

GLOSSARY

- ARABLE LAND: Land so located that production of cultivated crops is economical and practical.
- ARID (CLIMATIC REGION): Regions that lack sufficient rainfall for crop production without irrigation. Upper annual limits of precipitation are 250 mm for cool regions and 380-510 mm for tropical regions.
- FALLOW: Allowing cropland to lie idle, either tilled or untilled, during the whole or greater portion of the growing season.
- FRAGIPAN: A natural subsurface horizon with high bulk density relative to the soil above, seemingly cemented when dry, but showing moderate to weak brittleness when moist.
- HARDPAN: A hardened soil layer in the lower A horizon or in the B horizon caused by cementation of soil particles by organic matter or other materials such as silica, sesquioxides, or calcium carbonate. Hardness does not change appreciably with changes in water content.
- HUMID (CLIMATIC REGIONS): Regions where water, when normally distributed throughout the year, should not be a limiting factor in the production of most crops. The lower limit of annual precipitation may be as low as 510 mm in cool regions and as high as 1520 mm in hot regions.
- LAND DEGRADATION: The result of one or more processes which lessen the current and potential capability of soil to produce (quantitatively or qualitatively) goods or services.
- MECHANIZATION: The use of mechanized equipment rather than hand labour for accomplishing crop production operations.
- MULCH: A natural or artificial layer of suitable materials that aid in soil stabilization and soil water conservation, thus providing micro-climatic conditions suitable for seed germination and plant growth.
- NATURAL RESOURCES: The elements of supply inherent to an area that can be used to satisfy man's needs, including air, soil, water, native vegetation, minerals, wildlife, etc.
- PLOUGH SOLE (PAN): A subsurface horizon or soil layer having a high bulk density and a lower total porosity than soil directly above or below it as a result pressure applied by normal tillage operations or other artificial means.
- RATTOON: A crop production sequence in which a crop is allowed to regrow after harvest; typical of sugarcane, sorghum, etc. in a tropical climate.
- RESIDUE MANAGEMENT (CROP): Use of that portion of the plant or crop left in the field after harvest for protection or improvement of the soil.

SEMI-ARID (CLIMATIC REGION): Regions where water is normally greater than under arid conditions, but water still definitely limits the growth of most crops. The upper limits of average annual precipitation are 3130 mm for cool regions and 1140-1270 mm for tropical regions.

SHIF'TING CULTIVATION: A farming system in which land is cleared, the debris burned, and crops grown for a relatively short period. The land is then abandoned when crops are grown on newly cleared areas. The original land is cleared and cropped again after an uncontrolled fallow period of 3-20 years, usually when soil fertility has been naturally restored.

SUBHUMID (CLIMATIC REGION): Regions where water is normally less than in the humid regions, but still adequate for production of many agricultural crops without irrigation or use of dryland farming practices (mulching, fallowing, etc.). Annual precipitation ranges from 510 mm in cool regions to 1520 mm in hot regions.

TILLAGE: The operation of implements through the soil to prepare seedbeds and rootbeds, control weeds, aerate soil, and cause faster breakdown of organic matter and mineral to release plant nutrients.

Clean: Cultivation of a field so as to bury all plant residues and to prevent growth of all vegetation except that of the desired crop.

Conservation: Any tillage sequence that reduces soil or water loss relative to conventional tillage. It is often a form of non-inversion tillage that retains protective amounts of crop residues on the surface.

Conventional: The combined primary and secondary tillage operations normally performed in preparing a seedbed for a given crop in a given geographical area.

Minimum: The minimum soil manipulation necessary for crop production or meeting tillage requirements under existing soil and climatic conditions.

No-: A method of planting crops that involves no seedbed preparation other than opening the soil for the purpose of placing seed at the intended depth; usually involves opening a small slit or punching a hole in soil; usually involves no cultivation during the growing season; usually involves chemical use for weed control. Also called slot planting, zero tillage, direct drilling.

Reduced: A system in which the primary tillage operation is performed in conjunction with special planting procedures to reduce or eliminate secondary tillage operations; less than conventional tillage. Similar to minimum tillage, sometimes called limited tillage.

Stubble mulch: A system of tillage that retains the stubble of crops or crop residues in place on the land, thus providing a protective surface cover before and during seedbed preparation and at least partially during the growing season of the succeeding crop.

WATER CONSERVATION: The physical control, protection, management and use of water resources in such a way as to maintain crop, grazing and forest lands; vegetal cover; wildlife; and wildlife habitat for maximum sustained benefits to people, agriculture, industry, commerce, and other segments of the national economy.

COMMON NAMES AND SCIENTIFIC NAMES OF CROPS MENTIONED IN THE REPORT.
 INCLUDED ARE SOME GRASSES AND LEGUMES USED FOR SOIL CONSERVATION
 PURPOSES

Common name	Scientific name
Alfalfa	<i>Medicago sativa</i> L.
Banana	<i>Musa</i> sp.
Barley	<i>Hordeum vulgare</i> L.
Bean, castor	<i>Ricinus</i> sp.
Bean, dwarf	<i>Phaseolus</i> sp.
Beet, sugar	<i>Beta vulgaris</i> L.
Bermuda grass	<i>Cynodon dactylon</i> (L.) Pers.
Bitter leaf	<i>Verrooria</i> sp.
Bluegrass	<i>Poa pratensis</i>
Cabbage	<i>Brassica oleracea</i>
Carrot	<i>Daucus carota</i>
Cassava	<i>Manihot</i> sp.
Citrus	<i>Citrus</i> sp.
Clover, red	<i>Trifolium pratense</i>
Coconut	<i>Cocos nucifera</i> L.
Cocoyam	<i>Xanthosoma</i> sp., <i>Colocasia</i> sp.
Coffee	<i>Coffea</i> sp.
Corn	<i>Zea</i> sp.
Cotton	<i>Gossypium hirsutum</i> L.
Cowpea	<i>Vigna</i> sp.
Groundnut	<i>Arachis</i> sp.
Maize	<i>Zea</i> sp.
Melon	<i>Colocyrzthis</i> sp.
Millet	<i>Setaria</i> sp., <i>Pennisetum</i> sp.
Oat	<i>Avena sativa</i> L.
Okra	<i>Hibiscus</i> sp.
Peanut	<i>Arachis</i> sp.
Peas	<i>Pisum</i> sp.
Peas, chick	<i>Cicer arietinum</i>
Peas, pigeon	<i>Cajanus cajan</i> Millsp.
Plantain	<i>Musa</i> sp.
Potato	<i>Solanum</i> sp.
Potato, sweet	<i>Ipomoea batatas</i> (L.) Lam.
Pumpkin	<i>Cucurbita</i> sp.

Common name	Scientific name
Radish	Raphanus sativus
Rape	Brassica napus
Rice	Oryza sativa
Rye	Secale cereale
Safflower	Carthamus tinctorius
Sorghum	Sorghum sp.
Sorghum, grain	Sorghum bicolor (L.) Moench
Soybean	Glycine max L.
Sugarbeet	Beta vulgaris L.
Sugarcane	Saccharum sp.
Sunflower	Helianthus annuus L.
Wheat	Triticum sp.
Yam	Dioscorea sp.
Others, scientific name only	Amaranthus sp.
	Capsicum sp.
	Corchorus sp.
	Dioscorea sp.
	Lagenaria sp.
	Musa sp.
	Sphenostylis sp.
	Telfairia sp.
	Voandzeia sp.

COMMON AND CHEMICAL NAMES OF HERBICIDES MENTIONED IN THE REPORT

Common name	Chemical name
Atrazine	2-chloro-4-(ethylamino)-6-(isopropylamino)- <u>s</u> -triazine
Glyphosate	<u>N</u> -(phosphonomethyl)glycine
Gramoxone or Paraquat	1,1'-dimethyl-4,4'-bipyridinium ion
2,4-D	(2,4-dichlorophenoxy)acetic acid

CLASSIFICATION OF SOIL SERIES MENTIONED IN THE REPORT
(UNITED STATES CLASSIFICATION SYSTEM)

Series name	Classification
Amarillo	Fine-loamy, mixed, thermic Aridic Paleustalfts
Bedford	Fine-silty, mixed, mesic Typic Fragiudults
Blount	Fine-illitic, mesic Aeric Ochraqualfs
Boone-Hixton	Mesic, uncoated Typic Quartzipsamments (Boone) - Fine loamy over sandy or sandy-skeletal, mixed, mesic Typic Hapludalfts (Hixton)
Brookston	Fine-loamy, mixed mesic Typic Argiaquolls
Catlin	Fine-silty, mixed, mesic Typic Argiudolls
Crete	Fine, montmorillonitic, mesic Pachic Argiustolls
Crosby	Fine, mixed, mesic Aeric Ochraqualfs
Flanagan	Fine, montmorillonitic, mesic Aquic Argiudolls
Foard	Fine, montmorillonitic, thermic Typic Natrustolls
Guelph	Fine-loamy, mixed, mesic Glossoboric Hapludalfts
Harlingen	Very-fine, montmorillonitic, hyperthermic Entic Chromusterts
Hoytville	Fine, illitic, mesic Mollic Ochraqualfs
Marshall	Fine-silty, mixed, mesic Typic Hapludolls
Oakville	Mixed, mesic Typic Udipsamments
Olton	Fine, mixed, thermic Aridic Paleustolls
Ottokee	Mixed, mesic Aquic Udipsamments
Plainfield	Mixed, mesic Typic Udipsamments
Pullman	Fine, mixed, thermic Torrertic Paleustolls
Rago	Fine, montmorillonitic, mesic Pachic Argiustolls
Richfield	Fine, montmorillonitic, mesic Aridic Argiustolls
Rossmoyne	Fine-silty, mixed, mesic Aquic Fragiudalfts
Runnymede	Unclassified and inactive series
Spinks	Sandy, mixed, mesic Psammentic Hapludalfts
Wooster	Fine-loamy, mixed, mesic Typic Fragiudalfts

PEST ORGANISMS OTHER THAN WEEDS MENTIONED IN THE REPORT

Type	Common name	Scientific name	
Insect	Armyworm (American)	<i>Pseudaletia unipuncta</i>	
	Corn (maize) borer, southwestern	<i>Diatraea grandiosella</i>	
	Cutworm	Various sp.	
	Grasshopper	Various sp.	
	Locust	Various sp.	
	Root aphid, maize	<i>Anuraphis maidiradicis</i> Forbes	
	Sod webworm, maize	<i>Crambus mutabilis</i> Clemens, <i>Crambus caliginosellus</i> Clemens, <i>Crambus luteolellus</i>	
	Wireworm	<i>Myelanotus cribulosus</i> LeConte and others	
	Disease	Anthracnose, maize	<i>Colletotrichum graminicola</i> (Ces.) Wils.
		Anthracnose, soybean	<i>Colletotrichum truncatum</i>
Blight, bacterial, soybean		<i>Glomerella glycines</i>	
sclerotial, soybean		<i>Pseudomonas glycinea</i>	
Blight, southern, groundnut		<i>Sclerotium rolfsii</i>	
Blight, yellow leaf, maize		<i>Sclerotium rolfsii</i>	
Pustule, bacterial, soybean		<i>Pseudomonas alboprecipitans</i>	
Root rot, soybean		<i>Xanthomonas phaseoli</i>	
Stem rot, soybean		<i>Fusarium</i> , <i>Phytophthora</i> , <i>Rhizoctonia</i>	
"Take all", small grain		<i>Sclerotinia sclerotiorum</i>	
Other	Wildfire, soybean	<i>Ophiobolus graminis</i>	
	Slugs	<i>Pseudomonas tobaci</i>	
	Rodents	<i>Deroceras laeve</i> Muller	
		Various sp.	

COMMON AND SCIENTIFIC NAMES OF WEEDS MENTIONED IN THE REPORT

Common name	Scientific name
Amaranth, Palmer	<i>Amaranthus palmeri</i> S. Wats.
Barnyard grass	<i>Echinochloa crusgalli</i> (L.) Beauv.
Bermuda grass	<i>Cynodon dactylon</i> (L.) Pers.
Bindweed, field	<i>Convolvulus arvensis</i> (L.)
Brome, downy	<i>Bromus tectorum</i> (L.)
Buffalo bur	<i>Solanum rostratum</i> Dun.
Bursage, woollyleaf	<i>Franseria tomentosa</i> Gray
Cheatgrass	<i>Bromus secalinus</i> (L.)
Chess, hairy	<i>Bromus commutatus</i> Schrad.
Cocklebur	<i>Xanthium</i> sp,
Crabgrass	<i>Digitaria sanguinalis</i> (L.) Scop.
Foxtail	<i>Setaria</i> sp,
Henbit	<i>Lamium amplexicaule</i> L.
Johnsongrass	<i>Sorghum halepense</i> (L.) Pers.
Knapweed, Russian	<i>Centaurea repens</i> L,
Kochia	<i>Kochia scoparia</i> (L.) Shrad.
Lovegrass, Pursh	<i>Eragrostis</i> sp,
Mustard, tansy	<i>Descurainia pinnata</i> (Walt.) Britt.
Nettle, horse	<i>Solanum carolinense</i> L.
Nightshade, silverleaf	<i>Solanum elaeagnifolium</i> Cav.
Nutsedge	<i>Cyperus</i> sp.
Panicum, fall	<i>Panicum dichotomiflorum</i> Michx.
Pigweed	<i>Amaranthus</i> sp,
Puncture vine	<i>Tribulus terrestris</i> L.
Quackgrass	<i>Agropyron repens</i> L,
Sandbur	<i>Cenchrus</i> sp,
Spurge, leafy	<i>Euphorbia esula</i> L.
Thistle, Canada	<i>Cirsium arvense</i> (L.) Scop.
Thistle, perennial sow	<i>Sonchus arvensis</i> L.
Thistle, Russian	<i>Salsola kali</i> L,