AGRIS

Providing Access to Bibliographic Information on Agricultural Science and Technology

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What is AGRIS?

Programme set up by Food and Agriculture Organization of the United Nations in 1974 to make information on agriculture research globally available

The International System for Agricultural Science and Technology. Nowadays AGRIS is

- A **network** of more than 350 data providers from 144 countries (and growing) with a relevant participation from the Global South
- A **subject aggregator** http://agris.fao.org/
- A **linked open data set** of multilingual bibliographic resources

(CC-BY IGO 3.0)

THE WORLD BANK
Working for a World Free of Poverty
WAGENINGEN UR
For quality of life
DOAJ DIRECTORY OF OPEN ACCESS JOURNALS
Department for International Development
AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS
CGIAR
SIDALC
SciELO Brazil
Embrapa
AJOL
AFRICAN JOURNALS ONLINE
FAO
FIAT PANIS
Iceland
Russia
Canada
United States
Kazakhstan
Mongolia
China
South Korea
Japan
Afghanistan
Pakistan
Iraq
Algeria
Libya
Egypt
Indonesia
Papua New Guinea
Australia
New Zealand
Brazil
Peru
Bolivia
Argentina
Angola
Madagascar
South Africa
North Atlantic Ocean
North Pacific Ocean
South Atlantic Ocean
Indian Ocean
Southern Ocean

Content

- Agriculture as defined by FAO, including forestry, fisheries, animal sciences, nutrition, climate change, natural resources, land and water among others
- Initially focused on grey literature - unpublished science and technical reports - and later included any kind of bibliographic resource
- Main languages in AGRIS are English, French, Spanish, Chinese, Italian, German, Japanese, Russian, Portuguese, Arabic, Korean, Farsi among others
- On average, accessed up to 600,000 agricultural and research professionals worldwide per month

Accessibility

As for May 2018, AGRIS provides access to more than 9,211,000 bibliographic records with monthly releases

Up to 2,000,000 records in AGRIS provide access to the full text

Originally distributed on CD-ROMs, since 90s WWW

AGRIS from a centralized to a distributed network

Traditional AGRIS centres were assigned by governments to collect all the scientific production in the country and to send periodically data to be published in the AGRIS database

With the growth of open access institutional repositories, AGRIS has improved its methods for harvesting and indexing metadata, additionally also adding journal publishers

Now the name **AGRIS centers** stands for all the data providers that have contributed or are contributing with bibliographic data to AGRIS

Data Provider and Subject Aggregator

Heterogeneity of data providers in the AGRIS Network

1. Data provider does not have a repository, only full text online, in these cases metadata is produced for being submitted to AGRIS but not store in their systems, e.g. organizations in the Global South with limited capacities to provide data in a structured form or Journal Publishers
2. Data provider has metadata associated to full text, but not exposed on the Web
3. Data provider exposes metadata via OAI-PMH

Any format is accepted and validated if…

... it includes meaningful metadata using standardized properties, which will be mapped and validated towards AGRIS Application Profile (AGRIS AP), internal format used by AGRIS

The most common formats like Crossref, DOAJ, Endnote, MARC21, Mendeley, MODS or PubMed are also accepted, being converted to AGRIS AP through a mapping and validation process

Metadata Quality

In many cases

- Heterogeneous set of common metadata properties, some relevant missing
- lack of authority data, controlled vocabularies, and syntax encoding standards
- lack of use of URIs as names for things, especially for data values, when available

To support data providers in selecting metadata properties and vocabularies, it was prepared the M2B: Recommendations of a set of metadata properties and encoded vocabularies

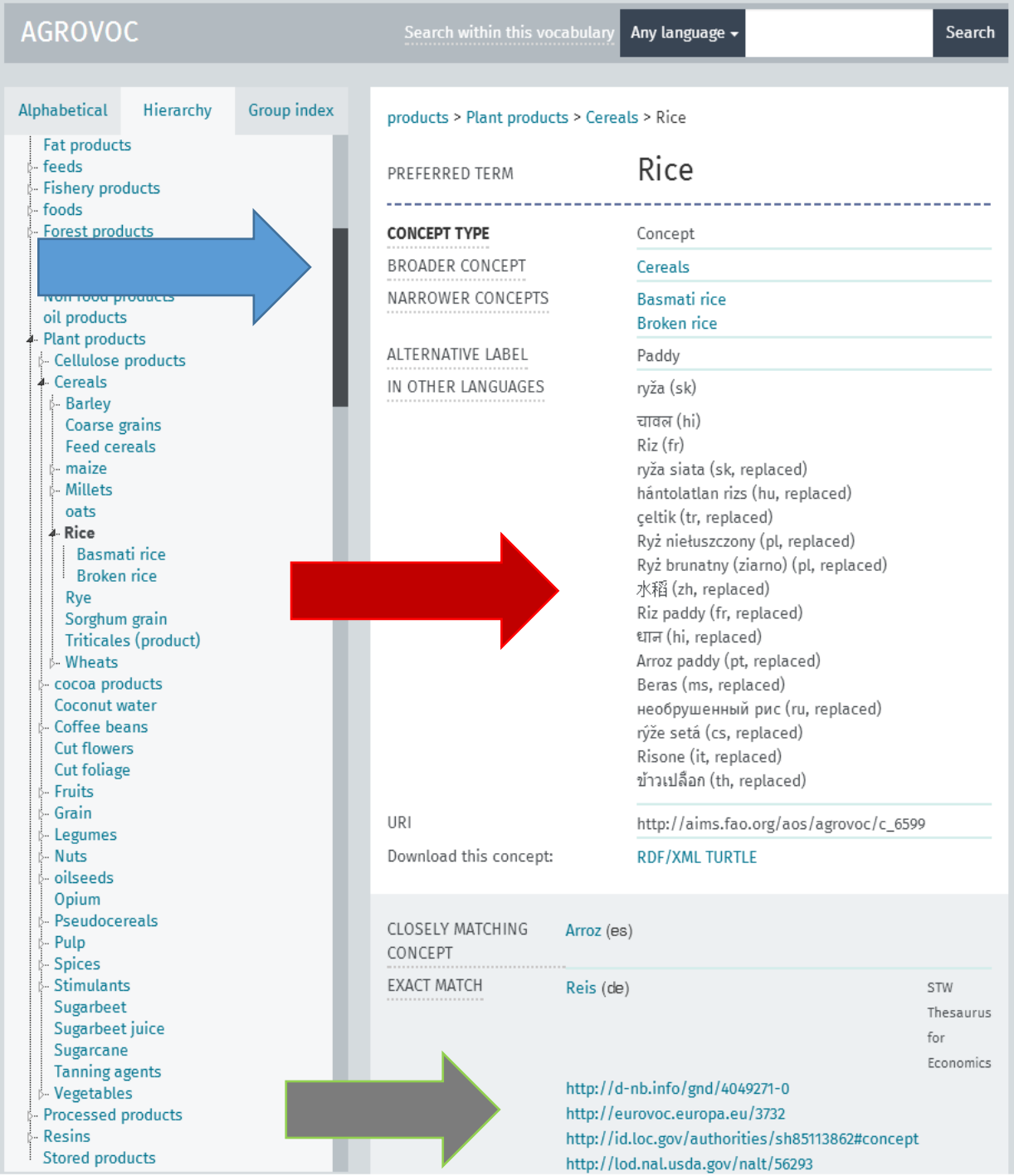
http://aims.fao.org/metadata/m2b

Table 1. Groups of Common Properties

A	B	C		D	E
Group	Property	Requirement | M | HR | R | O |		Value Control	Important Attributes
		Non Analytical	Analytical		
1. Title Information	title++	M	M	n	language
	alternative title	O	O	n	
2. Responsible Body	creator+	HR	HR	n or Name authority (personal, corporate body, conference)	scheme
	contributor	O	O	n or Name authority	
	publisher/issuer+	HR	R	n or Name authority	
3. Physical Characteristics	date++	M	M	Syntax encoding rule	scheme
	identifier+	HR	HR	Syntax encoding rule	scheme
	language++	M	M	Controlled list	scheme
	format/medium+	HR	HR	Controlled list	scheme
	edition /version	R	R	n	
	source+	HR	R	n	
4. Location	location++	M	M	n or Rule	

The Backbone of AGRIS: AGROVOC

- The AGROVOC thesaurus was first published in English, Spanish and French in the 80s, one of its objectives was to support the AGRIS multilinguality
- Today, AGROVOC is available as an SKOS-XL concept scheme, also published as a Linked Open Data (CC-BY IGO 3.0) and set composed of more than **35,000 concepts** available in up to **29 languages**.
- AGRIS records are indexed with AGROVOC keywords, so a user's query in a specific language is expanded to match results in all languages available in AGROVOC


AGROVOC
Search within this vocabulary
Any language
Search
Alphabetical
Hierarchy
Group index
Fat products
feeds
Fishery products
foods
Forest products
oil products
Plant products
Cellulose products
Cereals
Barley
Coarse grains
Feed cereals
maize
Millets
oats
Rice
Basmati rice
Broken rice
Rye
Sorghum grain
Triticales (product)
Wheats
cocoa products
Coconut water
Coffee beans
Cut flowers
Cut foliage
Fruits
Grain
Legumes
Nuts
oilseeds
Opium
Pseudocereals
Pulp
Spices
Stimulants
Sugarbeet
Sugarbeet juice
Sugarcane
Tanning agents
Vegetables
Processed products
Resins
Stored products
products > Plant products > Cereals > Rice
PREFERRED TERM
Rice
CONCEPT TYPE
Concept
BROADER CONCEPT
Cereals
NARROWER CONCEPTS
Basmati rice
Broken rice
ALTERNATIVE LABEL
Paddy
IN OTHER LANGUAGES
ryža (sk)
चावल (hi)
Riz (fr)
ryža siata (sk, replaced)
hántolatlan rizs (hu, replaced)
çeltik (tr, replaced)
Ryż niełuszczony (pl, replaced)
Ryż brunatny (ziarno) (pl, replaced)
水稻 (zh, replaced)
Riz paddy (fr, replaced)
धान (hi, replaced)
Arroz paddy (pt, replaced)
Beras (ms, replaced)
необрушенный рис (ru, replaced)
rýže setá (cs, replaced)
Risone (it, replaced)
ข้าวเปลือก (th, replaced)
URI
http://aims.fao.org/aos/agrovoc/c_6599
Download this concept:
RDF/XML TURTLE
CLOSELY MATCHING CONCEPT
Arroz (es)
EXACT MATCH
Reis (de)
STW Thesaurus for Economics
http://d-nb.info/gnd/4049271-0
http://eurovoc.europa.eu/3732
http://id.loc.gov/authorities/sh85113862#concept
http://lod.nal.usda.gov/nalt/56293

Technology

VocBench
VERSION 2.4.4 [Build 20170303] (DEVELOPMENT)
Welcome to the VocBench
VocBench is a web-based, multilingual, editing and workflow tool that manages thesauri, authority lists and glossaries.
Learn more about the VocBench
You must log in or create an account to use the VocBench.
What's new
VocBench Web services has been released for developers to incorporate the VocBench into their applications via web services.
VocBench has been developed by:
Food and Agriculture Organization of the United Nations
for a world without hunger
Università degli Studi di Roma
Tor Vergata

Enhancing Interoperability

AGROVOC LOD is linked to more than 15 vocabularies worldwide, and consequently, by using AGROVOC, AGRIS becomes also a Linked Data Set

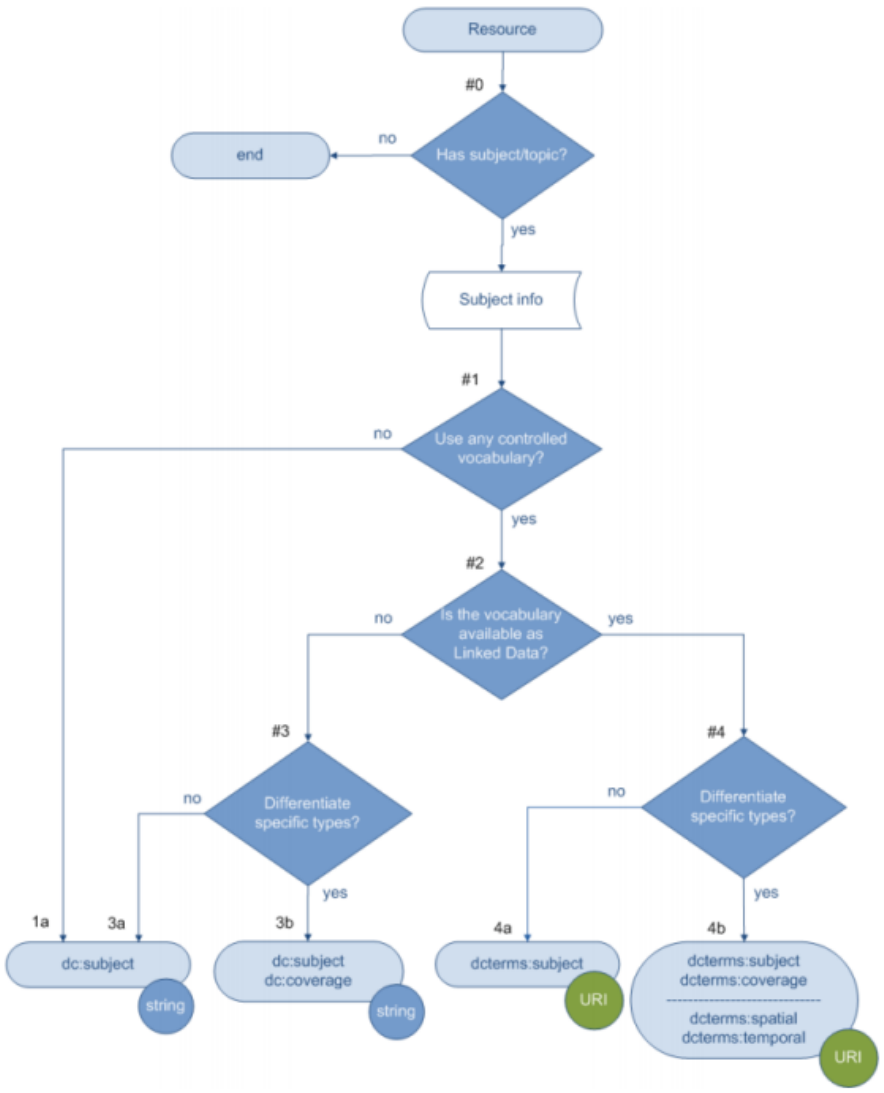
Additionally

Data providers should be encouraged to enhance interoperability in their own information systems

LODE-BD 2.0: How to select appropriate encoding strategies for producing Linked Open Data (LOD)-enabled bibliographic data

	Resource	Topics	Total # of Linked concepts	Languages	Linked Resource available as LOD?	Type of link (and # of linked concepts)
1	Aquatic Sciences and Fisheries Abstracts (ASFA): Thesaurus	Fisheries	1784		Yes	skos:closeMatch (38), skosLexactMatch (1741)
2	Biotechnology Glossary (FAO)	Biotechnologies	793	EN, ES, FR, +3 more	Yes	skos:closeMatch (793)
3	Chinese Agricultural Thesaurus (CAT)	Agriculture	up to 20700		Yes	skos:narrowMatch (137) skos:broadMatch (10153) skos:exactMatch (10325)
4	DBpedia	General	11013	EN, ES, FR + 8 more	Yes	skos:closeMatch (11013)
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	1 185	EN, ES, FR + 30 more	Yes	skos:exactMatch (1185)
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	1 079	EN	Yes	skos:exactMatch (1079)
11	NALThesaurus	Agriculture	13705	EN, ES	Yes	skos:exactMatch (13703)

LODE-BD



Decision	Question	Answer	Action	Value Type	Examples	
					Metadata Term	Value
#0	Has subject/topics?	No	End			
		Yes	Continue to #1			
#1	Use any controlled vocabulary?	No	1a	String	dc:subject	paddy
						Pacific Islands & Oceania
						19th century
		Yes	Continue to #2			
#2	Is the vocabulary available as linked data?	No	Continue to #3			
		Yes	Continue to #4			
#3	Differentiate types of subjects?	No	3a	String	dc:subject	Rice
						Pacific Islands
						Nineteenth century
		Yes	3b	String	dc:subject	Rice
					dc:coverage	Pacific Islands
						Nineteenth century
#4	Differentiate types of subjects?	No	4a	URI	dcterms:subject	http://aims.fao.org/aos/agrovoc/c_6599 [2]
						http://aims.fao.org/aos/agrovoc/c_5487 [3]
		Yes	4b	URI	dcterms:subject	http://aims.fao.org/aos/agrovoc/c_6599 [2]
					dcterms:coverage	http://aims.fao.org/aos/agrovoc/c_5487 [3]
					dcterms:spatial	http://aims.fao.org/aos/agrovoc/c_5487 [3]
					dcterms:temporal	http://id.loc.gov/authorities/sh85091984 [4]

1. Title Information
1.1. Title/Alternative title
2. Responsible Body
2.1. Creator
2.2. Contributor
2.3. Publisher
3. Physical Characteristics
3.1. Date
3.2. Identifier
3.3. Language
3.4. Format/Medium
3.5. Edition/Version
3.6. Source
4. Holding/Location Information
4.1. Location/Availability
5. Subject Information
5.1. Subject
6. Description of Content
6.1. Description/Abstract/Table of Contents
6.2. Type/Form/Genre
7. Intellectual property rights
7.1. Right Statements
8. Usage
8.1. Audience/literary indication/education Level
9. Relation
9.1. Relation between resources
9.2. Relation between agents

http://aims.fao.org/lode-bd-recommendations-20

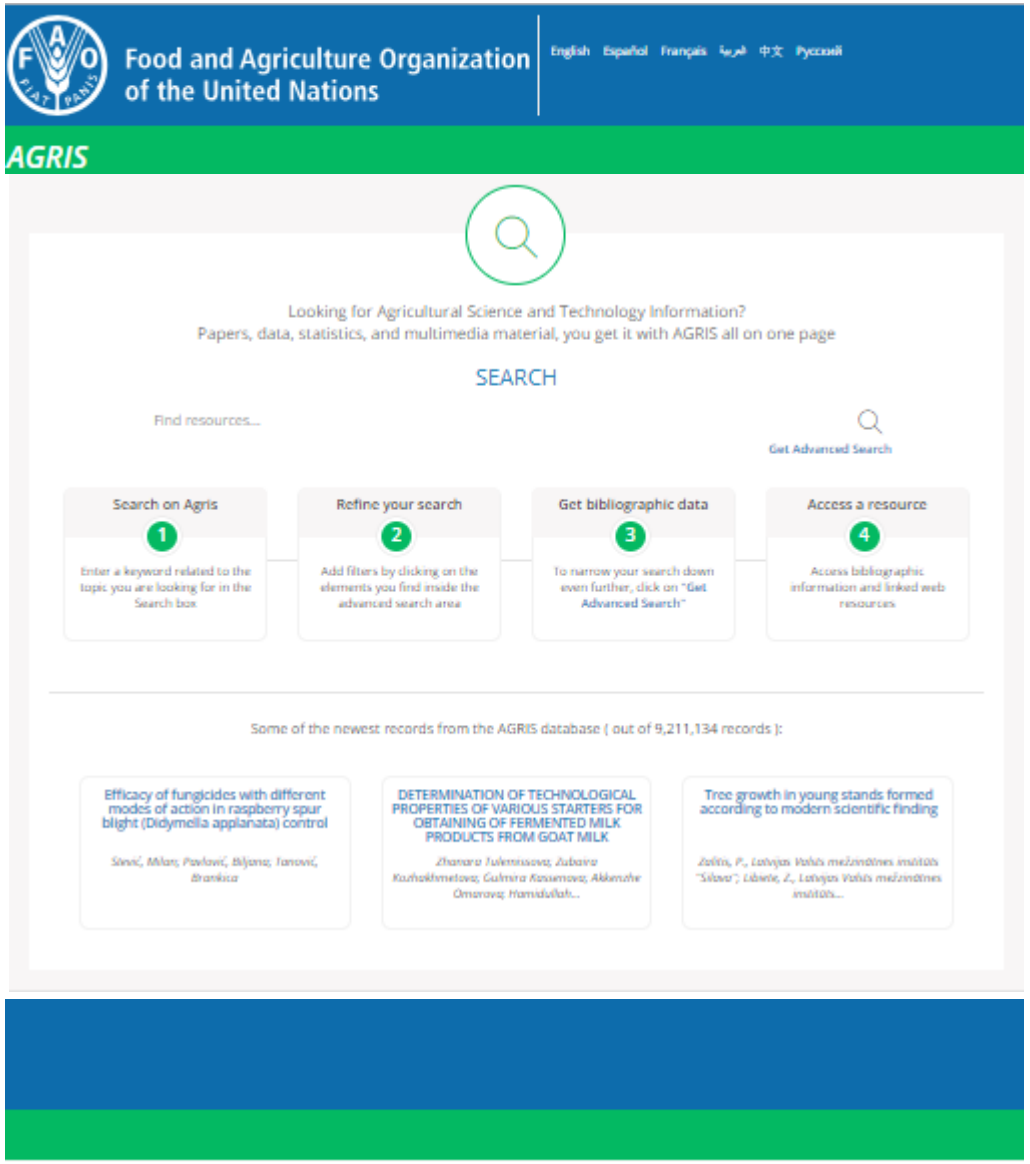
Summary

AGRIS is a productive, heavily used and massively distributed network for heterogeneous data providers in agriculture and related sciences, particularly important for the Global South

Metadata quality is an issue, however vocabularies and LOD approaches are useful to enrich metadata and improve quality of metadata

To fully exploit the potential of LOD in applications:

1. AGRIS laboratory has been developed during the last years, using LOD technologies to aggregate data and enriching the discoverability, available for doing some experiments with other initiatives
2. Data are available for interlinking in semantic applications
3. Technology and data are available, and happy to look for collaborations to explore LOD with other repository networks


Food and Agriculture Organization of the United Nations
English Español Français عربية 中文 Русский
AGRIS
Looking for Agricultural Science and Technology Information?
Papers, data, statistics, and multimedia material, you get it with AGRIS all on one page
SEARCH
Find resources...
Get Advanced Search
Search on Agris
1
Enter a keyword related to the topic you are looking for in the Search box
Refine your search
2
Add filters by clicking on the elements you find inside the advanced search area
Get bibliographic data
3
To narrow your search down even further, click on "Get Advanced Search"
Access a resource
4
Access bibliographic information and linked web resources
Some of the newest records from the AGRIS database (out of 9,211,134 records):
Efficacy of fungicides with different modes of action in raspberry spur blight (Didymella applanata) control
Sinić, Milan; Pavlović, Biljana; Tanović, Branislava
DETERMINATION OF TECHNOLOGICAL PROPERTIES OF VARIOUS STARTERS FOR OBTAINING OF FERMENTED MILK PRODUCTS FROM GOAT MILK
Zhanara Tulemissova; Zubaira Kozhakhmetova; Gulmira Kassenova; Akkenzhe Omarova; Hamidullah...
Tree growth in young stands formed according to modern scientific finding
Zeltiņš, P., Latvijas Valsts mežzinātnes institūts "Silava"; Lībiete, Z., Latvijas Valsts mežzinātnes institūts...