

AgGuide

AGRICULTURE NEWS & TRENDS

Operating Efficiently

Minimizing waste and maximizing profits: These are the goals of every farmer. The key to achieving these objectives depends on how efficient your operations are.

A business-savvy approach to field operations and safety will help you optimize your farm and have you on the way to higher profits.

Fortunately, some simple improvements to your basic operations can go a long way in conserving fuel and enhancing your overall productivity.

IN THE FIELD

One of the best ways to start improving your overall efficiency is by finding ways to reduce your energy and fuel consumption in the field. New technology such as conservation tillage systems can cut fuel costs by reducing the number of passes you make in your fields. There also are reduced-till systems that can help farmers combine multiple operations into one.

Other factors to consider include tractor maintenance and operation. This may seem basic, but don't overlook some of the most routine aspects of tractor care that can lead to extended equipment lifespans. This includes changing the oil and filter, lubricating bearings and performing regular engine tune-ups. Check in with your tractor dealer to see if they offer tractor maintenance programs to keep



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you on schedule.

OSHA TIPS

Operating a successful farm also is dependent on safety. The Occupational Safety and Health Administration offers the following tips on how you can foster a safer farm envi-

ronment, which will lead to higher morale and productivity in your workforce.

- Read and follow instructions in equipment operator's manuals and on product labels.
- Inspect equipment routinely for problems that may

cause accidents.

- Discuss safety hazards and emergency procedures with your workers.
- Install approved rollover protective structures, protective enclosures or protective frames on tractors.
- Review and follow instruc-

tions in material safety data sheets and on labels that come with chemical products

- Be aware that methane gas, carbon dioxide, ammonia and hydrogen sulfide can form in unventilated grain silos and manure pits and can explore or suffocate workers.



So You Want To Be a Farmer

If you're not afraid of a long work day and are interested in being your own boss, starting a farm might be right for you.

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Many farms are passed on from generation to generation, keeping land, crops and animals in the family.

But new farmers start their own operations every day. With a little help from peers, national organizations and advocacy groups, anyone interested in becoming a farmer has the tools to do so.

EDUCATION

As with any profession, education can be the key to getting your foot in the door. Universities across the country offer farm and ranch management degrees to give you the

inside track on the industry. Learn about farm loans, operational processes, equipment maintenance and growing strategies to hone your knowledge of what it takes to run a farm.

Other areas of focus can include risk management, accounting, general rural entrepreneurship, plant management and crop insurance.

Colleges also can hook you up with powerful internships on farms or local businesses in the agriculture industry. These experiences will help shape the foundation of your farming career and set you up for

future success.

MANAGEMENT

One of the most important factors to quality farming doesn't occur in the fields or among the livestock you may raise. It happens in the office. A farmer must keep accurate, comprehensive accounting books to stay on top of the farm's financial health.

There also is technical information to learn and trends to follow, including agricultural methods and changes to government regulations. Farmers must consider a variety of industry information to guide

their actions. This is why business acumen is so important to today's farming professionals.

As you can see, farming is about more than growing crops or raising cattle. It's about the science behind smart business decisions and implementing the practices that work for your individual farm.

ANIMALS & CROPS

There are different types of farming disciplines to consider. Livestock farmers raise animals such as cattle, lamb, pigs and chicken. Aquaculture

farmers raise fish in ponds or floating pens. There are animal-specific chores and associated costs to consider, so explore all options before settling on what type of livestock you will manage.

Many options are also available for produce farmers, who can choose from fruits, vegetables and various grains. The job consists of planting, tending and harvesting plants throughout the season.

Technical knowledge such as growing conditions, plant diseases and efficient crop management will be beneficial to your overall farming strategies.

Winterizing

Winter conditions are already impacting some parts of the country, meaning the time is now for preventive measures to winterize your farmland and equipment.

No matter the size of your farm, adequate preparation for colder conditions, snow and ice is vital to efficient operations in the spring.

FARMLAND INSPECTION

The first step to preparing your farmland ahead of the wintry conditions is taking a close look at your land, equipment, facilities, buildings and animals. Plan to give your farm a comprehensive inspection about a month ahead of when snow and ice generally hits your part of the country.

Check your farm for any necessary repairs or maintenance. Problem spots can include fences, barns, stalls, pastures and chicken coops. Address and safely repair any issues that can lead to unsafe conditions for your livestock, plants or workers.

Now is also the perfect time to do some pre-winter cleaning around the farm. Organize the contents of your buildings so you can get to them in the case of a winter emergency. Extra fencing supplies and generators are examples of items you'll want to be able to locate quickly in the case of a damaging winter storm. Give your buildings a once-over to make sure you have a handle on where your essential items are stored.



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EQUIPMENT

Is there anything worse than trying to start your tractor in the spring and not hearing the engine rev up? Sending your equipment into the wintertime without the proper preventive maintenance is a mistake that

could set you back in the busy spring planting season.

Consult with your manufacturer's guide or dealer for the proper maintenance schedule for your particular tractors. Generally, the first step for putting equipment away prop-

erly is an oil change. Replace your oil and oil filter, if your engine has one.

If you are working on machinery with hydraulics, now is the time to check your fluid. If you see any water, it's time for a change. That water

can freeze or cause corrosion to internal parts. Also inspect your antifreeze to see if you need to add coolant.

These simple steps can help prepare your equipment for a healthy winter and upcoming spring.

Corn: By The Numbers

After some roller coaster growing seasons across the United States in recent years, the 2015 corn harvest looks to be a good one.

That is welcome news to families across the nation. According to the United States Department of Agriculture, family farmers grow 90 percent of American's corn.

What's even more impressive is that American corn growers aren't just resting on their laurels. They are working together to make serious strides in reducing their carbon footprint.

Consider these statistics, as reported by the Corn Farmers Coalition:

- America's corn farmers have planted 1.2 million miles of conservation buffer strips that protect and preserve soil, water quality and wildlife habitat.

(Conservation Technology Information Center, Purdue University).

- Because of cutting-edge technological advances in farming, the land required to grow a bushel of corn has decreased by 30 percent. (Field to Market).

- Corn farmers have reduced greenhouse gas emissions by 36

percent thanks to technological advances in farming practices (Field to Market).

- America's corn farmers have reduced soil erosion 67 percent by using innovative conservation methods (Field to Market).

- Farmers grow 87 percent more corn per ounce of fertilizer through the implementation of innovative farming practices (USDA).

- The energy used to grow a bushel of corn decreased 43 percent thanks to innovative technology (Field to Market).

- Through machinery technology advancements, family corn farmers can sustainably plant 30 percent of the nation's crop in seven days (USDA).

- America's corn farmers grow 33 percent of world corn exports by employing advanced technology (USDA).

- America's corn farmers exported \$6.4 billion worth of corn last year — one of the few U.S. products with a trade surplus (USDA).



Precision Farming

A new crop of farmers is emerging within the bean and corn fields across the United States. They rely on sophisticated technologies and advanced techniques to farm their land. And it's not as complicated as it sounds.

The goal of precision farming — also known as satellite farming or site-specific crop management — is to improve farmers' profits and harvest yields while also lessening the negative impacts of farming on the environment that come from over-application of chemicals. The U.S. Department of Agriculture, National Aeronautics and Space Administration, and National Oceanic and Atmospheric Administration are among the key agencies contributing to the agricultural revolution that is precision farming. But what does it mean and how can you implement its practices on your farm?

WHAT IS PRECISION FARMING?

A day in the life of the precision farmer looks something like this: While riding along in your field, you push a button on your tractor to turn on its global positioning system and pinpoint your exact location. Another nearby button for your geographical information system displays key information about your soil, including moisture, erosion and other critical indicators.

From the seat of your tractor, you can also upload remote sensing data to show



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you where your strongest crops are located and which areas of your field may need additional applications of fertilizer or pesticides. An onboard machine can then automatically regulate the location and amount of these applications.

These types of technological advancements can help farmers more efficiently man-

age their croplands and set smart growing strategies. They also enable growers to identify problem spots for weeds, insects, soil moisture issues and plant disease outbreaks.

HOW DOES IT HELP?

Precision farming makes it possible for growers to survey all of their land — a task virtu-

ally impossible through first-hand observations on a large farm. This is the single biggest benefit of monitoring your fields through satellite and aerial technology. The more you can see, the more control you have over your crops.

The statistics and insights produced by precision farming tools help a farmer analyze and correct conditions

that may be negatively affecting crops at all stages of the growing season.

Precision farming also can indicate problems early, letting farmers get ahead of issues that can severely compromise a season's crops. And as with any business, the quicker you can implement positive change, the larger the impact on your bottom line.

Farm Loans

Breaking into and sustaining success in the agriculture industry is all about access to capital. The equipment, farmland and other necessities are not only critical in farmland operations, but they are expensive, as well.

Federal efforts have opened up many opportunities for farm loans, including USDA's direct and guaranteed farm ownership and operating loans. The Farm Service Agency provides the direct variety, while guaranteed loans are made by banks, credit unions, community development financial institutions or other lenders and guaranteed by the FSA.

Over past 75 years, FSA has provided more than \$60 billion in loan funding to farmers through its direct loan program and guaranteed more than \$59 billion in additional loan capital, according to the USDA. This translates to over 3.7 million loans made to farmers and ranchers in all 50 states as a result of federal FSA loan programs.

According to USDA and FSA specifications, these loans can be used for a variety of purchases, including:

- Farmland, equipment and livestock;
- Feed, seed and fuel;
- Crop and other farm insurance;
- Costs associated with land and water development;
- Refinancing of debts under certain conditions;
- Construction or repair of buildings; and
- Soil and water conservation efforts.



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HOW TO GET A FEDERAL LOAN

The direct loan process is simple. Loan applications are available online, but farmers must apply in person at an FSA county office or USDA service center. All approved borrowers are required to attend borrower training, which typically consists of a classroom-type workshop on financial management. To be eligible for a

direct loan from FSA, a farmer must demonstrate sufficient education, training and experience in managing or operating a farm.

Farmers apply for guaranteed loans as they normally would with local commercial lenders.

The lender may apply for an FSA loan guarantee if the farm proposal looks realistic, is financially feasible and fea-

tures sufficient collateral but cannot be approved because it does not meet the lending institution's loan underwriting standards.

REPAYMENT TERMS

Loan repayment terms and interest rates vary according to the type of loan made. Operating loans are typically repaid within seven years, while farm ownership loans

cannot exceed 40 years. Interest rates are calculated monthly. Find current rates on the FSA website at fsa.usda.gov.

According to the FSA, the maximum loan amount a farmer can receive for direct operating or ownership loans is \$300,000; a guaranteed loan is capped at a combined limit of \$1.355 million (2014), a rate adjusted for inflation each year.

Selecting a Breed

Is a farm really a farm without chickens? The eggs, the fertilizer and the relative ease of care all make chickens a wildly popular addition to the farmstead.

But with more than 200 breeds, how do you select the type of chicken that's right for you and your farm's goals?

Temperament, size and egg color are all factors to consider before settling on your breed of choice.

Depending on your particular needs, learning more about these factors can help make your decision easier.

WHAT ARE YOUR GOALS?

Before buying your first chickens, decide what you want to achieve. Will you be raising them for their eggs or for show?

Farmers raising chickens for egg production generally choose larger breeds of chickens for their production efficiency. Smaller bantam varieties can be great for show chickens or for keeping as pets.

Are you raising them for meat? Some breeds were developed purely to raise for eating.

The classic meat-producing farm bird is a cross of a White Cornish and a White Rock called a Cornish Rock. These large chickens grow to 4 pounds within six weeks. Other breeds suitable for meat production include Cochin and Jersey Giant.



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TEMPERAMENT

Breeds can be either docile or aggressive, depending on how they act in certain situations. Experts note that genetics may be a secondary factor in determining a chicken's temperament. More telling can be the pecking order within a certain group of birds. The higher the pecking order, the more aggressive chickens tend

to be.

Ameracaunas are a notably high-strung and intense chickens compared to other breeds. If you have small children, picking a docile breed, such as the Buff Orpington, may be a good fit for your needs. Consult with your provider on behaviors of certain chickens before bringing them home to your family farm.

EGG LAYERS

Prolific egg layers can set you up for a season full of large, beautiful eggs. White Leghorns and other pure egg-laying breeds are the most popular for this purpose. If egg color is important to you, know that eggs can range in color from all shades of brown and tan to green, blue and white.

The most common egg colors are white and brown, while the Ameracauna are a hybrid breed that lay eggs in shades from blue to cream.

Researchers have found that there is no nutritional difference between different colored eggs, but you may have a preference in taste, so consider this factor when deciding on your chicken breed.