

Table 1. Land tenure

Vocabulary	Definition	Source	Link
Lease	An agreement conveying the right to use farmland or property for a limited time in exchange for periodic rental payments.	USDA	https://directives.sc.egov.usda.gov/ViewRollUp.aspx?hid=28257&sf=1#:~:text=%E2%80%94An%20agreement%20conveying%20the%20right%20to%20use%20property%20for%20a.415.3%20Policy
Own	Legal ownership of farmland or property.	USDA FSA	https://www.fsa.usda.gov/Assets/USDA-FSA-Public/usdfiles/FactSheets/guidance_heirs_property_operators_participating_in_fsa_programs-factsheet.pdf
Other	Other agreements besides lease or ownership, such as licensing agreements, that convey the right to use farmland or property.	None	--
Kuleana Lands	A land holding by a tenant residing within a larger tract owned by another.	The Archival Collections at the University of Hawai'i School of Law Library	http://archives.law.hawaii.edu/items/show/19117/?c=0&m=0&s=0&cv=0
Prefer not to say	Information is withheld by webtool user	None	--

Table 2. Geography

Vocabulary	Definition	Source	Link
American Samoa	A group of volcanic islands located in the South Pacific Ocean, comprised of Tutuila, the Manua Islands, Swains, Aunuu, and Rose Islands,	Cambridge Dictionary and Wikipedia	https://dictionary.cambridge.org/us/dictionary/english/american-samoa
Hawai'i Island	A volcanic island in the Central Pacific, part of the Hawaiian archipelago, unofficially named the Big Island	None	--
Kauai	A volcanic island in the Central Pacific, part of the Hawaiian archipelago	None	--
Lanai	A volcanic island in the Central Pacific, part of the Hawaiian archipelago	None	--
Maui	A volcanic island in the Central Pacific, part of the Hawaiian archipelago	None	--
Molokai	A volcanic island in the Central Pacific, part of the Hawaiian archipelago	None	--
Kahoolawe	A volcanic island in the Central Pacific, part of the Hawaiian archipelago	None	--
Oahu	A volcanic island in the Central Pacific, part of the Hawaiian archipelago	None	--
Pohnpei	A coral-capped volcanic island in the Western Pacific	None	--

Puerto Rico	An archipelago located between the Caribbean Sea and the North Atlantic Ocean. Taíno: Borikén, Borinquen. Spanish: Estado Libre Asociado de Puerto Rico	None	--
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Table 3. Soil terminology

Vocabulary	Definition	Source	Link
Alfisol	Soils that have an argillic, a kandic, or a natric horizon and a base saturation of 35% or greater	NRCS	https://www.nrcs.usda.gov/resources/education-and-teaching-materials/the-twelve-orders-of-soil-taxonomy
Andisol	Soils dominated by short-range-order minerals	NRCS	https://www.nrcs.usda.gov/resources/education-and-teaching-materials/the-twelve-orders-of-soil-taxonomy
Aridisol	Soils that are too dry for mesophytic plants to grow without irrigation	NRCS	https://www.nrcs.usda.gov/resources/education-and-teaching-materials/the-twelve-orders-of-soil-taxonomy
Entisol	Soils that have little or no evidence of development of pedogenic horizons	NRCS	https://www.nrcs.usda.gov/resources/education-and-teaching-materials/the-twelve-orders-of-soil-taxonomy
Gelisol	Soils that have permafrost near the soil surface and/or have evidence of cryoturbation (frost churning) and/or ice segregation	NRCS	https://www.nrcs.usda.gov/resources/education-and-teaching-materials/the-twelve-orders-of-soil-taxonomy
Histosol	Soils that are dominantly composed of organic matter	NRCS	https://www.nrcs.usda.gov/resources/education-and-teaching-materials/the-twelve-orders-of-soil-taxonomy
Inceptisol	Diverse range of soils of semiarid to humid environments that generally exhibit only moderate degrees of soil weathering and development	NRCS	https://www.nrcs.usda.gov/resources/education-and-teaching-materials/the-twelve-orders-of-soil-taxonomy
Mollisol	Soils that have a dark colored surface horizon and are base rich (base saturation >50%)	NRCS	https://www.nrcs.usda.gov/resources/education-and-teaching-materials/the-twelve-orders-of-soil-taxonomy
Oxisol	Highly weathered soils of tropical and subtropical regions dominated by low activity minerals, such as kaolinite and iron/aluminum oxides	NRCS	https://www.nrcs.usda.gov/resources/education-and-teaching-materials/the-twelve-orders-of-soil-taxonomy
Spodosol	Soils in cold wet environments in which amorphous mixtures of organic matter and aluminum, with or without iron, have accumulated	NRCS	https://www.nrcs.usda.gov/resources/education-and-teaching-materials/the-twelve-orders-of-soil-taxonomy
Ultisol	Soils that have a horizon that contains an appreciable amount of translocated silicate clay and low base saturation (<35 percent)	NRCS	https://www.nrcs.usda.gov/resources/education-and-teaching-materials/the-twelve-orders-of-soil-taxonomy
Vertisol	Clayey soils that shrink as they dry and swell as they become moist	NRCS	https://www.nrcs.usda.gov/resources/education-and-teaching-materials/the-twelve-orders-of-soil-taxonomy
High activity clay (HAC)	Clay minerals with high cation exchange capacity due to their large surface area and permanent negative charge	UHM	https://www.ctahr.hawaii.edu/mauisoil/a_factor_mineralogy.aspx#:~:text=High%20activity%20clays%20have%20a,magnesium%2C%20potassium%2C%20and%20ammonium

Low activity clay (LAC)	Clay minerals with low cation exchange capacity with variable charge properties some clays may have anion exchange capacity depending upon soil pH	UHM	https://www.ctahr.hawaii.edu/mauisoil/a_factor_mineralogy.aspx#:~:text=High%20activity%20clays%20have%20a,magnesium%2C%20potassium%2C%20and%20ammonium.
Poorly/non-crystalline minerals (PNCM)	Short-range minerals that have non-crystalline or amorphous structure, very high surface area, and pH dependent charge	UHM	https://www.ctahr.hawaii.edu/mauisoil/a_factor_mineralogy.aspx#:~:text=High%20activity%20clays%20have%20a,magnesium%2C%20potassium%2C%20and%20ammonium.
Sand	Particles that are generally primary minerals and range in size between 2 and 0.05 mm	UHM	https://www.ctahr.hawaii.edu/mauisoil/a_factor_mineralogy.aspx#:~:text=High%20activity%20clays%20have%20a,magnesium%2C%20potassium%2C%20and%20ammonium.

Table 3. Land use terminology

Vocabulary	Definition	Source	Link
Protected forest	Land spanning more than 0.5 hectares with trees able to reach > 5m and canopy cover >10% that is fenced to protect forests from ungulate, human, or other disturbance	None	--
Managed forest	Land spanning more than 0.5 hectares with trees able to reach > 5m and canopy cover >10% that is intentionally designated and manipulated to produce desired goods such as wood products and/or services, including forests managed by the U.S. Forest Service, individual state agencies, municipalities, timber industries, individual landowners, or municipalities	FAO	https://www.fao.org/3/i8661EN/i8661en.pdf
Agroforestry	Land-use systems where a mixture of woody perennials (trees, shrubs, palms, bamboos, etc.) and annuals (i.e., root crops) are deliberately used on the same land-management units as agricultural crops and/or animals, in some form of spatial arrangement or temporal sequence	FAO	https://www.fao.org/forestry/agroforestry/80338/en/
Orchard	Land with tree cover predominantly composed of trees for production of fruits, nuts, or olives	FAO	https://www.fao.org/3/i8661EN/i8661en.pdf
Unmanaged forest	Land spanning more than 0.5 hectares with trees able to reach > 5m and canopy cover >10% that is not intentionally designated and manipulated to produce desired goods, protected from disturbances by fencing, or planted with agricultural crops and/or animals	None	--
Pineapple or sugarcane plantation	Intensively managed land with long-term monocropping of either pineapple or sugarcane	None	--
Cropland	Narrowly defined here as arable lands used for the cultivation of temporary (annual) crops and may include areas periodically left fallow and land under market and kitchen gardens	FAO	https://www.fao.org/3/i0132e/i0132e08.pdf
Unmanaged, abandoned ag land	Formerly intensively managed cropland that is currently abandoned and out of agricultural food, feed, or fiber production	None	--
Silvopasture	The deliberate integration of trees and grazing livestock operations on the same land and intensively managed for both forest products and forage	USFS	https://www.fs.usda.gov/nac/practices/silvopasture.php#:~:text=Silvopasture%20is%20the%20deliberate%20integration,and%20long%20term%20income%20sources.
Pasture	Land used permanently (five years or more) for herbaceous forage crops, either cultivated or growing wild (wild prairie or grazing land).	FAO	https://www.fao.org/economic/the-statistics-division-ess/other-statistics/socio-economic-agricultural-

			and-environmental-indicators/compendium-of-agricultural-environmental-indicators-1989-91-to-2000/annex-2-definitions/en/#:~:text=Permanent%20Pasture%3A%20Land%20used%20permanently,wild%20prairie%20or%20grazing%20land).
Residential	Parcel of land zones for dwelling units, including single family homes, vacant lots, or condominiums	C&C Honolulu	www.realpropertyhonolulu.com/media/1395/res_a.pdf
City/state park	Lands managed by the city and/or county primarily used for recreational activities, including playgrounds, camp grounds, beach parks, dog parks, and botanical gardens	C&C Honolulu	https://www.honolulu.gov/parks/default.html
Multistory cropping			
Grassland agriculture	A land management system emphasizing cultivated forage crops, pasture, and rangelands for livestock production and natural resource protection.	NRCS	https://www.nrcs.usda.gov/sites/default/files/2022-09/Glossary.pdf
Grazing land	(1) Collective term used by NRCS for rangeland, pastureland, grazed forest land, native and naturalized pasture, hayland, and grazed cropland. Although grazing is generally a predominate use, the term is used independent of any use. (2) Land used primarily for production of forage plants maintained or manipulated primarily through grazing management. Includes all lands having plants harvestable by grazing without reference to land tenure, other land uses, management, or treatment practices.	NRCS	https://www.nrcs.usda.gov/sites/default/files/2022-09/Glossary.pdf
Grazed rangeland	Rangeland that is used primarily for the production of livestock. Grazed rangelands include native plant communities and those seeded to native or introduced species, or naturalized by introduced species, that are ecologically managed using range management principles.	NRCS	https://www.nrcs.usda.gov/sites/default/files/2022-09/Glossary.pdf

Table 4. Plant cover, or “what is growing?” terminology

Vocabulary	Definition	Source	Link
Bare Ground	All land surface not covered by vegetation, rock, or litter. S	NRCS	https://www.nrcs.usda.gov/sites/default/files/2022-09/Glossary.pdf
Ground cover	The percentage of material, other than bare ground, covering the land surface. It may include live and standing dead vegetation, litter, cobble, gravel, stones, and bedrock. Ground cover plus bare ground would total 100 percent. Syn. cover, see Foliar cover	NRCS	https://www.nrcs.usda.gov/sites/default/files/2022-09/Glossary.pdf
Row crop monoculture	Arable land in which a single species of an annual crop is planted in rows and mechanically harvested on a large scale (e.g., corn seed, pineapple)	USDA+	https://caclimatehub.ucdavis.edu/2016/07/21/a-cornucopia-of-categories-for-crops/
Commercial veg/fruits	Intensive cultivation of arable land by the raising of agricultural or horticultural products as a principal source of the owner's livelihood	Random	https://www.lawinsider.com/dictionary/commercial-farming
Cover crop/legumes	Plant species (including nitrogen fixers and non-nitrogen fixers) grown during fallow periods, between harvest and planting of annual crops	FAO	https://www.fao.org/conservation-agriculture/in-practice/soil-organic-cover/en/
Dryland root crops	Plant species generally grown as annual crops and yield roots, tubers, rhizomes, corms and stems	FAO	https://www.fao.org/economic/the-statistics-division-

			ess/methodology/methodology-systems/crops-statistics-concepts-definitions-and-classifications/en/
Flooded taro	<i>Colocasia esculenta</i> , a vegetable, used for its corms, leaves, stems, and petioles grown under flooded conditions. In Hawaiian: lo'i kalo	Noho`ana Farm	https://www.nohoanafarm.com/kaloinformation
Forage	Part of vegetation which is available and acceptable for livestock consumption, whether for grazing or harvesting, including herbaceous species in whole plant form and browse.	FAO	https://www.fao.org/3/X9137E/x9137e15.htm#:~:text=Forage%20That%20part%20of%20vegetation,whole%20plant%20form%20and%20browse.
Improved forage	Herbaceous species that have undergone breeding, selection, and improvement for better yield and livestock performance.	Random	https://agric4profits.com/definition-and-management-of-improved-pastures/
Shrub	Land with scrub, shrub or stunted trees, where the main woody elements are shrubs (usually more than 50 cm and less than 7 m in height), covering more than about 20 percent of the area, not primarily used for agricultural or other non-forestry purposes, such as grazing of domestic animals	FAO	https://www.fao.org/3/X6953E/X6953E04.htm
Brush	Various species of shrubs or small trees are usually considered undesirable for livestock or timber management. The same species may have value for browse, wildlife habitat, or watershed protection.	NRCS	https://www.nrcs.usda.gov/sites/default/files/2022-09/Glossary.pdf
Lawn/yard/park	Grass-covered land, especially one closely mowed, as near a house or in a park	Dictionary	https://www.dictionary.com/browse/lawn
Weeds, Unmanaged	Non-intentional plant species that are either unwanted or a nuisance but permitted to grow	ARS	https://www.ars.usda.gov/ARSUserFiles/60100500/csr/researchpubs/price/kelton_09a.pdf
Mixed	Plant cover includes one or more of the options listed	None	--
Nothing/bare fallow	Arable land that is temporarily left idle in between the planting of annual crops	ERS?	https://www.ers.usda.gov/data-products/major-land-uses/glossary/
Available forage	(Animal oriented.) That portion of the forage production that is accessible for use by a specified kind or class of grazing animal. (Plant and animal oriented.) It is the consumable forage stated in digestible dry matter per land unit area that can be removed by grazing livestock without damage to the forage plants. See Usable forage; same except stated as dry matter per land unit area.	NRCS	https://www.nrcs.usda.gov/sites/default/files/2022-09/Glossary.pdf
Other	Any plant cover system not listed	None	--

Table 5. Soil amendments, including fertilizers and conditioners

Vocabulary	Definition	Source	Link
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Biochar	A stable solid, carbon-rich product that is made from organic waste material or biomass that is partially combusted in the presence of limited oxygen	NRCS	https://www.climatehubs.usda.gov/hubs/northwest/topic/biochar#:~:text=Biochar%20is%20a%20stable%20solid,stalks%2C%20manure%2C%20etc.
Biosolids	Semisolid, nutrient-rich product of wastewater treatment following the separation of liquid. Also known as sewage sludge	EPA	https://www.epa.gov/biosolids/basic-information-about-biosolids
Bone/blood meal	Mixture of finely and coarsely ground rendered from marine animal bones (other than marine mammals) or animal blood and processed byproducts including bones	NOAA	https://media.fisheries.noaa.gov/2021-03/part_6_fishmealandfisherybyproducts.pdf?null
Compost	Amendment containing processed and recycled organic materials that can be used to condition and/or enrich soil and plants	USDA	https://www.usda.gov/peoples-garden/food-access-food-waste/composting
Compost tea	Liquid produced by extracting beneficial microorganisms (microbes)—bacteria, fungi, protozoa, nematodes, and micro arthropods—from compost using a brewing process	Old Farmer's Almanac	https://www.almanac.com/how-make-compost-tea#:~:text=Compost%20tea%20is%20a%20liquid,compost%20using%20a%20brewing%20process.
Fish meal	Mixture of finely and coarsely ground marine animal parts and processed byproducts	NOAA	https://media.fisheries.noaa.gov/2021-03/part_6_fishmealandfisherybyproducts.pdf?null
Gypsum	Calcium sulfate dihydrate derived products applied to improve the physical properties of soil and/or supply calcium and sulphur	NRCS	https://www.nrcs.usda.gov/sites/default/files/2022-08/Amending_Soil_Properties_with_Gypsum_Products_333_CPS_June_2015_Final.pdf
Inoculants (rhizobium, effective microbes, mych)	Beneficiary microorganisms applied to either the soil or the plant in order to improve productivity and crop health.	Alori and Babalola, 2018	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6156547/#:~:text=Microbial%20inoculants%20are%20beneficiary%20microorganisms,crop%2C%20and%20hence%20human%20health.
Lime	Product added, often agricultural limestone, to neutralize soil acidity and provided calcium and magnesium available for plant uptake	OSU	https://aqbmps.osu.edu/bmp/amending-soils-lime-or-gypsum-nrcs-333#:~:text=Lime%2C%20also%20known%20as%20agricultural,expected%20from%20a%20gypsum%20application.
Manures	Organic material that is used to fertilize land, usually consisting of the feces and urine of domestic livestock, with or without litter such as straw, hay, or bedding. Green manures are cover crops grown to help maintain soil organic matter and increase nitrogen availability.	FAO	https://www.fao.org/3/cb5131en/online/src/html/gloss.html
Natural farming practices	Fukuoka Method of farming that includes no tillage, fertilizers, pesticides, weeding, or pruning	Masanobu Fukuoka, 1975	https://www.amazon.com/One-Straw-Revolution-Introduction-Natural-Classics/dp/1590173139
None	No inputs	None	--
Synthetic blend	Fertilizers manufactured by chemical and industrial processes that may include products not found in nature and a spectrum of plant nutrients	FAO	https://www.fao.org/3/cb5131en/online/src/html/gloss.html#:~:text=Mineral%20fertilizer%2C%20nitrogen%20fertilizer%2C%20synthetic,extracted%20from%20natural%20raw%20materials.

Table 6. Soil preparation and cultivation

Vocabulary	Definition	Source	Link
Chisel	A primary or secondary tillage implement which shatters the soil without complete burial or mixing of surface materials through the action of multiple rows of staggered curved shanks	USDA	https://efotg.sc.egov.usda.gov/references/public/ME/tillage_implements.pdf
Disk harrow	A primary or secondary tillage implement consisting of two or four gangs of concave disks	USDA	https://efotg.sc.egov.usda.gov/references/public/ME/tillage_implements.pdf
Moldboard	A primary tillage implement which cuts, partially or completely inverts a layer of soil to bury surface materials, and pulverizes the soil.	USDA	https://efotg.sc.egov.usda.gov/references/public/ME/tillage_implements.pdf
Available water	The portion of water in a soil that can be absorbed by plant roots.	NRCS	https://www.nrcs.usda.gov/sites/default/files/2022-09/Glossary.pdf
None	No tillage	None	--
Other	A primary or secondary tillage implement not listed	None	--
Roto	A motorized device having spinning blades perpendicular to the ground and arranged like spokes, used for tilling soil.	Dictionary	https://www.dictionary.com/browse/rototiller
Spader	A motorized device with a mechanical set of shovels, used for tilling soil.	Open Source Ecology	https://wiki.opensourceecology.org/wiki/Spader
More than twice	The soil is tilled, or turned or prepared, on more than two occasions per year	None	--
Twice yearly	The soil is tilled, or turned or prepared, on two occasions per year	None	--
Yearly	The soil is tilled, or turned or prepared, on one occasion per year	None	--
Other	The soil is tilled, or turned or prepared, less frequently than once per year	None	--

Table 7. Irrigation management

Vocabulary	Definition	Source	Link
Sprinkler	Method of applying water in a controlled manner that is similar to rainfall with water distributed through a network that may consist of pumps, valves, pipes, and sprinklers	USGS	https://www.usgs.gov/special-topics/water-science-school/science/irrigation-spray-or-sprinkler-irrigation
Buried drip	A low-pressure, high efficiency irrigation system that uses buried drip tubes or drip tape to meet crop water needs	CSU	https://extension.colostate.edu/topic-areas/agriculture/subsurface-drip-irrigation-sdi-4-716/
Surface Drip	Low pressure irrigation system that supplies water to soil and plants using plastic tubing placed directly on the soil surface adjacent to a row of crops	OSU	https://agsci.oregonstate.edu/mes/irrigation/introduction-drip-irrigation
Flooding	The temporary covering of the soil surface by water that flows over it from any source, such as a stream, irrigation canal, tidal action, or runoff from adjacent or surrounding slopes.	NRCS	https://www.nrcs.usda.gov/sites/default/files/2022-09/Glossary.pdf
None	No methods or means to supply water to the land	None	--
Other	Method or means to supply water to land is not listed	None	--

Table 8. Soil cover

Vocabulary	Definition	Source	Link
Bare soil	Soil surface devoid of any plant materials or cover	Glossary of Meteorology	https://glossary.ametsoc.org/wiki/Bare_soil
Living mulch	a cover crop that is interplanted with an annual or perennial cash crop.	NRCS	https://www.nrcs.usda.gov/plantmaterials/wapmctn6338.pdf
Detritus	Fragmented particulate organic matter derived from the decomposition of debris.	NRCS	https://www.nrcs.usda.gov/sites/default/files/2022-09/Glossary.pdf
Mulch (woodchip, leaf litter, other organic material)	A protective layer of a organic material, including vegetative residue from cash or cover crops that is spread or distributed on top of the soil	USDA	https://www.usda.gov/peoples-garden/soil-health/mulch https://efotg.sc.egov.usda.gov/api/CPS/File/39403/484_PJ_CPS_Mulching_2022
Plastic Mulch	A protective layer of plastic material that is spread and secured on top of the soil	USDA	https://www.usda.gov/peoples-garden/soil-health/mulch
Weed Mat	Material placed on the soil surface used to control weeds by inhibiting their exposure to sunlight	Wikipedia???	

Table 9. General management approach

Vocabulary	Definition	Source	Link
Conventional	Farming management method that relies on synthetic inputs like chemical fertilizers, pesticides, and herbicides	Rodale Institute	https://rodaleinstitute.org/why-organic/organic-basics/organic-vs-conventional/
Mixed conventional and organic	Farming management method that relies on natural processes and synthetic inputs	Rodale Institute	https://rodaleinstitute.org/why-organic/organic-basics/organic-vs-conventional/
Organic	Farming management method that relies on the input of approved organic soil amendments and/or pesticides or natural processes, biodiversity, and cycles with no synthetic inputs	Rodale Institute	https://rodaleinstitute.org/why-organic/organic-basics/organic-vs-conventional/
Conventional cropland	Arable lands used for the cultivation of temporary (annual) crops managed by conventional methods including synthetic inputs	None	--
Mixed conventional and organic cropland	Arable lands used for the cultivation of temporary (annual) crops managed through a combination of synthetic and organic inputs	None	--
Organic cropland	Arable lands used for the cultivation of temporary (annual) crops managed by organic methods restricting or prohibiting the use of synthetic inputs	None	--

Other to consider:

Erosion (v) Detachment and movement of soil or rock fragments by water, wind, ice, or gravity. (n) The land surface worn away by running water, wind, ice, or other geological agents, including such processes as gravitational creep. NRCS