

AGRIS and AGROVOC: a bibliographic catalogue and its thesaurus into the world of linked data

The experience of the Food and Agriculture
Organization of the UN (FAO)

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IRCDL

5th February 2016, Firenze

Today

- A few words on FAO
- AGRIS, a LOD based application
- AGROVOC, a concept scheme

FAO

Food and Agriculture Organization of the UN

Basics on FAO

- Founded in 1945
- Goals of the organization: Help eliminate hunger, **food insecurity** and malnutrition– make agriculture, forestry and fisheries more **productive and sustainable** – reduce rural **poverty** - enable **inclusive and efficient food systems** – increase the **resilience** of livelihoods
- Currently, 194 members
- HQ in Rome, 5 regional offices, various country offices

FAO & information

- Corporate documents – “State of ...”, guidelines for governments, research and reports on specific themes/areas
 - <http://www.fao.org/publications/>
- Collection of statistics
 - <http://faostat.org.fao.org> ...
- Distance learning - <http://www.fao.org/elearning/>
- Capacity development
- Promotion of (open) access to information among member countries

AGRIS

AGRIS partnership

- Started in 1975, to help partners promote their scientific production
 - Typically, ministries and research centres in agriculture
- In practice, a bibliographic repository contributed by partners and compiled & disseminated by FAO (on paper, CD, ..)

Agris today

1. A **network**: collaborative network of more than 150 institutions from 65 countries
2. A **Web portal**: agris.fao.org/ is a Web application that enriches the AGRIS repository with related Web resources. Uses Linked Open Data methodologies
3. An **RDF database**

The AGRIS network

The AGRIS network at a glance

The name **AGRIS centers** stands for all the data providers that have contributed or are contributing with bibliographic data to AGRIS, from national libraries, institutional repositories, single or corporate journal publishers to service providers.

Currently the AGRIS network consists of 150 AGRIS centers from 65 countries. Each center is indicated on the map down below. If you click on a marker, the name and URL of the provider will appear in an info window.



[view larger map](#)

More detailed information about the centers has been stored in the [CIARD RING](#), a global registry for information providers and their services. You may search the [RING by Data Providers](#), specifying the type of institution, country or name. Otherwise check the [List of AGRIS centers](#) that have been active for the past five years (an extraction from the RING).

Would you also like to contribute to AGRIS? For detailed information, please visit the ["For contributors"](#) section.

The AGRIS portal

agris.fao.org



Looking for Agricultural Science and Technology Information? Papers, data, statistics, and multimedia material, you get it with AGRIS all on one page

Some of the newest records from the AGRIS database:

Assessment of cytogenetic damages on human peripheral lymphocytes following gamma rays local cutaneous exposures

Chul-Song, P.; Eun-Jun, K.; Kyu-Shik, J.; Sang-Joon, P.; Dong-Mi, K.; Oh-Deog, K.; Man-Hee, R.; Seung-Chun, P.; Sung-Ho, K.; Si-Yoon, R.; Chun-Ho, K.; Tae-Hwan, K.; C ...

Optimization of β -Glucosidase Production by a Strain of *Stereum hirsutum* and Its Application in Enzymatic Saccharification

Ramachandran, P., Konkuk University, Seoul; Nguyen, N.P.T., Konkuk University, Seoul; Choi, J.H., Wonkwang University, Iksan-city; Kang, Y.C., Konkuk University, Seoul; Jeya, M ...

Влияние технологий применения минеральных удобрений на продуктивность полевого севооборота и изменение агрохимических показателей почвы

Artem'ev, A.A., Mordovia Research and Development Inst. of Agriculture

Statistics

Assessment of cytogenetic damages on human peripheral lymphocytes following gamma rays local cutaneous exposures

Chul-Song, P.; Eun-Jun, K.; Kyu-Shik, J.; Sang-Joon, P.; Dong-Mi, K.; Oh-Deog, K.; Man-Hee, R.; Seung-Chun, P.; Sung-Ho, K.; Si-Yoon, R.; Chun-Ho, K.; Tae-Hwan, K.; Chang-Mo, K.

Abstract:

The purpose of this paper is to establish the cytogenetic analyses of human peripheral blood samples caused by simulation of partial-body exposures. Either accidental or occupational partial-body exposure to ionizing radiation poses significant health hazards that are indicated by induction of chromosome aberrations (CA). The percentages of mixtures of blood samples irradiated in vitro with 2 Gy of gamma rays were 10, 25, 50, 75 and 100.0%. Lymphocytes were cultured for 48 hr, harvested with standard procedures and then first-division metaphase cells were analyzed. It showed that the frequencies of unstable CA depend on the proportion of the irradiated blood. All frequencies of the observed CA was lower than that of predicted or calculated from 100% exposed blood, except in one case, indicating a phenomenon of "dilution" of the un-irradiated into irradiated lymphocytes that may take place a bystander effects. Our data showed that the quantification of CA in human peripheral blood lymphocytes may be an important tool of dose assessment for partial-body exposure to ionizing radiation.

Agrovoc Keywords

- lymphocytes
- adults
- damage

Source:

National Agricultural Research Centre ([click here for contact information](#))

National Agricultural Research Centre (NARC), Islamabad established in 1984, is the largest research centre of the Pakistan Agricultural Research Council (PARC). NARC, with a total land area of approximately 1 [...]

HOMEPAGE: <http://www.parc.gov.pk/NARC/narc.html>

Pakistan Veterinary Journal (Pakistan) (Journal)

Other information

Volume: 34

Issue: 1

Extent: p. 68-72

Language: English

In AGRIS since: 2015

All titles:

"Assessment of cytogenetic damages on human peripheral lymphocytes following gamma rays local cutaneous exposures"

An AGRIS record

AGRIS

[About](#)
[Feedback](#)

Identification and mapping of QTLs [quantitative trait loci] for drought tolerance introgressed from *Oryza glaberrima* Steud. into indica rice (*O. sativa* L.)

[RDF](#)
[lod:live](#)

Bimpong, I.K.

Abstract:
 Genetic variability for physiological traits; water use efficiency (WUE), leaf water potential and relative water content was studied in 8 *O. glaberrima* accessions. Of these accessions, CG14, RAM 118 and RAM 152 had higher WUE and RAM 3 had higher dehydration tolerance as compared to recurrent *O. sativa* parent. A set of 2091 BCsub2Fsub3 progenies produced from crosses of *O. sativa* x *O. glaberrima* was evaluated for drought related traits in lowland and upland nurseries at 2 locations in 2008. Yield of recurrent parents was reduced by 68% in IR64 and 16% in IR55423-01 under drought stress. Evaluation of 2091 progenies under drought stress showed 33 having higher yield per plant than IR64 and 22 progenies better than the drought tolerant recurrent parent (IR55423-01). Molecular analysis revealed 4-6% introgression from *O. glaberrima* in BCsub2Fsub3. A set of 350 introgression lines was selectively genotyped with SSR[Simple Sequence Repeats] and STS[Sequence Tagged Site] markers. Single-point and interval mapping was done using QTL[Quantitative Trait, Loc]Mapper 1.60 and Mapmanager QTX 20. Molecular analysis of IR64 x *O. glaberrima* population revealed 45 QTLs for different agronomic traits of which 18 are new. Similarly, 51 QTLs were identified from IR55423-01 x *O. glaberrima* where 36 were new. *O. glaberrima* contributed 50-67% alleles to the newly identified QTLs. Two QTLs for grain yield per plant (ypp2.1 and ypp4.2) were new and another 2 (yld1.1 and yld8.

[Read More](#)

Agrovoc Keywords

- *Oryza sativa*
- loci
- Drought resistance
- genetic maps
- plant genetics
- *Oryza glaberrima*
- Plant breeding
- Introgression
- identification

Other information

Extent: 255 leaves; 14 ill.; 30 graphs; 48 tables; Bibliography (239 ref.). Received Jan 2011

Language: English

Type: Bibliography

University Library, University of the Philippines at Los Baños (click here for contact information)

Homepage: <http://www.uplb.edu.ph>

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Read the article and/or related articles:

Identification of a Rice Stripe Necrosis Virus resistance locus and ...

Jan 8, 2010 ... Mapping of the RSM1 locus represents the first identification of a genetic ... Asian rice (*Oryza sativa* L.) is one of the most important food crops for mankind and Major QTL for *O. glaberrima* Acc. MG12 resistance to the Rice Stripe and tolerance to aluminium toxicity, acid soil conditions and drought [56].

[Go to the page](#)

The Wild Relative of Rice: Genomes and Genomics

Yield QTL analysis of *Oryza sativa* x *O. glumaepatula* introgression ...

[PDF] ABSTRACT

Data from World Bank (double-click an area to zoom)

Cereal yield (kg per hectare)

Cereal yield (kg per hectare)
178 74,210

Oryza sativa distribution map. Data from Global Biodiversity Information Facility (GBIF)

View a larger map

Data from CGRIS Germplasm:

- 一早熟
- 三亩粒
- 宽叶二谷果
- 皱皱芒
- 北京江米稻

Data from collecting missions supported by Bioversity international

- Expedition to Northern India 1976
- Netherlands-Pakistan Germplasm Expedition to Chitral and Swat (Pakistan) 1976
- The Plant Collecting Exploration of Ghana
- Plant Exploration in Liberia

Data from www.nature.com:

Linked resources

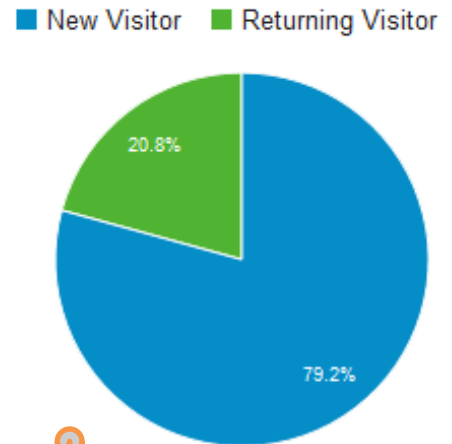
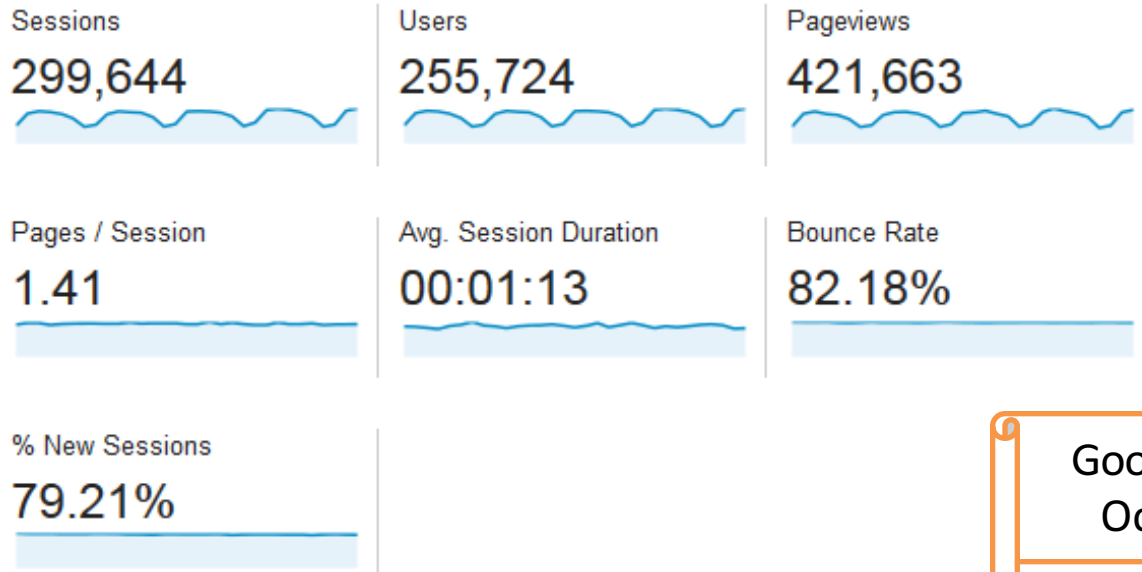
- DBPedia
 - Nature OpenSeach
 - GBIF
 - WorldBank
 - FAO geopolitical ontology – Country profiles
 - IFPRI
 - FAO fisheries and aquaculture fact sheets
 - Bioversity international
 - CGRIS germplasm database
-
- Full-text: an increasing number of full papers is available, using simple search through Google

Agris content

- ~ 8 million *multilingual* bibliographic records
 - 400,000 from Latin America
 - 150,000 from Africa
 - 760,000 from Asia + 400,000 links to CASDD (China)
- ~ 250 million triples

Access

- From 200+ countries and territories




Google Analytics
October 2015

Multilinguality

AGRIS is natively multilingual



Search Results (Get Classical View)

Query: effect of straw returned to the field 

Results 1 - 10 of 901,040

[next »](#)

Effects of all straw returned to the field on grain number and grain weight at different spikelets and grain positions in winter wheat [May. 2011]

Qu Huijuan, Anhui Agricultural University; Li Jincai, Anhui Agricultural University; Shen Xueshan, Anhui Agricultural University

目的研究小麦玉米秸秆连续全量还田对小麦穗部不同小穗位和粒位结实粒数及粒重变化的影响。方法通过设置3年定位试验研究小麦玉米秸秆全量还田对小麦不同小穗位结实粒数、粒重的小穗位和粒位的影响效应。结果小麦玉米秸秆连续全量还田提高了小麦的公顷穗数、穗粒数、千粒重和产量。各处理小麦不同小穗位结实粒数、小穗重、小穗平均单粒重均呈现二次曲线变化趋势，不同粒位的粒重也随小穗位的变化呈二次曲线形式。结实小穗越多、各小穗结实粒数或单粒重差异越小，空间分布模拟曲线的弧度越平缓。秸秆还田提高了小麦主茎穗和分蘖穗的结实小穗数与小穗结实粒数，降低了不孕小穗数，且下部小穗的结实粒数增加幅度较大；秸秆还田还提高了小麦不同粒位的单粒重，以第3、4粒位提高幅度较大。结论小麦玉米秸秆连续全量还田提高了小麦不同小穗位的结实粒数和粒重，进而提高了籽粒产量。

Effects of wheat and maize straw returned to the field on lodging resistance of maize in lime concretion black soil region [May. 2011]

Shen Xueshan, nhui Agricultural University; Li Jincai, nhui Agricultural University; Qu Huijuan, nhui Agricultural University

目的探讨砂姜黑土区小麦玉米秸秆全量还田对夏玉米抗倒性能的影响。方法以夏玉米品种郑单958为材料，通过定位试验研究小麦玉米秸秆全量还田对玉米抗倒性能的影响。结果小麦或玉米秸秆全量还田均能提高玉米气生根条数、0—30 cm土层根条数及根系干重，同时，玉米株高和单株鲜重均有所增加。秸秆还田后，在吐丝期和灌浆中期，玉米茎秆基部3—7节间的长度、直径、干重和单位茎长干物质重有增加的趋势，尤其是基部节间的茎秆压碎强度和穿刺强度显著提高。另外，玉米的根倒伏系数显著降低，而植株抗倒指数则显著升高。相关分析表明，根倒伏系数与根倒率显著正相关，而与单株鲜重、根系干重和基3节压碎强度显著负相关。玉米总倒折率与节间长度极显著

▼ Multilingual search

☐ Enable ☒ Disable

▼ Refine your search

Sort by:

☒ Relevance ☐ Submission Year

Order:

☐ Ascending ☒ Descending

▼ Up to 10 AGROVOC descriptors most used in this result set. Click on keywords to refine your search.

- crop yield (19169)
- growth (18205)
- varieties (14895)
- yields (13382)
- quality (12413)
- field experimentation (10768)
- zeo mays (9676)
- oryza sativa (7652)
- fertilizer application (7374)
- triticum aestivum (6840)

▼ Countries available in this result set. Click on keywords to refine your search by Country.

- philippines (3333)

▼ Content types in this result set. Click on keywords to refine your search.



Effects of straw returned to the field on growth and water use efficiency of maize in lime concretion black soil region



Shen Xueshan, Anhui Agricultural University, Hefei(China), College of Agronomy

Li Jincai, Anhui Agricultural University, Hefei(China), College of Agronomy

Qu Huijuan, Anhui Agricultural University, Hefei(China), College of Agronomy

Abstract:

The effects of straw returned to the field which including no straw returning(CK),wheat straw returning(T1),maize straw returning(T2) and wheat and maize straw returning(T3) on emergence,growth,yield and water use efficiency of maize under field location condition to generalize the techniques of total straw of wheat and maize returned to the filed in lime concretion black soil region of Huaibei plain.The results showed that to compared with CK,the maize emergence number of T3 were increased by 3.25% and 11.98% in 2008 and 2009,respectively.The emergence rate,emergence uniformity,evenness of plant height,seedling quality and soil water content of T3 were higher than that of CK,which created a good population growth condition for maize,thus the population leaf area index and dry matter accumulation of that were improved.Finally,be compared with CK,the yield of T3 were increased by 7.92% and 9.51% while water use efficiency of that were increased by 8.15% and 9.48% in 2008 and 2009,respectively.Therefore,under the condition of wheat/maize straw returned in two seasons,the growth and grain yield of maize could be improved.

▼ Agrovoc Keywords

- straw
- Efficiency
- maize
- Water use
- Floor husbandry

▼ Other information

Volume: 16
Issue: 2
Language: Chinese
Type: Journal Article

All titles:

"Effects of straw returned to the field on growth and water use efficiency of maize in lime concretion black soil region"

"砂姜黑土区秸秆还田对玉米生育及水分利用效率的影响"

▼ Zhongguo Nongye Daxue xuebao (Journal)

FREQUENCY: Bimonthly
START DATE: 1996

▼ Source:

Institute of Agricultural Information, Chinese Academy of Agricultural Sciences (click here for contact information)

Homepage: <http://www.caas.net.cn>

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Read the article and/or related articles:

▼ Analysis of the Bacterial Communities in Lime Concretion Black Soil ...

Keywords: Crop Residues; Bacterial Community; **Lime Concretion Black Soil**; Denaturing ... chronous plant **growth** and residue decomposition are ... both conserved and variable **regions** (the V1-V9 **regions**), ... Take the quantity of **corn straw returning** by grinding **field** conditions, we decided to **use** the most representa-.

Go to the page

▶ 秸秆还田和施肥对砂姜黑土理化性质及小麦-玉米产量的影响

▶ [PDF] EFFECT OF INTEGRATED SOIL MOISTURE CONSERVATION AND ...

▶ 秸秆还田和施肥对砂姜黑土理化性质及小麦-玉米产量的影响

Data from www.nature.com:

- ▶ A crop of maize variants
- ▶ US processor rejects maize that EU won't take
- ▶ A transposon in tb1 drove maize domestication
- ▶ A cornucopia of maize genes

Data from [DBPedia](http://dbpedia.org):

- ▶ Straw
- ▶ Maize
- ▶ Efficiency
- ▶ Water use



砂姜黑土区秸秆还田对玉米生育及水分利用效率的影响 [apr.2011]



Shen Xueshan, Anhui Agricultural University, Hefei(China), College of Agronomy
Li Jincai, Anhui Agricultural University, Hefei(China), College of Agronomy
Qu Huijuan, Anhui Agricultural University, Hefei(China), College of Agronomy

摘要:

摘 要: 为了在淮北砂姜黑土区推广小麦玉米秸秆全量还田技术,采用大田定位试验,设置小麦玉米秸秆不还田、小麦玉米秸秆单季还田和小麦玉米秸秆两季还田4种秸秆还田方式,研究了小麦、玉米秸秆全量粉碎还田对机播夏玉米出苗、生育、产量和水分利用效率的影响。结果表明:小麦玉米秸秆两季还田处理2008和2009年玉米出苗数分别比对照高3.25%和11.98%;出苗均匀度、株高整齐度、幼苗素质和耕层土壤含水率均高于对照,最终2008和2009年玉米产量分别较对照提高了7.92%、9.51%,土壤水分利用效率分别提高了8.15%、9.48%。可见,砂姜黑土区小麦玉米秸秆两季全量还田有利于玉米生长发育,提高籽粒产量。

▼ Agrovoc关键词

- 秸秆
- 效率
- 玉米
- 用水
- 地面饲养

▼ 其他信息

卷: 16

期: 2

语言: Chinese

类型: Journal Article

所有题名:

"Effects of straw returned to the field on growth and water use efficiency of maize in lime concretion black soil region"

"砂姜黑土区秸秆还田对玉米生育及水分利用效率的影响"

▼ Zhongguo Nongye Daxue xuebao (学术期刊)

频率: Bimonthly

起始日期: 1996

▼ 来源:

Institute of Agricultural Information, Chinese Academy of Agricultural Sciences (点击查看详情)

主页: <http://www.caas.net.cn>

由...驱动 Google™

阅读文章和/或者相关文章:

▼ 秸秆全量还田条件下配施化肥对沿淮砂姜黑土培肥及玉米产量的影响①

关键词: 沿淮砂姜黑土区;秸秆全量还田;化学氮肥;培肥;产量 ... 重化肥而轻有机肥[3];秸秆利用率约45%, 剩余秸秆 秸秆还田对玉米生育及水分利用效率的影响.

[前往网页](#)

▶ [PDF] 砂姜黑土区小麦玉米秸秆全量还田对玉米抗倒性能的影响

▶ 秸秆还田和施肥对砂姜黑土理化性质及小麦玉米产量的影响

▶ 砂姜黑土区小麦玉米一年两熟秸秆全量还田对夏玉米生育及产量影响 ...

数据来源于 www.nature.com:

▶ A crop of maize variants

▶ US processor rejects maize that EU won't take

▶ A transposon in tb1 drove maize domestication

▶ A cornucopia of maize genes

数据来源于 DBpedia:

▶ Straw

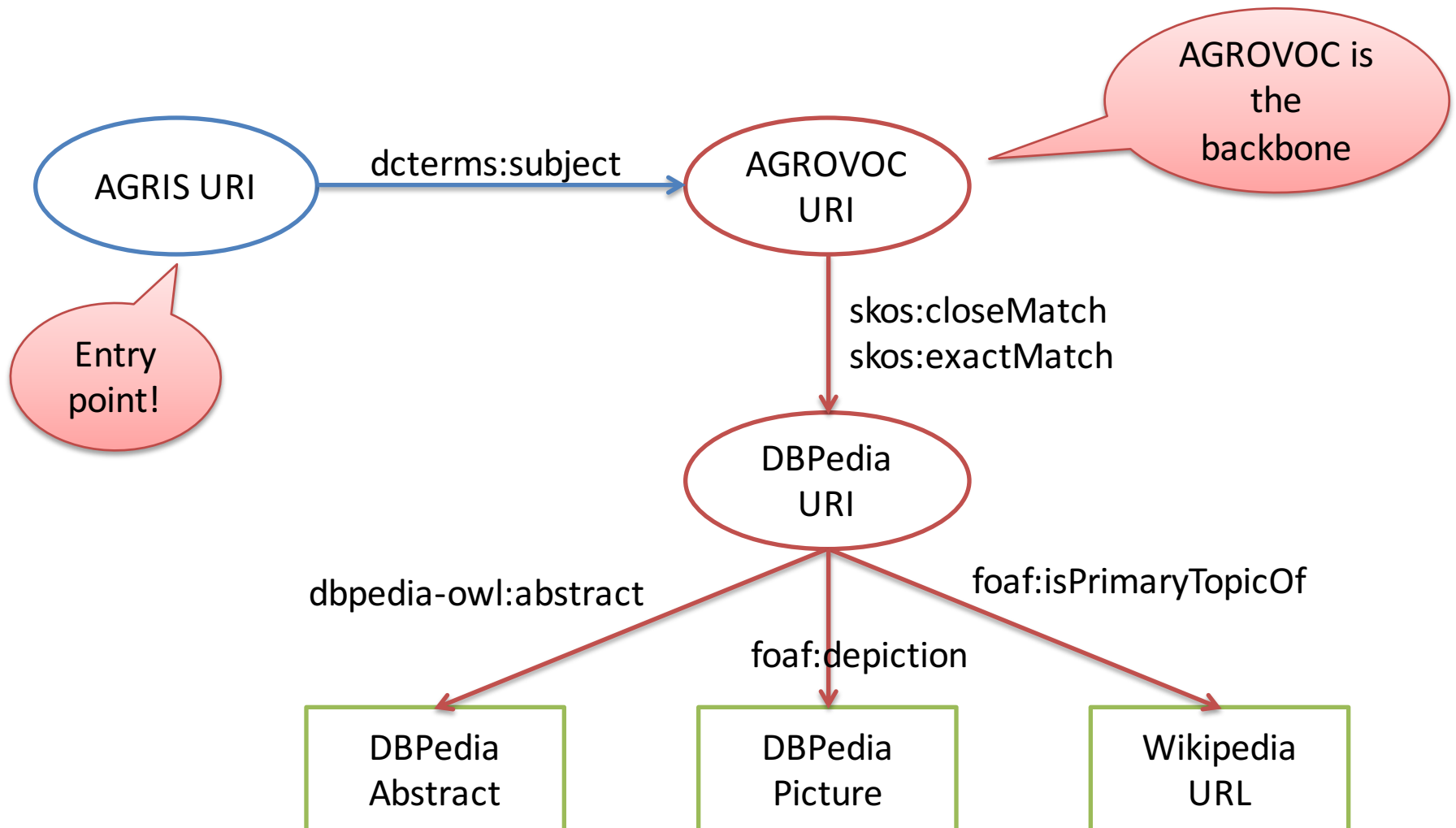
▶ Efficiency

▶ Water use

▶ Maize

The AGRIS LOD dataset

A LOD dataset



AGROVOC enables AGRIS LOD

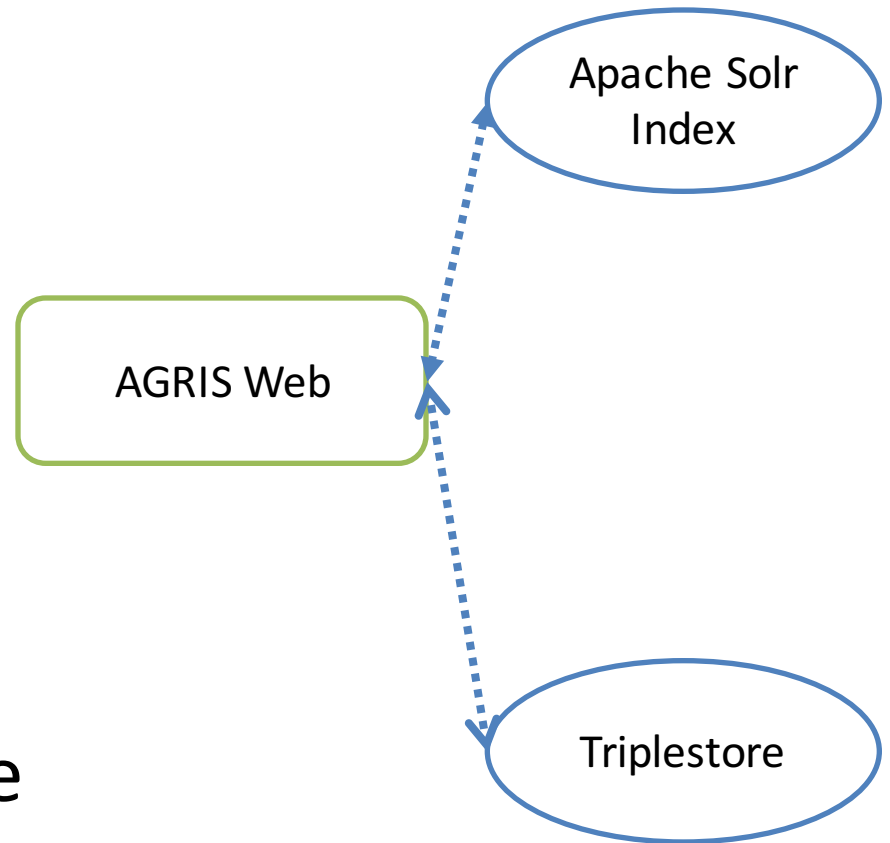
1. all documents in AGRIS are indexed with AGROVOC
 - Manually, by the partner
 - Automatically, by AGRIS
2. AGROVOC is a LOD resource
 - AGROVOC links to V_{oc}
 - V_{oc} indexes D_{ata}
 - AGRIS links to D_{ata}
3. AGROVOC keywords are also used to query external Web Services

AGROVOC enables multilingual search

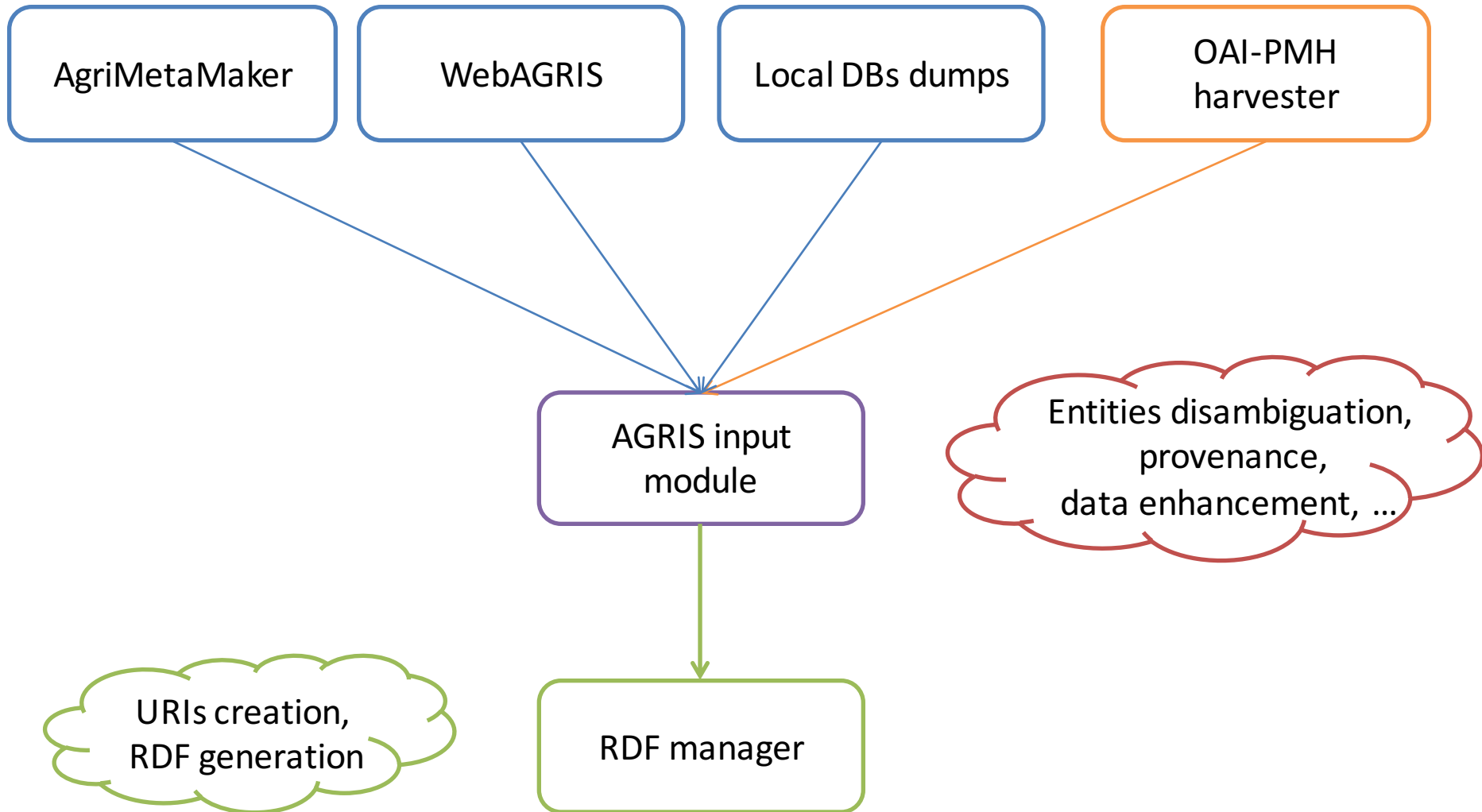
- AGRIS records are indexed with AGROVOC keywords in a specific language
- AGROVOC concepts have multilingual labels – all with the same URI
- Queries are expanded to match results indexed in any language

Accessibility

- Sparql endpoints
 - Records
 - Serials
 - centers
- Data served as LOD
- Comes with a VoID file



Data collection & processing



AGROVOC

aims.fao.org/agrovoc

AGROVOC Multilingual agricultural thesaurus

[ABOUT](#) | [SEARCH](#) | [ACCESS](#) | [COMMUNITY](#) | [USES](#) | [LINKED DATA](#) | [PUBLICATIONS](#) | [FAQ](#) | [CONTACT US](#)



Latest AGROVOC release : January 2016

AGROVOC is a controlled vocabulary covering all areas of interest of the Food and Agriculture Organization (FAO) of the United Nations, including food, nutrition, agriculture, fisheries, forestry, environment etc. It is published by FAO and edited by a community of experts.

AGROVOC consists of over 32,000 concepts available in 23 languages: Arabic, Chinese, Czech, English, French, German, Hindi, Hungarian, Italian, Japanese, Korean, Lao, Malay, Persian, Polish, Portuguese, Russian, Slovak, Spanish, Telugu, Thai, Turkish and Ukrainian.

You can use AGROVOC to look up the common name of a plant in a language that you do not master, or to find relations between a commodity and the crop from which it is produced. Your library can use AGROVOC to index its documents, or you can use it from inside your content management system (e.g., Drupal) to organize your documents or web site. You can also use AGROVOC as an hub to access many other vocabularies available on the web.

To date, AGROVOC is used by researchers, librarians and information managers for indexing, retrieving and organizing data in agricultural information systems and Web pages. Currently, AGROVOC is an SKOS-XL concept scheme and a Linked Open Data (LOD) set aligned with 16 other multilingual knowledge organization systems related to agriculture.

You may download AGROVOC, access its Web Services or SPARQL endpoint.

If you are an AGROVOC user, please check if you appear in the page [AGROVOC users](#). If you would



Register and subscribe to receive e-mail updates

TYPE

thesaurus

CONTACT EMAIL

agrovoc@fao.org

CREATION DATE

1 Jan 1980

MODIFICATION DATE

1 Mar 2015

SUPPORTED LANGUAGE(S)

Multiple Languages

URL(S)

<http://aims.fao.org/standards/agrovoc>

DOMAIN(S)

agriculture - General/All

AGROVOC in short

- Started as a thesaurus in 1980
- Covers all areas of interest to FAO, e.g. agriculture, forestry, fisheries, nutrition, environment, ...
- 32,000+ concepts in up to 23 languages
- A Linked Open Dataset, available in various formats

An AGROVOC concept

Skosmos

Vocabularies About Feedback Help

AGROVOC

Content language

English ▾

×

Search

Alphabetical

Hierarchy

- fresh products
- new products
- non food products
- oil products
- plant products
- cellulose products
- cereals
 - barley
 - coarse grains
 - feed cereals
 - maize
 - millets
 - oats
 - rice
 - rye
 - sorghum grain
 - triticales (product)
 - wheats**
 - hard wheat
 - soft wheat
- cocoa products
- coconut water
- coffee beans
- cut flowers
- cut foliage
- fruits
- grain
- legumes
- nuts
- oilseeds
- opium
- pseudocereals

products > plant products > cereals > wheats

PREFERRED TERM

wheats

BROADER CONCEPT

cereals

NARROWER CONCEPTS

hard wheat
soft wheat

HAS DISEASE

karnal bunt

HAS MEMBER

Aegilops

HAS PRODUCT

wheat flour
wheat straw

IN OTHER LANGUAGES

حنطة	Arabic
小麦	Chinese
pšenice	Czech
Blé	French
Froment	
Weizen	German
गेहूँ	Hindi
búza	Hungarian
Grani (cerealì)	Italian
コムギ	Japanese
밀	Korean
ເຂົ້າສາວີ	Lao
Gandum	Malay
گندمها	Persian
Pszenica (ziarno)	Polish

An RDF dataset

- Thesaurus converted to an RDF SKOS concept scheme
- Goal to have “standard” RDF
 - SkOS-XL, DC, DCterms, FOAF
 - and a specific vocabulary, Agrontology ->

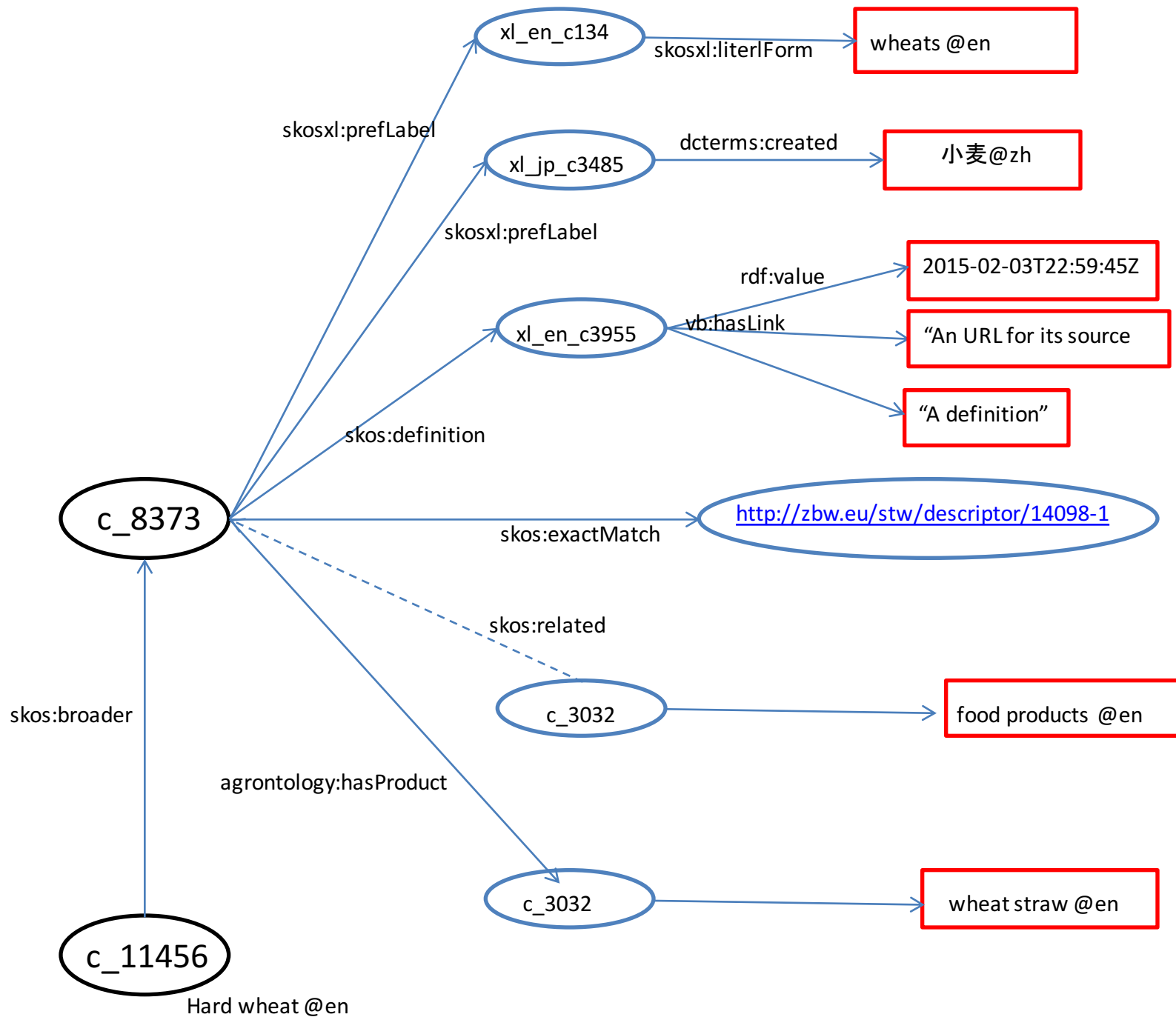
IRI: <http://aims.fao.org/aos/agrontology>
Other visualisation:
[Ontology source](#)

Table of Content

1. [Object Properties](#)
2. [Data Properties](#)
3. [Named Individuals](#)
4. [Annotation Properties](#)
5. [Namespace Declarations](#)

Object Properties

[Acts upon](#) [Affects](#) [Afflicts](#) [Benefits from](#) [Causes](#)



Multilinguality

- 32,000+ concepts in **up to 23 languages**
- = concepts may have labels in one or more languages
 - One hierarchy, many languages
 - No language is “compulsory”
 - Although there is an historical preference for English as a *lingua franca*

VocBench – SKOS editing platform

Signed in as caracciolo (Publisher) to: agrovoc_2016-01-21_core | Global data management | Administration | About VocBench | English | RSS feed | Preferences | Help | Sign out

VocBench VERSION 2.4 [Build 20160119]

Exact word straw Go [Advanced search](#) | [Last results](#)

Concepts Properties Schemes SPARQL ICV Validation History [Concept navigation history](#) [Content language](#)

Concepts ☐ Show URI ☐ Show non-preferred

[مستگاه های خلیندی \(fa\);](#)
[حزومات \(ar\); balikovače \(cs\); Ballenpresse \(de\); balers \(en\); Prensa-enfardadoras \(es\);](#)
[مستگاه های خلیندی \(fa\); Ramasseuse presse \(fr\); गाठ बाधनेवाला \(hi\); bálázó \(hu\); Imballatrici \(it\); ベール \(ja\); 묶음틀 \(ko\);](#)
[စေ့ဘိတ်တိတ် \(lo\); Prasa zbierająca \(pl\); Enfardadeira \(pt\); balikovače \(sk\);](#)
[செட்டிமா பூட்டி \(te\); เครื่องอัดฟ่อน \(th\); balya makinesi \(tr\); 压捆机 \(zh\)](#)

[حاملات دقيقة \(ar\); mikronosiče \(cs\); Microcarrier \(de\); microcarriers \(en\); Microportador \(es\);](#)
[ریزحاملها \(fa\); Microsupport \(fr\); सूक्ष्मवाहक \(hi\); mikrohordozó \(hu\);](#)
[Microtrasportatori \(it\); マイクロキャリアー \(ja\); စေ့ဘိတ်တိတ် \(lo\); Mikronošnik \(pl\); Microcarregador \(pt\);](#)
[mikronosiče \(sk\); อุปกรณ์ขนส่งขนาดเล็ก \(th\); mikrotasiyıcı \(tr\); 微载体 \(zh\)](#)

[حاويات \(ar\); kontejnery \(cs\); Behälter \(de\); containers \(en\); Recipientes \(es\);](#)
[مخزنه ها \(fa\); Récipient \(fr\); कन्टेनर्स \(hi\); konténer \(hu\);](#)
[Contentitori \(it\); 容器 \(ja\); 용기 \(ko\); 容器 \(lo\); Opakowanie \(pl\);](#)
[Embalagem \(pt\); контейнеры \(ru\); kontajners \(sk\); ภาชนะ \(th\); konteyner\(kap\) \(tr\); 容器 \(zh\)](#)

[حبل \(ar\); lana \(cs\); Seil \(de\); ropes \(en\); Cuerdas \(es\);](#)
[ریسمانها \(fa\); Cable \(fr\); रस्सी \(hi\); kötél \(hu\); Funi \(it\);](#)
[ロープ \(ja\); 纜索 \(lo\); Lina \(pl\); Corda \(pt\); laná \(sk\);](#)
[เชือก \(th\); halat \(tr\); 绳索 \(zh\)](#)

[حصادات \(ar\); skizėci stroje \(cs\); Erntemaschine \(de\); harvesters \(en\); Cosechadoras \(es\);](#)
[ایستگاه \(fa\); Matériel de récolte \(fr\); कटाई](#)

Terms (42) Definition (1) Attribute (0) Relationship (0) Alignments (2) Note (0) Image (0) Scheme (1) Hierarchy

+ Add new term

Language	Term
English (en)	balers (Preferred) W straw balers W
Español (es)	Prensa-enfardadoras (Preferred) W Prensabalas W Cargadoras de fardos W Embaladoras para hacer pacas W Cargadoras de balas W Empacadoras W Cargadoras de pacas W Prensa de balas W
Francia (fr)	Ramasseuse presse (Preferred) W

Legend Proposed Validated Published Revised Proposed deprecated Deprecated [Show more](#)

A community of editors

Moldavian**	General	The Republican Scientific Agricultural Library, State Agrarian University	Viorica Lupu
Multilingual - en, fr, es, ar, zh	Forestry	FAO, Forestry Department	Magnus Grylle
Multilingual - en, fr, es, ar, zh	Good practices	FAO, Good Practices website	Kristin Kolshus
Multilingual - en, fr, es, zh	Land governance	Land Portal Foundation	Laura Meggiolaro, Gérard Ciparisse
Multilingual - en, fr, es, ar	Agricultural technologies and practices	FAO, Technologies and Practices for Small Agricultural Producers (TECA)	Charlotte Lietaer Nedaa Amraish
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Russian	General	Russian Academy of Agricultural Sciences, Central Scientific Agricultural Library (CSAL)	Lidia Pirumova
Slovak	General	Agroinstitút Nitra	Mária Babiarová

A kinked dataset

- Links to 16 vocabularies
- Skos:closeMatch,
- skos:exactMatch
- Links identified with Semi-automatic process
- Comes with a VoID file

```
void:linkPredicate skos:closeMatch ;
void:objectsTarget :ASFAThesaurus ;
void:subjectsTarget :Agrovoc ;
void:triples 1784 .

:AGROVOC2Biotechglossary
rdf:type void:Linkset ;
void:linkPredicate skos:closeMatch ;
void:objectsTarget :Biotechglossary ;
void:subjectsTarget :Agrovoc ;
void:triples 793 .

:AGROVOC2DBPEDIA
rdf:type void:Linkset ;
void:linkPredicate skos:exactMatch ;
void:objectsTarget <http://dbpedia.org/void/Dataset> ;
void:subjectsTarget :Agrovoc ;
void:triples 11015 .

:AGROVOC2DDC
rdf:type void:Linkset ;
void:linkPredicate skos:closeMatch ;
void:objectsTarget :DDC ;
void:subjectsTarget :Agrovoc ;
void:triples 401 .

:AGROVOC2DNB
rdf:type void:Linkset ;
void:objectsTarget :DNB ;
void:subjectsTarget :Agrovoc ;
void:triples 6212 .

:AGROVOC2EUROVOC
rdf:type void:Linkset ;
void:linkPredicate skos:exactMatch ;
void:objectsTarget :EUROVOC ;
void:subjectsTarget :Agrovoc ;
void:triples 1268 .

:AGROVOC2GEMET
rdf:type void:Linkset ;
void:linkPredicate skos:exactMatch ;
void:objectsTarget :GEMET ;
void:subjectsTarget :Agrovoc ;
void:triples 1178 .
```

VoID file

	Resource	Topics	Total # of Linked concepts	Languages	Linked Resource available as LOD?	Type of link (and # of linked concepts)
1	ASFA	Fisheries	1784		Yes	skos:closeMatch (38), skos:LexactMatch (1741)
2	Biotechnology Glossary (FAO)	Biotechnologies	793	EN, ES, FR, +3 more	Yes	skos:closeMatch (793)
3	Chinese Agriculture Thesaurus (CAT)	Agriculture			Yes	skos:narrowMatch (137) skos:broadMatch (10153) skos:exactMatch (10325)
4	DBpedia	General	11009	EN, ES, FR + 8 more	Yes	skos:closeMatch (11009)
5	Dewey Decimal Classification (DDC)	General	401	EN, ES, FR + 8 more	Yes	skos:closeMatch (2) skos:exactMatch (399)
6	EUROVOC	General EU	1 269	EN, ES, FR + 21 more	Yes	skos:exactMatch (1269)
7	GEMET	Environment	1 175	EN, ES, FR + 30 more	Yes	skos:exactMatch (1175)
8	GeoNames	Geographical entities	206	EN, ES, FR + 63 more	Yes	skos:exactMatch (206)
9	Geopolical Ontology	Geopolitical entities	253	AR, CH, EN, ES, FR, RU	Yes	skos:exactMatch (253)
10	Library of Congress Subject Headings (LCSH)	General	1 075	EN	Yes	skos:exactMatch (1075)

11	NAL Thesaurus	Agriculture	13114	EN, ES	Yes	skos:exactMatch (13114) skos:closeMatch (2)
12	RAMEAU Répertoire d'autorité-matière encyclopedique et alphabetique unifie	General	670	FR	Yes	skos:exactMatch (670)
13	STW - Thesaurus for Economics	Economy	1125	EN, DE	Yes	skos:exactMatch (1122) skos:closeMatch (3)
14	TheSoz - Thesaurus for the Social Sciences	Social sciences	827	EN, DE	Yes	skos:exactMatch (821) skos:closeMatch (6)
15	SWD (Schlagwortnormdatei)	General	6 245	DE	Yes	skos:exactMatch skos:closeMatch skos:broadMatch skos:narrowMatch
16	EARTH	Environment	1363	EN+	Yes	skos:exactMatch (1363)

Table 1. Some figures of vocabularies linked from AGROVOC (last updated on January 2015)

An AGROVOC concept in the LOD view

http://aims.fao.org/aos/agrovoc/c_12332

maize

Property	Value
rdf:type	skos:Concept
skos:broader	http://aims.fao.org/aos/agrovoc/c_1474 http://aims.fao.org/aos/agrovoc/c_1474
skos:narrower	http://aims.fao.org/aos/agrovoc/c_7152 http://aims.fao.org/aos/agrovoc/c_2974 http://aims.fao.org/aos/agrovoc/c_8337 http://aims.fao.org/aos/agrovoc/c_6108 http://aims.fao.org/aos/agrovoc/c_2187 http://aims.fao.org/aos/agrovoc/c_7552 http://aims.fao.org/aos/agrovoc/c_14385
skos:exactMatch	http://www.caas.net.cn/caas/cat/c_1771 http://eurovoc.europa.eu/1744 http://www.caas.net.cn/caas/cat/c_1763 http://www.caas.net.cn/caas/cat/c_57079 http://www.caas.net.cn/caas/cat/c_55466 http://zbw.eu/stw/descriptor/14093-4 http://d-nb.info/gnd/4037135-9 http://www.caas.net.cn/caas/cat/c_55604 http://www.caas.net.cn/caas/cat/c_1747 http://www.caas.net.cn/caas/cat/c_1764
skos:closeMatch	http://dbpedia.org/resource/Maize
skos:broadMatch	http://www.caas.net.cn/caas/cat/c_3948 http://www.caas.net.cn/caas/cat/c_3948
dcterms:created	2011-11-20T20:35:16Z
dcterms:modified	2014-07-03T18:42:49Z
void:inDataset	http://aims.fao.org/aos/agrovoc/void.ttl#Agrovoc
skos:inScheme	http://aims.fao.org/aos/agrovoc
skos:relatedMatch	http://www.caas.net.cn/caas/cat/c_55567
foaf:depiction	http://aims.fao.org/aos/agrovoc/c_img_1306147386623
vocbench:hasStatus	Published

prefLabel	altLabel	Lang
кукуруза (зерно)	зерно кукурузы	ru
maize	corn (maize)	en
옥수수		ko
Mais		de
Kukurydza (ziarno)	Ziarno kukurydzy	pl
Maïs		fr
ข้าวโพด		th
kukorica		hu
Mais	Granoturco	it
சாவி		lo
ذرة صفراء		ar
kukuřičné zrno	zrno kukuřice	cs
トウモロコシ	コーン	ja
Milho		pt
misir		tr
Jagung		ms
Maíz		es
kukurica siata	zrno (kukurica)	sk
मक्का	अनाज (मक्का)	hi
ذرت		fa
玉米	苞谷	zh

Adopters of AGROVOC

Applications using AGROVOC

- AgriDrupal
- AGRIMetaMaker
- Agrimoodle
- AgriOcean DSpace
- AGRIS
- AgriVivo
- Agropedia India
- AgroTagger
- ALEPH (Ex Libris)
- ASKOSI
- BIBSYS
- Brage UMB
- Catalogue MeditAgri du Cent
- CGSpace Repository
- data.fao.org
- e-Termos
- FAO website
- FAO Country Profiles
- FAO Corporate Document Re
- FAOTERM
- Global Range Lands

- Global Range Lands
- Hive
- ICRISAT OA Repository
- International Maize and Wheat Improvement Center (CIMMYT)
- IFPRI Knowledge Repository
- KAINet
- KOHA
- Maui
- NOR20 software
- National Bibliogra
- Nuovo soggettari
- OceanDocs
- Organic edunet
- Organic eprints
- PanLex
- Portal da Língua F
- Range Science Inf
- Saffron
- SmartLogic
- Thai Agriculture R
- Union Catalog of
- VOA3R

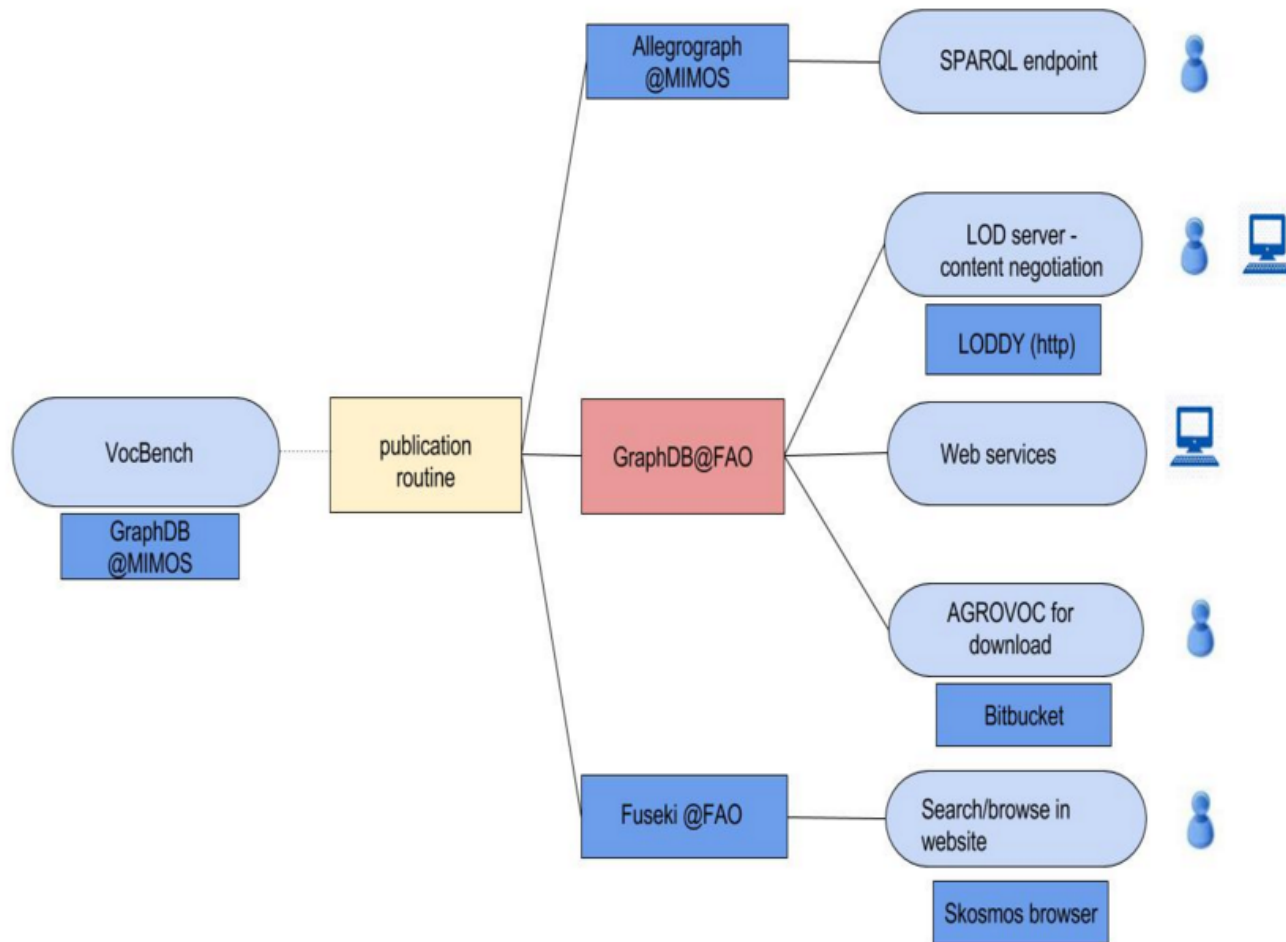
Institutions and libraries adopting AGROVOC

- AgroKnow
- Alliace of Agricultural Information Services (SIDALC)
- Azienda La Noria
- Biblioteca Agropecuaria de Colombia - Corporación Colombiana de Investig
- Agropecuaria (Corpoica) and Instituto Colombiano Agropecuario (ICA)
- Biblioteca Nazionale Centrale di Firenze
- Department Of Education Printing And Publishing, Ministry of Food, Agricul
- Livestock, Turkey
- ECOSCOPE
- Embrapa
- Norwegian University Library of Life Sciences
- Food and Agriculture Organization of the United Nations (FAO)
- Finnish Forest Research Institute Forestalia (METLA)
- Inter-American Institute for Cooperation on Agriculture (IICA)
- Rural Horizons Library, a project of Solaridad Network, Brazil
- Techinformi - FAO Deposit Library, Georgia

How to access AGROVOC

- Online, search
- Download (RDF)
- Web services built on top of the RDF
- SPARQL endpoint

The AGROVOC technology stack



Maintenance

Triple stores for
dissemination

Multiple ways to
access AGROVOC

Ongoing & future

Global Agriculture Concept Scheme

GACS - beta

GACSDemo

Vocabularies About Feedback Help | en Français en español in Italiano auf Deutsch

GACS Beta 1.6

Content language

English

Search

Alphabetical

Hierarchy

Group index

A B C D E F G H I J K L M N O
P Q R S T U V W X Y Z 0-9

A horizons
A-horizons → A horizons
a-La (alpha-lactalbumin) → lactalbumin
ABA → abscisic acid
ABA (abscisic acid) → abscisic acid
ABA (plant hormone) → abscisic acid
Abaca
Abaca mosaic potyvirus → Sugarcane mosaic
potyvirus
Abaca mosaic potyvirus → Sugarcane mosaic virus
Abaca mosaic virus → Sugarcane mosaic potyvirus
Abaca mosaic virus → Sugarcane mosaic virus
abalone → abalones
abalone mushrooms → mushrooms
abalones
Abamaceae → Liliaceae
abamectin
abandoned land
abattoir byproducts
abattoir wastes → slaughterhouse wastes
abattoirs
ABC transporters
ABC-type transporters → ABC transporters
Abcrana → Phyllophaga
abdomen
abdominal fat
Abelmoschus
Abelmoschus esculentus
Aberdeen Angus → Aberdeen-Angus
Aberdeen-Angus
Abies
Abies alba

Vocabulary information

TITLE GACS Beta 1.6

SUBJECT GACS

LAST MODIFIED Sunday, January 10, 2016 11:28:43

TYPE <http://www.w3.org/2004/02/skos/core#ConceptScheme>

Concept counts by type

Type	Count
Concept	15432
Organism	4399
Topic	7776
Product	945
Geographical	540
Chemical	1772

Term counts by language

Language	Preferred terms	Alternate terms	Hidden terms
Arabic	8613	879	0
Czech	11496	14078	0
Danish	3818	8776	0
German	11772	15861	0
English	15824	31965	0
Spanish	15588	23629	0
Persian	10362	7103	0
Finnish	3816	8776	0
French	11384	14108	0
Hindi	10414	5792	0

GACS at a glance

- Working group: AGROVOC, NALT, CABI
- Steering committee: .. + INRA, CGIAR
- Beta core 1.6 = 15,000 ca concepts
- A merge of all info available
- Ongoing: preparation for public release
- Future: expand GACS framework to include relevant semantic resources in agriculture – for document indexing, for data annotation. Possible collaboration with AgroPortal

Credits

- AGROVOC: Caterina Caracciolo, Sarah Dister, Johannes Keizer, Marie-Angelique Laporte, Karna Wegner, Luciana Zedda
- AGRIS: Fabrizio Celli, Yves Jaques, Mauro Ranchicchio
- VocBench: Armando Stellato, Andrea Turbati (U Tor Vergata, Rome)
- Johannes Keizer, head of the AIMS team @FAO
- **Technical support:** [MIMOS Berhad](#) (Malaysia) hosts some of the technical infrastructure of AGROVOC and AGRIS. AgroKnow (Greece) supports the data AGRIS ingestion phase.

Pointers and contacts

AGROVOC: aims.fao.org/agrovoc

AGRIS: agris.fao.org

VocBench: <http://vocbench.uniroma2.it/>

VocBench sandbox: <http://202.73.13.50:55481/vocbench/> (with AGROVOC)

AIMS community: <http://aims.fao.org/>

Subscribe, you get the news

VB m-list: <http://groups.google.com/group/vocbench-user>

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