

**USDA Service Center Initiative
Geospatial Data Acquisition, Integration and Delivery
Business Re-engineering Project**

Data Themes - Outline - Plants

I. Acquisition

A. Data Source

1. Producer Information

a. Name

The United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Biological Conservation Sciences Division, National Plant Data Center (NPDC), produce the PLANTS database.

b. Location of Headquarters

USDA, NRCS, National Plant Data Center
P.O. Box 74490
Baton Rouge, LA 70874-4490 USA

c. Internet Address

<http://npdc.usda.gov/npdc/>

1. Publisher Information

a. Name

The PLANTS database is published by USDA/NRCS.

b. Location of Headquarters

USDA/NRCS
Information Technology Center
2625 Redwing Road
Suite 110
Fort Collins, CO 80526 USA

c. Internet Address

The internet address of the USDA is www.usda.gov
The internet address of ITC is www.itc.nrcs.usda.gov
The internet address of the PLANTS Database is
<http://plants.usda.gov/plantproj/plants/index.html>

1. Acquisition Information

a. Delivery Media

Data from various databases within the PLANTS system can be downloaded via ftp. Because the data steward is the USDA, the data can be made available electronically

to the Data AID team in a specified format. In order to give geospatial reference to the data, this will be required.

- b. Download URL

<http://plants.usda.gov/plantproj/plants/plntmenu.html>

- c. Projected Data Availability Schedule

A subset of the PLANTS database is currently available on-line via ftp. However, there is no FGDC-compliant metadata and there is no distribution information (e.g. state or county) in the data available on the ftp site. Therefore, the currently available data cannot easily be associated with map data. State and county FIPS and names are available in the PLANTS database. These can be used to georeference the data. There is no schedule for generating the metadata, reformatting the data to include geospatial information, or associating the database with a map. If these processes are required, they should be initiated and/or performed by the Data AID team.

A. Standards Information

1. Geospatial Data Standard

- a. Standard Name and Steward Information

None. Data is tabular. The data has country, state, and county references to associate it with a map during the integration phase. The geospatial reference data, Federal Information Processing Standards (FIPS) codes, have been acquired electronically directly from the US Department of Commerce, National Institute of Standards and Technology. PLANTS contains the FIPS codes for the world and are electronically updated routinely.

- b. Standard Version

None. Data is tabular.

- c. Standard URL

None. Data is tabular.

1. Metadata Standard

- a. Standard Name and Steward Information

Content Standards for Digital Geospatial Metadata version 19940608

The metadata contact is:

US Geological Survey
508 National Center
Reston, VA 22092 USA

- b. Description of Metadata Captured

None

- c. Metadata Accuracy and Completeness Assessment

Not applicable.

A. Acquired Data Structure

1. Geospatial Data Format

- a. Format (raster, vector, etc.)

The PLANTS data is acquired as an ASCII, tabular file. Some of the files have been compressed with the Zoo Archiver UNIX compression utility.

- b. Format Name

ASCII

- c. Data Extent

The United States and the territories Puerto Rico and the Virgin Islands. Covers approximately -180, 18 degrees SW to -64, 72 degrees NE.

- d. Horizontal and Vertical Resolution

Not applicable.

- e. Absolute Horizontal and Vertical Accuracy

Not applicable.

- f. Nominal Scale

Not applicable. The data will be associated with maps of states and/or counties. The scale of these maps is yet to be determined.

- g. Horizontal and Vertical Datum

Not applicable.

- h. Projection

None

- i. Coordinate Units

None

- j. Average Data Set Size

The subset of the PLANTS National Database currently available on the web is 6.8 Mb in size, for an average of approximately 2500 bytes per county. However, plants are found in multiple counties and states, and additional fields will be required to georeference the data. It is estimated that the file size will be smaller than 1 Mb.

The entire PLANTS National Database contains approximately 80 Mb of data. It is not known what the average data set size would be if the entire PLANTS National Database was made available to the Service Centers.

k. Symbology

None

1. Attribute Data Format

a. Format Name

The PLANTS data currently available on the web is uncompressed ASCII. Fields are enclosed in double quotes and are delimited by commas.

The Forest Service data currently available on the web is uncompressed ASCII. Fields are enclosed in double quotes and are delimited by pipes.

FOCS data currently available on the web is ASCII, compressed using UNIX Zoo compression utility.

Fields are enclosed in double quotes and are delimited by commas.

Please note that it is not envisioned that the data will be served as three separate data sets in the future.

b. Database Size

The currently available PLANTS database is 6.8 Mb on the web. It will become slightly larger with the addition of state and county FIPS fields. If all of the PLANTS database becomes available, it is approximately 80 Mb in size.

1. Data Model

a. Geospatial Data Structure

None. The acquired data is tabular.

b. Attribute Data Structure

See below.

c. Database Table Definition

Crop Table

crop_nm	VARCHAR2(30)
crop_sel_ind	VARCHAR2(1)
root_dpth_avg	NUMBER(5)
res_frgl_ind	VARCHAR2(1)

Plant Crop Link Table

crop_nm	VARCHAR2(30)
plnt_sym	VARCHAR2(8)

Crop Variant Table

crop_varnt_nm	VARCHAR2(24)
crop_varnt_sel_ind	VARCHAR2(1)
crop_varnt_desc	VARCHAR2(150)
crop_nm	VARCHAR2(30)
crop_grwth_type_cd	VARCHAR2(1)
hrvst_unit	VARCHAR2(20)
plnt_pop	NUMBER(10)
res_yld_ratio	NUMBER(16,2)
row_space	NUMBER(16,2)
res_dcmp_sbsrf_cf	NUMBER(16,2)
res_dcmp_surf_cf	NUMBER(16,2)
hrvst_unit_wt	NUMBER(5)
yld	NUMBER(10)
cnpy_fall_ht_000	NUMBER(16,2)
cnpy_fall_ht_015	NUMBER(16,2)
cnpy_fall_ht_030	NUMBER(16,2)
cnpy_fall_ht_045	NUMBER(16,2)
cnpy_fall_ht_060	NUMBER(16,2)
cnpy_fall_ht_075	NUMBER(16,2)
cnpy_fall_ht_090	NUMBER(16,2)
cnpy_fall_ht_105	NUMBER(16,2)
cnpy_fall_ht_120	NUMBER(16,2)
cnpy_fall_ht_135	NUMBER(16,2)
cnpy_fall_ht_150	NUMBER(16,2)
cnpy_fall_ht_165	NUMBER(16,2)
cnpy_fall_ht_180	NUMBER(16,2)
cnpy_fall_ht_195	NUMBER(16,2)
cnpy_fall_ht_210	NUMBER(16,2)
cnpy_fall_ht_225	NUMBER(16,2)
cnpy_fall_ht_240	NUMBER(16,2)
cnpy_fall_ht_255	NUMBER(16,2)
cnpy_fall_ht_270	NUMBER(16,2)
cnpy_fall_ht_285	NUMBER(16,2)
cnpy_fall_ht_300	NUMBER(16,2)
cnpy_fall_ht_315	NUMBER(16,2)
cnpy_fall_ht_330	NUMBER(16,2)
cnpy_fall_ht_345	NUMBER(16,2)
cnpy_cvr_pct_000	NUMBER(5)
cnpy_cvr_pct_015	NUMBER(5)
cnpy_cvr_pct_030	NUMBER(5)
cnpy_cvr_pct_045	NUMBER(5)
cnpy_cvr_pct_060	NUMBER(5)
cnpy_cvr_pct_075	NUMBER(5)

cnpy_cvr_pct_090	NUMBER(5)
cnpy_cvr_pct_105	NUMBER(5)
cnpy_cvr_pct_120	NUMBER(5)
cnpy_cvr_pct_135	NUMBER(5)
cnpy_cvr_pct_150	NUMBER(5)
cnpy_cvr_pct_165	NUMBER(5)
cnpy_cvr_pct_180	NUMBER(5)
cnpy_cvr_pct_195	NUMBER(5)
cnpy_cvr_pct_210	NUMBER(5)
cnpy_cvr_pct_225	NUMBER(5)
cnpy_cvr_pct_240	NUMBER(5)
cnpy_cvr_pct_255	NUMBER(5)
cnpy_cvr_pct_270	NUMBER(5)
cnpy_cvr_pct_285	NUMBER(5)
cnpy_cvr_pct_300	NUMBER(5)
cnpy_cvr_pct_315	NUMBER(5)
cnpy_cvr_pct_330	NUMBER(5)
cnpy_cvr_pct_345	NUMBER(5)
res_wt_30	NUMBER(5)
res_wt_60	NUMBER(5)
res_wt_90	NUMBER(5)
root_mass_000	NUMBER(5)
root_mass_015	NUMBER(5)
root_mass_030	NUMBER(5)
root_mass_045	NUMBER(5)
root_mass_060	NUMBER(5)
root_mass_075	NUMBER(5)
root_mass_090	NUMBER(5)
root_mass_105	NUMBER(5)
root_mass_120	NUMBER(5)
root_mass_135	NUMBER(5)
root_mass_150	NUMBER(5)
root_mass_165	NUMBER(5)
root_mass_180	NUMBER(5)
root_mass_195	NUMBER(5)
root_mass_210	NUMBER(5)
root_mass_225	NUMBER(5)
root_mass_240	NUMBER(5)
root_mass_255	NUMBER(5)
root_mass_270	NUMBER(5)
root_mass_285	NUMBER(5)
root_mass_300	NUMBER(5)
root_mass_315	NUMBER(5)
root_mass_330	NUMBER(5)
root_mass_345	NUMBER(5)

Cultivar Table

plnt_sym	VARCHAR2(8)
plnt_cltvr_nm	VARCHAR2(30)
alepth_ind	VARCHAR2(1)
anerb_tolr_cd	VARCHAR2(1)
bloat_pot_cd	VARCHAR2(1)
bloom_prd_cd	VARCHAR2(3)
caco3_tolr_cd	VARCHAR2(1)
c_n_ratio_cd	VARCHAR2(1)
xmas_tree_suit_ind	VARCHAR2(1)
cold_strat_ind	VARCHAR2(1)
coppice_pot_ind	VARCHAR2(1)
drght_tolr_cd	VARCHAR2(1)
et_act_min	NUMBER(5)
fall_cspc_ind	VARCHAR2(1)
fert_rqmt_cd	VARCHAR2(1)
fire_resist_ind	VARCHAR2(1)
fire_tolr_cd	VARCHAR2(1)
flwr_color_cd	VARCHAR2(2)
flwr_cspc_ind	VARCHAR2(1)
foddr_suit_ind	VARCHAR2(1)
folg_color_cd	VARCHAR2(3)
folg_prsty_sumr_cd	VARCHAR2(1)
folg_prsty_wntr_cd	VARCHAR2(1)
folg_txt_cd	VARCHAR2(1)
frost_free_day_min	NUMBER(5)
frut_body_suit_ind	VARCHAR2(1)
frut_seed_abund_cd	VARCHAR2(1)
frut_seed_color_cd	VARCHAR2(2)
frut_seed_cspc_ind	VARCHAR2(1)
frut_seed_end_cd	VARCHAR2(2)
frut_seed_prst_ind	VARCHAR2(1)
frut_seed_start_cd	VARCHAR2(2)
fuel_wood_suit_cd	VARCHAR2(1)
gras_low_grw_ind	VARCHAR2(1)
grwth_form_cd	VARCHAR2(3)
grwth_habit_cd	VARCHAR2(2)
grwth_prd_actv_cd	VARCHAR2(5)
grwth_rate_cd	VARCHAR2(1)
hedg_tolr_cd	VARCHAR2(1)
ht_at_mtrty	NUMBER(8,2)
ht_max_base_age	NUMBER(5)
leaf_retn_ind	VARCHAR2(1)
lfspn_cd	VARCHAR2(1)
lmbr_suit_ind	VARCHAR2(1)
moist_use_cd	VARCHAR2(1)
navl_stor_suit_ind	VARCHAR2(1)
n_fix_pot_cd	VARCHAR2(1)
nurs_stk_suit_ind	VARCHAR2(1)
palat_human_ind	VARCHAR2(1)
palat_animl_brs_cd	VARCHAR2(1)

palat_animl_grz_cd	VARCHAR2(1)
plnt_cltvr_sel_ind	VARCHAR2(1)
plnt_den_high	NUMBER(10)
plnt_den_low	NUMBER(10)
plywd_vnr_suit_ind	VARCHAR2(1)
post_suit_ind	VARCHAR2(1)
precip_tolr_max	NUMBER(5)
precip_tolr_min	NUMBER(5)
prpg_bare_root_ind	VARCHAR2(1)
prpg_bulb_ind	VARCHAR2(1)
prpg_corm_ind	VARCHAR2(1)
prpg_cut_ind	VARCHAR2(1)
prpg_seed_ind	VARCHAR2(1)
prpg_sod_ind	VARCHAR2(1)
prpg_sprig_ind	VARCHAR2(1)
prpg_tubr_ind	VARCHAR2(1)
prpg_ctnr_ind	VARCHAR2(1)
protein_pot_cd	VARCHAR2(1)
plpwd_suit_ind	VARCHAR2(1)
rgrwth_rate_cd	VARCHAR2(1)
rsprt_able_ind	VARCHAR2(1)
root_dpth_min	NUMBER(5)
slin_tolr_cd	VARCHAR2(1)
seed_sprd_rate_cd	VARCHAR2(1)
seedling_vgor_cd	VARCHAR2(1)
seed_per_lb	NUMBER(10)
shade_tolr_cd	VARCHAR2(2)
sm_grain_ind	VARCHAR2(1)
soil_adp_c_txt_ind	VARCHAR2(1)
soil_adp_f_txt_ind	VARCHAR2(1)
soil_adp_m_txt_ind	VARCHAR2(1)
soil_ph_tolr_max	NUMBER(8,2)
soil_ph_tolr_min	NUMBER(8,2)
temp_tolr_min	NUMBER(5)
tox_cd	VARCHAR2(2)
veg_sprd_rate_cd	VARCHAR2(1)
commercial_avail_cd	VARCHAR2(1)

Synonymy Table

symbol	VARCHAR2(8)
syn_sym	VARCHAR2(8)
xgenus	VARCHAR2(1)
genus	VARCHAR2(20)
xspecies	VARCHAR2(1)
species	VARCHAR2(30)
ssp	VARCHAR2(4)
subsp	VARCHAR2(30)
var	VARCHAR2(4)

variety	VARCHAR2(30)
forma	VARCHAR2(30)
bauthor	VARCHAR2(100)
tauthor	VARCHAR2(100)
qauthor	VARCHAR2(100)
other_id	VARCHAR2(14)

MLRA Table

plnt_sym	VARCHAR2(8)
plnt_cltvr_nm	VARCHAR2(30)
mlra_cd	VARCHAR2(4)

Wetland Table

symbol	VARCHAR2(8)
sname	VARCHAR2(70)
rep_vernacular	VARCHAR2(60)
faml_sym	VARCHAR2(7)
genus	VARCHAR2(20)
nat_ind	VARCHAR2(15)
r1ind	VARCHAR2(6)
r2ind	VARCHAR2(6)
r3ind	VARCHAR2(6)
r4ind	VARCHAR2(6)
r5ind	VARCHAR2(6)
r6ind	VARCHAR2(6)
r7ind	VARCHAR2(6)
r8ind	VARCHAR2(6)
r9ind	VARCHAR2(6)
r0ind	VARCHAR2(6)
raind	VARCHAR2(6)
rcind	VARCHAR2(6)
rhind	VARCHAR2(6)

Plant Table

symbol	varchar (8)
family_sym	varchar (7)
xgenus	varchar (1)
genus	varchar (20)
xspecies	varchar (1)
species	varchar (30)
ssp	varchar (4)
subsp	varchar (30)
var	varchar (4)
variety	varchar (30)

forma	varchar (30)
bauthor	varchar (100)
tauthor	varchar (100)
qauthor	varchar (100)
syn_ind	varchar (1)
flag	varchar (2)
trophic	varchar (2)
CITES	varchar (1)
dur1	varchar (2)
dur2	varchar (2)
dur3	varchar (2)
grwhabt1	varchar (2)
gr whabt2	varchar (2)
grwhabt3	varchar (2)
habitat	varchar (2)
taxquest	varchar (1)
global	varchar (4)
fed_stat	varchar (2)
parents	varchar (60)
econ_imp	varchar (1)
vernacular	varchar (60)
origin	varchar (2)
not_nat	varchar (1)
statefips	varchar (2)

Synonymy Table

plnt_sym	varchar (8)
plnt_sym_acpt	varchar (8)
statefips	varchar (2)

Family Table

faml_sym	varchar (7)
order	varchar (20)
f_altsym	varchar (7)
faml_alt	varchar (20)
category	varchar (2)
fauthor	varchar (50)
Ev_code	varchar (8)
family	varchar (20)
statefips	varchar (2)

Distributon Table

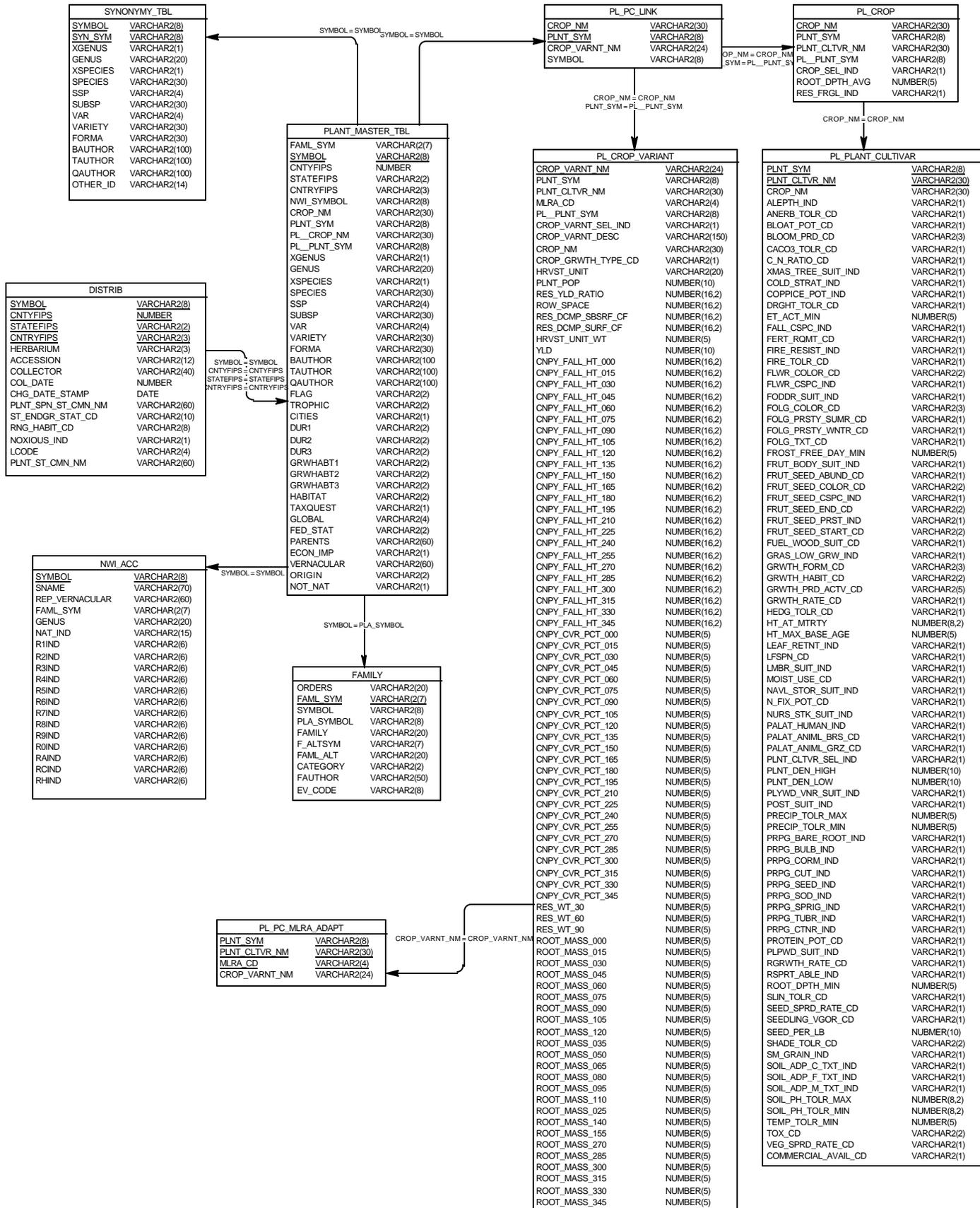
symbol	varchar (8)
cnt yfips	varchar number
statefips	varchar (2)
cnyfips	varchar (2)
herbarium	varchar (6)

accession	varchar (12)
collector	varchar (40)
col_date	number
chg_date	date
plnt_st_cmn_name	varchar (60)
plnt_spn_st_cmn_name	(60)
st_endgr_stat_cd	varchar (10)
rng_habit_cd	varchar (8)
noxious_ind	varchar (1)

Forest Service Crosswalk Data (region 6 only)

region6_symbol	varchar(8)
region6_name	varchar(158)
accepted_symbol	varchar(8)
accepted_name	varchar(158)
synonym_symbol	varchar(8)
synonym_name	varchar(158)

a. Data Relationship Definition



b. Data Dictionary

Please note that the data dictionary has not been updated since 1997 and does not completely reflect the current tables available in the database.

National PLANTS Database

Name	Description	Length	SQL Data Type
Accession	Alphanumeric code assigned to each distributional specimen by a particular Herbarium. Unique only within a specific Herbarium.	12	VARCHAR2
Address1	First line of Source address.	67	VARCHAR2
Address2	Second line of Source address.	67	VARCHAR2
alepth_ind	Does the plant inhibit the growth of nearby plants?	1	VARCHAR2
anerb_tolr_cd	Degree to which the plant tolerates anaerobic conditions.	1	VARCHAR2
Author	Author of a reference Publication.	67	VARCHAR2
Author	Authority associated with a scientific name in the threatened and endangered tables.	60	VARCHAR2
Bauthor	Author of the binomial portion of an accepted scientific name or synonym. (Exception: only includes author of genus where pertinent.)	100	VARCHAR2
bloat_pot_cd	The potential of the herbaceous plant to cause bloating in livestock.	1	VARCHAR2
bloom_prd_cd	The predominant season during which the plant flowers.	3	VARCHAR2
c_factor	A calculated value used in RUSLE representing the cover and management factor.	7	NUMBER
c_factor_zone	An area for which the inputs to the cover and management factor calculation remain constant enough to remain meaningful.	4	VARCHAR2
c_n_ratio_cd	The carbon to nitrogen ratio of the herbaceous plant.	1	VARCHAR2
caco3_tolr_cd	The ability of the plant to tolerate CaCO3.	1	VARCHAR2
Category	Generalized subdivision of botanic data.	2	VARCHAR2
Chg_Date_Stamp	System generated indication of when a change occurred to a record in the Distrib table.		DATE
Citation	Title of reference Publication.	134	VARCHAR2
CITES	Indicates inclusion on the United Nation's CITES agreement under the jurisdiction of international treaty on endangered species. Revised annually.	1	VARCHAR2
City	City name for Publication or Source address.	20	VARCHAR2
Class	Name given the taxonomic category of Class.	20	VARCHAR2
cnpy_cvr_pct_xxx	The percent of the ground surface which, when viewed from directly above, would be covered by the crop canopy, for each increment of 15 days of growth.	5	NUMBER
cnpy_fall_ht_xxx	The average distance a raindrop will fall after being intercepted by the crop canopy, for each increment of 15 days of growth.	16	NUMBER
Cntryfips	Federal Information Processing Standards (FIPS) code to lookup country name.	2	VARCHAR2
Cntyfips	Federal Information Processing Standards (FIPS) code to lookup County name.		NUMBER
Col_Date	Date that a distributional plant specimen was collected. Taken from Herbarium Specimen and written as year, month, day (ex., 18940715).		NUMBER
col_nm	The SQL name of a particular database table column.	18	VARCHAR2

Name	Description	Length	SQL Data Type
cold_strat_ind	Does the plant propagule require cold stratification for successful reproduction?	1	VARCHAR2
Collector	Name(s) of the Collector(s) of a particular distributional plant specimen.	40	VARCHAR2
coppice_pot_ind	Is the tree or shrub suitable for the coppice method of silviculture.	1	VARCHAR2
Country	Country name used for both distribution and country of origin.	45	VARCHAR2
County	Name of County or County equivalent; corresponds with FIPS code.	35	VARCHAR2
crop_code	An abbreviation designating a crop.	2	VARCHAR2
crop_grwth_type_cd	Indicates whether the crop data reflects continuous or time varying growth.	1	VARCHAR2
crop_id	A unique 2 character identifier for a crop.	2	VARCHAR2
crop_name	The long name for a crop.	40	VARCHAR2
crop_nm	A generic crop name that does not contain any references to such things as maturity or management practices.	30	VARCHAR2
crop_sel_ind	Only crops for which this flag is set (Y) will appear in the Management Activity Scheduler choice list.	1	VARCHAR2
crop_varnt_desc	A crop variant description encompasses not only a crop name, it may reference management practices and geographic regions.	150	VARCHAR2
crop_varnt_nm	A name that uniquely identifies a particular crop variant.	24	VARCHAR2
crop_varnt_sel_ind	Only crop variants for which this flag is set (Y) will appear in the Management Activity Scheduler choice list.	1	VARCHAR2
curr_crop_code	The abbreviation for the current crop.	2	VARCHAR2
curr_maturity	The number of days required for expected full development of the current crop.	4	VARCHAR2
curr_other	Pertinent information for the description not noted elsewhere.	15	VARCHAR2
curr_pl_prd_code	The abbreviation associated with a selected planting period.	2	VARCHAR2
curr_residue	The percent residue applicable to the current crop.	3	VARCHAR2
curr_row_width	The distance between rows applicable to the current crop.	3	NUMBER
curr_tillage_code	The primary tool used to cultivate the current crop.	4	VARCHAR2
curr_yield	The average or expected production of the current crop.	3	NUMBER
curr_yld_units	The unit of measure specific to the yield identified for the current crop.	2	VARCHAR2
description_r	A narrative providing some detail on which to base a selection of a c_factor from the c_factor lookup in the FOCS RUSLE application.	41	VARCHAR2
description_sy	A narrative providing some detail on which to base a selection of a c_factor from the c_factor lookup in the FOCS RUSLE application.	41	VARCHAR2
Division	A taxonomic category ranking above class.	20	VARCHAR2
dom_cd	One of several valid choices for a particular class (coded) attribute.	30	VARCHAR2
dom_cd_lbl	A descriptive label associated with a particular valid choice for a particular class (coded) attribute.	255	VARCHAR2
dom_nm	The name associated with a list that comprised the list of valid choices for one or more class (coded) attributes.	40	VARCHAR2
DOS_RUSLE_code	The DOS file name for the DOS RUSLE run that provides the applicable instance of the c_factor.	8	VARCHAR2
drght_tolr_cd	The ability of the plant, relative to similar species, to grow in	1	VARCHAR2

Name	Description	Length	SQL Data Type
	drought conditions.		
Dur1	Describes the duration of a plant.	2	VARCHAR2
Dur2	Describes the duration of a plant.	2	VARCHAR2
Dur3	Describes the duration of a plant.	2	VARCHAR2
Econ_Imp	Indicator of a vascular plant used anywhere in the world for food, spices, medicine, drugs, forage or fiber. Abstracted from Terrell et al. (1986).	1	VARCHAR2
Email	Electronic mail address for a Source.	50	VARCHAR2
et_act_min	Minimum seasonal available water required by a plant.	5	NUMBER
Ev_Code	Code of evolutionary order generally based on Cronquist (1981) for vascular plants, Anderson et al. (1990) for mosses, Egan (1991) for lichens, and Stotler et al. (in press) for liverworts.	8	VARCHAR2
F_Altsym	Symbol for alternative family name; must conform to Faml_Sym requirements.	7	VARCHAR2
fall_cspc_ind	Is the plant fall foliage conspicuous?	1	VARCHAR2
Family	Name associated with the taxonomic category of Family; standard is USDA, ARS, Tech. Bull. No. 1796 (1992).	20	VARCHAR2
Faml_Alt	Alternative Family of the currently accepted scientific name.	20	VARCHAR2
Faml_Sym	Five letter, alpha-code unique acronym that represents each Family; first four letters of the name then the next available letter in the name that would break a tie.	7	VARCHAR2
Fauthor	Family author.	50	VARCHAR2
Fed_Stat	Coded indicator of federal threatened and endangered status in accordance with the U.S. Fish and Wildlife Service; published in the Federal Register.	2	VARCHAR2
fert_rqmt_cd	Level of nutrients required by the plant.	1	VARCHAR2
fire_resist_ind	Is the plant resistant to burning?	1	VARCHAR2
fire_tolr_cd	The ability of the plant to persist by resprouting, regrowth, or germinating from residual seed following being burned.	1	VARCHAR2
Flag	General flag field used for bookkeeping purposes.	2	VARCHAR2
flwr_color_cd	The dominant flower color of the plant.	2	VARCHAR2
flwr_cspc_ind	Is the plant flower conspicuous?	1	VARCHAR2
FOCS_code	A code representing specific characteristics pertinent to the inputs for deriving the c_factor.	10	VARCHAR2
foddr_suit_ind	Is the plant suitable for production of animal fodder?	1	VARCHAR2
folg_color_cd	Mid growing season foliage color.	3	VARCHAR2
folg_prsty_sumr_cd	The degree of foliage porosity of the plant during the summer months.	1	VARCHAR2
folg_prsty_wntr_cd	The degree of foliage porosity of the plant during the winter months.	1	VARCHAR2
folg_txt_cd	The texture of the foliage, relative to similar species.	1	VARCHAR2
Forma	Forma epithet portion of the scientific or synonym name. Lowest taxonomic rank in PLANTS. Data maintained only for those plants pertinent to the Endangered Species Act.	30	VARCHAR2
frost_free_day_min	The minimum days of frost free temperature required for the plant.	5	NUMBER
frut_body_suit_ind	Is the woody perennial suitable for the commercial production of berries, nuts, or seeds?	1	VARCHAR2
frut_seed_abund_cd	The degree to which the plant produces fruit or seed, relative to similar species.	1	VARCHAR2

Name	Description	Length	SQL Data Type
frut_seed_color_cd	The color of the plant fruit or seed when ripe.	2	VARCHAR2
frut_seed_cspc_ind	Is the plant fruit or seed conspicuous?	1	VARCHAR2
frut_seed_end_cd	Season when fruit or seed production ends.	2	VARCHAR2
frut_seed_prst_ind	Is the plant persistent in the retention its fruit/seed?	1	VARCHAR2
frut_seed_start_cd	Season when fruit or seed production begins.	2	VARCHAR2
fuel_wood_suit_cd	The degree to which the woody perennial is suitable for use as fuel wood.	1	VARCHAR2
Gauthor	Author of a genus.	50	VARCHAR2
Genus	Genus name.	20	VARCHAR2
Global	Global rank of plant.	4	VARCHAR2
gras_low_grw_ind	Is the growing point for the grass tiller at or below the crown?	1	VARCHAR2
Grwhabt1	Gross growth form or habit of the plant.	2	VARCHAR2
Grwhabt2	Gross growth form or habit of the plant.	2	VARCHAR2
Grwhabt3	Gross growth form or habit of the plant.	2	VARCHAR2
grwth_form_cd	The growth form of the herbaceous plant.	3	VARCHAR2
grwth_habit_cd	Gross growth form or habit of the Accepted Taxon..	2	VARCHAR2
grwth_prd_actv_cd	Seasons when the plant is actively growing.	5	VARCHAR2
grwth_rate_cd	The rate of growth of the plant after successful establishment, relative to similar species.	1	VARCHAR2
Habit	The Field Office Computer System's (FOCS) coded descriptor for origin (first two characters), growth habit (second two characters) and duration (last four characters). The data was obtained from SCS National Range Data system and originally derived from the NLSPN.	8	VARCHAR2
Habitat	Gross habitat within which the accepted plant is usually known to occur.	2	VARCHAR2
hedg_tolr_cd	The degree to which the woody perennial is tolerant to hedging.	1	VARCHAR2
Herbarium	Alpha acronym published in the latest volume of the Index Herbariorum that represents globally recognized Herbaria. An Herbarium recognized by the botanical community and cited in Holmgren, P.K. et al 1990. Index Herbariorum - Part 1: The herbaria of the world. Regnum Vegetable. New York Botanical Garden, Bronx, NY.	6	VARCHAR2
hrvst_unit	Unit of measure in which the yield for a crop is measured.	20	VARCHAR2
hrvst_unit_wt	Weight per harvest unit in pounds. The harvest units for a particular crop are recorded in "harvest_units".	5	NUMBER
ht_at_mtrty	Mature height of the plant.	8	NUMBER
ht_max_base_age	Maximum height under ideal conditions (pH = 5.0-7.8; salinity <= 4 mmhos/cm; soil depth >= 40 inches; EAAP > 30 inches; texture class = medium; no ponding; rare or no annual flooding; and water table depth >= 1 foot during plant active growth period) at a base age of 20 years for tree plant types in temperate areas (>30 degrees north latitude), or at a base age of 10 years for tree plant types in tropical areas (<=30 degrees north latitude), or at a base age of 10 years for shrubs and sub-shrubs in either temperate or tropical areas.	5	NUMBER
Institution	Institution with which a Source is associated.	67	VARCHAR2
ISBN	ISBN number of source book cited; older publications and some foreign books do not have assigned ISBN numbers.	16	VARCHAR2
ISSN	ISSN number of journal publication cited; older and some foreign publications do not have assigned ISSN numbers.	16	VARCHAR2

Name	Description	Length	SQL Data Type
Keyword	Generalized Keyword that describes knowledge known by a Source or contained within a Publication; may also indicate the Country, State or Region that is encompassed by a Publication or Source, or the level of knowledge from Family to Genus that is derived from Sources or Publications.	20	VARCHAR2
leaf_retn_ind	It the plant is a tree or shrub, does it retain its leaves year round?	1	VARCHAR2
lfspn_cd	The average maximum age for the plant.	1	VARCHAR2
lmbr_suit_ind	Is the woody perennial suitable for dimensional lumber products?	1	VARCHAR2
maturity	The number of days required for the expected full development of the specified crop.	4	VARCHAR2
maturity_select	Approved values for maturity for use in describing c_factor calculations.	4	VARCHAR2
mlra_cd	The code used to identify a Major Land Resource Area for which the plant is adapted.	4	VARCHAR2
Mod_What	Textual account of what change was done to the record. Includes new records and modifications to existing records.	40	VARCHAR2
Mod_When	Date when record was created/modified.		DATE
moist_use_cd	The degree to which a plant uses available soil moisture.	1	VARCHAR2
n_fix_pot_cd	Degree of nitrogen fixation of the plant.	1	VARCHAR2
NAL_Numb	Accession number utilized by the Agricultural Research Service, National Agricultural Library, Beltsville, Maryland, U.S.A.	15	VARCHAR2
Nat_Ind	National indicator reflecting range of estimated probabilities (expressed as frequency of occurrence) of a species occurring in wetlands versus non-wetlands. Maintained as part of the USFWS National Wetlands Inventory (NWI).	15	VARCHAR2
navl_stor_suit_ind	Is the woody perennial suitable for production of naval store products?	1	VARCHAR2
Not_Nat	Indicator that a plant is not known to occur in the U.S. in natural populations.	1	VARCHAR2
Noxious_Ind	Indicates whether or not a plant is classified as noxious.	1	VARCHAR2
nurs_stk_suit_ind	Is the woody perennial suitable for production of nursery stock.	1	VARCHAR2
NWI_Reg	NWI region identifier.	1	VARCHAR2
Orders	Name associated with the taxonomic category ranking above Family and below Class.	20	VARCHAR2
Origin	Coded indicator describing whether the accepted plant is indigenous or introduced into the U.S. Note: a plant may be native within the U.S., but may be considered an exotic in state flora, such as Hawaii's.	2	VARCHAR2
other	Pertinent information for the description not noted elsewhere.	15	VARCHAR2
Other_Id	Plant symbols/codes used by other entities such as BONAP (K-number), TNC, and State Natural Heritage Programs; refers to accepted name.	14	VARCHAR2
palat_animl_brs_cd	The degree to which the plant is palatable to browsing animals.	1	VARCHAR2
palat_animl_grz_cd	The degree to which the plant is palatable to grazing animals.	1	VARCHAR2
palat_human_ind	Is the plant palatable to humans?	1	VARCHAR2
Parents	Name of parents at a generic or specific level; shown as (Parent X Parent).	60	VARCHAR2
Phone	Source phone number.	15	VARCHAR2
pl_per_id	A unique abbreviation for the planting period.	2	VARCHAR2
pl_prd_code	The abbreviation for the planting period selected.	2	VARCHAR2

Name	Description	Length	SQL Data Type
planting_period	The long name for the planting period.	15	VARCHAR2
plnt_cltvr_nm	This is the cultivar or commercial name, if any, of a particular plant/crop.	30	VARCHAR2
plnt_cltvr_sel_ind	Only plant cultivars for which this flag is set (Y) will appear in the Management Activity Scheduler choice list.	1	VARCHAR2
plnt_den_high	The maximum number of plants that can be planted on one acre, based on the plant's inherent minimum spacing requirements.	10	NUMBER
plnt_den_low	The maximum number of plants that can be planted on one acre and still consider the stand to be "fully stocked".	10	NUMBER
plnt_pop	Plant population in plants/acre.	10	NUMBER
Plnt_Spn_St_Cmn_Nm	The Spanish common name for a particular plant in a particular state. The same plant may have a different spanish common name in another state.	60	VARCHAR2
plnt_sym	Unique, system-generated plant symbol (alpha-numeric) following the Garrison-Skovlin-Poulton system.	8	VARCHAR2
plpwd_suit_ind	Is the woody perennial suitable for production of pulpwood.	1	VARCHAR2
plywd_vnr_suit_ind	Is the woody perennial suitable for production of plywood veneer?	1	VARCHAR2
post_suit_ind	Is the woody perennial suitable for production of posts?	1	VARCHAR2
precip_tolr_max	The maximum precipitation that the plant can tolerate.	5	NUMBER
precip_tolr_min	The minimum precipitation that the plant can tolerate.	5	NUMBER
prev_crop_code		2	VARCHAR2
prev_maturity	The number of days required for the full development of the previous crop.	4	VARCHAR2
prev_other	Pertinent information for the description not noted elsewhere.	15	VARCHAR2
prev_pl_prd_code	The abbreviation associated with the selected planting period.	2	VARCHAR2
prev_residue	The percent residue applicable to the previous crop.	3	VARCHAR2
prev_row_width	The distance between planting rows applicable to the previous crop.	3	NUMBER
prev_tillage_code	The primary tool used to cultivate the previous crop.	4	VARCHAR2
prev_yield	The production of the previous crop.	3	NUMBER
prev_yld_units	The unit of measure specific to the yield identified for the previous crop.	2	VARCHAR2
protein_pot_cd	Potential protein content of the plant when actively growing.	1	VARCHAR2
prpg_bare_root_ind	Can the plant be propogated from bare-rooted stock?	1	VARCHAR2
prpg_bulb_ind	Can the plant be propogated from bulbs?	1	VARCHAR2
prpg_corm_ind	Can the plant be propogated from crows?	1	VARCHAR2
prpg_ctrn_ind	Can the plant be propogated from container grown stock?	1	VARCHAR2
prpg_cut_ind	Can the plant be propogated from cuttings?	1	VARCHAR2
prpg_seed_ind	Can the plant be propogated from seed?	1	VARCHAR2
prpg_sod_ind	Can the plant be propogated from sod?	1	VARCHAR2
prpg_sprig_ind	Can the plant be propogated from sprigs?	1	VARCHAR2
prpg_tubr_ind	Can the plant be propogated from tubers?	1	VARCHAR2
Pub_Comment	Provides expanded information about a Publication.	201	VARCHAR2
Pub_Date	Year that reference Publication was published.		NUMBER
Pub_Id	Unique identifier of the reference Publication.		NUMBER
Publication	Publication used as a reference.	134	VARCHAR2
Publisher	Publisher of the reference Publication, if pertinent.	67	VARCHAR2
Qauthor	Author of the quadrinomial portion of the scientific or synonym name.	100	VARCHAR2

Name	Description	Length	SQL Data Type
R0Ind	Codes which reflect the agreement of the Regional Interagency Review Panel. Maintained as part of the USFWS National Wetlands Inventory (NWI).	6	VARCHAR2
R1Ind	Codes which reflect the agreement of the Regional Interagency Review Panel. Maintained as part of the USFWS National Wetlands Inventory (NWI).	6	VARCHAR2
R2Ind	Codes which reflect the agreement of the Regional Interagency Review Panel. Maintained as part of the USFWS National Wetlands Inventory (NWI).	6	VARCHAR2
R3Ind	Codes which reflect the agreement of the Regional Interagency Review Panel. Maintained as part of the USFWS National Wetlands Inventory (NWI).	6	VARCHAR2
R4Ind	Codes which reflect the agreement of the Regional Interagency Review Panel. Maintained as part of the USFWS National Wetlands Inventory (NWI).	6	VARCHAR2
R5Ind	Codes which reflect the agreement of the Regional Interagency Review Panel. Maintained as part of the USFWS National Wetlands Inventory (NWI).	6	VARCHAR2
R6Ind	Codes which reflect the agreement of the Regional Interagency Review Panel. Maintained as part of the USFWS National Wetlands Inventory (NWI).	6	VARCHAR2
R7Ind	Codes which reflect the agreement of the Regional Interagency Review Panel. Maintained as part of the USFWS National Wetlands Inventory (NWI).	6	VARCHAR2
R8Ind	Codes which reflect the agreement of the Regional Interagency Review Panel. Maintained as part of the USFWS National Wetlands Inventory (NWI).	6	VARCHAR2
R9Ind	Codes which reflect the agreement of the Regional Interagency Review Panel. Maintained as part of the USFWS National Wetlands Inventory (NWI).	6	VARCHAR2
RAInd	Codes which reflect the agreement of the Regional Interagency Review Panel. Maintained as part of the USFWS National Wetlands Inventory (NWI).	6	VARCHAR2
RCInd	Codes which reflect the agreement of the Regional Interagency Review Panel. Maintained as part of the USFWS National Wetlands Inventory (NWI).	6	VARCHAR2
Refer_Id	Number that uniquely identifies the Reference Link.		NUMBER
Region	Region about which a Source has expertise or documented by a Publication.	15	VARCHAR2
Rep_Vernacular	Representative common name for an accepted plant.	60	VARCHAR2
res_dcmp_sbsrf_cf	Subsurface residue decomposition coefficient. Used to compute the amount of subsurface residue decomposition as a function of temperature, moisture and time.	16	NUMBER
res_dcmp_surf_cf	Surface residue decomposition coefficient. Used to compute the amount of surface residue decomposition as a function of temperature, moisture and time.	16	NUMBER
res_frgl_ind	Is the crop residue fragile and easily destroyed by tillage operations?	1	VARCHAR2
res_wt_xx	The weight of crop residue at at either 30%, 60% or 90% surface cover.	5	NUMBER
res_yld_ratio	A ratio expressing the weight of residue produced per harvest	16	NUMBER

Name	Description	Length	SQL Data Type
	yield weight, where harvest yield weight is calculated as yield * weight per yield unit.		
residue	The residue level associated with a specific c_factor calculation.	3	VARCHAR2
residue_percent	The percent residue associated with a crop used in calculating a c_factor.	3	VARCHAR2
rgwrth_rate_cd	The ability of the herbaceous perennial to produce regrowth after harvest.	1	VARCHAR2
RHInd	Codes which reflect the agreement of the Regional Interagency Review Panel. Maintained as part of the USFWS National Wetlands Inventory (NWI).	6	VARCHAR2
Rng_Habit_Cd	This is the growth habit as defined by the Ecological Sciences division. This is a concatenated field that contains plant type, plant life cycle and plant origin information.	8	VARCHAR2
root_dpth_avg	The measure of average root penetration in unrestricted soil, in inches.	5	NUMBER
root_dpth_min	Minimum rooting depth required for the plant to grow.	5	NUMBER
root_mass_xxx	The weight of the root mass in the upper four inches of the soil for each increment of 15 days of growth.	5	NUMBER
row_space	The space between rows in inches.	16	NUMBER
row_width	The distance between rows applicable to the specified crop.	3	NUMBER
rsprt_able_ind	Will the woody perennial resprout following top removal.	1	VARCHAR2
Sciname	Full name of an accepted scientific name.	127	CHAR
Sciname_Order	Scientific name not including xgenus or xspecies.	127	CHAR
seed_per_lb	The number of seeds per pound for the plant.	10	NUMBER
seed_sprd_rate_cd	The extent to which the plant spreads by seed.	1	VARCHAR2
seedling_vgor_cd	The vigor of the plant seedlings, relative to similar species.	1	VARCHAR2
selection_flag	Indicator used to activate/de-activate values in choice lists.	1	VARCHAR2
shade_tolr_cd	The degree to which the plant is tolerant of shade.	2	VARCHAR2
slin_tolr_cd	The tolerance of the plant to salinity.	1	VARCHAR2
sm_grain_ind	Is the plant a small grain?	1	VARCHAR2
Sname	Scientific name in the NWI_Acc table; synonym name in the NWI_Syn table.	70	VARCHAR2
soil_adp_c_txt_ind	Is the plant adapted to coarse textured (sands, loamy sands and sandy loams except very fine sandy loams) soils?	1	VARCHAR2
soil_adp_f_txt_ind	Is the plant adapted to fine textured (clay loam, sandy clay loam, silty clay loam, sandy clay, silty clay and clay textural classes) soils?	1	VARCHAR2
soil_adp_m_txt_ind	Is the plant adapted to medium textured (very fine sandy loam, loam, silt loam and silt) soils?	1	VARCHAR2
soil_ph_tolr_max	The maximum value for the range in pH for the soil.	8	NUMBER
soil_ph_tolr_min	The minimum value for the range in pH for the soil.	8	NUMBER
Source	Authorities knowledgeable of certain plants or regions. Example: Wilkin, D.H., R. Rollins, & J.S. Peterson.	67	VARCHAR2
Source_Comment	General comments about a Source.	201	VARCHAR2
Source_Id	A unique number that identifies a Source.		NUMBER
Species	Species name.	30	VARCHAR2
Ssp	Filled with "ssp." when the subspecies field is filled.	4	VARCHAR2
St_Endgr_Stat_Cd	The state assigned endangered status of a plant.	10	VARCHAR2
state	Two character postal code for the state in which all or part of a c_factor_zone exists and for which the c_factor is applicable.	2	VARCHAR2

Name	Description	Length	SQL Data Type
State	State/province/territory name.	45	VARCHAR2
state_code	State postal code.	2	VARCHAR2
State_Code	State postal abbreviation.	2	VARCHAR2
Statefips	Federal Information Processing Standards (FIPS) code to lookup state/province name.	2	VARCHAR2
Subclass	Name associated with the taxonomic category ranking above Order and below Class.	20	VARCHAR2
Subsp	Subspecies name.	30	VARCHAR2
Symbol	Unique plant symbol (alpha-numeric) following the Garrison-Skovlin-Poulton system.	8	VARCHAR2
Syn_Sym	Unique alphanumeric plant symbol for synonym fo accepted scientific name.	8	VARCHAR2
Tauthor	Author of the trinomial portion of the accepted scientific or synonym name.	100	VARCHAR2
Taxon	Taxon about which a Source has expertise or which is documented by a Publication.	20	VARCHAR2
Taxquest	Indicator that there exists some question in the botanic community regarding the accepted plants's validity.	1	VARCHAR2
tbl_nm	The SQL name of a particular database table.	18	VARCHAR2
temp_tolr_min	The minimum temperature that the plant can tolerate.	5	NUMBER
tillage	The long name for the primary cultivating tool utilized in calculating the c_factor.	25	VARCHAR2
tillage_code	An abbreviation for the primary cultivation tool considered in calculating the c_factor.	4	VARCHAR2
tillage_id	A unique abbreviation for the primary cultivation tool considered in calculating the c_factor.	4	VARCHAR2
tox_cd	The degree of toxicity of a plant species to humans or livestock.	2	VARCHAR2
Trophic	Coded descriptor for the trophic level of the accepted plant.	2	VARCHAR2
type_code	A code that will designate whether the c_factor calculation is based upon a single year or rotation for use by the FOCS RUSLE application in providing the appropriate look-up.	1	VARCHAR2
Var	Filled with "var." when the Variety field is filled.	4	VARCHAR2
Variety	Variety name.	30	VARCHAR2
veg_sprd_rate_cd	The degree to which the herbaceous perennial spreads by rhizomes or stolons.	1	VARCHAR2
Vernacular	A vernacular name representative of those in the botanical literature of North America.	60	VARCHAR2
Xgenus	Indicator of an occurrence of a plant hybrid at the generic level.	1	VARCHAR2
xmas_tree_suit_ind	Is the woody perennial suitable for Christmas tree production?	1	VARCHAR2
Xspecies	Indicator of an occurrence of a plant hybrid at the specific level.	1	VARCHAR2
year	The sequence in the crop rotation.		NUMBER
yield	The average of expected production of the designated crop.	3	NUMBER
yield_units	Abbreviation for a unit of measure applicable to crop yield.	2	VARCHAR2
yield_units_desc	Descriptive label for a unit of measure applicable to crop yield.	15	VARCHAR2
yld	Yield of the crop in units, as defined by "harvest_units".	10	NUMBER
yld_units	The unit of measure specific to the yield identified.	2	VARCHAR2
Zip_Post	The zip or other country code for a Source address.	10	VARCHAR2

A. Policies

1. Restrictions

a. Use Constraints

The plant nomenclature, most phytogeography, and core attribute data found in PLANTS for the vascular plants known to occur within the United States and its Caribbean territories were provided under a cooperative agreement by John Kartesz and his staff at the Biota of North America Program (BONAP). All users of vascular PLANTS data should acknowledge the contributions made by BONAP.

The checklists of the Pacific Basin vascular plants, excluding Hawaii, are being developed by Warren L. Wagner, Department of Botany, Smithsonian Institution, and the Bishop Museum, Honolulu. Long term maintenance of the Pacific Basin checklist is being done by Dr. Wagner. All users of the Pacific Basin vascular PLANTS data should acknowledge the contributions made by Dr. Wagner and the Bishop Museum.

The nonvascular nomenclature currently encompasses the lichens and mosses that have been provided under cooperative agreements. The information in PLANTS was developed by the following scientists in cooperation with their respective botanical community. The lichen list was developed by Robert Egan, University of Nebraska-Omaha. The moss list was originally provided by Molly McMullen and Lewis Anderson, Duke University and is now being updated by Marshall Crosby, Missouri Botanical Garden. Liverwort nomenclature is currently under development by Ray Stotler and Barbara Crandall-Stotler, Southern Illinois University, Carbondale.

As the integration of vernacular names is still in progress, you will find that their presence or revision is incomplete. In general, the vernacular names within PLANTS have been derived from existing NRCS range, plant materials, and soils databases. We have begun to fill in the vascular plant gaps with vernacular names provided by various sources, including BONAP. Some lichen names were provided through the courtesy of Roger Rosentreter, USDI, BLM, Boise, ID.

State common names are those assigned and input through the NRCS State PLANTS Coordinator associated with each NRCS State Office.

All plant symbols linked to an accepted or synonym scientific name were developed by the NRCS are unique. The symbols are listed alphabetically only in special reports. The family symbols are unique only within the family list.

b. Access Constraints

None

c. Certification Issues

None

1. Maintenance

a. Temporal Information

The database is updated periodically as new data is available or updated. There were 59 updates between 1991 and 1997.

- b. Average Update Cycle

On average, approximately every 1.5 months

A. Acquisition Cost

1. Cooperative Agreement

- a. Description of Agreement

None. The data steward is part of the USDA.

- b. Status of Agreement

Not applicable

1. Cost to Acquire Data

None

I. Integration

A. Value Added Process

1. Benefit to the Service Center

The PLANTS ASCII, tabular data will include the distribution information and be associated with a vector map. Without this, the PLANTS data cannot be displayed or analyzed with other geospatial data. If a Service Center wanted to use the PLANTS data, it would have to obtain the data along with the State and County FIPS information, and perform the conversion.

2. Process Model

- a. Flow Diagram

At the time of writing, the PLANTS data has not yet been acquired, integrated ,or delivered to the pilot Service Centers. The following is a process diagram of a proposed integration strategy.

xxxxx Insert here xxxxx

- b. Process Description

At the time of writing, the PLANTS data has not yet been acquired, integrated ,or delivered to the pilot Service Centers. The following is a description of a proposed integration strategy.

- The PLANTS files are downloaded from the USDA ftp site for the appropriate state
- The PLANTS ASCII files are converted to MS Excel xxxxx ?
- The xxxxx file is associated with a shape file.
- The plants, which are located within the specified county, are selected and saved as a separate shape file. If no county data is available, the PLANTS data associated with the State will be saved.

1. Technical Issues

a. Tiling

Original data is tiled by state or territory. This is changed to a county tiling scheme where possible.

b. Compression

None.

c. Scale

Plant distributions are maintained by state and/or county. Therefore, the user should note that although a plant is found in at least one location within a county or state, it may not be distributed within the entire county or state. For example, plants which are found only along a shoreline or in a specific elevation range.

The PLANTS data is associated with 1:24,000 (????) scale state and county maps. Therefore, the map data should not be used at a scale larger than this, although the same restrictions do not apply to the use of the tabular data.

d. Tonal Matching

Not applicable.

e. Edge-matching

Not applicable. An exception might arise when adjacent counties are located and stored in different UTM zones and an analysis or view is needed for an entire state.

1. Quality Control

a. Procedures

Information contained within the PLANTS database are derived from many different sources. Most data sets are produced externally and provided by plant science specialists who are responsible for the quality control of their specific data set. The National Plant Data Center reviews these data sets for overall consistency, coordinates their review with other specialists when required, and provides the original author with information for proposed revisions. Data sets developed internally are subjected to external review, and user comments are actively solicited to recommend revisions for data pertinent to their local area. Certain data items, such as State Common Name, are the responsibility of the state data steward and are not reviewed on a national basis.

Quality control is an on-going process. As a user, if you note any inconsistencies, please contact us through the email link provided on the PLANTS home page.

b. Acceptance Criteria

See above.

1. Data Steward

a. Name and Organization

USDA, NRCS, National Plant Data Center
P.O. Box 74490
Baton Rouge, LA 70874-4490 USA

b. Responsibilities

The plant information within PLANTS comes from many different sources through the National Plant Data Center. The principal cooperators providing the NRCS with the taxonomic backbone and geographical data for the vascular plants of North America is the Biota of North America Program under the direction of Dr. John Kartesz.

PLANTS works to implement the botanical data standards put forth by the following organizations: International Union for Biological Science-Taxonomic Databases Working Group, International Association for Plant Taxonomy, International Botanical Congress (current International Code of Botanical Nomenclature and its revisions), and International Organization for Plant Information.

The vascular plant information in PLANTS was developed and is being maintained in cooperation with the [Biota of North America Program](#), North Carolina Botanical Garden, University of North Carolina under the direction of John Kartesz, plus the input of over 700 botanists familiar with the North American flora.

The nomenclature data are compiled in accordance with the International Code of Botanical Nomenclature (Greuter et al., 1994). Post-Japan rejections and conservations are routinely incorporated. Nomenclature is represented by the family, genus, specific epithet, sub-specific epithet, and varietal epithet. Each accepted name has been verified in the original literature (ex. monographs and revisions). Names have been corrected in accordance with the optional rules of the Code.

The long-term, routine updating of PLANTS nomenclature is underway.

A. Integrated Data Structure

1. Geospatial Data Format

a. Format (raster, vector, etc.)

Vector

b. Format Name

ESRI Shape file format

c. Data Extent

Individual county

d. Horizontal and Vertical Resolution

Same as source data.

e. Absolute Horizontal and Vertical Accuracy

Same as source data.

f. Nominal Scale

Same as source data.

g. Horizontal and Vertical Datum

The horizontal datum is the North American Datum (NAD) 83. The vertical datum is mean sea level.

h. Projection

Universal Transverse Mercator (UTM), North American Datum (NAD) 83

i. Coordinate Units

Meters

j. Symbology

No mapping symbology standards have been developed for PLANTS data at this time.

1. Attribute Data Format

a. Format Name

Dbase V, as part of an ESRI Shape file xxxxx???

b. Database Size

Data for 15 states contains information per county. New data is being added with information on 1,108 counties, or approximately one half of the United States. The data per county ranges from 2 to 2590 records. When data is only available for a state, the data set size will be considerably larger.

1. Data Model

a. Geospatial Data Structure

Shape Files	
map shp	shp file
map dbf	dbf file
map shx	shx file
map sbn	sbn file
map sbx	sbx file

b. Attribute Data Structure

See below.

c. Database Table Definition

See the table definition listed in section I, Acquisition.

- d. Data Relationship Definition

See the table relationship diagram in section I, Acquisition.

- e. Data Dictionary

See the data dictionary in section I, Acquisition.

A. Resource Requirements

1. Hardware and Software

To store the PLANTS data, it requires a UNIX or NT machine with approximately 0.8 GB of disk.

2. Staffing

It requires one staff member for approximately ½ day to acquire the entire PLANTS database from the USDA ftp site.

A. Integration Cost

1. Hardware and Software

In order to sub-sample the data by County, and to associate the data with a map of the County boundary, the USDA requires:

ArcView on NT platform
1 GB disk

2. Staffing

The procedure is currently not automated, but it is envisioned that the process could be 100% automated relatively easily. If it was automated, this procedure would require personnel only to check the results of the procedure. To generate PLANTS County attribute files and associate the data with the County maps for the US and territories with no automation, it would require approximately 2 staff members, familiar with ESRI software and xxxxx (excel? Access?), for 2 weeks.

I. Delivery

A. Specifications

1. Directory Structure

- a. Folder Theme Data is Stored In

Plants (V 5-7)

1. File Naming Convention

- a. List of Theme Files and The File Naming Convention

No file naming convention has been decided.

For version 6.0, non 8.3 compliant, it is proposed to use:

\plantsnnnnn.dbf
\plantsnnnnn.shx
\plantsnnnnn.shp
\plantsnnnnn.sbn
\plantsnnnnn.sbx

where nnnnn = <StFIPS><CtyFIPS>, e.g. platns18143.shp from State FIPS 18, County FIPS 143.

For versions 5.0 and 7.0, it is proposed to use:

\plants.dbf
\plants.shx
\plants.shp
\plants.sbn
\plants.sbx

B. User Information

1. Accuracy Assessment

a. Alignment with Other Theme Geospatial Data

Will be 100% aligned with the map of county boundaries because it is a copy of this 1:24,000 scale map that will be associated with the PLANTS tabular data.

b. Content

PLANTS is the plant data standard for the NRCS, its cooperators, and clients.

PLANTS implements the botanical data standards put forth by the following organizations: International Union for Biological Science-Taxonomic Databases Working Group, International Association for Plant Taxonomy, International Botanical Congress (current International Code of Botanical Nomenclature and its revisions), and International Organization for Plant Information.

1. Appropriate Uses of the Geospatial Data

a. Display Scale

The original data source scale or smaller, usually 1:24,000.

b. Plot Scale

The original data source scale or smaller, usually 1:24,000.

c. Area Calculations

Area calculations of plant distributions should not be performed. Plants are listed as either present or absent in a State or County, but this does not indicate what percentage of the State or County the distribution covers. For example, some species grow only in shoreline areas, specific elevation bands, etc. Their distribution may cover only a small area of a State or County.

d. Decision Making

See above.

B. Maintenance and Updating

1. Recommendations and Guidelines

a. Frequency of Updates

In order of preference:

- Extract the data from the PLANTS database at the time of request for the data. Perform the data integration in an automated fashion. Therefore, no updates are required and the Data AID team would not be the data stewards.
- To coincide with PLANTS data updates, if guaranteed, efficient notification is a possibility
- At a regular 1 month intervals

a. Location for the Theme Data to be Maintained

In order of preference:

- The USDA PLANTS database itself
- At the USDA geospatial data warehouse, potentially in Fort Worth

a. Maintenance and Updating Procedures Overview

Follow the integration procedure listed above for each update if it is not done at the time of request of the data.