

GRIN - Forage Legume Data Dictionary

Accession table (ACC)

Definition

Table of the initial information assigned to the accession when it enters the NPGS system. Each accession is composed of the accession prefix, number and suffix (acp, acno, acs). The accession prefix (acp) is either PI or a character string assigned by a site (for example G or W6). The accession suffix is not always present. Other database tables reference the accession record through its internal primary key (acid), and provide additional details about the source of the accession, its inventory status, evaluation data and order processing details.

Accession identifier (acid)

Characteristics

NUMBER(8), Required, Software supplied

Definition

The unique internal number for the accession identifier. It serves as a link between the accession table and other tables in the database. This field is not visible to users of the GRIN web site or pcGRIN.

Accession prefix (acp)

Definition

The prefix part of the unique three part accession identifier assigned to each accession. NPGS accessions have or will receive the prefix 'PI'. Sites assign other prefixes for material being grown or evaluated for entry into the permanent collection.

Codes

Symbol	Definition
G ¹	Temporary number given to new accessions received at the USDA, PGRU, in Geneva, NY.

NSL	Number assigned by NSSL for safety duplicate storage at Fort Collins. Accession may be part of the active collection (and has a PI number) or is material that has been Crop Science Registered or has a plant patent (PVP). Registered material may or may not become part of the active collection after registration or patent expires. Prior to expiration, the accession can be acquired from the developer.
PI	Accession is part of the NPGS germplasm system.
W6¹	Temporary number given to all new accessions received at the USDA, WRPIS in Pullman, WA.

¹ If acquisition will be entering collection, a PI number will be assigned pending seed increase. If new acquisition will not be entering collection, accession will be inactivated (no longer actively distributed or maintained)

Accession number (acno)

Definition

The numeric part of the unique three part accession identifier

Example
1234
500000

Site code (site)

Definition

NPGS site that stores, maintains, and distributes the accession. If site is INACTIVE then accession is not maintained in any repository.

Example
W6
NSSL
S9
INACTIVE

Reason inactive (whynull)

Definition

A coded explanation to show why the accession site is set to INACTIVE. These accessions are no longer a part of the collection. Information is kept in the database primarily for historical reasons. Accessions are only set to INACTIVE if the status is permanent. Temporary unavailability is listed in the inventory availability status. The accession narrative explains the specific circumstances regarding the reasons why the accession is inactive. The inactive narrative currently can not be viewed by users of the GRIN web site or PC GRIN

Codes

Value	Definition
ARCHIVE	Archived on site
DUPLICATE	Accession is a duplicate of another accession.
EXPIRED	Seed no longer viable in storage (seed packets may still exist in storage) or seed has been exhausted
INVIABLE	NPGS received original seed in an inviable condition (seed packets may still exist in storage)
NON-NPGS	Accession is not considered part of the NPGS germplasm collection.
OTHER	See narrative
SUBLINED	Split into sublines

Core collection flag (core)

Definition

A flag ('X') to show the accession is part of the core collection.

Backup flag (backup)

Definition

A flag ('X') to show the establishment of a safety backup site for the accession. Seed accessions are typically backed up at the National Seed Storage Laboratory.

Life form (lifeform)

Definition

The basic life form of the accession.

Codes

ANNUAL	Plant dies once flowering and seed set occurs
PERENNIAL	Plant flowers and sets seed for a number of years

Improvement status (acimpt)

Definition

A method of categorizing germplasm to show the degree an accession has been domesticated. In other words, germplasm is classified on how "agronomically-adapted" it is, in terms of producing yields using current agricultural practices. An accession that was just released as a cultivar has been improved considerably by a modern day plant breeder, compared to an accession collected in the wild. Therefore, they will have a different improvement status.

During the 1996 historic documentation review, general rules were used by the staff to classify accessions into the various categories. The following codes not only provide a definition, but also include the general rules including keywords likely to be encountered in historic documents that were used to determine the classification

Codes

WILD	Accession is a non-cultivated species or is a cultivated species that was found growing wild, either as a naturally occurring species or naturalized species. Keywords: "wild", "found growing wild", "collected in wild", "native wild germplasm"; collected in noncultivated place, (e.g., not in field or close to field, or pasture).
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LANDRACE	Accession is a cultivated species that has evolved from a wild population due to the selection pressure of traditional farmers as they have cultivated germplasm over time. More broadly defined, accession is not a product of modern plant breeding methods, but can be considered a primitive cultivar. Keywords: native, indigenous, traditionally cultivated, primitive variety, local ecotype, (especially if donated by an agricultural institute); collection made in early part of century from a farmer's field in an undeveloped country; donor is not a seed company, not a private or public plant breeder, or seed was collected in bazaar or market in third world country prior to 1960s. Note: Although both land races and primitive cultivars are classified as LANDRACES , if the accession has a name, they can be distinguished since IDTYPE= LOCALNAME for landraces, and IDTYPE=CULTIVAR for primitive cultivars.
CULTIVAR	An accession of a cultivated species, that has been bred by a modern plant breeder (since 1920s in developed countries) and/or released (sold by seed company) to farmers. It must have a cultivar name, although this may be unknown. Keywords: `cultivar name' given; donated or developed by a seed company or public breeder at University or USDA; released relatively recently, origin is from a developed country.
CULTIVATED	Documentation indicated accession was cultivated, but there was insufficient information to determine if it is a LANDRACE or CULTIVAR .
BREEDING	Germplasm used or developed by plant breeders. Germplasm has some desirable trait, but does not generally perform better than current cultivars, so has not been released as a cultivar, but has value in the breeding program. Keywords: Frequently PLANTID is a number such as KS 3345, OK 345-23, etc.; can be referred to as a GERMPLASM RELEASE ; donated by a seed company or public or private breeder; not collected in a farmers field or in the wild.
GENETIC	Germplasm has a genetically distinctive trait not associated with usual agronomic traits. For example, can be a mutant for a single gene trait having nothing to do with yield (e.g. leafless, albino, dwarf, leaf mark) or contain a unique arrangement of chromosomes (may have missing chromosomes, or extra chromosomes) and thus has value in genetic research. Keywords: historic documentation usually cites unique trait; donated or developed by a geneticist or breeder, usually from a public institute.
UNCERTAIN	Although historic documentation has been reviewed, classification was not possible because of insufficient information.

Reproductive uniformity (uniform)

Definition

The reproductive uniformity of this accession based on the method used to produce it originally. This is primarily applied to cultivated and breeding material.

Codes

INBRED	Highly inbred
MIXTURE	Mixture
PARTINBRED	Partial inbred
POPULATION	Population
PURELINE	Pureline

Form received (acform)

Definition

The type of propagule first given to the NPGS.

Codes

CT	Cutting
DN	DNA sample
HE	Herbarium specimen
IO	Information Only
IV	In-vitro
PL	Plant
PR	Primers
RH	Rhizome
RN	RNA sample
SD	Seed
SG	Seedling
ST	Stolon

Date received (received)

Definition

The date the accession initially becomes part of the NPGS collection. If only month and year were given, the default day was the first day of the

month. The date a site receives the material may be different from this initial entry, due to movement within the system. The date a site receives the accession is recorded in the inventory action (iact) table.

Example

01-JAN-93
01/25/1994
01/1994
1994

PI volume (pivot)

Definition

Citation of volume number of Plant Introduction Inventory where passport data was first published. Citation is also present in General Narrative when narrative text came directly from the PI Inventory.

Example

193

Accession citation table (ACIT)

Definition

Table listing literature that cites accession. This area is not yet complete for the forage legume collections. Citations have been included in the General Narrative.

Reference abbreviation (abbr)

Definition

The short abbreviation for this reference.

Example

Crop Sci
Agron J
Ann Bot
F Ariz

Citation title (cittitle)

Definition

The title of the article or chapter.

Example

Registration of ICGV 86564 Peanut Germplasm
Registration of Bayshore Smooth Cordgrass
Inheritance of Adult-Plant Resistance to Powdery Mildew
in Knox 62 and Massey Winter Wheats
Systematics, Diversity, and Germplasm

Author of publication (author)

Definition

Author(s) of the article or chapter.

Example

R.R. Kalton, P. Richardson
P.E. Lake

Citation year (cityr)

Definition

The year the citation was published or made available.

Example

1994

Citation reference (citref)

Definition

The citation (volume, page, etc.) within the journal or book.

Example

34(1):300
18(10):920
pp. 3-11

Comment (cmt)

Definition

General comments about the citation.

Accession narrative table (NARR)

Definition

Table of narratives for an accession. There are three types of narratives used to describe an accession. Only the General Narrative is visible on the GRIN web site and PC GRIN.

Narrative type (ntype)

Definition

A code indicating the type of narrative (general, site, why inactive).

Codes

G	General narrative
I	Inactive explanation
S	Site narrative

Narrative (narr)

Definition

Contains accession information recorded in historic documentation in a narrative or “comment” format. We have quoted directly when possible, and have provided a citation that indicates the source of the comment. Narrative information could include specifics regarding how an accession was collected, descriptive information provided by collector, donor, or site personnel upon evaluation, comments regarding the use of the PI in the development of a given cultivar, direct quotations from collector’s notes, etc. When historic narrative information directly relates to information found in another GRIN field that is coded or is a numeric field, we have referenced the GRIN field in capital letters, followed by a colon and the narrative text. For example, if the collector sampled “many plants”, it would appear in the narrative as PLANT: many plants. In GRIN, the PLANT field is used to indicate how many plants were sampled, but will only accept numeric data, hence the comment “many plants”, has been placed in the general narrative field, but has been tagged with “PLANT:”, to facilitate querying. If the accession is inactive (**SITE= INACTIVE**) this narrative field may provide further explanation of the accession’s status. This INACTIVE NARRATIVE is not currently available to public viewers at the web site, but may be obtained from the curator.

Annotation label table (AL)

Definition

Table of annotations (verifications and reidentifications) on the taxonomic names or other related information for each accession.

Annotation action (action)

Definition

The type of annotation, either a verification of the existing species, or a reidentification to a new species, for this accession.

Codes

ID-CHECK	Name checked or verified
NOM-CHANGE	Nomenclature change
RE-IDENT	Re-identification
RECEIVED	Received as

Annotation date (acted)

Definition

The date of the annotation (verification or reidentification).

Incorrect taxonomy (oldtaxno)

Definition

Species identifier of old or incorrect name.

Correct taxonomy (newtaxno)

Definition

Species identifier of new or correct name.

Annotation comment (cmt)

Definition

General comments about the verification or reidentification.

Collection locality/habitat table (HAB)

Definition

Table of location data for accessions collected in the wild or obtained from farmers, markets or other local sources. Generally, accessions that have been donated by breeders, developers or institutes (i.e. do not have a collection site per se) do not have locality or habitat information.

The GRIN web site utilizes MAP IT, which allows the user to view a map depicting the location of the individual collection site. We can also map an accession or groups of accessions on other source maps. Contact curator for more information.

Latitude and longitude values come from a number of sources which vary in accuracy:

- GPS from collector
- Map from Collector
- Times Atlas
- Digital Map of the World
- NOAA GEONAMES server

We are currently determining how best to include source of data.

Latitude and longitude values are in hemisphere, degrees, minutes and seconds.

Site elevation (elev)

Definition

Elevation of collection site in meters.

Quantity (quant)

Characteristics

NUMBER(), Optional

Definition

Quantity of propagules collected.

Units collected (units)

Definition

Units of the quantity collected.

Codes

ct	count
gm	gram
kg	kilograms
mg	milligrams
Pk	packet

Collected form (cform)

Definition

Form of the material collected.

Codes

DN	DNA sample
HE	Herbarium specimen
IO	Information Only
IV	In-vitro
PL	Plant
PR	Primers
RH	Rhizome
RN	RNA sample
SD	Seed
SG	Seedling
ST	Stolon

Plants collected (plants)

Characteristics

NUMBER(5), Optional

Definition

Number of plants sampled to obtain quantity collected.

Collection location (locality)

Definition

Narrative information regarding the geographic location of the collection site as described by the original collector or donor. The usual form is: collected 45 km southwest of Istanbul, Turkey. We have verified and updated the names of towns, states/provinces and countries where needed. Miles have been converted to kilometers. Locality descriptions that can not be associated to a latitude and longitude value (such as the comment, "collected in hotel courtyard") have been placed in the comment area.

Example

Just over bridge on road to Eruh, N side of road. Billoris village area. 8.5 km S of Van on road to Tatvan, Van Province. Military checkpoint at Guzelkonak, 22 km N of Semdinli, Hakkari Province.

Habitat or surrounding area (habitat)

Definition

HABITAT and **HABITAT COMMENT** describe the environment of a collection site. Information generally comes from collector notes or trip reports, and includes a wide array of information such as soil type, associated plant species, community, geology, topography, and agroecosystem. Generally, habitat attributes that remain constant over time (eg. soil type, topography) have been cited first, followed by descriptions that may have changed over time (e.g. plant community, agroecosystem). If a donor makes general comments regarding the collection area, but not specific to the actual collection site, this information has been placed in the **GENERAL NARRATIVE** field and referenced with **GH:** (GENERAL HABITAT information). To preserve the integrity of narrative information, and maintain query capability of the **HABITAT** field, the entire collector comment has been placed in the General Narrative area, and habitat specific information placed in Habitat. This frequently leads to redundant habitat information in both the general narrative and habitat area (for an example see PI 464731). The source of habitat information is also cited.

Example

Tir wheat field, sown in widely spaced rows, stoney volcanic soil.
Base of hill in disturbed soil among small rocks.
Rocky basalt, E facing slope. Lower portion grazed.
Annual precipitation 2000 mm.
Elevation range 200-300 m.

Comment (cmt)

Definition

Other collection site data not covered by locality and habitat.

Example

Said to be from Mexico, but grown here for 15 years.
Both spring and winter wheat grown here.

Geographic coordinate type (gctype)

Definition

Defines the system the collector used to take the latitude/longitude.

Codes

GIS	LAT/LON determined from GIS	Coordinates estimated from the locality information utilizing Geographic Information System (GIS) computer software.
GPS	Lat/Lon determined via GPS system	Coordinates determined from a Global Positioning System (GPS) device at the collecting site.
MAP	Lat/Lon determined via Map location	Coordinates estimated from the locality information utilizing maps or gazetteers.

Intellectual property rights table (IPR)

Definition

Table of the intellectual property rights known for an accession. One accession can be covered by several IPR.

Protection type (iprtype)

Definition

The type of intellectual property rights associated with the accession. Each accession can have several types of protection at the same time.

Codes

CSR	Crop Science Registration
FOREIGN	Foreign patent or license

PENDING	Patent of license pending
PLANT	U.S. Plant patent
PVP	U.S. Plant Variety Protection
STATE	State patent or license
UTILITY	U.S. Utility patent

IPR number (iprno)

Definition

The numeric portion of the intellectual property rights identifier. This number may be linked to a remote database that further describes the accession

Date issued (issued)

Definition

The date the intellectual property rights were issued. Pending patents will have no issued date.

Date expired (expired)

Definition

The date the intellectual property right or protection expired or was removed. The germplasm is available for distribution as long as no other form of protection applies.

Property rights comment (cmt)

Definition

General comments about the intellectual property rights for the accession.

Pedigree table (PED)

Definition

Table of information on the pedigree. Although standards are not used for pedigrees, individual entries should be clear and consistent throughout each crop. These entries can also link with the accession citation table for published pedigrees.

Date released (released)

Definition

The date the cultivar/selection/line was released.

Plant pedigree (pedigree)

Definition

The pedigree or parentage of a cultivated or improved accession. Pedigrees can be entered in a formal manner when available or more loosely. Wild material should not have pedigree information.

Example

Selection from Clark
Composite of 126 accessions collected in Texas

Plant names/alternate identifiers table (AN)

Definition

Table of all plant names or identifying numbers given to an accession. Can be a cultivar or land race name, collector ID number, gene bank ID number, plant breeder ID number, etc. A coded GRIN field indicates what type of identifier the name is.

Identifier type (idtype)

Definition

Classification of type of identifier.

Codes

COLLECTOR	Identifier number assigned by a collector during a collection trip.
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CULTIVAR	Name of modern or primitive cultivar. Extensive efforts have been made to verify that a name is in fact, a registered cultivar name. If improvement status= CULTIVAR then accession is a registered modern cultivar. If improvement status =LANDRACE, then accession is a primitive cultivar
DEVELOPER	Name or identifier number given to accession by plant breeder, or seed company. This is also referred to as the “test name” by the North American Alfalfa Improvement Conference. Keywords from historic documentation included: name with state abbreviation and number (example: Sorenson at Kansas State University called his lines: KS-46, etc); may be designated as a “germplasm release”; “test population”, “test material”, “early generation”, “germplasm population”, “parent of cultivar”.
DONOR	Name given to accession by a donor (eg. individual person other than developer who makes a donation).
DUPLICATE	Duplicate accession name
INSTITUTE	Name given to accession by an official institute such as a foreign genebank or a public agricultural research institute.
LOCALNAME	Name is for a land race
MISIDENT	Misidentified cultivar name
OTHER	Used if there is insufficient documentation to determine the type of name. Standard comments have been placed in the GRIN comment field: ANCMT to provide further information.
SITE	NPGS site identifier
UNVERIFIED	Name has not been verified

Plant identifier (plantid)

Definition

Any name or identifier other than the primary accession identifier and the taxonomy.

Example

GRIMM

BIC-25W

Comment (cmt)

Definition

A number of standard comments have been developed to clarify what we know about the accession based on insufficient historic documentation.

1. If name is either a landrace or cultivar name then **IDTYPE = OTHER**, and **ANCMT=** Based on available information can not determine if name is a cultivar or local name.
2. If name is from a donor, developer or collector, then **IDTYPE = OTHER**, and **ANCMT=**: Based on available information can not determine if alternate identifier is from donor, developer or collector
3. If no determination can be made regarding the source of the name then **IDTYPE = OTHER**, and **ANCMT =**Based on available information can not determine source of alternate name
4. If name is from an institute, but we do not know which institute since there is a primary institute (institute donating directly to NPGS) and secondary institute (institute donating to primary donor)involved, then **IDTYPE = INSTITUTE**, and **ANCMT=** Based on available information can not determine if alternative identifier is from primary donor or secondary donor institute

Source history table (SRC)

Definition

A listing of individual events leading to the acquisition of germplasm by the NPGS. For each event, GRIN describes the type of event, the date it occurred, the location it occurred in, and the persons involved. A given accession can have many SRC events. For accessions that were collected, GRIN also describes collection site location and habit information. The Source History area concludes with a comment field that provides further narrative information.

Source type (srctype)

Definition

A code showing the type of source for the accession.

Codes

COLLECTED	Collection source event Germplasm was acquired through a collecting event, (ie. someone set out with objective to collect germplasm in some location. Note: material donated to a collector while on a trip would be considered TYPE=collected, not donated.
DEVELOPED	Germplasm was acquired through the original plant breeder/developer. Usually the donor organization is a seed/breeding company or public institute.
DONATED	Germplasm was acquired by NPGS (or other institute) through a direct donation by an individual or institute. Donation is a direct transfer of germplasm without a collection trip. Keywords from historic documentation included: “presented by...”, “donated by...”, “received through....” etc.

Source date (srcdate)

Definition

Date the event occurred. Usually earlier than **RECEIVED** date. If no day was given in historic documents, the default day is the first of the month. If a range of months was given, the first month is placed in this field and actual range found in the comment area.

Example

01-JAN-94

01/25/1994

01/1994

1994

Origin flag (origin)

Definition

A flag ('X') to indicate a country has been verified as being the country of origin. In the case of cultivars, this field was flagged when cultivars were donated from the country involved with the development

Comment (cmt)

Definition

Narrative that further describes a source history event. This space is used to explain unusual or complex histories, and to verify that passport data is exceptionally minimal. Several standard comments have been employed.

Standard comments

If accessions was obtained on a collection trip and collector obtained material as a donation from a genebank, botanic garden, agricultural institute, commercial seed company, or market than: “Collector obtained material from "agricultural institute", "individual" or "market".

If information obtained second or third hand than “Source history indirectly cited; information not directly available from original source”

If information is minimal, but suggestive than: “Based on available information, can not determine original source of germplasm. From “_____” would suspect origin is “_____”, or “information not available but suspect germplasm was donated by “_____” to “_____”.

If accession was separated from a mixture than: “Accession obtained when an original accession containing more than one species was subsequently separated, and each species component was assigned a unique PI number”

If accession was a selection of an original PI then: “Selection of original PI #_____. In SRCMT of original PI, than: “PI # (of the selection) was selected from this accession”

For accessions that have been verified as cultivars efforts have been made to identify the breeding company and year of release.

Date qualifier (srcqual)

Characteristics

VARCHAR2(10), Optional, Coded

Definition

This field further defines the source date.

Codes

NEAR	Source event occurred around date shown
POST	Source event occurred after date shown
PRE	Source event occurred before date shown

Source member table (SMBR)**Definition**

Table of the cooperator(s) who participated in a source history event.