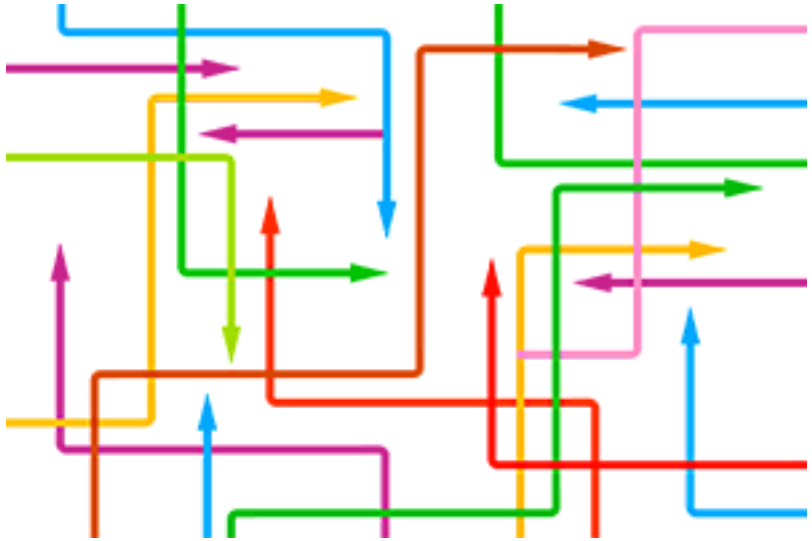
Food and Agriculture Organization of the United Nations

Providing Data to AGRIS

International System for Agricultural Science and Technology

Regional workshop on Strengthening the Accessibility and Visibility of Agricultural and Land Data through the Use of Semantics - AGRIS in Europe and Central Asia
Moscow, 27-28 June 2019



Data Collection

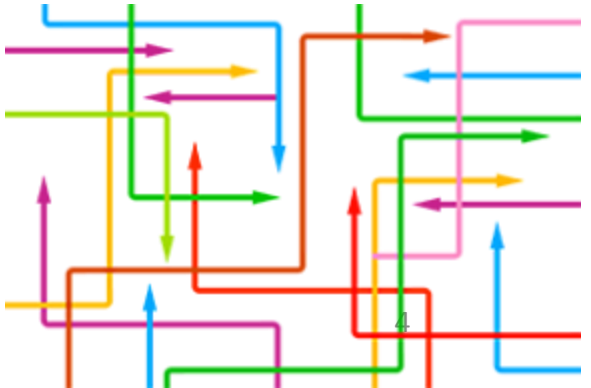
Content types acceptable in AGRIS

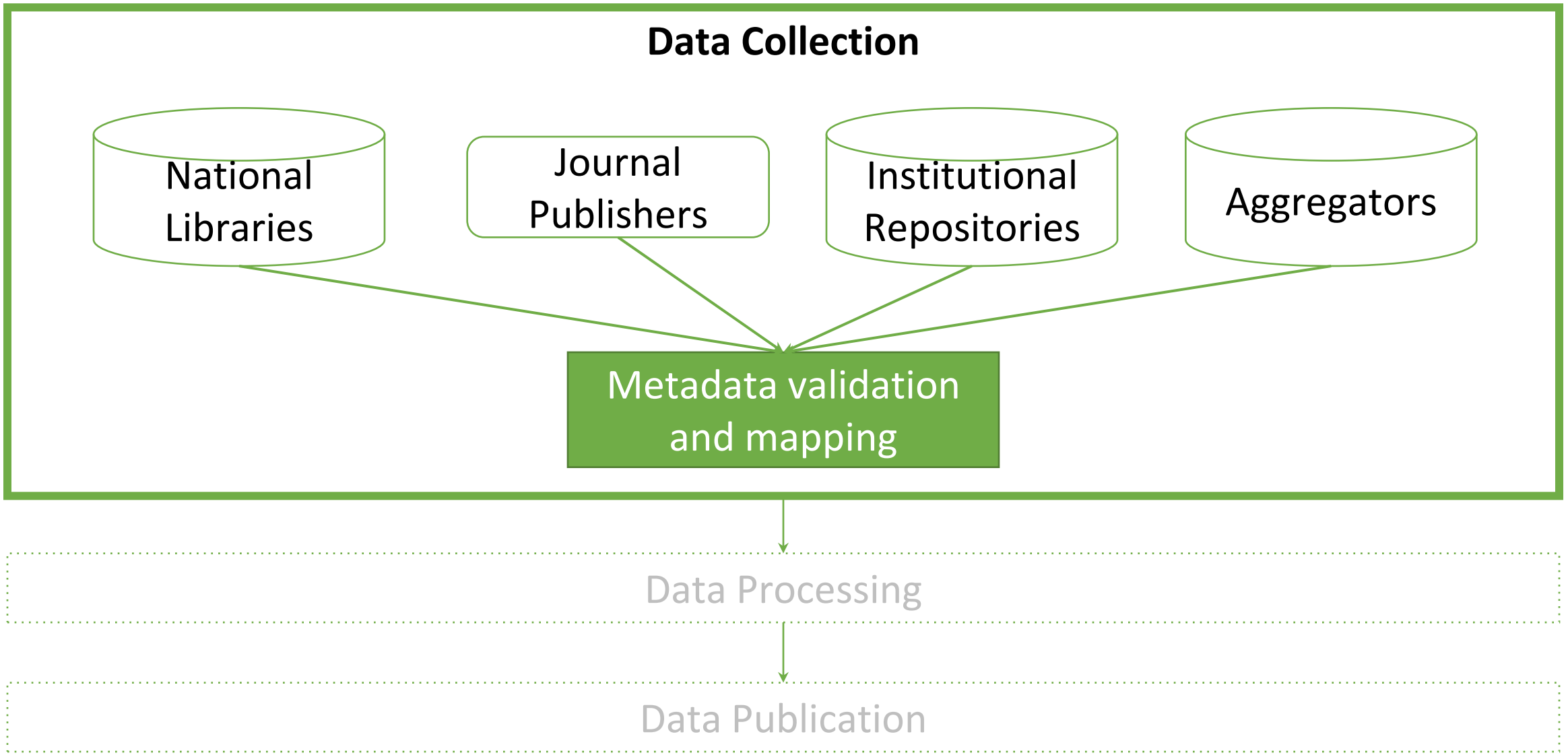
- Thematic areas: agriculture, nutrition, food security, forestry, fisheries, rural development, biology, food systems, livestock production, natural resources and related topics

- Journal articles, monographs, book chapters, and grey literature - including unpublished science and technical reports, theses, dissertations and conference papers

Data Providers

- In the past, AGRIS centers were assigned by governments to collect all the scientific production in the country and to send it to AGRIS
- With the evolution of technology and the growth of open access institutional repositories, AGRIS has improved its methods for harvesting, processing and indexing metadata
- Now "AGRIS centers", stands for all the data providers that have contributed or are contributing to AGRIS




Data Collection
National Libraries
Journal Publishers
Institutional Repositories
Aggregators
Metadata validation and mapping
Data Processing
Data Publication

Any format is accepted and validated if…

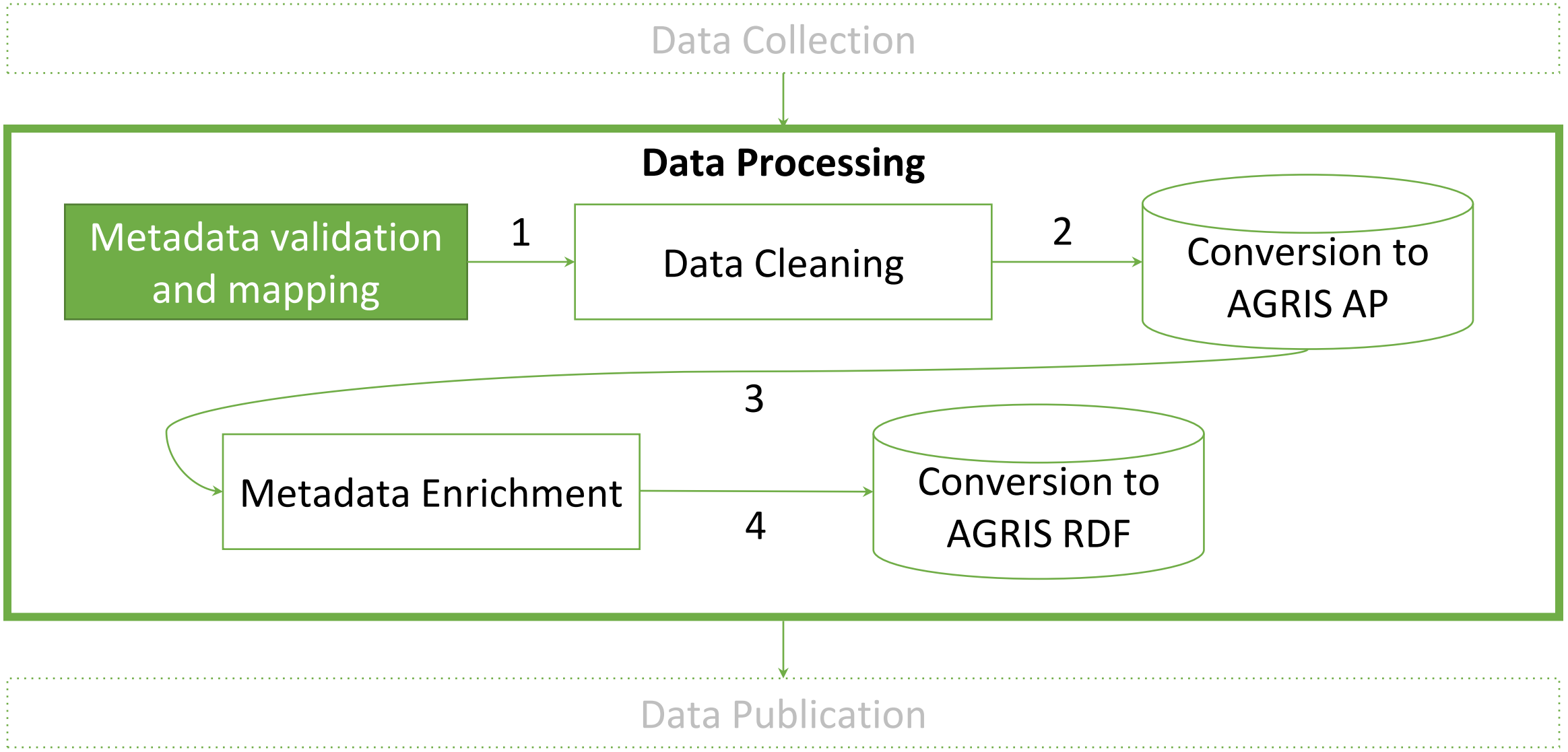
… it includes meaningful metadata using standardized properties, which will be mapped and validated towards AGRIS Application Profile (AGRIS AP), internal format used by AGRIS

The most common formats are: Crossref, DOAJ, Endnote, MARC21, Mendeley, MODS, Simple DC, and PubMed

Pushing and Pulling data

- Pushing: AGRIS centers produce metadata using different methods and systems before sending them to AGRIS
- Pulling: AGRIS consumes metadata using an OAI-PMH harvester
- AGRIS does not accept individual author contributions.
- Metadata are manually checked to look for inconsistencies or recurring semantic errors, and to be sure that their content is relevant to AGRIS
- Then, the input metadata format is mapped to AGRIS AP, the AGRIS pre-processing metadata format

Data Processing


Data Collection
Data Processing
Metadata validation and mapping
1
Data Cleaning
2
Conversion to AGRIS AP
3
Metadata Enrichment
4
Conversion to AGRIS RDF
Data Publication

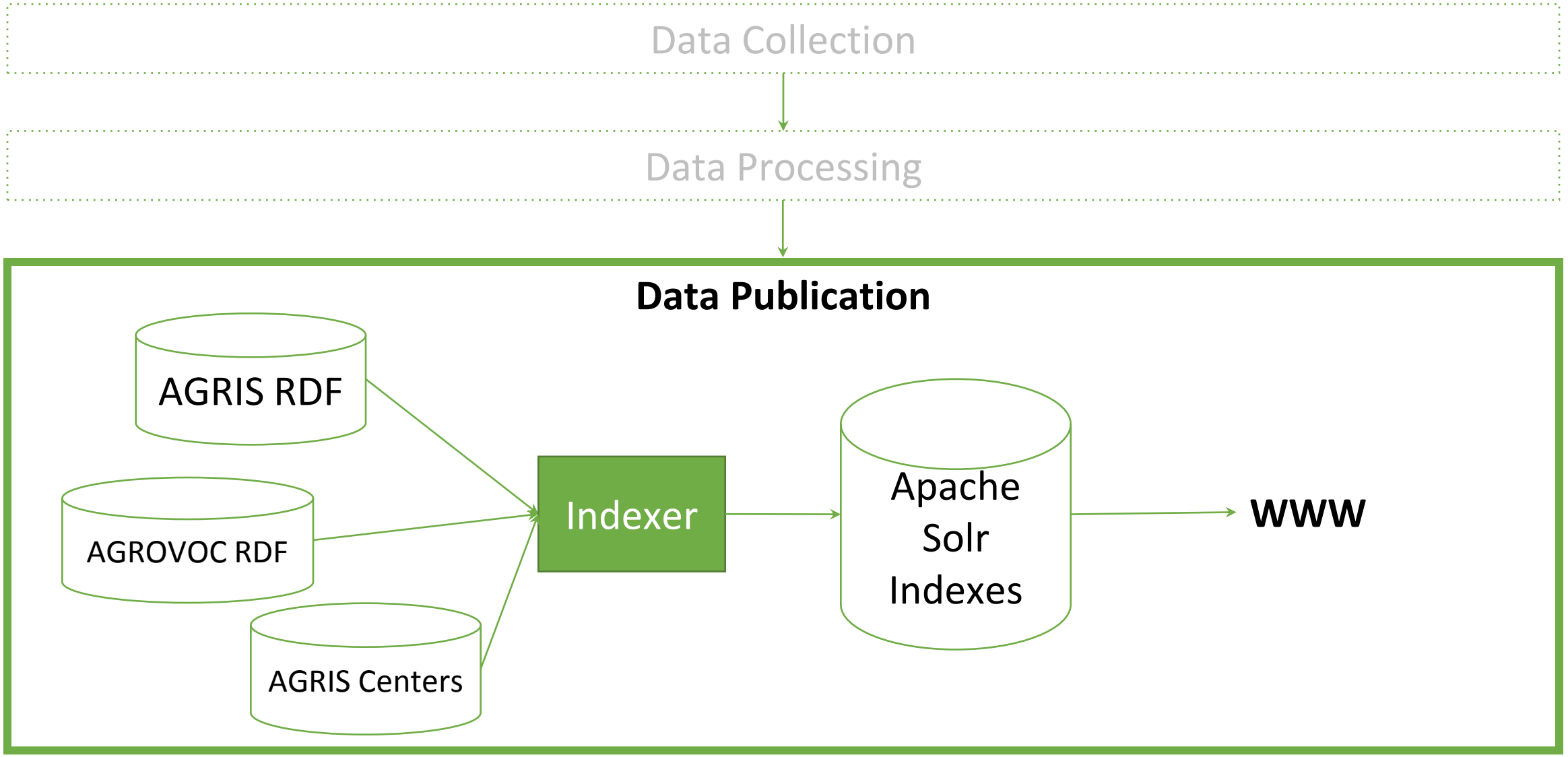
Data Processing

- The mapping from the input metadata model to AGRIS AP is encoded in a software component responsible for
  - Metadata cleaning (e.g. normalize dates, remove HTML elements, etc.)
  - Adding metadata about the provider
  - Conversion of input metadata to AGRIS AP XML files
- AGRIS AP is the AGRIS pre-processing model, which allows to accept input data in any format
  - It is also the entry point for metadata enrichment and RDF-ization

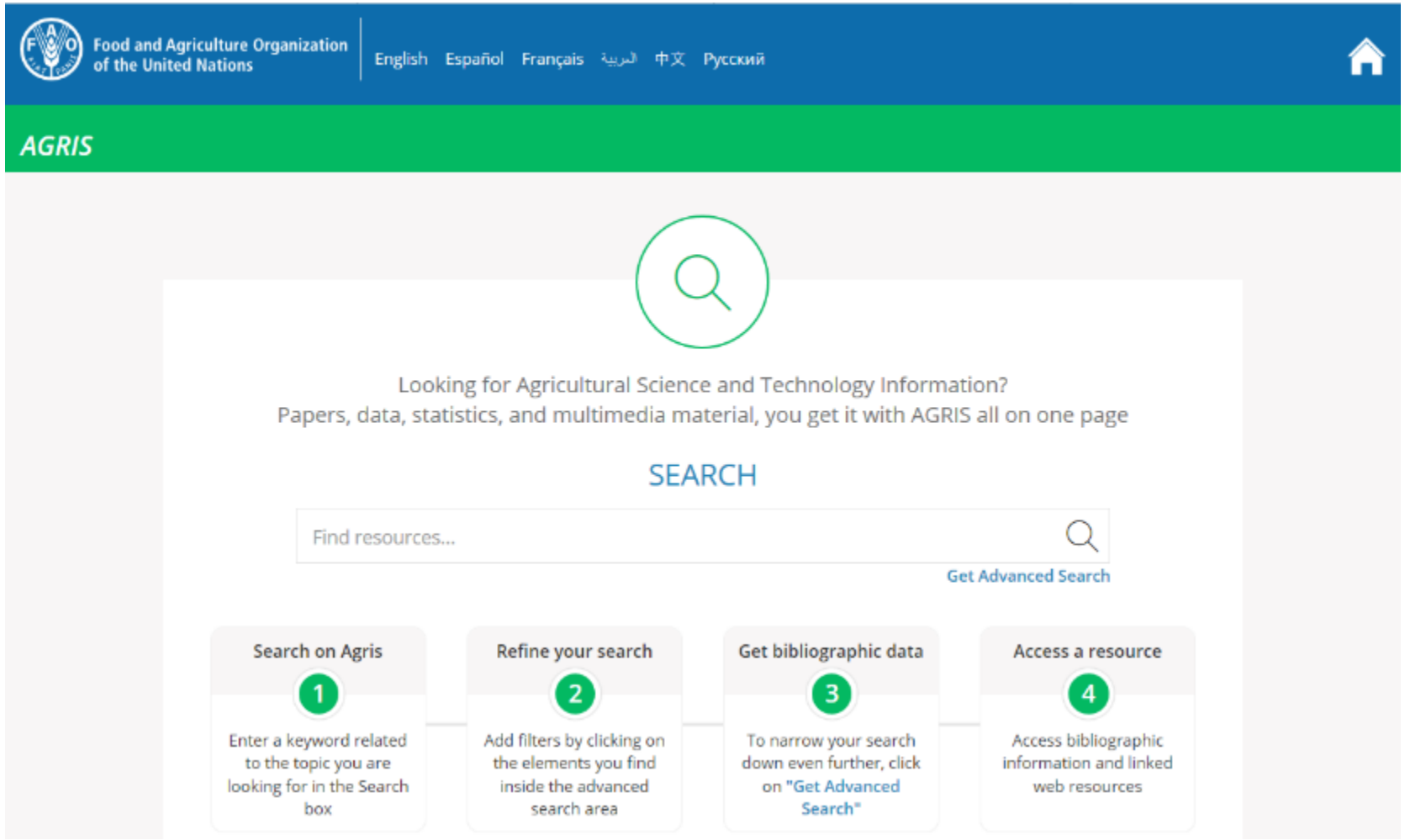
AGROVOC and AGRIS

- AGROVOC is the controlled vocabulary used to index AGRIS records, published by FAO and edited by community of experts
- Available as SKOS-XL, also published as Linked Open Data (LOD) set
- Composed of 36,200+ concepts in up to 33 languages, aligned with over 20 other multilingual knowledge organization systems related to agriculture http://aims.fao.org/agrovoc
- During the RDF-ization process, free keywords are converted to AGROVOC URIs. AGROVOC is the backbone for
  - Information retrieval on AGRIS website
  - Multilingual search
  - LOD experiments in the context of the AGRIS Lab

Data Publication

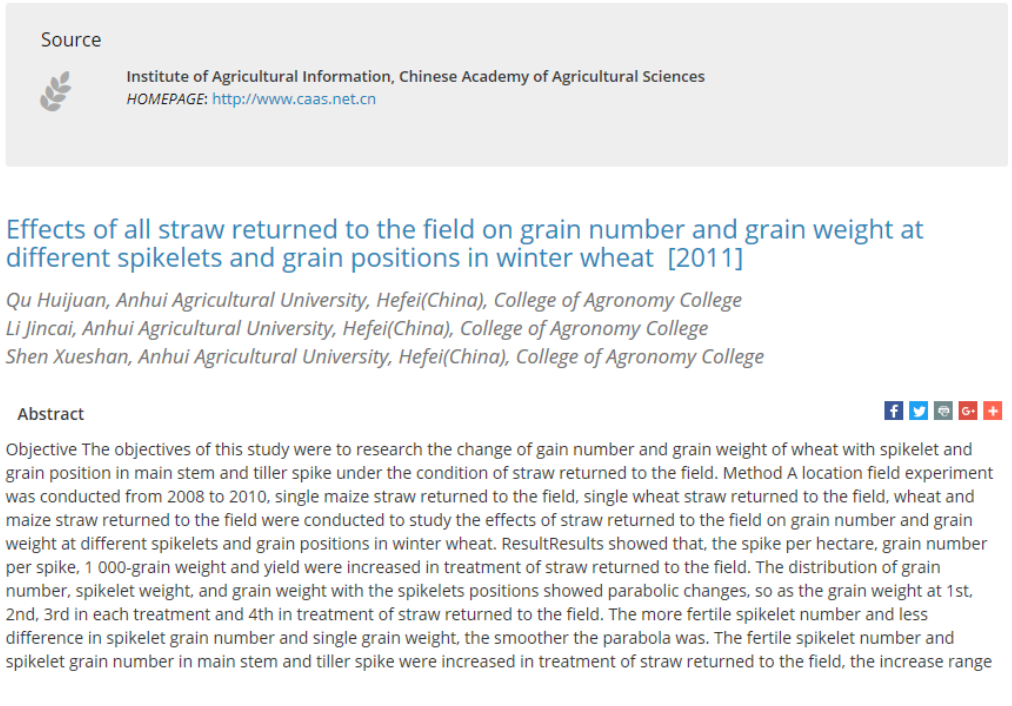

Data Collection
Data Processing
Data Publication
AGRIS RDF
AGROVOC RDF
AGRIS Centers
Indexer
Apache
Solr
Indexes
www

http://agris.fao.org



Multilingual Search

- The translation to RDF makes AGROVOC URIs available
- A user's query in a specific language is expanded to match results in all languages available in AGROVOC
  - e.g. a user can search in Chinese and find also results in English, and vice versa



Source

Institute of Agricultural Information, Chinese Academy of Agricultural Sciences
HOMEPAGE: http://www.caas.net.cn

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

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

Abstract

Objective The objectives of this study were to research the change of gain number and grain weight of wheat with spikelet and grain position in main stem and tiller spike under the condition of straw returned to the field. Method A location field experiment was conducted from 2008 to 2010, single maize straw returned to the field, single wheat straw returned to the field, wheat and maize straw returned to the field were conducted to study the effects of straw returned to the field on grain number and grain weight at different spikelets and grain positions in winter wheat. ResultResults showed that, the spike per hectare, grain number per spike, 1 000-grain weight and yield were increased in treatment of straw returned to the field. The distribution of grain number, spikelet weight, and grain weight with the spikelets positions showed parabolic changes, so as the grain weight at 1st, 2nd, 3rd in each treatment and 4th in treatment of straw returned to the field. The more fertile spikelet number and less difference in spikelet grain number and single grain weight, the smoother the parabola was. The fertile spikelet number and spikelet grain number in main stem and tiller spike were increased in treatment of straw returned to the field, the increase range

Source

Institute of Agricultural Information, Chinese Academy of Agricultural Sciences
主页: http://www.caas.net.cn

秸秆全量还田对冬小麦不同小穗位和粒位结实粒数和粒重的影响 [2011]

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

摘要

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。

How do I join the AGRIS Network as a Data Provider?

- **Eligibility**: you can contribute as an institutional repository, as a journal or as an aggregator to AGRIS.
- **Registration**: Please contact agris@fao.org for registration. After your registration you will receive your AGRIS data provider ID.
- **Networking:** As AGRIS data provider, you will also be added to mailing list of the AGRIS Network.

Registered data providers

- more than 400 data providers from 144 countries
- Active in 2018: 75 data providers
- Providers come from Albania, Argentina, Bangladesh, Brazil, Bulgaria, China, Cuba, Czech Republic, Estonia, Finland, France, Latvia, India, Indonesia, Iran, Latvia, Malaysia, Nepal, Pakistan, Philippines, Poland, Republic of Korea, Romania, Russian Federation, Serbia, Slovakia, South Africa, Spain, Sri Lanka, Switzerland, Thailand, Turkey, Ukraine, United Arab Emirates, United Kingdom, United States of America, and FAO.

AGRIS data providers in region

	Total providers	active providers	no submission since 2017	inactive providers, no submission since 2014
Albania	2	1		1
Armenia	1			1
Azerbaijan	1			1
Belarus	1		1	
Bosnia and Herzegovina	2			2
Bulgaria	3	1	2	
Czech Republic	1	1		
Estonia	2	1		1
Finland	1		1	
Georgia	1		1	
Hungary	1			1
Kazakhstan	1			1
Latvia	1	1		
Lithuania	1			1
Mongolia	1			1
Norway	1			1
Poland	2	1		1
Republic of Moldova	2		1	1
Romania	3	1		2
Russian Federation	52	12	27	13
Serbia	3	2	1	
Slovakia	6	2		4
Slovenia	1		1	
Sweden	2			2
North Macedonia	2		1	1
Ukraine	15	4	8	3
	109	27	44	38

Benefits of contributing content to AGRIS

- Increased visibility: The publications included in AGRIS are international and available in a number of languages
- Contribution to international science: By participating in AGRIS, your publication is contributing towards bridging the access gap for scientific literature from Africa to the international research and academic community.
- Growing AGRIS network.
- International audience: Contributing article authors will be exposed to an international audience.

Urgent needs of data providers (2018): what is possible?

- To develop appropriate modern professional software for data preparing (including detailed manual) *(AGRIS: no software development foreseen)*
- To develop clear public instructions for selection and formal description of articles. *(AGRIS: done for publication level)*
- To regularly check activity of data providers: regularity and quality of provided records (compliance with standards of information processing and with principles of utility, availability and applicability) *(AGRIS: tricky for grey literature)*
- To assign and to present to the AGRIS-community a person (member of AGRIS-Team) who will be able to solve specific problems related with AGRIS. *(AGRIS mailbox is contact point)*

Additional needs of data providers (2018): what is possible?

- To develop a subsystem for data providers to monitor current state of their records, to track reception date, publishing date, number of published records, view statistics etc. *(AGRIS: not foreseen)*
- To provide for the possibility of correcting the own records after publication. *(AGRIS: not foreseen, but there are monthly releases)*
- Actuality of links to full text nave to be under monitoring by AGRIS-Team periodically (URLs of digital archives can be changed in course of time). *(AGRIS: agree in principle)*
- What else?

http://agris.fao.org/agris-search/info.action