects, the agency has also established extensive monitoring measures to evaluate a watershed's health and the effectiveness of the plan. If you are interested in getting involved or implementing a project contact OWEB or the Marion SWCD.

## Working in Waters and Wetlands

The Food Security Act of 1985 protects all wetlands from being harmed or removed without a permit. When working in or adjacent to a stream or wetland, there is a good chance that you may first need to acquire a permit. Placement of fill, excavation, alteration of stream banks or stream course, ditching, stump removal, and plowing or discing wetlands not previously farmed, are all activities that require a permit and are regulated by the Department of State Lands and the Army Corps of Engineers. All work done at or below the high water mark is subject to these regulations. A rule of thumb for identifying a high water mark is by a change in the type of vegetation present on the bank. You should always contact your local authorities before doing work in or near a waterway.

### Additional Resources

***EPA: Clean Water Act***
*www.epa.gov/regulations/laws/cwa.html*

***Molalla-Pudding-French Prairie-North Santiam Sub-basins Plan***
*www.oregon.gov/ODA/NRD/docs/pdf/plans/molalla_pudding_2010_plan.pdf*

***The Oregon Plan for Salmon and Watersheds***
*www.oregon-plan.org/*

# LIVESTOCK

*Diversify your operation*

Raising animals can provide environmental benefits and economic vitality to a piece of property. Goats, for example, can assist with brush management, provide manure that can be used as a soil amendment while also producing marketable milk and cheese. Raising livestock is also a means of diversifying an operation because it complements many other practices. But raising animals comes with varing characteristics that should be considered prior to getting started.

## Stocking Rate

The stocking rate determines how many animals your land can support. It is this management practice that can have the greatest affect on the long-term condition of a site and the profitability of a livestock operation. Establishing the stocking rate, the amount of forage a particular animal needs, and how much forage is available, is key to maximizing profits while sustaining current land conditions. The stocking rate equation has been standardized for all animals based on weight. (*For the formula and examples of how to calculate your stocking rate see Additional Resources, Determining Your Stocking Rate.)*

## Animal Feeding Operations (AFO's)

In 2011 there were 54 Confined-AFO and AFO's being operated in Marion County. These operations are a top priority for the NRCS's Environmental Quality Incentives Prgram to assist with nutrient and waste management planning and implementation. Oregon's House Bill 2156 regulates pollution and water quality for AFO's.

### Feeding Operation: AFO's and CAFO's

CAFO's/AFO's are defined by the EPA as "a place where animals are kept in a confined space for at least 45 days in a 12 month period, without any grass or vegetation being present during the normal growing season." The difference between confined and other feeding operations is based in part by the number of animals that are involved. These operations congregate animals, feed, manure, urine, dead animals and a production facility on a small area of land. Feed is brought to the animals rather than allowing them to graze or feed in pastures or fields.

Due to large concentrations of manure and the lack of ground vegetation these operations can cause great harm to the natural environment because of the risk of pollution during rain events. Implementing vegetation buffers along with a manure management strategy can help reduce the risk of polluted runoff or leachates.

## Buying Animals

Conducting research prior to buying animals is always a good practice. There are many different breeds of each animal to choose from; be sure to choose the right breed for your land and what you are trying to accomplish.

Buy animals from a trusted seller and try to avoid barn sales of culled animals. When buying animals ask the seller about problems with the herd and vaccination information to make sure there are no red flags. Be aware of the diseases and issues related to your particular animal and consult with the local veterinarian when problems occur.

## Fencing

In Marion County there are currently no open range areas that allow animals to graze and roam freely; therefore fencing is required for containing animals on your property. There are numerous fencing types to choose from, each having pros and cons. Maintenance, up-front costs, the type of animals contained, durability, soil type, terrain, and effects on wildlife are some factors to think about when choosing the right fence. If you are constructing a new fence along a property line or roadway, contact Marion County Public Works to check for siting issues. Work with neighbors to develop the fence, to help establish a working relationship and to reduce the chance of future conflicts about the fence.

## Selling Meat

In Oregon, selling meat from raised animals can be done in two ways. If you want to sell cuts of meat individually at farmers' markets, to restaurants or grocery stores, the animal must be processed by a USDA certified plant. You can also sell the live animal to a customer; the purchaser is then responsibility for having it processed. This is known as an "on the hoof sell" and the meat from that sale cannot be sold, bartered or given to food banks. (*For a complete breakdown of the rules and regulation related to the selling of meat, consult the Beef Cattle Library article in Additional Resources.*)

### Buying Meat Whole

If interested in purchasing a whole animal to be processed for meat you should read the Beef and Pork Whole Animal Buying Guide for information related to what you're purchasing.

### Additional Resources

***Determining Your Stocking Rate***
*extension.usu.edu/files/publications/publication/NR_RM_04.pdf*

***OSU Extensions: Livestock Production***
*smallfarms.oregonstate.edu/livestock*

***OSU Beef Cattle Library: Frequently asked questions about processing***
*beefcattle.ans.oregonstate.edu/html/publications/documents/BEEF006-FAQ_001.pdf*

***Beef and Pork Whole Animal Buying Guide***
*www.extension.iastate.edu/Publications/PM2076.pdf*

# PASTURE MGMT.

*Take Half, Leave Half*

Maintaining a pasture to its maximum potential requires management that does not allow animals to over-graze, trample or compact the soil. Putting too many animals on the land will put increased stress on the pasture and can quickly turn the pasture into a muddy, weedy field. Improving or protecting the health of your pasture can help increase the property's value, while reducing the amount of polluted runoff that leaves the land. A healthy pasture will also support animal health by providing nutritious forage that will better their chances of staying disease-free.

## Pasture Crops

Decisions crucial to grazing management should be made based on plant growth. Pasture crops vary in the time of season when they are most productive, so choose accordingly. Proper irrigation, soil management and lime application can help improve a pasture's productivity.

When choosing a pasture crop it is recommended to choose a mixture of ONE GRASS and ONE LEGUME. Many of the commercial seed mixtures will consist of a large variety of grasses and legumes, which can be hard to manage because of their different growing season and livestock appeal. Ultimately, you want to choose a mixture that is best suited for the animals that will be foraging.

Depending on the condition of your pasture, you may need to reseed with new forage crops. Understand that the state of a pasture is a sign of the current management practices; reseeding without changing management practices can be an expensive and ineffective decision. But if a pasture does not improve with better management then reseeding is the next step.

### Signs of GOOD Management

- Sacrifice area used when pasture is wet.
- Large pasture subdivided into smaller pastures.
- Animals fenced out of streams.
- Water provided in each pasture.
- Presence of a vegetation buffer between streams and pastures.
- Forage is never less than 3" in height.

### Signs of BAD Management

- Bare ground filled with weeds.
- High browse lines on trees and shrubs.
- Trampled stream bank.
- Animals grazing through the fence.
- Grazing happening on wet soil.
- Animals sunk in the mud/manure ankle deep.

## Grazing Strategies

There are two primary styles of grazing available to property owners: continuous and rotational. Providing quality forage throughout the year helps save farmers a considerable amount of money on feed costs. In Marion County, year-around grazing is not advisable because of the wet and cold weather that occurs during late fall, winter and early spring.

Ideally, animals should graze before pasture crops mature and produce a seed head. After a plant seeds, it will stop growing and is less palatable and nutritious to animals. Pasture crops should reach a height of 6-8" before allowing animals to graze. Only 50 percent (3-4") of the crop height should be grazed; otherwise it will effect the plants ability to rejuvenate.

Rotational: Pastures are sub-divided into paddocks. Animals are frequently rotated between paddocks to allow forage to rejuvenate. This strategy requires property owners to have a base knowledge of their forage crops and an understanding of the animal-pasture interaction to be successful. Rotation frequency depends on the amount of forage available, crop type and the number and type of animals foraging.

Continuous: Animals are allowed to roam the entire property freely choosing the type of forage that they want to eat. Animals will forage the most nutritious and palatable plant species first until eventually they have exhausted the good forage species. This method of grazing can result in a patchwork of grass, weeds and mud because of the animals' selectivity.

### Common pasture crops in western Oregon

- Orchardgrass
- Perennial Ryegrass
- Tall Fescue
- Subclover
- Dutch White Clover
- New Zealand White Clover

Poor Pasture Management

Good Pasture Management

### Additional Resources

***ATTRA: Pasture - Sustinable Management***
*attra.ncat.org/attra-pub/sustpast.html*

***NRCS: Animal Manure Management***
*www.nrcs.usda.gov/technical/ECS/nutrient/animalmanure.html*

***The ABCs of Pasture Grazing***
*www.animalag.wsu.edu/water quality/Tab2_Pasture Grazing.pdf*

# MUD & MANURE MGMT.

*Manure is "black gold"*

Mud and manure management is important for animal health, keeping water quality high, and making a property look attractive. Good management plays the biggest role in keeping mud and manure under control. Depending on the scale of the issue, manure can reduce a property's value while putting the health of the property owner, farm, and animals at risk.

## Mud Production

Mud can be caused by a number of activities and conditions, including increased surface water, high traffic areas, highly organic soil, and the lack of ground cover. If not managed properly, mud can be hazardous to animal health, causing sickness and parasites. In addition, runoff from a muddy property will have high levels of sediment that contribute to water pollution.

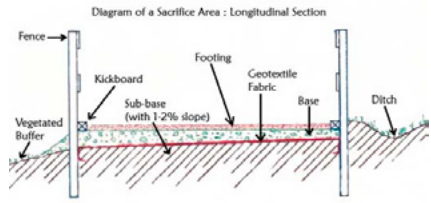
## 6 Techniques for Reducing Mud

Reducing the amount of rain and water that runs through a pasture and animal yard will greatly reduce mud production. Ideally you want to divert water to a wetland, stream, ditch, bioswale or other safe outlet before it passes through animal areas. Here is a list of additional techniques for reducing mud production on a property.

- Establish a sacrifice area for animals.
- Pick up manure regularly.
- Use appropriate footing for paddocks, sacrifice areas and high traffic areas.
- Install gutters and downspouts to roofs.
- Use vegetation as a mud manager.
- Rotate water trough placement areas to avoid mud and manure buildup.

## Sacrifice Area

A sacrifice area is an alternative animal housing area used to keep animals off the pasture during the wet months. This area can also be used to care for sick or injured animals. Locate the sacrifice area away from water sources and plant a vegetation buffer around the area to reduce the chance of contaminating the water. The appropriate size depends on the type and quantity of animals that will be held. For longevity, the Marion SWCD recommends using crushed gravel for a base material.




**There are multiple types of bases and footing materials available for a sacrifice area; sand, hog fuels and gravel. Talk with a professional on the best choice for your property.**

*Courtesy of Fairfax County Virginia*

## Manure Management

Manure, if not properly managed, can leach into ground and surface water causing pollution. Animals produce a lot of manure and without regular management it can become overwhelming quickly. Ideally manure should be collected every one to three days to reduce polluted run-off, fly breeding sites, and muddy areas. Using certain types of footing material can make cleaning sacrifice areas easier with minimal material loss.

*"Federal and State laws forbid discharging any animal waste into water"*

## Manure Storage

Whatever the method of manure storage being used, the pile should be covered during wet periods and set on an impervious surface to limit leaching and runoff. If you plan on using a front loader to turn or move the pile make sure the roof of the structure is tall enough. The Marion SWCD can assist property owners in developing a manure composting/storage facility.

Good

*Courtesy of Alayne Blickle*

Better (needs cover)

*Courtesy of the Sequim Gazette*

Best

## Manure Application

Applying manure to fields and pastures may help with the soil's tilth, water holding capabilities, resistance to erosion and production of beneficial organisms. Crop nutrient needs should be the regulator for how much manure is applied. The goal is to maximize nutrient use with minimal environmental hazard. Nutrients in manure vary between animals, so conduct soil tests and then choose the proper animal manure accordingly.

### Manure Exchange Program

The Marion SWCD manages this program, which allows property owners to post their contact information online to then have people contact them for free manure pickup. If you are interested in participating in this program contact the Marion SWCD. The list of participants can be found at *www.marionswcd.net.*

### Additional Resources

***OSU Small Farms: Mud and Manure Management***
*smallfarms.oregonstate.edu/mud%2526Manuremanagement*

***Manure Management Handbook***
*www.nerc.org/documents/manure_management/manure_management_handbook.pdf*

# ORGANIC

*A more natural way*

Organic agriculture is a complex process that requires extensive accountability through diligent recordkeeping and documentation. Organic agriculture provides benefits to the environment by requiring practices that are more in tune with nature and promote biodiversity, water conservation and soil enhancement. Property owners are required to stop all non-organic practices on their land for three years prior to the certification process. Farmers who are interested in organic agriculture should fully understand the process, requirements and additional work associated with adding the label of "ORGANIC" to their product.

## Certification Agencies

Organic certification verifies that a farmer is managing his agricultural operation: growing crops, raising livestock, or processing fiber according to the USDA National Organic Program. Here is a list of agencies that certify organic products in Oregon.

***Oregon Tilth***
*tilth.org*

***USDA National Organic Program***
*www.ams.usda.gov/AMSv1.0/nop*

***Oregon Certified Sustainable Wine***
*ocsw.org*

Different agencies vary in the fees that they charge, the types of products that they certify and the amount of recordkeeping that they require. The certification process can last eight to twelve weeks.

*"Non-organic practices on the land must be stopped for 3 years prior to organic certification."*

## Different Labels

*Depending on the concentration of organic material in a product, there are multiple certifications that can be acquired.*

100% Organic: 100% organically produced ingredients

Organic: 95%+ organically produced raw or processed agricultural products.

Made with Organic: 70%+ organically produced ingredients.

## Record Keeping

The amount of recordkeeping and documentation required for an organic operation is much more detailed than for conventional production. Records must "fully disclose all activities and transactions in sufficient detail to be readily understood and audited" (NOP Section 205.103 (b)(2)) In addition, the Organic System Plan which is an additional component of the documentation, must be up to date and on file at all times. *(For a complete breakdown of the recordkeeping requirements for organic certification see, "Preparing for an Organic Inspection" in Additional Resources.)*

## Certification Requirements

### *Organic Seeds*

One criteria for being certified organic is to use organic seeds. If an organic seed type is unavailable, the farmer must provide documentation of efforts to acquire the seed from three different sources prior to being able to use a non-organic seed. The non-organic seed must be non-treated and not a GMO.

### *Materials*

Organic producers, processors, and handlers must use materials that meet the requirements set under the National Organic Standard. A list of these materials can be found at the Washington State Department of Agriculture website and at the Organic Materials Review Institute (OMRI). (*see Additional Resources.*)

### *Land Management*

Utilizing natural methods to address issues on the farm is encouraged and must be used prior to utilizing any organic sprays. Sprays and unnatural methods that meet organic requirements are considered a last resort to natural methods. The property owner must prove that natural methods of pest control have been ineffective before being allowed to utilize alternative methods.

### *Livestock*

Depending on the animal and what you are producing from the animal, different requirements apply regarding what it means to be "organic". (*see NOP Section 205.236 – 205.239.*)

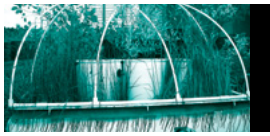
*Any changes to an agricultural operation from when it was certified requires farmers to contact the certifier; i.e. undocumented drift coming from adjacent fields, planting a new crop, new management practice.*

### Additional Resources

***Preparing for an Organic Inspection: Steps and Checklists***
*www.attra.ncat.org/attra-pub/organic_inspection.html#inspection*

***ATTRA: National Sustainable Agricultural Information Services***
*attra.ncat.org*

***OMRI: Organic Materials Review Institute***
*www.omri.org*



# SUSTAINABLE PRACTICES

*Farming with nature*

Sustainable agriculture is a means of producing food without depleting the earth's resources or polluting the environment. It works to mimic nature's self-sustaining processes by promoting biodiversity, recycling plant nutrients, protecting soil from erosion, conserving and protecting water, and integrating livestock with crop production. Farms that rely on sustainable practices tend to be of smaller scale and can be labeled by many different names; natural, organic, low input, perma-culture, holistic, and biological farms. The difference between them is in the practices and farming models that they follow, yet they all share the same goal of protecting and improving ecological health.

## Conservation Buffers

Conservation buffers are vegetation strips that, when properly done, can provide a variety of natural services; they reduce erosion and polluted runoff, provide areas for habitat, increase soil productivity, protect areas from winds and flooding, and enhance the visual aesthetic of a property. These practices can be ineffective without an understanding of the natural process that is being addressed. The size, shape and structure of the buffer will determine how effectively it will perform. If interested in implementing a conservation buffer, contact the Marion SWCD or the NRCS for assistance in implementing conservation buffers.

## No-Till

No-till is an emergent agricultural technique that does not disturb the soil to the extent of conventional tillage practices. No-till helps keep the soil intact, reducing soil erosion while helping the soil hold more water. No-till leaves residue cover on the field that would normally be tilled into the soil prior to seeding. The residue helps with reducing soil erosion, but requires regular monitoring for the presence of slugs and other pests. No-till does require more management throughout the year because of the increased monitoring and treatments needed to keep land pest free. No-till can be done with any seeded crop.

Preparation: First you should understand the soil's current condition. Does the soil need any amendments, or are there pest problems, like slugs or cutworms? Pest problems should be treated prior to beginning no-till. In most cases, if pests are present you should wait at least a year after exterminating pests to start no-till. Expect to have a slight loss in crop yield for the first couple of years while the soil is rebuilding itself. No-till farming should be done for multiple consecutive years to experience the full benefits of the practice.

## Cover Crops

Cover crops are essential to preserving and maintaining healthy soils in the county. Cover crops help protect the soil from erosion, reduce soil nutrient leaching and provide additional nutrients to the soil by green manuring. Cover crops can be placed between crop rows, under fruit and other trees, and on un-vegetated land. Choose a cover crop that won't shade out cash crops, won't wrap around trees, grows well in the shade, and will crowd out weeds. Contact OSU Extension for information regarding cover crops that can help meet your farm goals.

## Crop Rotation

Establishing a crop rotation may help with erosion, plant disease, and other problems that a mono-culture might intensify. Rotating crops can leave built-up bug populations without food or habitat; rotation disrupts their life cycle and reduces the need for chemical control. For vegetable production, it is recommended to wait three years before repeating a crop in the same plot. Crop rotation can be done for all scales of agriculture production. Take into consideration soil types, climate, and available water when deciding on a rotation crop. Implementing a crop rotation along with cover crops takes good planning and management.

## Integrated Pest Management (IPM)

Integrated Pest Management is a strategy for pest management that utilizes both natural and chemical-based practices, though pesticides should be used only when natural management is ineffective. IPM utilizes the most effective and environmentally conscious practices for controlling pests on a farm. IPM uses information about the life cycle of pests and their interaction with the environment to develop a management strategy that is economical and least hazardous to the health of people, the land, animals, and the environment. These techniques can be used for non-agricultural uses as well.

There are currently a variety of online tools available to property owners for using local pest infestation forecasting. One of the best tools is the "IPM Pest and Plant Disease Models and Forecasting" website. (*see Additional Resources.*) Property owners can monitor possible pest infestations related to specific crops for scheduling pest management. Most farmers already implement a form of IPM; they can move farther along the continuum to more ecologically friendly pest management practices regionally through the use of advanced warning and scouting tools.

### Additional Resources

***NRCS: Conservation Buffers***
*www.bufferguidelines.net*

***IPM Pest and Plant Disease Models and Forecasting***
*uspest.org/wea/*

***OSU: Integrated Plant Protection Center***
*www.ipmnet.org/*