

Copyright 2016

Project Manager: Jamie Church

Cover Design: Kim Hale/Creative Services Staff
Kathy Wood & Jamie Church

Oklahoma Department of Career and Technology Education
Curriculum and Instructional Materials Center

All rights reserved.

Printed in the United States of America by the
Oklahoma Department of Career and Technology Education
Stillwater, OK 74074-4364

This publication, or parts thereof, may not be reproduced in any form photographic, electrostatic, mechanical, or any other methods for any use including information storage and retrieval, without written permission from the publisher.

Use of commercial products in these instructional materials does not imply endorsement by the Oklahoma Department of Career and Technology Education.

The Oklahoma Department of Career and Technology Education does not discriminate on the basis of race, color, national origin, sex/gender, age, disability, or veteran status. This publication could not have been printed without the expertise and commitment of the Printing Plant staff under the supervision of Randy Seales. Delivery of the final product was accomplished through the excellence of the Curriculum Customer Service and CIMC Warehouse staff, under the direction of Hank Martin.
Cover photos purchased from Thinkstock Photos.



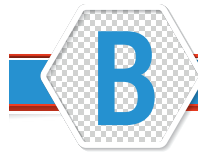
accident	undesirable events that often result in harm or injury to individuals, property, or the environment
abdomen	one of three insect body segments; holds the digestive and reproductive systems
abiotic	non-living; abiotic components of the ecosystem including sunlight, atmosphere, water, soil, topography, and climate
abiotic diseases	non-infectious diseases or disorders caused by environmental factors such as pollution, nutrient imbalances, temperature extremes or water imbalances
abscisic acid	naturally occurring plant hormone that prohibits growth
abscission layer	special layer of cells that form at the base of a plant leaf petiole causing the petiole to become weak and break at that point
AC	letters used to represent an alternating electrical current welding machine
AC/DC	letters used to represent a welding machine that can use alternating or direct electrical current
accessory	items used to support a floral design, such as a ribbon or fruit
accident	any suddenly occurring, unintentional even that causes harm or injury to individuals, property, or the environment; unintentional harm; an unforeseen and unplanned event or circumstance

accuracy	keeping the story information true and factual
acetylene	a colorless, flammable gas; the most commonly used fuel for oxyfuel applications
acid rain	pollutants trapped in the air and return to Earth in some form of precipitation
acidosis	condition when too little oxygen and too much carbon dioxide are in the blood
acquired immunity	resistance to disease developed actively or passively
acre	unit of area equal to 43,560 square feet; about the size of a football field
action photos	photos of something happening such as in sports or crop harvesting
action threshold	pre-determined level at which pest control is needed
active	level of FFA membership for those students who have paid dues
active immunity	requires having antibodies present in the blood and acquired after being exposed to antigen producing organisms
acute effect	effect in which symptoms appear soon after exposure, such as a chemical exposure
acute symptoms	symptoms that are apparent shortly after exposure
acute toxicity	one-time chemical exposure that produces symptoms within a short period of time
additives	components added to feed that are of no nutritive value such as antibiotics

<i>adventitious</i>	roots that grow on plants that have a main tap or fibrous root system; typically form on the plant stems or leaves	<i>alleles</i>	alternative gene forms; two parts to each gene denoted by either a capital or lowercase letter in a Punnett square
<i>aerate</i>	supply with air as in turf or soil	<i>alley cropping</i>	method of production in which two agricultural crops are grown in alternating rows; one crop produces a harvest while the other is growing
<i>aeration</i>	movement of air in and through the soil		
<i>AFCI</i>	arc fault circuit interrupter	<i>alloy</i>	metal that contains two or more materials, with one of the material consisting of the base metal
<i>afterbirth</i>	placenta and fetal membranes after the female has given birth	<i>alternate</i>	leaves are found at different levels along a stem
<i>aggregate</i>	to clump together; crushed rock; an ingredient of concrete	<i>alternating current (AC)</i>	current that alternates from one direction to another 60 times per second, and is expressed as 60 Hertz
<i>agribusiness</i>	all business that supports production agriculture	<i>alumni</i>	level of FFA membership for supporters of the local FFA chapter; dues are paid yearly
<i>agriculture</i>	production of plants and animals, and related supplies, services, mechanics, products, processing and marketing; art and science of raising crops and livestock; also known as agriscience	<i>amino acids</i>	building blocks of protein; used for the formation of tissues and muscle production
<i>agriscience</i>	application of agricultural principles and new technologies	<i>amperage</i>	amount of current or rate of electron flow in a welding circuit
<i>agritourism</i>	agricultural enterprise that allows the public to visit and experience the operation for enjoyment	<i>amperes</i>	units that measure the strength of an electrical current; usually shortened to amps
<i>agronomy</i>	branch of agriculture that studies field crop production and management	<i>analogous color</i>	any three colors next to each other on the color wheel, which usually includes one primary color
<i>air</i>	a colorless, odorless, tasteless mixture of gases	<i>analysis tag</i>	provides information on a seed bag about the quality factors of the seed such as the kind and variety, lot numbers or identification, pure seed, weed seed, germination and test dates
<i>air pollution</i>	contaminants to air which reduce air's quality		
<i>air quality standard</i>	the maximum level of pollution allowed at one time in a geographical area		
<i>albumen</i>	part of the egg that provides the liquid in which the chick will develop; also known as the egg white		

<i>anaphylaxis</i>	allergic reaction that may occur when an animal is repeatedly injected with a specific drug or drug similar to one previously administered	<i>antibodies</i>	proteins in the blood that develop in response to the presence of an antigen, or foreign substance or disease in the body
<i>anemia</i>	red blood cell deficiency	<i>antigen</i>	toxin or foreign substance that stimulates an immune response
<i>anesthetic</i>	medications used to block pain in specific areas or can be used to sedate animals before surgery	<i>antiseptic</i>	agent that destroys or severely inhibits microorganisms that cause disease
<i>anestrus</i>	condition where the female does not cycle due to insufficient hormonal stimuli	<i>antitoxins</i>	substances that counteract a specific toxin or poison
<i>angiosperms</i>	plants that produce flowers and seeds that are enclosed in a fruit	<i>aperture</i>	controls how much light enters the camera through the lens
<i>animal husbandry</i>	practice of breeding and raising livestock	<i>appropriateness</i>	how well elements match the purpose and audience
<i>animal unit</i>	standardized measurement in agriculture; one unit is one 1000-lb	<i>aquaculture</i>	growing and caring for animals in water
<i>animal unit equivalent</i>	percentage of an animal unit used in making grazing calculations	<i>aqueduct</i>	man-made channel for moving water
<i>animal unit month</i>	amount of forage needed to support one animal unit for a month	<i>aquifers</i>	subsurface permeable rocks that can contain groundwater
<i>annual</i>	plant that completes its lifecycle in a single growing season	<i>arboriculture</i>	planting, transplanting, fertilizing, pruning, bracing disease control and general care of trees and shrubs
<i>annual percentage rate</i>	interest rate for most loans other than credit cards; percentage cost per dollar per year	<i>arc</i>	electrical discharge between two electrodes or other points; bright light created between the electrode and base metal when welding
<i>antemortem inspection</i>	inspection before the death of an animal	<i>area</i>	surface or amount of space in an object
<i>anterior presentation</i>	normal presentation of birth in which both front feet are up with one extended a little further with the nose between the feet	<i>arrangement</i>	method of loan repayment in which smaller payments are made over a longer period of time
<i>anthelmintics</i>	dewormer; used to control various types of worms	<i>arthropods</i>	invertebrates that have no spinal column; examples include insects, spiders and crustaceans
<i>antibiotics</i>	used as a prevention and treatment of diseases and infections; kills bacterial germs	<i>artificial drainage</i>	removal of surplus soil water by open ditches and subsurface conduits

<i>artificial insemination</i>	breeding technique where an insemination gun or instrument is used to deposit semen into the reproductive tract of the female
<i>asbestos</i>	toxic heat- and friction-resistant material when inhaled
<i>asexual propagation</i>	reproduction using cuttings from leaves, stems, or roots to make new plants
<i>asphyxiation</i>	loss of consciousness (passing out) caused by too little oxygen and too much carbon dioxide or other chemical in the blood; suffocation
<i>assets</i>	possessions; items of value that a business owns
<i>atmosphere</i>	blanket of gases surrounding Earth that contains about 78% nitrogen, 21% oxygen, and 1% other gases such as argon, carbon dioxide, and water vapor
<i>attribution</i>	credit given for a quote or piece of information
<i>authenticity</i>	genuine or real
<i>automatic watering system</i>	electronically activated watering system that is best suited for large areas or plants that require daily or more frequent watering
<i>autotropism</i>	no stimulus to change the direction of plant growth
<i>auxins</i>	hormone that targets stems and naturally produced in the apical meristem or tip of the plant
<i>aveoli</i>	groups of tiny units where milk is produced within an animal's mammary system
<i>axillary buds</i>	located on the side of a stem; produces new leaves or stems
<i>axis of the weld</i>	line through the length of a weld, perpendicular to the cross-section at its center of gravity



<i>backfire</i>	condition in which a cutting torch flame momentarily burns back into the tip when oxy-gas cutting; usually accompanied by a loud pop
<i>bacteria</i>	microscopic single-celled organisms without an organized nucleus
<i>bactericide</i>	chemical used to control bacteria; also known as a germicide
<i>balance</i>	how the elements "weigh" on the page in graphic design; steadiness and stability of a floral arrangement
<i>balanced ration</i>	animal feed ration with all the nutrients an animal needs
<i>balers</i>	machine used for packaging hay
<i>ball-and-burlap</i>	tree or shrub with an undisturbed mass of soil remaining on the roots; wrapped in sackings and/or a wire basket
<i>balling gun</i>	instrument used to administer pills, capsules, or boluses orally
<i>bankruptcy</i>	federal court permits the debtor to keep some items and sells the rest to pay debt; often a last option
<i>bantams</i>	term that represents small sized breeds of chickens
<i>bare-root</i>	tree or shrub for transplanting that has little or no soil around the roots
<i>bark</i>	outermost portion of the stem on a woody plant
<i>barrow</i>	castrated male hog

basal area	cross-sectional area of trees at stump height and is used to determine volume	biodiversity	ability of an ecosystem to sustain a variety of species of both plants and animals; variety in soil and organisms
base line	line running parallel to latitude lines (east and west) through an initial point using the Public Land Survey System	biofuel	fuel created by converting plant products to usable energy
base map	a map drawn to scale identifying the large physical elements (buildings, driveways, walkways), planting beds, patios, and turf area	biogeochemical cycle	cycle that depicts the circulation and reuse of matter in nature
base metal	the primary metal being worked on	biohazards	pathogen that can possibly pose a health risk when released into the environment
beef	high quality protein meat from cattle	biological	products, such as vaccines, used to prevent disease
best management practices (BMPs)	practical and economical way to protect the environment and use natural resources	biological assessment	process of evaluating the health of a stream by using biological indicators
beveled edge	angled surface sharpened to create the cutting edge of a hand tool	biomass	plant materials and animal waste converted to fuel sources
beveling	process of cutting an angle into the end of a workpiece	biosphere	refers to the living world and includes all living organisms
bibliography	collection of materials used in preparing an oral presentation or written speech; allows credit to be given	biotechnology	use of technology to produce useful products or improve existing products through the manipulation of living organisms
biennial	plant that completes its lifecycle in two growing seasons	biotic	living components of an ecosystem including humans, plants, animals, fungi, and bacteria
bill of materials	comprehensive list of materials and items needed to build or make a product	biotic disease	plant diseases caused by parasites or infectious pathogens
binomial nomenclature	type of naming system using two Latin names	birding	identification and study of birds as a hobby; also known as bird watching
bio-security	precautions taken to protect against the spread of lethal or harmful organisms and diseases	black layer	abscission layer that forms when the hard starch layer reaches the kernel base in corn; signifies physiological maturity
biodiesel	alternative fuel for diesel engines made from vegetable oil or animal fats	blade	expanded, flattened portion of a leaf
		blastocyst	embryonic stage where there are two distinct groups of cells

bleed	when the color or picture goes off the page	brackish	semi-salty water
bloat	occurs when there is rapid fermentation in an animal's rumen that causes excessive gas production	brads	very small finishing nails used for tasks such as frames and cabinetry
boar	male hog that has not been castrated	branch circuits	portion of a wiring system after the overcurrent protection
board feet	144 cubic inches; amount of wood 1 inch thick x 1 foot wide x 1 foot long	branch collar	bulge that forms at the base of a branch from overlapping layers of branch and stem tissues
body	main points of a presentation; supporting information, background, facts or quotes in a news story	branding	practice where a permanent mark is made to the animal's hide or flesh
body language	non-verbal communication method; gestures, eye contact, feet movement	brazing	process that is used to combine metals that may be dissimilar; the filler metal must have a melting point above 840° F, but lower than the melting point of the base metal, and the filler metal is drawn into a tight-fitting joint
body mechanics	study of proper body movement to prevent posture problems and reduce stress on the body	breech birth	when an animal leads with its back and hind feet when leaving the birth canal
bogs	freshwater wetlands that are found in colder regions	breed	group of animals that through selection and breeding share the same characteristics
bolus	large pill for dosing animals	brevity	being brief, short and concise
bonds	investments in a company or government	brine	salty water; water of sea or salt lake
bonsai	art of dwarfing and shaping trees through pruning	broadcast	radio and television news including over the air, on cable or via satellite
borders	a frame in the layout that can add structure and formality to an advertisement	broiler	chicken six to eight weeks of age that usually weighs around 4 pounds
botany	study of plants, including structure, growth, classification, and lifecycle	brood stock	adults fish kept for reproduction
bottom heat	artificial heat that keeps the soil or media warm	brooding	specialized care of chicks during the first few weeks of life
boutonniere	flower or small grouping of flowers worn by a man, usually on a jacket lapel	BST	bovine somatotropin; naturally occurring hormone that stimulates milk production
bovine	general Latin term relating to cattle		

buck	uncastrated male goat	calipers	used to measure the diameter or thickness of an object
budding	method of plant propagation in which a bud is attached to stock plant by various means to produce a more desirable plant	callus	undifferentiated mass of cells; created from propagating plant tissues
budget	plan that helps track income and expenses	calyx	whorl or arrangement of sepals around the outside of the flower
budstick	twig used as a source of buds when budding	cambium	layer of cells between the bark and wood where growth occurs, forming annual rings of new wood inside and new bark outside; thin layer of tissue in a plant stem that produces both the xylem and phloem cells
bulb pans	container that is half as tall as its width	camping	living in close contact with nature
bulk density	indicator of soil compaction, defined as the weight per unit volume of soil (grams/cm ³)	candid photos	photos in which the subjects are not posed
bull	uncastrated male beef animal	candling	shining a light into an egg to determine quality
buller	cow in heat for a long time	cannula	hollow tube used with a trocar to relieve bloat in animals
burrs	sharp particles left behind after sharpening or filing a hand tool	canopy	forest level above the understory; often thought of as the "roof" over the forest
bushel	unit of dry measurement equaling 32 quarts or 2,150.42 cubic inches	capillary action	process that draws water upward from the bottom of a pot or planting bed
butt joint	joint used to join two pieces of metal together at the ends or sides	capillary pores	space within soil or media filled by water
butterfat	fatty portion of milk	capillary water	water held by the soil and available to plants through their roots
by-products	product used secondary to a primary product	capital	items or inventory purchased or sold outside a one-year time period; non-current
			
cables	insulated copper, extra-flexible leads that carry the current from the power source to the electrode	capon	castrated male chicken
cabrito	meat from a goat under 40 pounds live weight and not yet removed from the mother	caponize	castration of a male fowl
calf	young beef animal	caption	photo label in a newspaper or magazine that provides the reader more information

carbohydrates	relatively large molecule that is made of carbon, hydrogen, and oxygen that is important for plant structure and energy storage	cash equivalents	type of investment with the lowest risk; includes bank and money market accounts
carbon monoxide	colorless, odorless, and poisonous gas that kills people in homes and automobiles with leaking exhaust systems	cash markets	markets where participants buy and sell commodities which are sold for cash and delivered immediately
carburetion	supplying an air/fuel mixture to the combustion chamber of a combustion engine	cashmere	fiber taken from the undercoat of any goat breed other than the Angora
carburetor	provides correct amount of air/fuel mixture to engine	castrate	removal of male testicles
carburizing flame	flame that burns more fuel than oxygen	cations	positively charged ions
carcass	body of meat that remains after all non-meat materials have been removed	caustics	substances that burn or destroy tissue by chemical reaction
career	profession or line of work actively pursued	CDE	Career Development Event; contests available for FFA members to participate and learn more about a particular career area
career clusters	division of all jobs into 16 areas by the U.S. Department of Education	cecum	pouch connected to the junction of the small and large intestines
career pathways	subdivisions of career clusters that further define a career by skills and knowledge	cell	basic unit of all life
carelessness	failure to think before one acts or failure to pay attention	cell membrane	gives a cell its shape, provides protection, and holds the cytoplasm; also helps to control what moves in and out of the cell
carnivores	animals that eat primarily meat	cell wall	provides support and protection for the plant; made up of cellulose
carrying capacity	number of each wildlife species the habitat can support throughout the year without damage to either the animals or the habitat	cells	basic structural unit of all living things
Cartesian coordinate system	system in which the location of a point is given by coordinates that represent its distances from perpendicular lines that intersect coordinates	celluloid	first plastic made from the chemicals found in plant cell walls
caryopsis	term for a simple dried fruit of a plant from the Gramineae or grass family of plants	cellulose	complex carbohydrate composed of glucose that forms the main part of the cell walls of most plants; used in the manufacturing of products such as paper
		cement	finely ground product of limestone and clay; principal ingredient of concrete

<i>center of origin</i>	geographic region where a crop was domesticated	<i>chromosomes</i>	found in the nucleus; thread-like structures made of protein and a single molecule of DNA; contain genetic information passed from one generation to the next
<i>center of production</i>	geographic region of extensive production of a given crop	<i>chronic effect</i>	effect in which symptoms surface much later, perhaps even years after exposure
<i>central nervous system</i>	part of the nervous system that includes the brain and spinal cord	<i>chronic toxicity</i>	refers to long term effects resulting from exposure to small amounts of chemicals such as pesticides over time
<i>certification tag</i>	indicates on a seed bag the variety stated and that the seed has met standards to ensure genetic purity and identity	<i>circuit</i>	path for electrical current to flow
<i>cervix</i>	strong, tough muscle that blocks the fetus from the outside world until time for birth	<i>circuit breaker</i>	overcurrent protection device that shuts off the current in a circuit
<i>chalazae</i>	two cords that hold the yolk in the center of the egg	<i>cisterns</i>	holding area for milk within an animal's mammary system
<i>chaplets</i>	circular arrangements of flowers or foliage worn on the head	<i>clans</i>	group of people united by common interests; tribe
<i>chattel mortgage</i>	loan secured by moveable personal property rather than by land or permanent fixtures	<i>clarity</i>	writing so the story makes sense to the reader
<i>chevon</i>	meat from an older goat	<i>clean-up male</i>	male animal placed with the herd after artificial insemination to ensure the maximum number of females have settled
<i>chevre</i>	goat cheese	<i>climate</i>	weather or environmental conditions of an area including the factors of temperature and moisture
<i>chick</i>	young, immature chicken	<i>climax</i>	plant native to an area
<i>chipping hammer</i>	tool with a sharp edge on one side of the head and a point on the other; used to remove slag or residue left on metal after welding	<i>cloning</i>	act of developing a group of genetically identical plants from a single plant
<i>chlorofluoro-carbons (CFCs)</i>	group of compounds consisting of chlorine, fluorine, carbon, and hydrogen	<i>closed-faced</i>	type of sheep with wool on the face
<i>chlorophyll</i>	green pigment in leaves; needed for photosynthesis	<i>cloud</i>	mass of tiny water droplets or ice crystals in the atmosphere
<i>chloroplasts</i>	gives plants their green color; composed of chlorophyll	<i>coal</i>	combustible sedimentary rock that has been formed from the compression of plant material over millions of years
<i>chlorosis</i>	changes in plant color, such as when leaves turn yellow		

cock	mature male chicken that has not been castrated or caponized; rooster	common house cat	cat that is a mix of various breeds
cockerel	young male chicken under one year of age	common name	name most often used to identify plants
code of ethics	rules and standards that guide journalists in making ethical decisions	communication	act of transmitting or exchanging information or opinions
cold-blooded	lacking the ability to regulate body temperature	complementary colors	two colors that are opposite each other on the color wheel
collegiate	level of FFA membership for college students who are striving to become a part of the agricultural community upon graduation	complete fertilizer	synthetic means for providing nitrogen, phosphorus and potassium to plants in varying percentages
color	appearance of something based on the light wave that is not being absorbed by an object	complete flower	flower that has all four main parts – petals, sepals, stamens, pistil
color wheel	chart of colors; tool that shows the relationship between colors	complete metamorphosis	life cycle stages of an insect or external parasite that consist of an egg, larva, pupa and adult
colostrum	first milk a female animal produces after giving birth; contains antibodies for newborn animals	complete protein	food that provides all of the essential amino acids that humans require in their diet
colt	male horse younger than three years old	composite breed	breed formed from two or more established breeds
combine	machine used to cut and thresh grain in a single operation	composition	arrangement of objects in the photo
combustible	able to ignite easily and burn quickly; example, wood and paper	compost	matter decomposed into a rich dark soil material used as an organic fertilizer
combustion	chemical reaction among the elements of the fire tetrahedron; process of burning	compression	to create pressure in the combustion chamber by condensing the size of the chamber
combustion chamber	space inside an engine block where combustion occurs, otherwise known as an engine cylinder	compression bandage	stops the flow of blood from an artery by applying pressure
commodity	any raw or primary agricultural product that can be bought or sold	compression ratio	difference in volume created in the combustion chamber of an engine as the piston moves up and down, shown as a ratio of maximum volume to minimum volume

<i>compression stroke</i>	motion in an engine where the fuel and air mixture are compressed	<i>consumables</i>	items that will be used up in a process
<i>concentrates</i>	feedstuff that is low in fiber and relatively high in digestible energy nutrients like cereal grains	<i>consumer price index</i>	measured by estimating the average price of consumer goods and services purchased by individuals
<i>conclusion</i>	summary or end of a presentation; reinforces the central idea	<i>consumers</i>	organisms that eat plants or other consumers
<i>concrete</i>	artificial stone made from Portland cement, sand, aggregate, and water	<i>contact cutting</i>	hand cutting technique that requires holding a torch at a slight angle and keeping the torch in contact with the workpiece as a cut is made
<i>condensation</i>	process by which the water vapor cools and changes back into liquid	<i>contagious</i>	transmissible to other animals
<i>conditioning</i>	working to develop behaviors in animals	<i>container</i>	pot or planter that provides protection for root system and plant survival
<i>conductor</i>	material that allows electricity flow through it easily; wire that provides pathway for the flow of electrons	<i>container stock</i>	stock landscape plant materials grown in some type of container
<i>confinement operation</i>	animals raised in pens or cages often environmentally controlled for temperature, humidity and other factors	<i>contaminated</i>	infected or unclean
<i>conflict</i>	drama or excitement of the news	<i>contiguous greenhouse</i>	two or more even-span greenhouses connected at the eaves; contains inner walls separating the greenhouses
<i>coniferous</i>	trees that produce seeds in cones; usually various types of evergreens such as pines and firs	<i>continuity tester</i>	device used to test the continuity of an electrical circuit and to detect faults
<i>conservation</i>	practice of preventing wasteful over use of energy; wise use and management of renewable resources	<i>contour farming</i>	practice of plowing across the slope of a field rather than going up and down the slope
<i>conservation easement</i>	voluntary, legally binding agreement limiting what can be done with the property	<i>convenience store</i>	small store that stocks a limited number of food and household items
<i>conservation tillage</i>	tillage practices that provide for control of wind and water erosion partially by managing crop residues	<i>conventional tillage</i>	farming practice in which crop residues are burned or buried and a fine, pulverized seedbed is used for planting
<i>consistency</i>	repetition in design that causes expectation and familiarity for the reader; the “glue” of the design	<i>cool colors</i>	colors associated with water and plants - blue, green, and purple – that create a relaxing and calming effect and tend to recede from the viewer

cool-season grass	grass that grows in the spring, goes dormant during the hot summer months, and starts growth again in the fall	crankcase	housing for an engine crankshaft; where oil is stored in a four-cycle engine
cool-season plants	plant that emerges and produces seed during the fall and spring; can tolerate cold temperatures, but not hot temperatures	crankshaft	device that converts circular motion to linear motion or linear motion to circular motion in an engine; can be vertical or horizontal
coordinates	group of numbers used to indicate the position of a point, line, or plane; such as longitude and latitude	cream	portion of milk that rises to the top
copulation	physical act of mating	credit	agreement for a lender to provide money in exchange for future payments with interest
Corn Belt	area of the United States that is high in corn production	credit history	record of borrowing and repayment
corner joint	joint seen in rectangular or square objects; blind, half-open, full-open	credit report	official record of a borrower's credit history as compiled by the credit bureau
corolla	all petals together on a flower	creep feed	additional feed for young animals that supplements nutrients provided by mother's milk
corrosive	materials that tend to eat away or consume an acid or drug	crimp	waviness of wool fibers
corsage	small arrangement of flowers worn by a woman on her wrist or pinned to her clothes near the shoulder	crop	trimming part of an original photo
cortex	layer of cells in a plant root that stores food	crop rotation	growing different crops on the same field in a planned sequence or during different growing seasons
cotton picker	machine that removes cotton from open bolls	crops	domesticated plant used to meet the needs of humans
cotton stripper	machine that strips the entire plant of bolls as well as some vegetative growth	cross-pollination	result of a flower being pollinated by a flower with different characteristics
coulomb	electrical charge that is 6.25×10^{18} electrons	crossbred	breeding together of two different breeds of animal within a species
cow	female beef or dairy animal that has given birth to a calf	crossover	mixing up of certain portions of genetic material during meiosis
CPR	cardiopulmonary resuscitation; a technique of rescue breathing and chest compressions	crotch	area where large branches join the trunk
		crown	upper portion of a tree that contains the branches, twigs, and foliage

crude protein	total amount of protein in a feed
crustaceans	water animals with three body parts; examples include crawfish, crab, shrimp and lobster
cryopreservation	technique used to freeze semen
cryptorchidism	lack of testes descent into the scrotum
cull	to discard from a flock or herd
culm	stem of a grass plant
cultivar	cultivated variety of plants that have distinguishing characteristics
cultural practices	crop management techniques that improve the production environment; examples include crop selection, planting date, and planting patterns
curb appeal	landscape design that accents the good parts of a home, detracts or hides the negative part, and laid out in such a way that guides a person to the entrance
curds	solid portion of milk after it is curdled and strained
current	items or inventory purchased or sold within one year's time; movement of electrons through a conductor
custom operators	hired by farmers to harvest fields; move from the south to the north
customary system	standard used in the United States and uses the inch, foot, yard, etc. as a means of measurement
cutability	proportion of lean sellable meat given by a carcass
cuticle	waxy layer protecting a plant leaf from water loss

cutting	(n.) any part which can be severed from the plant and is capable of growing on its own; (v.) process in which a part of the plant is cut from the stock plant in order to reproduce a new plant
cutting tool	used to cut, chop or saw materials for use
cycle	all the events that take place in an engine
cylinder	a container for a compressed gas
cytokinins	plant growth hormone that promotes cell division
cytoplasm	clear, jellylike substance contained within the cell membrane



dam	female parent of an animal
data	body of information, including facts, statistics
DC	letters used to represent a direct electrical current welding machine
debeaking	removal of the beak tip on young chicks
debris	loose material
debt	amount of money owed on an asset or investment
debt-to-equity ratio	extent to which debt capital is being combined with equity capital
deciduous	plants that lose their foliage at the end of the growing season

<i>decomposers</i>	organisms, often bacteria or fungus, that break down dead plants and animal matter, returning organic nutrients back into the ecosystem	<i>dicot</i>	plant that has two cotyledons (seed leaves) when it germinates
<i>decorative typeface</i>	any typeface that doesn't fall into the serif or sans serif category	<i>dieback</i>	occurs when a wide variety of fungal organisms and stresses cause tree branches to die at the tips
<i>decreasers</i>	plants that are easily chewed by animals and are nutritious	<i>diestrus</i>	stage of estrous where the corpus luteum produces hormones that stimulate the uterus to prepare for pregnancy
<i>deductible</i>	amount an individual is responsible to pay before insurance will begin paying for any repairs to damage	<i>digestible energy</i>	energy remaining from a feed after fecal energy is lost
<i>deductions</i>	money subtracted from a person's paycheck	<i>digestible protein</i>	protein that can be digested and used by animals
<i>deficiency</i>	shortage	<i>digestion</i>	process of breaking down feeds into simple substance that can be absorbed into the bloodstream and used by the body's cells
<i>defoliators</i>	insects that destroy plant foliage by eating the leaves, stopping or slowing food production in the tree	<i>digestive system</i>	system in which food is acted upon through physical (chewing) and chemical (stomach acids) means
<i>degree of cant</i>	angle of the tool head in relation to the handle	<i>digital citation</i>	citing of sources in PowerPoints, e-mails, and videos
<i>dehorning</i>	process of removing horns and preventing the growth of horns	<i>digital zoom</i>	enlarges the subject by magnifying the center of a picture; picture quality is reduced
<i>dehydration</i>	process of food preservation where moisture is removed	<i>dihybrid</i>	cross between two plants that differ from each other in two traits of interest rather than one
<i>delayed breeding</i>	when an animal does not cycle within the proper amount of time for breeding	<i>dinitrification</i>	process where nitrogen is lost when bacteria change nitrates in the soil into atmospheric nitrogen
<i>delineating</i>	determining a watershed's boundary	<i>dioecious</i>	type of plant that produces some flowers with only stamens and some with only a pistil
<i>dendrometers</i>	instruments used for measuring the diameter of a tree	<i>direct current (DC)</i>	electrical current that flows in only one direction
<i>depreciate</i>	decline in value over time	<i>direct seeding</i>	planting seeds directly in the soil
<i>deserts</i>	areas that receive little precipitation		
<i>diaphragm</i>	creates the opening in a camera for light to enter		

disease	abnormal condition that interferes with normal appearance, growth, or function; condition or disorder with recognizable signs and often having a known cause	double-cropping	practice of planting another crop immediately after harvesting the first crop in the field
dish garden	different types of plants in the same container	draft horse	horse that is taller than 17 hands; used for heavy work
disinfectants	materials that destroy infective agents such as bacteria and viruses	drag	occurs when travel speed during oxyfuel cutting is increased but the oxygen stream lags at the bottom of the cut
diversify	investing in several different areas	drainage	method by which water can runoff
dividend	amount of money paid out of profits that is divided among shareholders or creditors	drainage basins	term used to refer to large watersheds; also known as a river basin
division	process of dividing plants into two or more parts that spread by underground roots or stems	drake	mature male duck
dockage	refers to foreign material in harvested grain such as weed, seeds and chaff	dredges	large scoops that gather mollusks from the ocean bottom
docking	removal of the tail of an animal	drench gun	device used to orally administer liquid medications measured in cubic centimeters or ounces
doe	female goat	driving tool	device used to move another tool or object
domesticated	adapted for human use; generally refers to plants or animals	dross	metallic material waste that occurs when oxyfuel cutting that adheres to the workpiece near the cut surface
dominant	trait that is expressed over a recessive trait	dry cow	cow approximately two months before calving that has stop producing milk in preparation for birth
dominant element	focal point of the layout	dry-heat cooking	method of cooking used for naturally tender cuts of meat that have more moisture and less collagen
dominant hand	hand favored or used most often	dual-purpose	animals used for more than one purpose such as milk, meat, eggs, and fiber
dormant	resting stage; period of rest; seeds that are viable but do not germinate	dubbing	clipping of the comb on poultry
dorsal stripe	dark stripe along the spine of an animal	duckling	young duck weighing six to seven pounds
double pot	to place one container into another for decoration		

duty cycle (ratings) specify the amount of time a given load may be applied to a power source without overheating the internal components

dystocia birthing difficulties



earth ground connecting of electrical equipment to the earth by a wire or some other conductor

eave point at the peak of a roof which runs the length a greenhouse

ebb and flow bench type of raised bench that is approximately 3-6 inches deep and capable of holding water

ecosystem community of plants, animals, and microorganisms that interact with each other and their environment

ectothermic cold-blooded animals that depend on their environment for their body temperature

edge area where two or more distinct habitats intersect

edge joint joint used to join two pieces of metal at their edge

efficiency concept of maximizing energy production with the least amount of waste

egg female gamete

ejaculation dispelling of sperm from the pelvic urethra

electrical circuit complete path for the electric current from the source to the load and back to the source

electrical shock accidental flow of electricity through the body

electricity energy that comes from the movement of electrons

electrocution death caused by electric shock

electrode metal welding rod coated with flux

electrode holder hand-held device with insulated handles; used to grip a welding electrode

elevators storage facilities for harvested grain

ELUD use of drugs by non-veterinarians in ways not specified on the medication label to treat animals

eluviation downward movement of materials through soil when it rains

embryo fertilized egg

embryo transfer breeding technique where embryos from one female are collected and then transferred into the reproductive tract of the other females

emergent forest level that consists of trees that grow above the forest canopy

emissions gas-borne pollutants that are released into the air

emulsifiers substances that keep together liquids that tend to separate such as oil and water

endangered species in danger of extinction throughout all or a portion of its range

endodermis connected to the inside of the root cortex; helps the root retain water

energy power derived from the use of physical or chemical resources

energy consumption	amount of energy used by an animal	estrus	animal heat period indicating time for breeding; stage of estrous where ovulation occurs
engine	machine that converts energy into mechanical force and motion	estrus synchronization	reproductive management tool that involves the manipulation of the estrous cycle of females so they can be bred in a short amount of time
entomology	study of insects	estuary	arm of the sea that extends inland to meet the mouth of a river
entrepreneurship	type of SAE that allows a student to own his or her own business	ethanol	alcohol fuel that is often blended with gasoline
environment	everything that affects a living thing	ethics	system of moral principles that defines what is right and wrong
ephemeral streams	streams that exist for short periods of time generally following periods of heavy precipitation in the area	ethology	study of how animals behave in their natural habitat
epidermis	outermost layer that protects the entire plant and may be found on the leaves, stems, roots, flowers, and fruit; generally one cell thick	ethylene	gaseous compound produced mainly by fruits that speeds ripening
equilibrium price	intersection of supply and demand curves; point at which consumers and producers agree on a price	euthanized	medically put to sleep
equine	horse or member of the horse family	evaporation	process by which water is turned into water vapor; occurs when energy from the sun heats up water
equity	net worth; liabilities and debts against the SAE are subtracted from the SAE assets and investments	evaporative cooling	most commonly used cooling system in the greenhouse industry; fan and pad cooling
erect	term for ears that stand up as opposed to droop	evapo-transpiration	combined effects of evaporation and transpiration on the soil surface
erosion	removal of the top layers of soil by physical means such as wind or water; process of the surface wearing away	even-span greenhouse	self-supporting commercial greenhouse; distance from the ridge to the eave is equal on both sides
escape-gate	gate that can be easily and quickly used to exit a dangerous area	evergreen	plants that keep their green foliage year round
estrogen	female sex hormone	evisceration	process in which all internal organs are removed from the body cavity
estrous cycle	process a female animal's body undergoes to prepare itself for reproduction; heat cycle	ewe	female sheep of any age

exhaust	burned gases
exhaust stroke	motion in the engine where exhaust gases are forced out
exoskeleton	hard outer skeleton of an insect
exosphere	outermost layer of the Earth's atmosphere and extends from the top of the atmosphere to 62,000 miles above the Earth's surface
exotic pet	rare or unusual animal that is kept as a pet
expected progeny differences	indication of the genetic value of one animal compared to another within the same breed
expenses	transactions where money is spent
experience	one part of a total SAE program
exploratory	type of SAE that allows a student to explore opportunities in the agriculture industry
export	product sent to another country from the United States
exposure	being subject to a risk or unsheltered; amount of light collected by the sensor in a camera for a single photo
exsanguination	process of bleeding an animal
extemporaneous	speech or presentation in which the wording is chosen at delivery
external parasite	parasite that lives outside the animal



farrow	to give birth to a litter of pigs
fasteners	devices that are used to hold materials together or hold a material in place
fattening ration	ration that supplies the nutrients to support not only maintenance and growth but also the storage of energy in the form of fat
feathers	long, fine hair covering the lower legs of some animal breeds such as the Clydesdale horse
feed	food given to an animal for consumption
feed additives	additions to an animal's feed for growth acceleration, increased feed efficiency, increased production of animal products, or health maintenance improvement
feedback	response
feedstuff	any of the constituent nutrients of an animal ration, such as roughages, concentrates, supplements, and additives
fens	wetlands found in colder regions that receive water from drainage
feral	type of animal that descended from domestic animals now living in undomesticated areas
fermentation	process that causes sugars in milk to change to acids
ferrous metals	metals that have an iron content
fertigation	application of fertilizers through an irrigation system
fertile	capable of producing or holding a large amount as in plants and soil

fertility	ability of a male and a female to successfully fertilize an egg that produces offspring	fish farms	farm that breeds, raises and sells fish for profit
fertilization	moment when gametes (sperm and egg) join to form one complete cell	fishery	fish-raising segment of the aquaculture industry
fertilizer	soil amendment that contains a guaranteed minimum percentage of nutrients	fishing	capturing wild fish using hooks, nets, or other means
fertilizer grade	reflects the minimum guaranteed percentages of nitrogen, phosphorus and potassium	fixed expense	set amount of money due on a set date
fetus	developed embryo that has attached to the uterus of the female	fixed income	income that is the same amount each month
fiber crop	crop grown specifically for its fibers; used to make products such as cloth	flammable	capable of being ignited and fast burning; material with a flash point below 100°F
fiber diameter	average diameter of the fibers in a fleece	flank streaking	indication of marbling in sheep
fibrous root	type of root system that has many very small roots that spread out in the soil	flash point	temperature at which a material will burst into flames
field capacity	point at which water is held in the micropores by the surface tension between the water and soil solids	flashback	occurs when the flame burns back into the body of an oxy-gas torch
field crop	agricultural crop grown on a large area of land	flat weld	welding position in which the work piece is lying flat on a surface
field of view	composition of elements within the camera's image area	flats	horizontal containers that hold small plants
filly	female horse younger than three years old	fleece	all the wool taken from one sheep
financial plan	broad strategy for handling money	flight-zone	space that, if violated by someone or another animal, will cause the animal to flee out of instinct
fingerlings	fish 2 to 6 inches long used to stock grow-out ponds	flock	group of chickens
finish	term used to describe the amount of fat cover on an animal	floodplain	low area of land surrounding streams or rivers that holds water overflow during a flood
first aid	medical treatment given for minor injuries or illness or until medical attention can be attained	floriculture	production, care, and use of flowering and foliage plants
		flow	path a reader's eye travels on a page
		flower	reproductive organ of most plants

<i>flushing ration</i>	ration given to females prior to breeding to increase body weight	<i>forage harvesters</i>	either tractor-drawn implements or self-propelled machines used to chop forage
<i>flux</i>	provides a gas shield for the molten pool during the welding process	<i>forbs</i>	broadleaf seed-bearing plant
<i>foal</i>	male or female horse under one year old	<i>foreign material</i>	material that remains after dockage
<i>focal point</i>	central area to which a person's attention is immediately drawn; subject of a photo	<i>forest ecology</i>	study of the interaction of the parts of the forest ecosystem
<i>focus</i>	where the reader's eye goes first; it's what the eye is drawn to on the page	<i>forest stand improvement</i>	management plans that have the purpose of improving the forest by adjusting the number of trees or the vegetation underneath them
<i>fog</i>	clouds at or very near the ground	<i>forestry</i>	study of the cultivation, maintenance, and development of forests
<i>fog cooling</i>	newer modification of the fan and pad system in which pads are eliminated; nozzles are installed throughout the interior of a greenhouse	<i>forests</i>	provide major products such as paper and wood
<i>foliage</i>	grouping of leaves from one or more plants	<i>form</i>	mold or frame that concrete is poured into; three-dimensional shape of an object often referring to the shape of a tree or shrub; in floral design, it is the shape or outline of an arrangement
<i>food chain</i>	process by which energy is passed from one organism to another; follows a single path	<i>formal landscape</i>	a symmetrical landscape that incorporates straight lines or other symmetrical shapes such as squares, rectangles, and circles
<i>food processing</i>	steps involved in transforming raw ingredients into food products for consumers	<i>formal portraits</i>	photos taken in a photography studio, often in front of a portrait backdrop
<i>food technology</i>	application of food science to the selection, preservation, processing, packaging, distribution, and use of safe, nutritious, and wholesome food	<i>fortified</i>	enhancing a food product with additional vitamins or minerals
<i>food web</i>	depiction of how plants and animals are interconnected in a variety of ways; consists of many different food chains	<i>forward contracts</i>	markets where participants buy and sell commodities at a set price for delivery on a specified future date
<i>foot rot</i>	inflammation that affects the tissues between the toes and can be infectious	<i>fossil fuels</i>	nonrenewable energy source formed in the Earth from plant and animal remains; coal and oil
<i>forage</i>	animal feed that consists mainly of leaves and stalks from plants	<i>founder</i>	occurs when animals over-eat grains or lush pastures

four-cycle engine	four-stroke engine; four strokes are needed to complete a cycle
framed	object's place in relation to the edges of the image area
free choice	feed animals are able to access at any time
freemartin syndrome	frequent form of sexual abnormalities found in cattle where a female is born twin to a male
freshwater areas	streams, rivers and lakes which contain little to no salt
frilling	variation of girdling in which cuts are made at a downward angle around the trunk
fritted	elements are released slowly into the soil or potting medium
fruit	portion of a plant where seeds are present and is developed from the flower of the plant
fry	small fish after hatching from eggs
fuel	substance used to produce power by burning; gasoline and diesel are common
full-block format	format used in most business letters; it is flush left with no indentions and single spaced except between the paragraphs
full-service bank	offers a wide variety of services from ATMs to trust departments; individual and commercial accounts
fungi	plant-like organisms that lack chlorophyll and reproduce by spores; examples are molds, mildews and mushrooms
fungicides	pesticides that are used to control the development of fungi

fuse	overcurrent safety device consisting of a strip of wire that melts and breaks an electric circuit if the current exceeds a safe level
fusion welding	a process in which metals are bonded together by heating each piece above the melting point which will cause them to form together
futures contracts	similar to cash markets; the producer buys and sells contracts rather than the commodity itself



gaggle	group of geese
galvanized	metal that is coated with zinc in order to be non-corrosive
gametes	reproductive or sex cells; sperm and egg
gander	term for a male goose
garnishment	occurs when money is withheld from a debtor's paycheck until debt and court costs are paid
gauge	thickness of wire; device used in the shop to gauge thickness, clearance or spacing, diameter, or pressure of flow
gauntlets	protective coverings for the forearms, used in welding and cutting activities
gazebos	freestanding structures that have a roof but are generally open on the sides
gelding	male horse older than three years of age that has been castrated

gene	basic unit of heredity which contains the information to control traits	giblets	specialty poultry meats such as the heart, liver and gizzard
gene mapping	determining the location of genes with DNA	gilt	immature female pig that has not given birth
genetic engineering	process of transferring genes from one individual to another individual or organism	girders	beams that support the weight of the building; made from lumber or steel
genetics	branch of biology that deals with the study of genes and how traits are passed from parent to offspring	girdling	making a cut in the trunk and removing a section of bark and cambium around the tree, cutting off the supply of nutrients to the tree
genotype	allele combination of offspring; a plant or animal's genetic makeup	GIS	Geographic Information Systems; a system of geographical data used to map, analyze, and assess real-world problems
genus	group name in binomial nomenclature; division in scientific classification	Global Positioning System	satellite navigation system that provides location and time information anywhere on or near the Earth
Geographic Information System	software used to transfer GPS data into a usable format	Good Manufacturing Practices	procedures that have been developed to ensure a safe food product as well as a safe working environment
geomatics	a science of using mathematical methods on data about the Earth	goose	specific term for a female goose
geospatial technology	information, technology, and processes with a geographical or location component	gosling	young male or female goose
geothermal	energy created by the heat from the Earth's core	gothic greenhouse	slightly pointed greenhouse covered with corrugated fiberglass
germicidal	inhibiting the growth or action of microorganisms	grades	quality standards that are established by the United State Department of Agriculture
germination	the beginning of plant growth; occurs when the seed sprouts	grafting	method of attaching twigs, buds, or roots onto other stems or roots so the tissues are joined and a more desirable plant results
germination rate	amount of seeds that are expected to germinate	grain crop	field crop grown for its seeds such as wheat or barley
gestation	amount of time from conception to birth	grasslands	land dominated by uncultivated grass; can include forbs or legumes
GFCI	ground fault circuit interrupter		
gibberellins	plant hormone that stimulates cells to elongate		

gravitational water	water that moves down and away from the surface by gravity; not used by plants	ground beds	benches that are constructed directly on the floor and filled with media
gravitropism	plant's response to gravity; geotropism	ground clamp	used to fasten the cables to a workpiece or table where the workpiece is positioned so the welding circuit will be completed
grazing	eating growing grass	ground fault	unintentional electric path between a current source and a grounded service
green manures	crops grown for the purpose of being turned under while green or immediately after maturity for soil improvement	grounding	making a low-resistance circuit from the electrical device to earth
Green Revolution	period during the 1960's in which grain yields were drastically increased in developing countries, especially India and Mexico as a result of improved varieties and improved agronomic practices	growing ration	ration that provides enough nutrients to support the growth and development of animals
green technology	methods and materials that are helpful and not harmful to the environment	growth regulators	hormones that increase growth rates and feed efficiency
greenbelt	undeveloped or agricultural land that surrounds an urban area to provide a habitat for wildlife	growth retardants	chemicals used on plants to reduce their size
greenhouse	building with transparent walls and roof used for the cultivation of plants	guaranteed analysis	known amount of nutrients within a fertilizer product
greenhouse effect	heat buildup resulting from heat being trapped inside an object after the sun's rays pass through the object's clear surface	guard	protective devices on tools and machines to protect the user from injury
grinder	portable or power tool with a rigid wheel, safety shield, pedestal, double-shafted motor and switch; prepares metal for welding by using an abrasive action, can also sharpen tools and shape metal	guard cells	epidermal cells that open and close the stomata allowing water to escape on cool days and conserve water on hot days
grinding	removing metal or slag from the weld area through the use of an abrasive device, usually a portable grinder	gully erosion	type of erosion when surface runoff water accumulates in channels that become deeper and wider
gross energy	amount of energy found in feed	gussets	thick plates of steel that connect beams and girders to columns or poles
gross income	amount of money a person makes before deductions are subtracted	gymnosperm	plant that produces seeds in a cone



habitat	area or environment to live; place where wildlife lives
hacker	person who gains unauthorized access to computers to steal or damage data
hafnium	metallic element in PAC electrodes that is used for cutting with air or oxygen
hand	Standard measurement of the height of a horse; four inches
hand mating	type of natural service mating that requires more labor and management because the female is brought to the male for service
hand tool	works by having the user provide the force or exertion necessary for the tool to work
hand watering	manual watering
handle	generally composed of wood or metal and is where the tool should always be held
hands	measurement of horses; four inches
hardening-off	process in which young plants begin to receive less care and a greater range in temperatures in order to acclimate them to living outdoors
hardiness	ability of a plant to survive in cold temperatures
hardscape	all the inanimate objects that are included in the landscape, such as walls, pavers, boulders, arbors and fountains

hardware	special fasteners that includes items such as hinges, brackets, plates, and other types of fasteners; used for projects in which two items must be connected
hardwood	older stem of a plant that develops a woody stem
harmony	look established when all parts of the floral design appear as if they belong together
harvest	removal of a plant from the location it was grown or produced
harvest maturity	time when harvest losses will be minimized and the crop is physiologically mature; often associated with grain moisture content
harvesting	process of gathering mature crops from the area where they are grown or produced
hazard	situation that poses a level of threat to life, health, property or environment
Hazard Analysis of Critical Control Point	management program designed to analyze food processing procedures from the raw material to the finished product
hazardous waste	waste that can potentially cause a threat to human health or the environment
head	one of three insect body segments containing the eyes, mouthparts and antennae; working part of a hand tool attached to the handle
headers	combine part that cuts wheat or other crops
headwater streams	low order, small streams at the top of a watershed

heartwood	older, inactive xylem cells in the center of the tree; supports the tree and is usually darker in color than sapwood	home mortgage	settlement in which the title to the home is pledged as security for a loan or some other obligation
heat affected zones	areas of a material that have been adversely affected by the welding process and may have changed the material's properties	home page	introductory or opening page of an Internet site
heat tolerance	ability to withstand hotter climates	homogenization	process used to keep milk from separating; fat globules are broken into small particles
heating	a process of raising the temperature of a material enough so that the material is soft enough to bend or shape	homonyms	words that sound alike with different meanings
heifer	young immature female that has not given birth	homozygous	gene pair that either has two dominant or two recessive genes
hen	mature female chicken, duck or turkey	honorary	level of FFA membership bestowed on individuals for their contributions and support of the FFA
herbaceous	plants with non-woody stems that die back when the growing season is over	horizons	vertical section of soil from the ground surface to the parent rock has distinct layers
herbicide	chemical used to control weeds	horizontal distance	distance between two points
herbivores	animals that eat primarily plant matter	horizontal weld	welding position in which the electrode is moved across a vertical piece of metal
herding dogs	dogs that have the instinct to herd other animals	hormone	naturally occurring chemical messengers that promote reactions in plants and animals like growth or reproduction
heredity	passing of characteristics from one generation to another	horsepower	unit of power equivalent to lifting 550 pounds one foot in one second
heritability	probability that characteristics or traits will be passed from parent to offspring	horticulture	science of cultivating plants for food and enjoyment; involves the study of growing fruits, nuts, vegetables and ornamental plants
heterozygous	gene pair that has one dominant and one recessive gene	host	source of food for a parasite in plants and animals
hiking	walking in natural areas for pleasure and exercise	hot water heat	method of greenhouse heating that uses re-circulated water that is heated and then pumped through a system of tubes or pipes
hobo	migrant worker who worked on a header crew		
holding tool	device used to grip or hold materials to be modified		

hothouse lamb	lamb less than 3 months of age at slaughter that is born and marketed out-of-season
hounds	dogs that have the capability to track either by scent or sight
hozon	inexpensive hand-held device used to apply soluble fertilizer to a small number of plants
hue	property that gives a color its name
human interest	the factor that makes the story appealing to the reader
humidity	amount of moisture in the air
humus	decayed organic matter that is part of the soil; organic matter
hunting	harvesting animals for recreation and/or food
hunting incidents	occur when a hunter directly or indirectly causes personal injury or death while using a firearm or bow
hurricanes	large, whirling storms which typically develop over water in the tropical region near the equator
hybrid	offspring of two genetically different species
hybridization	crossing of two plants of different varieties
hydrocarbons	any number of gases containing hydrogen and carbon
hydroponics	plant growing method that uses a mineral nutrient water solution without soil
hydropower	energy created by the movement of water
hydrothermal vents	openings in the ocean floor that spew out heated water

hygroscopic water	water held so tightly in soil that it is unavailable to plants; often found in clay soils
hypothermia	reduction of body temperature which slows metabolic processes
hypsonometer	instrument used to measure tree height



ignition	high voltage arc or spark across the air gap on the spark plug that leads to the combustion of a fuel and air mixture
illuviated	accumulation of leached materials from the above soil layers
immobilization	process in which an animal is rendered unconscious; when nitrates and ammonium are taken up by soil organisms making them unavailable to plants
immunity	resistance to disease and infection
impact	number of people involved or how the news will affect the reader
imperfect flower	flower that lacks either stamens or a pistil
implant gun	device used to deposit growth stimulant pellets in the back side of an animal's ear
import	product brought into the United States from another country
income	transaction where money is gained
income tax	tax paid according to the amount a person makes; state and federal

<i>incomplete dominance</i>	occurs in genetics when neither gene is totally dominant over the other	<i>infiltration</i>	movement of water into the soil
<i>incomplete fertilizer</i>	fertilizer that contains percentages of only one or two of the three major nutrients	<i>informal landscape</i>	asymmetrical landscape that uses curved lines which create a more natural appearance
<i>incomplete flower</i>	flower missing at least one of four main parts, sepals, petals, stamens or pistil	<i>informal portraits</i>	photos taken outside or in a more natural setting
<i>incomplete metamorphosis</i>	three stage cycle of insect change: egg, nymph, adult	<i>informative</i>	presentation designed to provide the audience with new information about a topic of common interest
<i>increasers</i>	plants that reproduce rapidly when moderate grazing has occurred; decline overtime due to hoof damage and grazing	<i>infra-red heating</i>	warms solid objects like plants, employees and benches but the air is not heated
<i>incubation period</i>	time it takes for food poisoning to occur after eating infected food	<i>inherited</i>	traits received from a parent
<i>incubator</i>	device that controls the temperature and humidity for developing eggs	<i>injection</i>	liquid medication administered directly into the muscle, tissue, bloodstream or body cavity of an animal; also known as a shot
<i>index</i>	measurement based on a scale of 100, often used to compare an animal's performance to other animals	<i>inoculation</i>	process in which seeds are coated or injected with a substance that will help the plant thrive and achieve proper growth
<i>indirect seeding</i>	planting seeds in pots or containers prior to planting in garden	<i>inorganic</i>	soil amendments that are mined or man-made
<i>inductance</i>	rate of rise of current	<i>inorganic fertilizer</i>	fertilizer manufactured with chemicals and minerals; does not contain plant or animal matter
<i>inert</i>	term to describe an element that does not readily interact with other elements; inactive	<i>inorganic matter</i>	contains no organic (plant or animal) particles
<i>inert ingredients</i>	filler or carrier material in a pesticide or fertilizer	<i>insecticide</i>	chemical used to control unwanted pests
<i>inert matter</i>	items in a seed sample that are not seeds such as dirt, chaff, stones, stems, broken seed and sticks	<i>insects</i>	class of arthropods with segmented bodies and six legs, wings, exoskeleton, one pair of antennae and compound eyes
<i>infectious</i>	causing or transmitting infection	<i>insulator</i>	material that provides a high resistance to the flow of electricity
<i>infectious disease</i>	disease caused by micro-organisms (bacteria or virus) that get inside the animal's body	<i>intake stroke</i>	motion in an engine where fuel and air are drawn into engine

<i>integrated pest management (IPM)</i>	combining the best management practices to manage pests while minimizing the hazards to life and the environment while reducing economic loss
<i>intercropping</i>	growing two or more crops in the field simultaneously
<i>interiorscaping</i>	design and use of foliage plants to recreate a pleasing feeling of the outdoors inside buildings
<i>intermittent streams</i>	flow continuously only during certain times of the year when there is adequate water from rainfall or other sources such as melting snow
<i>internal combustion</i>	process of converting fuel into motion
<i>internal combustion engine</i>	device that burns fuel inside the engine to create power
<i>internal parasite</i>	parasites that spend most of their life cycle inside the animal's body using it as a source of food
<i>internode</i>	space between each node on a plant stem
<i>internship</i>	where a student works for someone, either for pay or for the experience; placement
<i>interstock</i>	twig that is grafted between a scion and a rootstock that are not as closely related
<i>introduction</i>	beginning of a presentation; most important element of a presentation
<i>invaders</i>	plants that are avoided by animals because they are not an appealing food source; plants that reproduce rapidly, particularly in cases of overgrazing

<i>invasive species</i>	plant species that is not native and tend to out-compete native species for resources
<i>invasive trees</i>	trees growing in an area in which they are non-native or in a manner varying from the natural ecosystem
<i>inventory</i>	list of the items or assets a business owns
<i>inverted pyramid style</i>	putting the most important information at the beginning of the story and the least important information at the end
<i>investing</i>	process of placing money into routes such as stocks, bonds, mutual funds, or real estate in which money can be made in return
<i>ionization</i>	process of adding or removing an electron
<i>irradiation</i>	process of food preservation that kills harmful bacteria and microbes through the use of radiation
<i>irrigation</i>	application of water to crops; used to help meet the water requirements of crops



<i>job</i>	anything done to earn income to pay for basic needs
<i>joint</i>	location where the metal is joined together
<i>joule</i>	a unit of measurement of work



kerf	slit in metal as a result from oxygen cutting
kidding	process of goats giving birth
kids	goat offspring
killing jar	used to hold insects in preparation for mounting
kinetic energy	energy of motion



lactation	milking period of an animal
lactose	sugar naturally found in milk
lamb	young sheep up to one year of age; meat from a sheep younger than one year old
laminae	soft membrane lining the hoof
laminar flow	long, streamlined flow of shielding gas used to control turbulence around a weld puddle
landscape architect	someone who has had formal education in landscape architecture from an accredited school or university, passed the certification test, and completed an apprenticeship
landscape designer	someone who may or may not have had formal education, but has learned and has experience with the principles of landscape design, often focusing more on smaller, residential landscapes
landscape view	horizontal photo

landscaping planning and constructing of landscapes to enhance and protect the beauty of the surrounding environment

lanolin grease-like substance that naturally coats sheep's wool

lap joint joint used to fasten two overlapping surfaces

lard fat from a pig

larva worm-like insect stage of complete metamorphosis

latex milky sap produced by cells of certain plants

lavalier microphone small, unidirectional microphones designed to attach to a person's clothing

law of independent assortment principle which states that genes for certain traits are inherited independently from each other

law of segregation principle which states that each parent provides one of the two alleles or genes for each trait

law of supply and demand economic model used to determine pricing of a product

layer hens raised to produce eggs

layering method of plant production in which the stem of a plant is rooted and then cut to make a new plant

layout tool device used to measure or mark materials

leach carried away

leaching loss of nutrients or chemicals by percolation through the soil

lead the first paragraph of a news story

leader dominant growing point found in the top of a tree

leadership	ability to influence people to meet individual or group goals	libel	written false statement or picture that damages a person's character or injures that person financially
leaf petiole	attaches the leaf blade to the plant stem	lichens	moss-like plants consisting of algae and fungi
leaflet	single division of a compound leaf	light horse	horse between 14.2 and 17 hands in height
lean-to greenhouse	type of greenhouse found attached to the south wall of a self-supporting structure; typically used to start bulbs or seeds	lighting	direction of light in relation to a photo subject
learned behaviors	behaviors that are conditioned by the handlers	limiting factor	any habitat factor in short-supply and limits the number and distribution of wildlife; factors that prevent a population of animals from increasing
leavened	to cause to ferment or rise, as in the case of bread	line	formed by the edges of various features in the garden and can be used to change the mood of a landscape; a floral design element that uses materials to form an outline or skeleton
leaves	plant organ responsible for photosynthesis; comes in various shapes and sizes	line-mass	American floral design that combines the line of Japanese design with mass styles of European design
legal land description	written statement recognized by law as the definite location of a tract of land by reference to a survey, recorded map, adjoining property, or recorded monument	linear editing system	tape-based editing system
legumes	plants with pods that have the ability to convert nitrogen from the air into nitrogen for the soil	linters	short fibers that remain on cottonseeds after ginning
lens	captures an image by gathering light and focusing a subject	lipids	relatively large, carbon-based molecule that repels water and is important for cell membranes and energy storage; more energy dense than carbohydrates
lenticels	pores found on stems that allow the exchange of gasses between the plant and the environment	listlessness	showing little or no interest in anything
letterhead	the information at the top of a business letter or résumé that includes the name, address, phone number and e-mail address	litter	group of pigs born from a sow
levels	tools used to determine if an object is level at two or more points	livestock	animals kept for use or profit
liability	money, goods and/or services for which you owe	load	device that uses electricity
		loam	soil with approximately equal parts of sand, silt and clay

lockout	applying a physical lock to circuits and equipment after shutting off and de-energizing them
lodging	leaning or collapse of a plant that occurs as a result of seed weight or environmental factors
long-term trends	trends that affect prices over a long period of time, usually caused by economic conditions
lubricants	substance used to reduce friction, heat, and wear when applied as a thin film between solid surfaces



macro	advanced setting used for close-up photos
macrominerals	minerals needed in larger amounts by the body
macronutrients	nutrients needed in large quantities for good plant growth
maintenance	nutrition required for an animal to maintain its current weight
maintenance ration	ration that supports an animal's normal body function without supporting growth
Malthusian Theory	prediction in 1798 that the human population will grow faster than food production can increase
mammary system	milk producing system within an animal, especially important for a dairy cow
mange	marked irritation and crusting over of the skin accompanied by the formation of thick, tough, wrinkled skin
map	tools that visually represent an area on a flat surface

marbling	amount of internal fat in meat
mare	female horse older than three years of age
margin	outside edge of the leaf
marketing	way in which a product is sold to a target audience; research and planning to develop the best approach for selling a product
marshes	wetlands characterized by herbaceous (non-woody) vegetation; can be freshwater, saltwater, and brackish water
masonry	building material such as concrete, stone, or brick
master plan	final design that is drawn to scale and identifies the number, type, and size of the plant material and any hardscape materials used in the design
mastitis	infection in the udder that makes milk unusable
maternal	instincts that relate to the mother
mature sheep	sheep more than two years old
maturity	meat quality evaluated by examining the characteristics of the skeleton and meat that indicate the approximate age of the animal
measuring tape	device made of flexible material used to determine distance
meat	skeletal muscle of animal carcasses
mechanical restraint	mechanical devices used to restrain an animal
mechanics	correct spelling and proper grammar
mechanization	replacement of human and animal labor with machines

median	number in the middle of a group of consecutively listed numbers	micronutrients	nutrients essential for growth in plants that are only needed in very small quantities
medicated feed	feed that includes important medicines or antibiotics to prevent and treat disease and parasites	microorganisms	microscopic plant or animal life that decompose organic matter in soils or media
medications	substances that aid the body's natural defenses to promote recovery or to relieve pain	midrib	large center vein of a leaf from which all other veins originate
medium	soil mix for a plant; source for food, water, and support	migration	movement from one location to another
meiosis	process for division of germ cells that form eggs and sperm	migratory	traveling from one location to another location during certain times of the year
melanoma	form of skin cancer that can be deadly	migratory worker	hand labor who moves from place to place as harvesting occurs
membranes	under the shell of an egg; protects the egg from bacteria and moisture loss	milk line	borderline between the solid starch and the milky starch in the kernel of corn
memory card	rather than film, records photo images	mineralization	process in which bacteria decompose nitrogen present in soil organic matter and convert it to ammonium
mesosphere	atmospheric layer above the stratosphere to about 56 miles above the Earth's surface	minerals	inorganic material in the soil usually containing different elements as soil nutrients
metabolizable energy	energy remaining in a feed after urinary and gas energy loss	mitigation	lessening of the impact or severity on something
metal inert gas	welding method that uses a combination of electricity and an inert shielding gas; also known as MIG or GMAW	mitochondria	cell component that produces energy from food that has been digested
metamorphosis	biological process in which an animal changes after birth or hatching; term for the life cycle of an insect	mitosis	process of division for somatic cells
metestrus	stage of estrous when the formation of the corpus luteum occurs	modules	method of storing cotton; holds approximately 15 bales
microbes	microorganisms in food that could potentially be dangerous	mohair	fiber produced by Angora goats
microminerals	minerals needed in smaller amounts by the body	molting	shedding of the outer layer or exoskeleton of an insect to allow room to grow

monochromatic	color scheme when only one color is chosen and various shades and hues of that color are used
monocot	plant with one cotyledon (seed leaf) when it germinates
monocropping	practice of growing the same crop in the same field from year to year, also known as continuous cropping
monoculture	when only one plant variety is present in a particular environment
monoecious	plant that has both male and female flowers on the same plant
monogastric	animals that have a stomach with only one compartment
monohybrid	offspring of a cross between two varieties differing by one trait
morphology	size and shape of sperm
motility	ability for sperm to move independently
movable benches	also called rolling benches, are a specially designed raised bench that is made to roll sideways
MSDS	Material Safety Data Sheet; a form with data regarding the properties, hazards, and directions in using a particular substance
mulch	organic or inorganic material that covers the topsoil with the purpose of reducing evaporation and erosion
mulch till	tillage system where the entire soil surface is disturbed by tillage and crop residue is incorporated into the soil with some residue remaining on the surface
multipurpose retailer	offers consumers a place to buy food items as well as clothing, electronics, toys, hardware and other household items

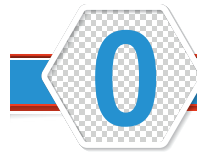
mushroomed heads	condition of tools such as chisels in which the head spreads or flares out
mutations	characteristics of plants that differ genetically and often visibly from its parents
mutton	meat from a sheep older than one year
mutual funds	pool of investments such as stocks, bonds, and other assets in which an investor buys shares
muzzle	mouth, or end for discharge, of the barrel of a firearm



N-rich strip	spreader width strip across the length of the field that is very high in nitrogen
native trees	trees that have developed over many years in a specific area or ecosystem
natural cooling	greenhouse ventilation systems that replaces the air inside a greenhouse with outside air
natural gas	colorless, odorless and tasteless gas that is often found when drilling for oil
natural immunity	inherited resistance to a disease
natural resource	material that occurs naturally and is used for food, energy, or in any other way to meet human needs
natural service	where the male animal (sire) is allowed to directly mate with the female (dam)
Near side	Left side of a horse
NEC	National Electrical Code

nematicide	chemical used to control nematodes	node	part of a plant stem where buds are located
nematodes	worm-like invertebrate with a complete digestive tract but no appendages; feed on bacteria, fungi, or other microscopic organisms and are an important component in the soil ecosystem	non-capillary pores	spaces in soil where air is present and not available for water
nervousness	feeling of anxiety or fear	non-current	items or inventory purchased or sold outside a one-year time period; capital
net energy	energy remaining after heat energy is lost	non-linear editing system	digital editing system
net income	actual take-home pay an individual makes after deductions	non-renewable resource	natural resource that cannot be replaced or replenished within a lifetime
neutering	process of preventing male animals from reproducing by removing the reproductive organs	non-sporting	diverse breed of dog that ranges in terms of appearance, size and personality
neutral flame	flame that burns approximately equal amounts of oxygen and acetylene	non-synthetic	natural fiber such as cotton and leather
newton	unit of force equal to the force that produces an acceleration of one meter per second per second on a mass of one kilogram	non-transferred mode	mode of operating a PAC torch in which the electric current first flows between the electrode and the torch nozzle and when the torch strikes or comes close to the workpiece, the arc transfers to the workpiece
niche market	focused portion of the market that is not being met by mainstream providers	non-verbal communication	cues, signals and messages a person's body sends
nitrification	process in which microorganisms convert ammonium to nitrates	nonferrous metals	metals that do not contain iron
nitrogen fixation	process in which nitrogen is removed from the atmosphere by a soil bacterium that lives in the nodules of roots of legume plants; providing the plants with a source of nitrogen	noninfectious disease	diseases that are not contagious; caused by something other than a bacteria or virus
nitrous oxides	compounds containing nitrogen and oxygen	nonpoint source pollution	pollution that does not have one specific source of origination
no-till	conservation tillage practice in which tillage is used only to insert seed and fertilizer into a slit in the soil	nonrenewable energy	energy source that can be used up and must be released by human activity
noble gases	another term used to refer to inert gases	nonselective pesticide	chemical that kills all pests
		nonvascular plants	plants that do not have tubelike cells; take up water by osmosis via hairlike cells

<i>nosegays</i>	small tight group of flowers, herbs, and foliage in a hand-held bouquet; also called a tussy-mussy
<i>novelty</i>	the unique aspect of the news
<i>noxious weeds</i>	plants that have been designated by a federal, state, or county government as injurious to public health, agriculture crops, other plants, livestock, poultry, other agriculture interests including irrigation, navigation, or fish and wildlife resources
<i>nuclear energy</i>	energy released when uranium atoms are split
<i>nuclear membrane</i>	part of a cell that separates the nucleus from the rest of the cell
<i>nucleolus</i>	component in the cell helps make ribosomes
<i>nucleus</i>	controls most cell activities; brain of the cell; contains genetic information that is passed from parent to offspring
<i>nucleus</i>	controls most cell activities; contains genetic information, the hereditary material of the cell
<i>nursery production</i>	involves the production, harvesting, and sale of ornamental trees and shrubs
<i>nutrient</i>	any feed constituent that functions in the support of life
<i>nutrition</i>	process by which an animal uses the components of food to live, grow, work and reproduce
<i>nymph</i>	small version of an adult insect undergoing incomplete metamorphosis



<i>objective</i>	being fair or impartial, not including opinions
<i>off side</i>	right side of a horse
<i>offal</i>	parts of an animal after slaughter that are inedible by humans
<i>official dress</i>	uniform worn by members at FFA activities and functions
<i>Ohm's Law</i>	basic law of electricity that states that the volts in an electric circuit are the amps of current multiplied by the resistance
<i>oilseed crop</i>	agricultural crop whose seeds are pressed to make vegetable oils
<i>olericulture</i>	growing, harvesting, storing, processing, and marketing of vegetables
<i>omnidirectional microphone</i>	sensitive to sound coming from any direction
<i>omnivores</i>	animals that eat both plants and other animals
<i>oocytes</i>	another term for eggs
<i>open-faced</i>	type of sheep with no wool on the face
<i>opening ceremonies</i>	beginning of an FFA meeting to call the role of officers and open for business
<i>operating</i>	items or inventory purchased or sold within one year's time; current
<i>opposite</i>	arrangement in which leaves are directly across from each other
<i>optical zoom</i>	allows the photographer to maintain picture quality; resolution stays the same when zooming

organic	soil amendments derived from living organisms; soil primarily made up of decayed plant and animal matter; natural
organic agriculture	farming system that does not use man-made chemicals in the production of crops or livestock
organic fertilizer	naturally occurring fertilizer such as manure
organic matter	decaying material from living organisms such as plants, worms, insects, and animals; humus
ornamental horticulture	production, care, and growth of plants for their beauty; using plants to beautify the environment both indoors and outdoors
OSHA	government agency that helps ensure safe working conditions by setting and enforcing standards
osmosis	movement of water through a porous or permeable wall from an area of high concentration to low concentration
ossification	natural process of bone formation
outdoor recreation	any activity that a person voluntarily does in the outdoors for enjoyment and satisfaction
outline	organized list of main ideas; structured format highlighting the key points to a paper or presentation
ovary	female gonad
overcurrent	excess current in an electrical system
overgrazing	allowing grazing animals to eat more forage than the land can regrow
overhead weld	welding position in which the workpiece is directly above the welder

overwinter	remain alive in cold temperatures
oviduct	reproductive tract of a female chicken
ovine	general Latin term for sheep
ovule	egg cell of a flower that turns into the seed
oxidation	combination of oxygen and iron in ferrous metals; examples, burning and rust
oxidizing flame	flame that has an excess oxygen to acetylene ratio and makes a harsh, hissing sound caused by the oxygen
oxyfuel	burning of oxygen with a gaseous fuel
oxyfuel cutting	process in which a material is cut by the use of an oxyfuel torch
oxyfuel welding	type of fusion welding involving the use of a flame from the combustion of gas fuel and oxygen
oxytocin	hormone produced by an animal that signals the milk letdown reflex
ozone	triatomic gaseous oxygen formed from the sun's ultraviolet radiation
ozone layer	naturally occurring, thin shield of gas in the Earth's stratosphere that protects from the sun's dangerous ultraviolet radiation



palatability	how acceptable a feed is to an animal; tenderness, juiciness and flavor of meat
palisade layer	layer of cells below the epidermis of a leaf

paralanguage	everything associated with the voice except for the words spoken	peat moss	partially decomposed plant matter; high nutrient and water retention capabilities
parallel circuit	a circuit that provides more than one path for current flow	pelt	hide from a slaughtered lamb or sheep with the wool still attached
paraphrasing	act of repeating in your own words	penetration	depth of the weld into the base metal
parasite	organism that lives on or in another organism from to gain nutrients	penny	term for nail lengths; the term was originally used in England where nails were named for how much it would cost to purchase 100 nails of a certain size
parent material	original matter from which soil particles are formed	percent calf crop	basic process for all species to determine the percentage of female animals that produced viable offspring
parlor	area where dairy cattle are milked	percolation	movement of water within the soil
particulates	small particles that become suspended in air	perennial	plant that grows for more than two years without reproducing from seed
parturition	giving birth	perennial streams	streams that flow year-round and have a well-defined channel
PASS	method to remember how to effectively use a portable extinguisher; pull the pin, aim at the base of the fire, squeeze the trigger, sweep side to side	perfect flower	flower that has both stamens and a pistil
passive immunity	acquired by directly transferring antibodies from an animal with the immunity to an animal without it	performance testing	testing focused more on the evaluation of an animal on its individual merit when compared to other animals
pasteurization	process of heating a food product such as milk to kill bacteria	peripheral nervous system	connects the central nervous system to the rest of the body
pasture mating	when male animals are allowed to roam freely with female animals	perishable	able to decay or go bad quickly
pastures	land covered with grass used for grazing livestock	perlite	volcanic rock that has been crushed and heated to 1800°F
paternal	instincts that relate to the father	permanent wilting point	point at which plants cannot obtain water to supply their transpiration needs
pathogen	any disease causing organism	permeability	ability for water and air to flow through the soil
pattern	repletion of elements in a floral design		
Pearson square	way of determining the proportion of two ingredients to obtain a desired percent of protein		

<i>personal flotation device</i>	life jacket or other device U.S. Coast Guard approved for assistance in staying afloat in the water
<i>personal protective equipment</i>	clothing and safety equipment worn for a specific job to protect against injury or chemical exposure
<i>persuasive</i>	presentation to influence the audience to either change or strengthen their belief about a topic of common interest
<i>pest</i>	any unwanted organism causing injury to a plant or contributing to plant loss
<i>pesticide</i>	chemical used to kill pests
<i>petals</i>	brightly colored part of a flower that attracts insects; modified leaves that protect the reproductive parts of a flower
<i>petiole</i>	the stem of the leaf connecting it to a plant stem or tree branch; stalk at the base of the leaf
<i>petroleum</i>	naturally occurring fossil fuel formed from the remains of plants and animals; also known as crude oil
<i>pH value</i>	indicates the acidity or alkalinity on a scale from 0 to 14 with 7 being neutral
<i>phagocytes</i>	cells in the bloodstream that ingest and destroy foreign particles to attack and kill the bacteria and virus
<i>pharmaceuticals</i>	products used to treat disease or infection once illness occurs
<i>phenotype</i>	observable physical characteristic of an offspring
<i>pheromones</i>	chemical attractants that are biologically-based pesticides

<i>phloem</i>	part of a plant's vascular tissue; moves food manufactured in the leaves through photosynthesis to all other parts of the plant, including the roots where it is stored in the root cortex
<i>photo credit</i>	tag indicating who took a particular photo
<i>photoperiod</i>	length of time an organism is exposed to light during a cycle of light and dark periods
<i>photoperiodism</i>	response of plants to the length of daylight
<i>photosynthesis</i>	process of food production in plant leaves using sunlight, water, and carbon dioxide to produce carbohydrates and oxygen
<i>phototropism</i>	plant's response to light
<i>phylogenetic tree</i>	diagram with branches that show evolutionary relationships
<i>physical restraint</i>	use of one's own strength to restrain an animal in a strategic and humane way
<i>physiology</i>	systems and functions of the body
<i>phytoplankton</i>	single celled algae
<i>pigtail</i>	connects two or more wires
<i>pinched</i>	to cut back or nip a plant to promote growth
<i>pine bark</i>	bark of pine trees broken into small pieces and used as a type of media
<i>pioneer species</i>	trees that develop in the initial stages of forest growth
<i>pistil</i>	female organ of a flower that includes the stigma, style, and ovary
<i>piston</i>	cylindrical shaped engine part that moves up and down in the combustion chamber to displace volume and create compression

<i>pitch</i>	ratio of the rise to the span of a roof	<i>point-n-shoot camera</i>	provides the user with the simplest way to capture a photograph; built-in lens, fixed aperture and automatic flash
<i>pixels</i>	picture elements that are the tiny squares of a digital photo	<i>points</i>	parts of an animal that are typically white; used to describe areas such as ears, nose, tail, and legs on some animals
<i>placement</i>	type of SAE where a student works for someone, either for pay or experience	<i>polarity</i>	direction that current flows through a basic welding circuit, and is expressed as negative or positive in relation to DC current; tendency of a cutting to develop roots from the bottom and sprouts from the top
<i>plagiarism</i>	passing off someone else's work as your own	<i>polled</i>	animal naturally without horns
<i>planimeter</i>	device that determines area by tracing the boundary on a map	<i>pollen</i>	male reproductive cell of the plant
<i>plant growth regulators</i>	affect the physiological processes within a plant; can be naturally occurring within a plant, such as plant hormones, or can be synthetically produced	<i>pollination</i>	transfer of pollen from the male part (anther) of a seed plant to the female part (stigma)
<i>plant taxonomy</i>	study of naming and classifying plants	<i>pollution</i>	harmful or poisonous substances introduced into the environment
<i>plasma</i>	fourth state of matter; created when air or gas is heated and compressed through a channel or hole	<i>pomology</i>	growing, harvesting, storing, processing, and marketing of fruits and nuts
<i>playas</i>	marshes that consist of small basins that provide a collection point for rainfall and runoff are known as playas	<i>pony</i>	horse shorter than 14.2 hands
<i>pneumatic</i>	powered by compressed air	<i>porcine</i>	general Latin term relating to all pigs
<i>PNT</i>	Position, Navigation, and Timing	<i>pork</i>	meat of pigs
<i>pocosins</i>	bogs in the southeast	<i>porosity</i>	air spaces between solid particles of soil or medium
<i>point</i>	unit of measurement for the font	<i>portable power tools</i>	tools that are generally powered by electricity and have a cord or are pneumatically-powered using an air compressor; some portable tools use batteries that are charged
<i>point of operation</i>	point where work is taking place on the material, such as cutting or shaping	<i>portrait view</i>	vertical photo
<i>point of power transmission</i>	occurs where components of the mechanical system transmit energy to the machine performing work	<i>post-emergence</i>	after a plant emerges
<i>point source pollution</i>	pollution that can be traced to a single source		

posterior presentation	when an animal leads with its back and hind feet when leaving the birth canal; breech	predatory lenders	individuals who loan money to those who cannot otherwise get a loan due to bad credit or no other source of funds
postmortem inspection	inspection performed after the animal's death	prefatory	introductory statement in an oral presentation
potential energy	stored energy	preliminary map	landscape drawing using generic shaped bubbles to identify the function of each space within a landscape
poult	young male or female turkey	preliminary yield grade	based on the estimated thickness of fat over the ribeye (in inches)
poultry	term used to describe domesticated birds that are kept for eggs or meat	preservation	food protection techniques such as canning or drying; protection of the environment that emphasizes the protection of something for its inherent qualities, such as beauty; means to protect species of plants and animals by outlawing hunting or destruction of endangered species
power	energy or the time rate at which work is done	preservative	solution added to water to help extend the life of cut flowers and foliage
power stroke	motion of the engine where the spark plug fires and moves the piston down	price cycles	reflect the producer's response to changes in prices
power tool	device that uses a power source other than human power to do work	primary colors	red, blue, and yellow, from which all other colors can be made
PPE	protective clothing and equipment used to reduce exposure to hazards	primary consumers	organisms that eat plants
pre-emergence	before a plant emerges	primary growth	growth that occurs in apical meristems; causes an increase in length
precipitation	droplets of condensed water vapor that become too heavy to remain in the atmosphere; can come in many forms – rain, snow, sleet, and hail	primary producers	organisms (generally plants) that convert solar energy into chemical energy used by other organisms
precision agriculture	an agricultural management concept based on geographical and agricultural data	principal	actual amount borrowed on a loan
precondition	prepare an animal for the stress of being moved	principal meridian	line running parallel to longitude lines (north and south) through an initial point using the Public Land Survey System
predation	relationship between two species of animals in a community, in which one (the predator) hunts, kills, and eats the other (the prey)		
predator	any living organism that preys upon another organism for food		

producers green plants that make their own food through photosynthesis

product development development of new or reformulation of current products; costly and evaluated at every step to determine if financial gain is made

production ration ration that supplies nutrients to assist in the production of animal products and reproduction

production testing involves the selection and evaluation of animals on the basis of progeny and performance testing

productively invested all asset costs including the initial investment plus other expenses on the asset

proestrus estrus stage where the follicles grow rapidly to prepare for ovulation and the female becomes receptive to the male

proficiency quality of having skills and knowledge in a particular area; awards are given to FFA members who excel in their Supervised Agricultural Experience

progeny offspring

progeny testing testing that looks specifically at the evaluation and selection of animals based on the merit of their progeny

prolapse falling down of an organ; occurs when the uterus falls out of place and protrudes from the vulva

prominence importance of the event or person in the news story

propagation production of new plants through sexual or asexual methods

propane colorless, odorless by-product of natural gas and petroleum

proportion size relationships of leaves, flowers, foliage, and the container in floral design

proportioning pumps distribute a variable amount of liquid nutrients to feed plants as they are watered

protozoa small single-celled animals

proximity where the news happened in relation to your readers

pruning to cut dead or living parts from a plant in order to increase fruit or flower production, to improve form, or to remove dead or diseased parts

PSE used to describe pork found to be pale in color and watery; pale, soft, exudative

public speaking act, art, or process of making speeches in front of an audience and has been identified as the No. 1 fear

pullet young laying hen before she lays her first egg

pulse rate rate of blood being pumped through the body

Punnett square used to predict the outcome of a genetic cross or offspring

pupa cocoon phase of complete metamorphosis

pure live seed percentage of seed that includes pure seed and viable seed

pure seed percent of the kind and variety of seed listed on the tag

purebred animal that has only the original breed within its bloodlines

purlins run the length of the roof and give added strength to the sash bars

Q

quadrangle	land divided into 24 parcels
quality grades	prediction of the palatability of properly prepared meat
quick	soft growing part under the nail or outer hoof
quonset greenhouse	greenhouse type that looks like an upside down half circle

R

rachis	central or main stem of a compound leaf
radiant energy	electromagnetic energy that is given off by an arc or flame
radon	colorless, radioactive gas formed by disintegration of radium; naturally released into the atmosphere by rocks
rafters	parts of the framing of the roof
railheads	points on a railroad where cattle would be loaded for shipment to the east
rain gardens	garden planted in a depression in the landscape where water from the surround landscape, paved surface area, and rooftops is directed in order to give it time to percolate down into the soil rather than run down the storm drains into stream
rainwater harvesting systems	system used to help homeowners and businesses reduce irrigation costs by collecting and storing rainwater runoff that can then be used for later irrigation

raised benches	plant storage raised off of the floor, generally 24 to 36 inches
ram	male sheep that has not been castrated
rangeland	land in a natural state suitable for grazing
rated cutting capacity	speed at which the user is able to achieve a smooth steady cut at 10 inches per minute
ratio	proportion between two amounts
ration	cumulative feed that an animal receives in a 24-hour period
reapers	machines that collect the crop as it lays on the field after cutting
recessive	trait that disappears when matched with a dominant trait
records	tell what, when and where something has happened
rectal Doppler technique	pregnancy testing method in which a probe is inserted into the rectum of the female to measure the heartbeat of the fetus or fetuses
rectal palpation	pregnancy testing method in which a gloved hand is inserted into the rectum to palpate the uterus through the rectum wall
recycling	act of treating or processing to make suitable for reuse
reduced till	any tillage operation that does less tillage than conventional tillage
reentry	time needed before returning to a chemically treated area after treatment
reflexive	act without thinking
refrigeration	gentle method of food preservation with little adverse effects on the quality of food

reinforcement	filler metal that is in excess of that which is necessary to fill the joint	resource	anything relied upon to fill a need
relative humidity	amount of moisture in the air compared to the maximum amount of moisture the air can hold	respiration	process where cells break down nutrients with the help of oxygen into usable energy; result in the release of carbon dioxide and water
remote sensing	viewing or receiving information about an object without touching it	restrain	restrict movement of an animal
renewable	natural resources that can be replaced or replenished within a lifetime	résumé	highlight on paper of education, experience, activities and skills
renewable energy	energy source that can easily be replenished	retail	sale of products for personal use or consumption
renewable natural resources	resources that can be replaced or replenished after use within one lifetime	retail cuts	divisions of wholesale cuts from the meat carcass of an animal
renewable resources	resources that can be replenished within a lifetime; examples include plants and animals	retailers	sells products in small quantities directly to the consumer
renovation	repair or restoration of something such as pasture land	rhythm	creation of visual movement or continuity in a floral design
repellents	classified as pesticides; the goal of repellents is to make a site or food unattractive to pests	ribosomes	where proteins are made within a cell
replicating	copying	rider	to mount a cow, as another cow indicating heat
repossession	collateral attached to a loan that is taken because the borrower did not make payments	ridge	peak of the greenhouse
requirements	needs or necessities as in applying for a job	ridge till	conservation tillage method in which crops are planted in a cleaned strip or ridge that is six to eight inches high created by the previous year's cultivation
research	type of SAE designed to expose students to the scientific side of agriculture	ridge-and-furrow greenhouse	two or more even-span greenhouses connected at the eaves; contains supports but no inner walls separating the greenhouses
residues	remaining medication	rill erosion	type of erosion when surface runoff water accumulates into small channels on slopes
resistance	material's ability to withstand or impede electrical current	riparian buffers	areas next to water resources that consist of vegetation and help protect from pollution and erosion, and provide aquatic and wildlife habitat
resistor	device which opposes the flow of electrical energy		
resolution	pixels the camera records in a square inch		

risk	possibility of loss either personally or financially
river basins	term used to refer to large watersheds; also known as a drainage basin
rivers	larger waterways that empty into bodies of water such as lakes and oceans
roan	mixture of hair colors on an animal
roe	mass of typically three to four thousand fish eggs
rooster	mature male chicken that has not been castrated or caponized; cock
root bound	crowded, tangled roots of a plant that has been allowed to grow in the same container for too long
root zone heat	unique name for hot water heating that places rubber tubes on the bench in intimate contact with the root zone of the plant
roots	portion of the tree that extends underground; supports and anchors the tree
rootstock	plant that receives a graft or bud
roughages	plant material such as grass that a herbivore consumes; high in cellulose or fiber and relatively low in digestible nutrients
rule of dominance	principle that states the dominant trait will override the recessive trait
Rule of Thirds	division of a photo into thirds horizontally and vertically; subject should be placed where lines intersect
ruler	strip of wood, metal or plastic with straight edges; used for measuring and drawing straight lines

rumen	large stomach compartment of ruminants where bacteria and protozoa begin to chemically breakdown food
--------------	-------------------------------------------------------------------------------------------------------

ruminant	an animal that has a stomach with four compartments
-----------------	-----------------------------------------------------



SAE	Supervised Agricultural Experience; application of skills and instruction learned in the agriculture classroom; real-world experiences
------------	----------------------------------------------------------------------------------------------------------------------------------------

safety	condition of being protected from danger, risk or injury
---------------	----------------------------------------------------------

Safety Data Sheets (SDSs)	provide information that communicates the hazards of chemical products
----------------------------------	------------------------------------------------------------------------

sales tax	tax on items sold, such as clothing and food
------------------	----------------------------------------------

salinity	salt content in a soil
-----------------	------------------------

saltwater areas	oceans, seas, and a few lakes which contain a high level of salt
------------------------	------------------------------------------------------------------

salutation	line that addresses the reader
-------------------	--------------------------------

sanctions	actions taken when violating a law or code
------------------	--------------------------------------------

sanitation	management of environmental conditions to help prevent health problems
-------------------	------------------------------------------------------------------------

sans serif typeface	typeface that does not have finishing strokes, or "feet," at the end of the main stroke of a letter (such as <i>Helvetica</i> or <i>Arial</i>)
----------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------

sash bar	runs from the ridge to the eave
-----------------	---------------------------------

saturated	point at which all pores are completely filled with water
------------------	-----------------------------------------------------------

saturated fat	fat that is generally solid at room temperature, usually of animal origin	selective breeding	process of breeding plants and animals for particular traits to improve genetics
saving	keeping money for future use	selective pesticide	chemically affecting specific plants or specific parts of plants
scaffold	main branches forming the framework branches of a tree or shrub; raised wooden framework or platform	self-pollination	transfer of pollen from the anther to the stigma within the same flower
scale	ratio of the size of the object as drawn to its actual size	semen	combination of seminal plasma and sperm
scarification	process of slightly damaging or breaking tough seed coat which allows water penetration into the seed so that the seed can grow faster	semi-dwarf	relatively short wheat varieties that were developed by mixing dwarf wheat from Japan with the wheat traditionally grown around the world
schematics	a type of drawing in which symbols are used to represent components in a system	sensing device	monitor that detects environmental factors such as rainfall, sunlight, and temperature to coordinate water requirements
school-based enterprise	student-managed, entrepreneurial program in the school setting; designed to imitate the work environment as closely as possible	sepals	small outer leaves of a flower that protect the inner structures as the flower develops
scion	portion of the plant attached to rootstock or another twig during grafting	separation	technique of propagating a new plant from a plant that may spread by above-ground stems or bulblets
scratching	method of striking an arc that works by touching the electrode to the base metal like striking a match	series circuit	a circuit that provides only one path for current flow
seasonal price patterns	result from changes in production and consumption during the year	series-parallel circuit	a circuit that contains some components of series circuit and some components of parallel circuits
secondary colors	orange, violet, and green	serif typeface	typeface that has small finishing strokes, or "feet," at the end of the main stroke of the letter (such as <i>Bookman</i> or <i>Times New Roman</i>)
secondary consumers	organisms that eat other consumers	serums	any watery animal fluid
seeps	natural water sources in which fresh water flows to the surface from the ground and forms small bodies of water	service learning	SAE where a student develops and manages a project for a school, community organization or non-profit organization
segregated	separated or set apart; division among groups or races		

sex-linked traits	traits regulated by genes located on the sex chromosomes	sign	physical evidence of the pathogen such as powdery mildew or leaf rust
sexual propagation	reproduction involving female (egg) and male (pollen) sex cells producing seed; seeds make new plants	signposts	words that show you are moving from one point to another
shade	any hue in which black has been added	silage	feed made from chopped green corn; typically fed to cattle
shade number	indicates how much light is allowed through the filter lens	silhouette	created by back lighting; darkens all or part of a photo subject
shareholder	someone who owns stock	silviculture	management of the growth, diversity, health and quality of forests
shearing	process of removing the wool from a sheep	simple figures	method of land measurement in which an irregular shaped piece of land is divided into parts that are easier to calculate
sheet erosion	type of erosion when a relatively uniform thin layer of soil is removed	single lens reflex (SLR) camera	interchangeable lenses; allows the user to have more control over the recorded image
shelf-life	amount of time that a food product will remain suitable for sale or consumption	sire	male parent of an animal
shell	hard protective covering of an egg made of calcium carbonate	site analysis	list of notable observations that may influence a landscape design
shielded metal arc welding	welding method in which an electrode is used; also known as stick welding or SMAW	site survey	map drawn to scale featuring all the existing physical elements in landscape such as power lines, fences, walls, drainage, slopes, existing plants that are going to be maintained
shielding gases	inert gases used to protect the weld from contamination by external elements	site-specific agriculture	system of better managing agricultural resources based on analysis of data
shocks	piles or bundles of grain stalks	slag	excess residue forced out of the kerf by the force of the oxygen stream when oxy-gas cutting; layer created when welding partially caused by impurities being drawn to the top of the weld; helps to protect the metal until it is cooled, usually chipped off
short circuit	failure between two circuit conductors	slander	false statement spoken to a third party
short-term changes	day-to-day variations in livestock prices		
shutter	controls how much light enters the camera by adjusting the length of time the shutter remains open as the photo is taken		
shuttle breeding	breeding method that grows two generations of plants each year in multiple locations		

<i>slaughter</i>	process of harvesting animals for meat	<i>solubility</i>	ability of a substance to dissolve in a solvent such as water
<i>slipping bark</i>	when the cambium is actively growing and can be pulled back easily	<i>soring</i>	practice where the horse is subjected to intentional pain in the legs or hooves so the horse will have an exaggerated gait
<i>slope</i>	measurement of a steepness of a line; slant of the volts versus amp curve, or the volts change per 100 amps	<i>sound bites</i>	verbal equivalent of quotes in a written story
<i>snags</i>	dead or dying standing trees	<i>sow</i>	mature female hog that has farrowed a litter of pigs
<i>socks</i>	nets used to harvest fish	<i>spam</i>	unsolicited messages sent to e-mail mailboxes
<i>softlights</i>	bounced lights used to create diffused light over an area; minimizes shadows	<i>spark plug</i>	device in the head of an internal-combustion engine cylinder that ignites the fuel mixture with an electric spark
<i>softscape</i>	plant material in a landscape	<i>spaying</i>	process of preventing female animals from reproducing by removing the reproductive organs
<i>softwood</i>	new growth on a plant	<i>specialty crops</i>	crops that are produced for a specific market; also referred to as alternative crops
<i>soil</i>	top layer of the Earth's surface that is suitable for the growth of plant life	<i>species</i>	most detailed level of scientific classifications; second name to identify plants in binomial nomenclature
<i>soil amendment</i>	material that is added to the soil to help improve properties such as water retention, permeability, drainage, nutrient-holding capacity, and aeration	<i>speculum tube</i>	metal tube used with a rubber tube to relieve cattle bloat
<i>soil horizons</i>	layers in the soil created based on level of organic matter	<i>spent hen</i>	hen that no longer produces eggs
<i>soil taxonomy</i>	soil classification system with 12 main soil classifications or orders	<i>sperm</i>	male gamete
<i>soil texture</i>	size of the individual soil particles	<i>spermatic cord</i>	connects the testes to the body of a male animal
<i>solar heating</i>	traps the sun's radiant energy in water filled solar collectors to provide a heat source	<i>sphagnum</i>	shredded, dehydrated stems and leaves of acidic bog plants; type of peat moss
<i>solar power</i>	energy captured from the sun and converted to usable energy	<i>spikelet</i>	part of a grass plant that contains the flower; consists of a rachis (axis), florets and glumes
<i>soldering</i>	process by which metals are bonded with the use of a soldering material	<i>spiracles</i>	breathing holes
<i>solderless</i>	joining of metal objects without the use of heat		

splash erosion	type of erosion when soil is directly moved by a raindrop splash	staple length	length of wool fibers
split complementary colors	a color and the two colors that are on either side of its complementary color	statement of purpose	one sentence synopsis of your presentation short enough to fit on the back of a business card
spoken citation	telling the audience during a presentation as to where information was found	static electricity	electricity caused by friction
spongy mesophyll	beneath the palisade layer in a plant leaf and also contains cells that help make the plant's food	steam heat	works on the same principle as hot water heat; steam is circulated through the pipes
sporting dogs	dogs which are known for their instincts in the woods and water	steer	castrated male beef animal
spotlights	puts direct light on an item; produces harsh shadows	stem	organ that supports the leaves, flowers, and fruit
spring lamb	older lamb ranging in age from three to seven months that arrives to the market in the spring	sterile	free from living organisms
springer	bred cow showing signs of pregnancy	sterility	condition where an animal is unable to produce an egg or sperm for production
spur	mall branch that grows only 1/2 inch or less per year; site of fruit production in some trees	stewardship	careful management of something such as the environment
square	layout and measuring tool used to draw angles for cutting and also used to check accuracy of cuts	stick welding	another term for shielded metal arc welding; uses an electrode to melt metals
stacked crops	crops that are genetically engineered for more than one trait	stipules	small secondary growths at the base of a petiole
stallion	male horse older than three years of age that has not been castrated	stock plant	main plant that cuttings are being taken from, should be a healthy specimen free of disease and insects
stamen	male organ of a flower that includes the anther and filament	stocking	releasing of animals into a habitat
stand-off cutting	hand or machine cutting technique in which the plasma torch is held perpendicular to and about 1/8-inch above the workpiece as the cut is made	stocking rate	number of animals that can be effectively grazed on any area of land
		stockpiling	accumulating goods for use at a later time
		stocks	type of investment in which a person has ownership of a small part (share) of a company; riskiest class
		stomata	small pores or openings in the underside epidermis of a plant leaf

storms	violent weather which may contain locally high winds, heavy rain, lightning, and other conditions	sulfur	pale yellow element occurring widely in nature; most commonly found in coal and crude oil
storyboard	visualization of what a video will look like before shooting	supermarket	large retail store that as between 25,000 and 35,000 food items commonly used in the home
stratification	cold treatment process given to some types of seed to complete ripening and overcome dormancy	superovulation	induction of the follicle stimulating hormone (FSH) and prostaglandin to produce many oocytes (viable eggs) during a single ovulation
stratosphere	second atmospheric layer up from the Earth's surface; the layer in which the air temperature mainly increases with altitude, and contains the ozone layer	superweeds	weeds that are resistant to herbicides
streambank erosion	type of erosion that occurs when the banks of a stream or river erodes because of flowing water	supplement	feed that contributes specific additional nutrients to a basic feed such as salt or mineral blocks
streams	bodies of water that are contained within a channel and have banks	surface area	amount of area on the outside, top, bottom or sides of something
stringer bead	simplest type of welding bead where the electrode is moved in a straight line	surfactant	material that helps the dispersing, spreading, or wetting of a formula
strip till	conservation tillage practice where tillage is conducted in strips of soil, leaving non-tilled strips in between	sustainable agriculture	farming system that is environmentally, economically and socially sustainable
stroke	movement of the piston in an engine from top to bottom or bottom to top	sustainable resources	natural resources that can reproduce
subclinical	diseases in their early stages	sutured	joining of the edges of a wound by stitching
subspecies	group of plants within a species that are typically found in a specific geographic area and have a unique characteristic	swamps	wetlands that are dominated by woody plants such as trees and shrubs
succession	gradual change a habitat goes through over time due to weather, plant growth and other factors	switch	device that allows control of the load by opening or closing the circuit
suckers	leafy shoot arising from roots or from the crown of the tree; sometimes used interchangeably with water sprout	symbiotic	having a close, beneficial relationship
		symptom	visible effect of a disease on the plant itself
		synthesized	produced from different chemicals or elements

synthetic created by chemicals; not natural

syringe hollow tube used with a needle to administer liquid medication



T joint joint formed when two pieces of metal form a 90-degree angle

tag-out applying a tag that informs individuals that circuits and equipment have been locked out

tagging shearing around the dock, crotch, and udder before lambing

tapping method of striking an arc that works by touching the electrode to the base metal and quickly raising it

taproot one type of major root that is larger than the rest

tax evader someone who refused to pay taxes owed

taxidermy process in which the bodies, often just the heads, of game animals are preserved for display

TDC top dead center; the position when the piston is at its highest point or greatest distance from the crankshaft

telematics science of using technological devices to transmit information over long distances

temperament natural behavior or predisposition

tenant farmer individuals who rented from land owners in order to raise crops

tensiometer device that can determine the moisture in the growing medium by measuring tension

terminal bud also known as the apical meristem; located at the tip of the stem and is where growth in length occurs

terminal markets end market for livestock before processing

terracing leveled surface within a field that reduces erosion and surface runoff

terrarium covered or closed container of plants; also known as a bottle garden

terriers energetic and feisty breed of dog

testes male gonad

testosterone male sex hormone

tetanus bacterial infection that affects the nervous system and is potentially deadly

tetrahedron solid with four sides; a pyramid

textile woven or knit cloth; fiber or yarn in making cloth

texture the actual or perceived appearance and feel of a plant; element of design that refers to surface qualities

thermoelectric-power power in which electricity is generated through the use of a heat source such as fossil fuels or nuclear energy

thermosphere atmospheric layer above the mesosphere that extends to near 375 miles above Earth's surface

thinning selection of trees to be removed to allow other trees to grow faster and stronger

thorax one of three insect body segments containing the wings and legs

threatened species likely to become endangered in the foreseeable future

threshing	separates the grains and seed from the plant	topic	broad idea or subject for a paper or presentation
thrift	term to describe healthy and vigorous growth	topical	applied externally to a plant or animal
throat	distance from the center of the weld face to the weld root	topography	physical layout of the land; details such as mountains, rivers, and valleys
thunderstorms	combination of gusty wind, hail, lightning and thunder, and rain mostly during warmer weather	topsoil	top, most productive layer of soil where plants grow
tillage	cultivation of land through plowing in preparation for growing crops	tornadoes	powerful, violent storms with wind that moves in a circular direction
timeliness	time in which the news happened	total digestible nutrients	percentage of feed that yields digestible energy
tint	any color to which white has been added	totipotency	ability of any plant cell to recreate another type of plant cell
tip cleaner	oxyfuel torch device with a series of small file-like probes that are gauged to match specific orifice openings for the purpose of removing residue	tourniquet	device for stopping bleeding by forcibly compressing a blood vessel, as a bandage tightened by twisting
tip drill	miniature drill used for cleaning and reconditioning orifices of an oxyfuel torch	toxic	poisonous
tip nip	circular-shaped device with small steel cutting blades inset so it can be placed over the entire end of the tip; used to both clean and restore the face of the tip	toxic fumes	gases that are poisonous and capable of causing injury or death
tissue culture propagation	method of cloning in which a small piece of tissue is placed in a sterile container, such as a petri dish, with a nutrient-rich medium	toxicity	the ability of a poison to produce adverse effects; effects can range from a slight headache or lightheadedness to convulsions, coma, and death
title	document showing that someone owns the property of the possession listed	toxins	poisons that are produced by certain plants, animals and bacteria
tom	mature male turkey past one year of age	toy breeds	small dogs that are known for their companionship
tone	any color to which gray has been added	trail riding	riding horses on trails to enjoy the outdoors
topiary	plant material that has been sculpted or pruned into various shapes	traits	characteristics passed from parent to offspring
		transaction	exchange of money for the purchase or sale of assets or supplies

transferred mode	most commonly used mode of operating a PAC torch; the electric current flows directly between the electrode and the workpiece when the torch strikes or comes close to the workpiece	trilateration	a method of determining the relative positions of three or more points
transformer	a device used to increase or decrease voltage	trocar	used with a cannula to allow gas to escape during bloat-relief treatment
transgenic organism	an organism carrying a foreign gene in its cells that was inserted in a laboratory; also referred to as genetically-altered	tropism	growth response of a plant to an external stimulus
transition	words that help connect one point to another in a story or presentation and make it flow well	troposphere	atmospheric layer closest to the Earth and contains most of the mass of the atmosphere
transpiration	cooling process in plants in which plants lose water; plant sweating	trunk	central stem of the tree
transplanting	process of moving a plant from one location and replanting it in another	trusses	structure of wood or wood and steel that is used to support roofs and floors
travel angle	angle of an electrode in relation to the axis of a weld when the electrode is perpendicular to the axis	tungsten inert gas	welding method that uses a combination of electricity, inert gas and non-consumable electrode; known as TIG or GTAW
travel speed	linear rate at which the arc is moved along the weld joint	turbines	rotary engine powered by water or air; typically made up of curved blades
traverse	surveying method that determines the boundary of a lot or field by angles and distances	turf grass	broad term referring to a variety of grasses that are grown to form a thick mat
treat tag	indicates on a seed bag that the seed has been treated with poisonous substances	turf grass production	a collection of grass plants that make groundcover
treated seed	refers to seeds that have been treated with pesticides in order to reduce or repel disease	turning tool	device used to turn screws, nuts and bolts
tribes	group of people often from the same ancestors; clan	two-cycle engine	two-stroke engine; takes two strokes to complete a cycle
tributaries	streams that flow into a larger stream or other body of water	typeface	certain style of type that includes all the characters in all sizes



understory	forest level composed of smaller trees and shrubs
unidirectional microphone	sensitive only to sounds coming from directly in front of it
unit heaters	also call forced-air heaters; have three major parts: a combustion chamber, a heat exchanger, and a blower
unity	in floral design, when all the parts of a composition suggest a oneness in the idea or impression
unsaturated fat	fat that is generally liquid at room temperature, usually of plant origin
uranium	naturally occurring metallic element that is radioactive and can be found all over the world
urban sprawl	development of towns and cities past their initial boundaries
urea volatilization	process of when nitrogen in urea fertilizers and manure are turned to gas



vaccination	injection of an agent into an animal to prevent disease
vaccines	substances that contain modified-live or killed organisms in their products to prevent disease
value-added	increasing the value of a food due to the addition of ingredients or the processing that occurs

variable expense	expense that changes in amount and frequency
variable income	income that is not always the same each month
variable rate technology	the use of technology to determine the rate and location for fertilization
vascular plants	plants that have tubelike cells in their roots, stems and leaves that carry water and nutrients throughout the plant
veal	meat of young calves
vector	vehicle used to splice two segments of DNA together in genetic engineering
vegetable	edible part of a plant; ex. potato, onion, cauliflower
verbal communication	spoken word
vermiculite	heated mica compound used as an inorganic plant media
vernal pools	marshes that consist of depressions that rely on precipitation as a water source and may be dry for parts of the year
vernalization	process of subjecting seeds, bulbs or seedlings to low temperatures to stimulate plant development and flowering
vertebrates	animals that have a spine or backbone
vertical down weld	welding position in which an electrode is moved from the top to the bottom of the weld
vertical integration	occurs when a single owner has control over all aspects of the product; combination of processes into one company
vertical up weld	welding position in which an electrode is moved up from the bottom to the top of the weld

viability	ability for seeds to germinate under optimum conditions
video screen	allows photos to be seen before it is taken and to review the image after it is recorded on a digital camera
viewfinder	allows the photographer to see the subject of the photograph to be taken
vigor	ability of seeds to germinate and emerge in soil under less than ideal or stressful conditions
virus	very small pathogens; composed of a nucleic acid (usually RNA) enclosed in a protein coat, called a capsid; computer program that can duplicate itself and infect a computer without user permission or knowledge
viscera	internal organs of an animal
viscosity	fluid's resistance to flow
visualization	seeing in your mind
voice over	story narrator
voltage	difference in electrical potential between two points; force that makes electrical current flow
voltage drop	reduction in electrical circuit potential due to resistance
volume	amount of space inside something



warehouses	collects and stores a variety of products to reduce the number of trips wholesalers make to retail stores
-------------------	-----------------------------------------------------------------------------------------------------------

warm colors	colors associated with fire or the sun - red, orange, yellow - that create excitement in a garden and quickly grab a viewer's attention as they almost jump out of the landscape
warm-blooded	able to maintain a stable body temperature
warm-season plants	plants that emerge and reproduce during the summer; can thrive in hot temperatures but do not tolerate frost
water	clear, colorless, tasteless, nearly odorless liquid, and has a chemical makeup of two parts hydrogen to one part oxygen
water cycle	also called the hydrologic cycle, refers to the movement of water on the planet; water moves continually and changes states from liquid, solid (ice) and vapor
water recreation	any activity a person voluntarily does for enjoyment and satisfaction on water ways such as streams, lakes and rivers
water sprout	vegetative shoot coming from buds on the trunk or large branches
water table	area underground that is saturated with water
water-soluble	solid form of fertilizer mixed in water and dissolved before being applied
watershed	land area in which water topographically drains to a point of interest such as to a body of water
watts	unit of measure for the rate at which electrical energy is transferred
wean	removal of young animals from their mothers
weanling	A weaned foal before becoming a yearling

<i>weather front</i>	condition resulting from the meeting of a warm air mass and a cold air mass	<i>wetting agents</i>	chemicals that change the physical properties of water and other liquids, increasing the absorption and making liquids spread evenly throughout the media or on plant surfaces
<i>weathering</i>	change the consistency, chemical makeup, moisture content, and general composition that further breaks down soil	<i>whey</i>	water portion of milk after it is curdled and strained
<i>weaving</i>	movement of an electrode to make wider beads or control arc heat	<i>white space</i>	the open space in the design
<i>weed</i>	any plant growing where it should not	<i>wholesale</i>	selling products in quantity to a buyer who then resells the product
<i>weigh-backs</i>	dead fish not able to be used in processing	<i>wholesale cuts</i>	major subdivisions of an animal carcass
<i>weld bead</i>	weld deposit that results from a welding pass	<i>wholesalers</i>	sells products in large quantities to retailers or commercial users for the purpose of resale
<i>weld face</i>	exposed surface of the weld	<i>whorled</i>	arrangement of three or more leaves radiating from a node
<i>weld leg</i>	distance from the root of the joint to the weld toe	<i>wildlife</i>	all wild animals and birds
<i>weld root</i>	area of deepest penetration and is the area where the filler metal intersects with the base metal	<i>wildlife management</i>	science of helping the land and/or water produce and sustain healthy populations of wildlife
<i>weld toe</i>	area between the base metal and weld face	<i>wind</i>	movement of air that is caused by the uneven heating of the Earth's surface by the sun
<i>welding arc</i>	bright light produced by welding	<i>wind energy</i>	created by harnessing the energy from the movement of air
<i>welding clamp</i>	tool used to hold metal work pieces and heated stock	<i>windbreaks</i>	plants, such as trees, used to block crops from the wind
<i>welding pass</i>	single progression along the weld joint in which filler metal is deposited	<i>windrows</i>	rows of hay raked to dry before baling
<i>wet-heat cooking</i>	cooking method used to help tenderize tougher cuts of meat that have less moisture	<i>winter recreation</i>	activities involving snow and ice
<i>wether</i>	male sheep or goat that has been castrated	<i>winter storm</i>	cold weather storm and typically involves snow, freezing rain, and sleet
<i>wetlands</i>	land areas saturated by water, either permanently or seasonally, which provide a habitat for diverse species	<i>wire brush</i>	used to remove slag, clean metal in preparation for welding or clean beads after welding

withdrawal period time an animal must be taken off any medication before the animal is sent to market or used to produce milk

withers highest point on an animal's shoulder; point of height measurement

withholding amount of money deducted or taken out of a paycheck each month

woody plants plants characterized by a woody stem and a long life span

wool fiber taken from a sheep

work force exerted on an object to move it

work angle angle of an electrode in relation to the surface or surfaces of a workpiece when the electrode is perpendicular to the axis of the weld

working dogs dogs that have been developed to perform jobs such as protecting property or livestock, or pulling sleds

working ration ration that supplies additional nutrients to conduct work

worm self-reproducing computer program that uses a network to send copies of itself to other computers without user involvement

worsted fabric made from fine wool fibers at least three inches in length

wound injury resulting in tissue damage

woundwood sealed through a natural process of woody tissue forming around the wound

written citation footnotes or bibliographical references



xeriscape landscape design practice used to help reduce or illuminate supplemental irrigation often used in the south and southwest regions of the united states where water usage is a growing concern

xylem part of a plant's vascular tissue; moves water and mineral elements from roots to all parts of the plant



yearling Horse that is one year of age

yearling sheep sheep between one and two years old

yield amount produced

yield grades amount of edible meat present on a carcass

yolk food source for the chick; high in fat



zone of fire area in which a hunter can shoot safely

zoonoses diseases that can be transferred from animals to humans

zooplankton microscopic animals