

## Animal Identification

**2-D symbology:** A two-dimensional barcode that stores data vertically as well as horizontally. A symbology is a barcode language.

**Accredited herd:** A herd of dairy cattle certified by two successive tests to be free of *bovine tuberculosis*; sometimes mistakenly applied to a *brucellosis*-free herd.

**Actual production history (APH) yield:** For *crop insurance* purposes, the yield used to determine the *production guarantee*. The *APH yield* is based on up to ten years of *actual yields* and/or *assigned yields* with a minimum of four years required.

**Agent(s):** See *Biological agent(s)*.

**AIN/RF tag(s):** An *animal identification number tag* that also contain a *RFID transponder*.

**Animal health official(s):** Official responsible for *livestock* and *poultry* disease control and eradication programs.

**Animal identification:** Herd management programs for unique animal identification through the use of ear notching, *ear tags*, back tags, neck chains, tail tags, *freeze brands*, tattoos, paint marks, leg bands, electronic identification (including bar codes), and *radio frequency identification*. Animal identification is used to identify all animals that move beyond their *herds of origin* through the point of carcass inspection at the *packing plant*. Animal identification is important for disease control and eradication, disease surveillance and monitoring, emergency response to *foreign animal diseases*, global trade, *livestock* production efficiency, food safety, *biodefense*, and emergency management programs. See *Country-of-origin labeling (COOL)*, *National Animal Identification & Tracking, Traceability and Tracing*.

**Animal identification number(s) (AIN):** The sole national numbering system for the official identification of individual animals in the U.S. The format contains 15 digits: the first three are the country code (840 for the U.S.) and the following 12 digits are the animal's national number.

**Animal identification number (AIN) allocator:** The program administered by APHIS that releases and maintains a record of *animal identification numbers* provided to *AIN tag manufacturers*.

**Animal identification number (AIN) tag(s):** Official, visual *animal identification* devices that have an *AIN* printed on them.

**Animal identification number (AIN) tag distributor:** A person or entity that distributes and/or takes orders for *AIN tags*. The distributor has an agreement with an *AIN tag manager* who must report distribution information to the *National Animal Records Repository*.

**Animal identification number (AIN) tag manager:** An entity authorized by APHIS to distribute *AIN tags* to a premises. The tag manager agrees to validate the *premises* number of the receiving operation and report the *animal identification number* distributed to that receiving operation to the *National Premises Information Repository*.

**Animal identification number (AIN) tag manufacturer(s):** A company that is authorized by APHIS to

receive *animal identification* numbers and produce *AIN tags*.

**Animal movement (event(s)):** Reportable movement of animals including change of ownership, interstate movement, and multiple owners *commingling* their animals.

**Aquaculture; aquacultural:** (1) The production of aquatic *plants* or animals in a controlled environment, such as ponds, *raceways*, *tanks*, or *cages*, for all or part of their life cycle. In the U.S., *baitfish*, catfish, clams, crawfish, freshwater prawns, mussels, oysters, salmon, shrimp, tropical (or *ornamental*) fish, and trout account for most of the aquacultural production. Less widely established but growing *species* include alligator, *hybrid* striped bass, carp, eel, red fish, northern pike, sturgeon, and tilapia. Aquaculture, depending upon the type of *plant* or animal reared, uses either fresh, brackish, or salt water. Also *Fish farming*. (2) Under Sec. 1404(3) of the *National Agricultural Research, Extension, and Teaching Policy Act of 1977* (7 U.S.C. § 3103), the propagation and rearing of aquacultural *species*, including, but not limited to, any *species* of finfish, mollusk, or crustacean (or other aquatic invertebrate), amphibian, reptile, *ornamental* fish, or aquatic *plant*, in controlled or selected environments. (3) The farming or *husbandry* of fish, *shellfish*, or other aquatic organisms. Such farming includes freshwater operations, shellfish and seaweed culture, *net-pen culture* and other *open-ocean aquaculture*, and *fish hatcheries*. See *Farm-raised fish*, and *Hydroponic(s); hydroponic horticulture*.

**Area Veterinarian in Charge (AVIC):** The lead federal veterinarian for *APHIS Veterinary Services* in an area. They administer the federal veterinary *programs* within their assigned areas in conjunction with state *animal health officials*. Nationwide, there are 42 areas that encompass one or more states.

**Backyard poultry:** Domesticated fowl, including chickens, turkeys, waterfowl, and game birds, except doves and pigeons, which are maintained for hobby or non-commercial production of eggs and *meat*.

**Biocontainment:** A *process* aimed at keeping biological organisms within a limited space or area.

**Biodefense:** The protection of agriculture, food, and water against both natural or unintentional introduction of disease and threats that may be deliberate, multiple, and repetitive. The U.S. *program* involves *threat awareness*, *prevention and protection*, *surveillance and detection*, and *response and recovery*.

**Biological threat(s):** A threat that consists of biological material planned to be deployed to produce casualties in personnel or animals and damage plants or other materiel.

**Biometrics:** Technologies that utilize behavioral or physiological characteristics to determine or verify identity, including finger-scans, retina-scans, and iris-scans.

**Biopharming:** The production of pharmaceuticals or specialty chemicals in *genetically modified* plants.

**Biosafety Level (BSL):** According to the CDC, four levels of precautions for use of *biological agents*: (a) Biosafety Level 1 – work involving well-characterized *agents* not known to consistently cause disease in healthy adult humans, and of minimal potential hazard to laboratory personnel and the environment; (b) Biosafety Level 2 – work involving *agents* of moderate potential hazard to personnel and the environment; (c) Biosafety Level 3 – applicable to clinical, diagnostic, teaching, research, or production facilities in which work is done with indigenous or *exotic agents* which may cause serious or potentially lethal disease as a result of exposure by the inhalation route, and (d) Biosafety Level 4 – applicable to work with dangerous and *exotic agents* that pose a high individual risk of aerosol-transmitted laboratory infections and life-threatening disease; work is done in completely isolated facilities. See *Plum Island*

*Animal Disease Center (PIADC).*

## **Check Order**

**Branded commodity(ies) (beef, pork, lamb):** A specifically *labeled* product that is differentiated from commodity items by its *brand* name.

**Brand(s)(ing):** (1) Typically, the use of a hot iron brand for marking cattle so as to establish proof of ownership. (2) *Branded commodities*. See *Ear notching*, *Ear tag(s)*, *Freeze brand(ing)*, and *Wattle(s) (cattle)*.

**Brand inspection entity:** State *brand* inspection agencies or other *brand* inspection organizations authorized by either by a state or the *Grain Inspection, Packers and Stockyards Administration*.

**Branded beef:** See *Branded commodity(ies) (beef, pork, lamb)*.

**Branded commodity(ies) (beef, pork, lamb):** A specifically *labeled* product that is differentiated from commodity items by its *brand* name.

**Breed registry:** An official list of animals within a specific *breed* whose parents are known to ensure that the animal is a *purebred* member of the *breed* or conforms to *breed* standards. Also known as a *stud book* or register (male animals). See *Grade animal*.

**Cholera:** A serious *foodborne illness* caused by drinking contaminated water or eating contaminated *shellfish*. Cholera can cause a rapid loss of body fluids, shock, and death. See *Foodborne illness(es)*.

**Commercial aquaculture:** The harvesting of a commercially viable crop of aquatic organisms (*plants*, *finfish*, or *shellfish*) in controlled or semi-controlled conditions such as ponds or coastal waters.

**Commercial food fish:** *Finfish* maintained in captivity for the production of food, excluding those *finfish* maintained for ornamental or exhibition purposes.

**Commercial poultry:** (1) Under the *National Animal Health Reporting System*, domesticated fowl, including chickens, turkeys, waterfowl, and game birds, except doves and pigeons, which are maintained primarily for commercial production of eggs and meat. (2) Commercial production facilities with more than 3,000 birds. (3) Under a *pilot program*, the determination based on the number of birds housed at a facility; the management of a facility, local marketing and commerce of birds or bird products originating from the facility; and the potential of international trade of birds or bird products originating from the facility.

**Compliant premises registration system:** A state, tribe, or third party *premises registration system* that meets with *NAIS* data standards and communication security requirements. *APHIS* determines compliance or noncompliance.

**Consumptive use:** The part of water withdrawn that is evaporated, transpired, incorporated into products or crops, consumed by humans or *livestock*, or otherwise removed from the immediate water environment.

**Culture methods (fish):** Includes *extensive culture*, *intensive culture*, and *integrated culture*.

**Denitrification:** The bacterial reduction of nitrate to *nitrogen* gas (NO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), and nitric

oxide (NO). Denitrification occurs under *anaerobic* conditions and results in loss of available *nitrogen* from the *soil*.

**Density:** (1) The measure of how much mass is contained in a given unit volume. (2) Population per unit area. See *Density (cotton)*, *Density (wool)*, *Stocking density*, and *Stocking rate(s)*.

**Density (cotton):** See *Compress standard density* and *Standard density (SD) (cotton)*.

**Density (wool):** The number of hair follicles per square inch of skin.

**Designated feedlot:** See *Terminal feedlot*.

**Dent (corn):** Field corn. The seed has a dent on top of the endosperm, a wedge shape, and may be of any color. Dent corn is used to make *starches*, oils, *livestock feed*, ethanol fuel, crayons, paints, and paper. Dent corn also is used to make corn-syrup sweeteners for soft drinks and baked goods. See *Sweet corn*.

**Diagnostic laboratory(ies):** An animal laboratory performing tests on specimens from live or dead animals so that sick animals may be treated, preventative measures established, and *epizootic* events prevented. In addition, diagnostic laboratories facilitate commerce of *livestock* by providing tests required for international, intrastate, or interstate shipment of animals.

**Disease(s) of concern:** Identification of specific diseases of humans, animals, fish, and *plants* so that strategies of prevention, containment, and/or eradication can be developed.

**Disease vector(s):** See *Vector*.

**Ear tag(s):** Method of *animal identification* by which a numbered, lettered, and/or colored *tag* is placed in the ear.

**Electronic identification (EID):** An identification method that utilizes electronic technology, including, but not limited to, bar codes, *2-D symbology*, and radio frequency.

**Epidemiology (epidemiological):** The study of distribution and determinants of diseases or other health outcomes in human and animal populations. It seeks to expose potential associations between disease aspects of health and diet, lifestyle, habits, or other factors within populations.

**Epizootic:** The wide outbreak of disease affecting animals.

**Event(s):** See *Animal movement event(s)*.

**Extensive culture (fish):** A *culture method* whereby the culturist has minimal control over the factors that affect the fish. The cultured population is generally at a low *density* and considered in a more natural system. See *Intensive culture (fish)* and *Integrated culture (fish)*.

**Extirpated:** A population that has been depressed to the point that it is barely reproducing. Only a remnant population exists, but it is so low that it will probably never fully recover on its own.

**Farm Animal Identification and Records (FAIR):** See *National Farm Animal Identification and Records (FAIR)*.

**Farm-raised fish:** Under the *country-of-origin labeling* provisions of the *Farm Security and Rural Investment Act of 2002* (Sec. 10816), *farm-raised shellfish*, and fillets, steaks, nuggets, and any other flesh from a *farm-raised fish or shellfish*.

**Finfish:** Fish with fins; not *shellfish*.

**Fitting:** The clipping, washing, and grooming of animals for show.

**Foreign Animal Disease Diagnostic Laboratory:** See *National Veterinary Services Laboratory (NVSL)* and *Plum Island Animal Disease Center (PIADC)*.

**Grade animal:** Any animal not registered in a *breed registry*.

**Group/Lot Identification Number (GIN):** The number used to identify a unit of animals of the same *species* that is managed together throughout the pre-harvest production chain.

**Herd(s) of origin:** (1) The flock or herd to which an animal was born. (2) For regulatory purposes, the flock or herd to which an animal was born or where the animal had been for a period of time prior to a triggering event.

**Identification methods:** Includes *ear tags*, *biometrics*, *brands* and *brand* inspection records, and *breed registry* certificates.

**Individual animal identification:** A means of identification that differentiates one animal from another. Official individual *animal identification* uses APHIS-approved methodology.

**Integrated culture (fish):** A combination of *extensive culture* and *intensive culture*. For example, fish may be intensively cultured as larvae or juveniles but grown out to adulthood extensively.

**Intensive culture (fish):** The raising of fish whereby the culturist has direct control over *habitat*, water quality, and food supply, often at a very high *density*. See *Extensive culture (fish)*, *Integrated culture (fish)*, *Raceway(s)*, and *Tank(s); circular tank (culture)*.

**ISO:** International Organization for Standardization.

**ISO transponder:** A *radio frequency identification* device that transmits its *transponder* code when activated by a transceiver.

**ISO transceiver (reader):** A device that receives and reads radio signals from *transponders*.

**Livestock:** (1) Traditionally, *meat* animals such as *beef* cattle, sheep, and hogs; but also including under some *programs aquaculture*, dairy cattle, goats, buffalo, *beefalo*, slaughter horses, *broilers*, turkeys, and other *poultry*. (2) Animals produced for food or *fiber*. (3) Under terms of the *Livestock Mandatory Reporting Act of 1999*, livestock means cattle, swine, and lambs. (4) Under Treasury regulations, livestock means cattle, hogs, horses, mules, donkeys, sheep, goats, fur-bearing animals, and other mammals. However, it does not include *poultry*, chickens, turkeys, pigeons, geese, other birds, fish, frogs, and reptiles. (5) Under the *Packers and Stockyards Act*, livestock means cattle, sheep, swine, horses, mules, or goats – whether live or dead. (6) Under the *Emergency Livestock Feed Assistance Act of 1988*, livestock means cattle (including producing dairy cattle), sheep, goats, swine, *poultry* (including egg-producing *poultry*), equine animals used for food or in the production of food, and fish used for food.

(7) Under *EQIP*, livestock means dairy cattle, *beef* cattle, laying hens, *broilers*, turkeys, swine, sheep, and other such animals as determined by the USDA. (8) Under the *Farm Security and Rural Investment Act of 2002* (Sec. 10403(10)), any *farm*-raised animal. (9) Under the *Flood Compensation Program*, *beef* and dairy cattle, buffalo and *beefalo* (when maintained in the same manner as *beef* cattle), sheep, goats, swine, *poultry*, and equine animals used commercially for human food or kept for the production of food or *fiber* on the owner's *farm*. (10) For purposes of a *premises registration system*, one or more cattle, bison, swine, sheep, goats, horses and other equines, *poultry* and other birds (pheasant, duck, turkey, ostrich, and emu), deer and elk, and llama and alpaca.

***Mandatory identification:*** State and/or federal identification requirements that define which *livestock* must be identified according to established protocols.

***Manufactured dairy product(s):*** Products that include butter; natural or *processed* cheese; *manufacturing milk* or manufacturing cream; dried, frozen, evaporated, stabilized or condensed milk products; frozen desserts; dry *whey*; and dry buttermilk. Also *Manufactured milk products*. See *Dairy products (eligible)*, *Manufacturing (grade) milk*; *manufactured dairy product(s)*, and *Storable manufactured dairy products*.

***Meat traceability:*** The comprehensive concept of *tracking* the movement of identifiable *meat* products through the *marketing* chain – from *source animal*, through growth and feeding, slaughter, *processing*, and distribution, to the point of sale or consumption (or backwards from the consumer to the *source animal*).

***Microirrigation system:*** An *irrigation* system that wets only a discrete portion of the *soil* surface in the vicinity of the *plant* by means of applicators (orifices, emitters, porous tubing, and perforated pipe) operated under low pressure. The applicators can be placed on or below the surface of the ground or can be suspended from supports.

***National Animal Health Reporting System (NAHRS):*** A cooperative effort between the American Association of Veterinary Laboratory Diagnosticians (AAVLD), the U.S. Animal Health Association (USAHA), and APHIS to provide data on the presence of confirmed disease in commercial *livestock*, *commercial poultry*, and *commercial aquaculture species* in the U.S. The NAHRS provides data for reports required by the World Organization for Animal Health (OIE) from member countries.

***National Animal Identification & Tracking:*** The *NAIS* entity that contains and coordinates the *AIN allocator*, *animal identification* and *tracking* systems, and the *National Animal Records Repository*.

***National Animal Identification System (NAIS):*** A cooperative federal-state-industry *program*, implemented in 2004 and administered by APHIS, to provide, when fully operational, for the identification of all animals and *premises* that have had direct contact with a *foreign animal disease* or *disease of concern* within 48 hours of discovery to allow for rapid containment and eradication. The main *program* objective is to develop and implement a comprehensive information system which will (1) support ongoing animal disease monitoring, surveillance, detection, and response capabilities in order to complete current eradication *programs*; (2) enable state and federal *animal health officials* to respond rapidly and effectively to animal health emergencies such as *foreign animal disease* outbreaks or emerging domestic diseases with significant economic, social, or public health consequences; (3) enable state and federal agencies to identify animals at any time that are stolen or lost or scattered through natural disasters such as hurricanes; and, (4) enable state and federal *animal health officials* to promptly ascertain animal health status for the purpose of issuing intrastate, interstate, or international *animal movement* certificates. See *Biodefense*, *National Animal Health Reporting System (NAHRS)*, *Traceback*,

*Tracing, Track(ing), and U.S. Animal Identification Plan (USAIP).*

**National Animal Records Repository:** Under the *NAIS*, the repository for *animal identification numbers*, or *group/lot identification numbers*, *premises identification numbers* of the locations where the *events* take place, the dates of *events*, and the *event* types (movement in, movement out, sighting of an animal at a location, and termination of the animal). See *National Animal Identification & Tracking*.

**National Bio and Agro-Defense Facility (NBAF):** A proposed facility, to replace the aging *Plum Island Animal Disease Center*, that will house research on high-consequence *biological threats* involving human, *zoonotic diseases*, and *foreign animal diseases*. Because the laboratory and test space in the *PIADC* is insufficient to support the increasing levels of research and development needed to meet the growing concerns about accidental or intentional introduction of *foreign animal diseases* into this country, and it is not appropriate for *zoonotic disease* research, the DHS has been leading an effort to provide new safe, secure, and state-of-the-art agriculture *biocontainment* laboratories that research and develop diagnostic capabilities for *zoonotic diseases* and *foreign animal diseases*.

**National Farm Animal Identification and Records (FAIR):** An *animal identification pilot program* that unifies *animal identification programs* and links animal record systems to provide accurate, complete and cost-effective information to meet the various needs of the industry. The *program* has identified nearly one million animals over a five year period. Nearly 1,400 dairy and *livestock farms* utilize electronic *ear tags* in 12 states. One goal of the *pilot program* is to validate the retention of the *RFID ear tags* and the reliability and accuracy of *RFID* stationary readers at the *packing plants*. The national FAIR is administered by the Holstein Association USA, Inc. and supported by *APHIS*. The *program* utilizes *RFID* technology and a database to *track* animals with electronic *ear tags* from birth, *farm to farm*, and then to the *abattoir*. See *National Animal Identification System (NAIS)*.

**National Premises Information Repository:** Under the *premises registration system*, the central repository for certain data to support the overall effectiveness of the *NAIS* including *premises identification number*, name of entity owner or appropriate contact person, street address, city, state, zip/postal code, contact phone number, operation type (production unit, exhibition, *abattoir*, etc.), date activated, date retired (date the operation is sold or date operation is no longer maintaining *livestock*), and reason retired. The contact person should be the person the *animal health official* is to communicate with when performing a *traceback*.

**National Premises Information System:** The system that will include the *premises* number allocator, *premises registration system*, and a *National Premises Information Repository*.

**National Veterinary Services Laboratory(ies) (NVSL):** *APHIS* diagnostic laboratories including several facilities in Ames, IA, and the high-security *biocontainment Foreign Animal Disease Diagnostic Laboratory* on Plum Island, NY, providing veterinary diagnostic, laboratory support, and reference services related to domestic and foreign *livestock* and *poultry* diseases. The various laboratories analyze blood, tissue, and environmental samples to promote disease *tracking* and identification. Diagnosticians work to help *APHIS* epidemiologists in the field find the cause of a disease outbreak as quickly as possible. Laboratory workers also assist in quality control of animal vaccines and related products. See *Epidemiology (epidemiological)*.

**Natto soybean(s):** Small, clear soybeans with thin seed coats and high *carbohydrate* content primarily grown for *fermented* soybean foods. The *fermentation process* breaks down the complex *proteins*, making them more easily digested than whole soybeans. Natto soybeans are traditionally served in Japan as a topping for rice.

**Net pen:** A fish culture method utilizing cages made of netting. Net pens are used in waters from which cultured fish cannot be easily captured for harvest. Net pens take advantage of an existing water body's circulation to wash away wastes and bring fresh water to the fish or shellfish. See *Cage(s)(ed)*, *Pond(s)*, *Raceway(s)*, and *Recirculating systems*.

**Nonproducer participant:** A person or entity who engages in NAIS activity in a designated role where that role is not associated with a specific premises. Typical roles include *AIN tag manager*, *AIN tag distributor*, *animal health official*, *brand inspection entity*, or *diagnostic laboratory*.

**Official identification devices and methods:** APHIS-approved means of officially identifying an animal, or group of animals, including, but not limited to: official tags, tattoos, and registered brands when accompanied by a certificate of inspection from a recognized brand inspection entity.

**Official(ly) identified (identification)(identifying):** The moment when an official identification number is applied to an animal by means of an identification method or device approved by APHIS for purposes related to official disease control programs or animal movements in interstate or international commerce.

**Offstream use:** Water withdrawn or diverted from a groundwater or surface water source for aquaculture, commercial, domestic self-supply, industrial, irrigation, livestock, mining, public supply, thermoelectric power, and other uses.

**Plum Island:** See *Plum Island Animal Disease Center (PIADC)*.

**Plum Island Animal Disease Center (PIADC):** Since June 2003, the Department of Homeland Security high containment facility devoted to DHS applied research science and agricultural forensics. Prior to the transfer to DHS, the PIADC was a USDA facility devoted to diagnosing and researching foreign animal diseases. Plum Island's ownership was transferred to the Agricultural Research Service in 1954 to establish a laboratory to study foot-and-mouth disease and other exotic animal diseases. The diagnostic activities at Plum Island were transferred from ARS to the Animal and Plant Health Inspection Service in 1983. Under an interagency agreement signed in 2003, the USDA continues to work on foreign animal diseases at the PIADC. ARS's role continues to involve basic research, such as studying the immune response of livestock infected with FMD, while APHIS continues to diagnose diseases in livestock and train veterinarians to recognize and diagnose foreign animal diseases.

**Poultry:** (1) Under the *Packers and Stockyards Act*, chickens, turkeys, ducks, geese, and other domestic fowl. (2) Any domesticated bird, whether live or dead. It frequently is used to refer to poultry meat plus skin and fat, within natural proportions either for the whole bird, or for the poultry part referenced in the product name or ingredient statement. See *Backyard poultry* and *Commercial poultry*.

**Premises:** A physical location that represents a unique and describable geographic entity where activity affecting the health and/or traceability of animals may occur. The state animal health official or Area Veterinarian in Charge determines what is a premises.

**Premises identification:** The identification of locations that manage or hold animals to allow for the tracking of animals from where they were born to where they have been moved. See *Premises identification number(s)*.

**Premises identification number (PIN):** An official, 7-character identification code assigned to a premises; the final PIN digit is a check digit.

**Premises registration system:** A computer database system that allows for necessary information to be collected and stored as to the location of *livestock*, and for the assigning of a unique *animal identification number*. See *Compliant premises registration system*, *Standardized premises registration system*, and *National Premises Information System*.

**Prevention and protection:** Preventing biological weapons attacks by proactive initiatives to limit the access to *agents*, technology, and know-how by countries, groups, or individuals seeking to develop, produce, and use such weapons. See *Biodefense*.

**Radio frequency identification (RFID):** An automated identification method, relying on storing and remotely retrieving data using RFID *tags* or *transponders*, that can be attached to or incorporated into a product, animal, or person for the purpose of identification using radio waves. In *animal identification*, an identification method utilizing radio frequency technology included in devices such as *ear tags*, boluses, implants (injections), and *tag attachments* (*transponders* that work in concert with *ear tags*).

**Regional Emergency Animal Disease Eradication Organization (READEO):** The *Veterinary Services* organization that has trained animal health emergency managers and can be mobilized to support and fight an animal disease outbreak. READEO teams operate out of Raleigh, North Carolina, and Fort Collins, Colorado. The teams are trained to confirm the presence of an *exotic disease*, inspect infected and exposed animals, and appraise the value of animals that may have to be destroyed. The teams can then direct vaccination *programs* and conduct *epidemiological* studies, as well as dispose of infected animal carcasses, clean and disinfect *premises*, set and enforce regulations against disease spread, and control *disease vectors*.

**Renewable Resources Extension Act (of 1978) (RREA)** (P.L. 95-306) (16 U.S.C. §§ 1671 et seq.): Signed into law June 30, 1978. The Act, as amended, provides funding to all states for an expanded and comprehensive *Extension education program* for forest and *rangeland renewable resources*. Funds are distributed on a *formula* basis to address forest and *rangeland* stewardship and health, *invasive species*, economic opportunities, and fish and wildlife resource issues. The *Farm Security and Rural Investment Act of 2002* (Sec. 8101) extended the *authority* through FY2007. See *Sustainable Forestry Outreach Initiative*.

**Response and recovery:** In *biodefense*, once a biological weapons attack is detected, the coordinated federal, state, local, private sector, and international response to mitigate the lethal, medical, psychological, and economic consequences of such attacks. Responses to biological weapons attacks depend on pre-attack planning and preparedness, capabilities to treat casualties, risk communications, physical control measures, medical countermeasures, and decontamination capabilities.

**Rural water use:** Water used in suburban or *farm* areas for domestic and *livestock* needs. The water generally is *self-supplied*, and includes domestic use, drinking water for *livestock*, and other uses, such as dairy sanitation, cleaning, and waste disposal.

**Self-supply(ied) (water) (use):** Water withdrawn from a *groundwater* or surface water source by a user rather than being obtained from a public supply.

**Shellfish:** (1) A collective term for molluscs and crustacea. (2) Oysters, mussels, clams, lobsters, shrimp, crabs, and crawfish. See *Finfish*.

**Source animal:** (1) An animal from which cells, tissues, and/or organs for use in *xenotransplantation* are

obtained. (2) In *animal identification* and *meat traceability*, the birth animal or ancestor.

**Standardized premises registration system:** Under the *NAIS*, an *APHIS* web-based *premises registration system* available to all states and tribes. States and tribes may use alternate systems as long as the *USDA* finds these systems to be compliant with national data standards and other technical requirements.

**Stocking density:** The relationship between the number of animals, birds, or fish and the specific unit of land being *grazed*, facility size, or pond/*tank* size at any point in time. Appropriate stocking *density* (a) allows adequate access to food, water, light, air, and/or space for movement; (b) minimizes aggressive behavior, *stress*, and spread of disease; and (c) allows for *sustainable grazing land* and/or acceptable water quality. See *Density* and *Stocking rate(s)*.

**Stocking rate(s):** (1) The degree of *utilization* of land by trees, measured in terms of the number of trees in a *stand* compared to the number of trees required to fully *utilize* the growth potential of the land. (2) The maximum number of animals that can *graze* a quantity of land (traditionally an *acre*) over a period of time without affecting the *sustainability* of the available *forage*. (3) The amount of space (volume of water) allocated to *aquacultural* species for a specific time period. Proper stocking rates influences fish performance, *feed* utilization, water quality, and waste production. Also *Carrying capacity*, *Grazing capacity*, and *Stocking density*.

**Stress:** (1) Any environmental condition to which the *plant* is exposed that negatively influences the growth of the *plant*. Specific stresses include too much water (root anoxia), too little water (osmotic stress), cold temperatures (chilling injury), and insect damage. Redundant terms such as physiological stress and environmental stress are frequently used. (2) The inability of an animal to adapt completely to stressors resulting in destructive behavior, impaired health, and susceptibility to disease. Stress can affect *meat* quality, milk production, and weight *gain*.

**Stud book:** See *Breed registry*.

**Surveillance and detection:** In *biodefense*, the early warning, detection, or recognition of biological weapons attacks to permit a timely response to mitigate their consequences. At best, surveillance and detection can allow for deterrence and attribution (the identification of the perpetrator as well as the method of attack).

**Tag(s):** (1) Dung locks, floor sweepings, or stained pieces of wool. (2) See *Animal Identification Number (AIN) Tag*, *AIN/RF Tags*, *Ear tag(s)*, and *Transponder(s)*.

**Tagging:** The practice of shearing wool from the udder region. Also called crutching or crotching.

**Terminal feedlot:** A *livestock* feeding operation where all animals, upon exit of the operation, move directly to an *abattoir*.

**Threat awareness:** Biological warfare-related intelligence including understanding new scientific trends that may be exploited by our adversaries to develop biological weapons; developing periodic assessments of evolving biological weapons; and anticipating and preparing for the emergence of threats by characterizing threat *agents*, assessing existing defenses, and rapidly developing safe and effective countermeasures. See *Biodefense*.

**Traceability:** (1) Procedures, such as adequate record keeping, that allow *feed*, food, and their raw ingredients to be rapidly withdrawn from the *market* when a risk to consumer health is posed. (2)

Conveying information about a product, such as what it contains, how it was produced, and every place it has been.

**Traceback:** A food safety technique and component of *HACCP* that allows for the *tracking* of animals and animal products through better identification, record-keeping, and screening.

**Tracing:** The *process* of locating animals, persons, things, or *premises* that may be implicated in the spread of disease, so that appropriate action may be taken. See *National Animal Identification System (NAIS)*.

**Track(ing):** See *Meat traceability, National Animal Identification & Tracking, Traceability, and Tracing*.

**Transponder(s):** A radio transmitter-receiver that is activated when it receives a predetermined signal. *RFID* transponders are sometimes referred to as *tags*.

**Water of the United States:** Under the *Clean Water Act of 1972*, navigable waters, tributaries to navigable waters, interstate waters, the oceans out to 200 miles, and intrastate waters that are used (a) by interstate travelers for recreation or other purposes, (b) as a source of fish or *shellfish* sold in interstate commerce, or (c) for industrial purposes by industries engaged in interstate commerce.

**Water withdrawal:** Water removed from the ground or diverted from a surface water source for use.

**Wattle(s) (cattle):** A type of cattle ownership identification mark. Wattles are used in colder climates where longer winter hair growth makes *brand* recognition difficult. This form of identification is made by surgically separating both layers of skin from the connective tissue on the neck or the jaw by pinching up a quantity of skin and cutting it. When the cut is healed, a hanging flap is left with an approximate distance of two to four inches. See *Freeze brand(ing)*.

**Wild fish:** Naturally-born or *hatchery*-raised fish and *shellfish* harvested in the wild, including fillets, steaks, nuggets, and any other flesh from a wild fish or *shellfish*, but not including *netpen* or other *farm-raised fish*.

**Xenotransplantation:** Any procedure that involves the transplantation, implantation, or infusion into a human recipient of either (a) live cells, tissues, or organs from a nonhuman animal source, or (b) human body fluids, cells, tissues or organs that have had contact with live nonhuman animal cells, tissues, or organs outside the organism.

**Zoonotic disease(s):** Diseases that, under natural conditions, are communicable from animals to humans. Included among these are *brucellosis* (undulant fever), *salmonellosis* (*salmonella* poisoning), *leptospirosis* (Weil's disease), *anthrax* (wool sorter's disease), and tetanus (tetanus or lockjaw). Also Zoonoses.