Legumes Translated

A Thematic Network of Horizon 2020

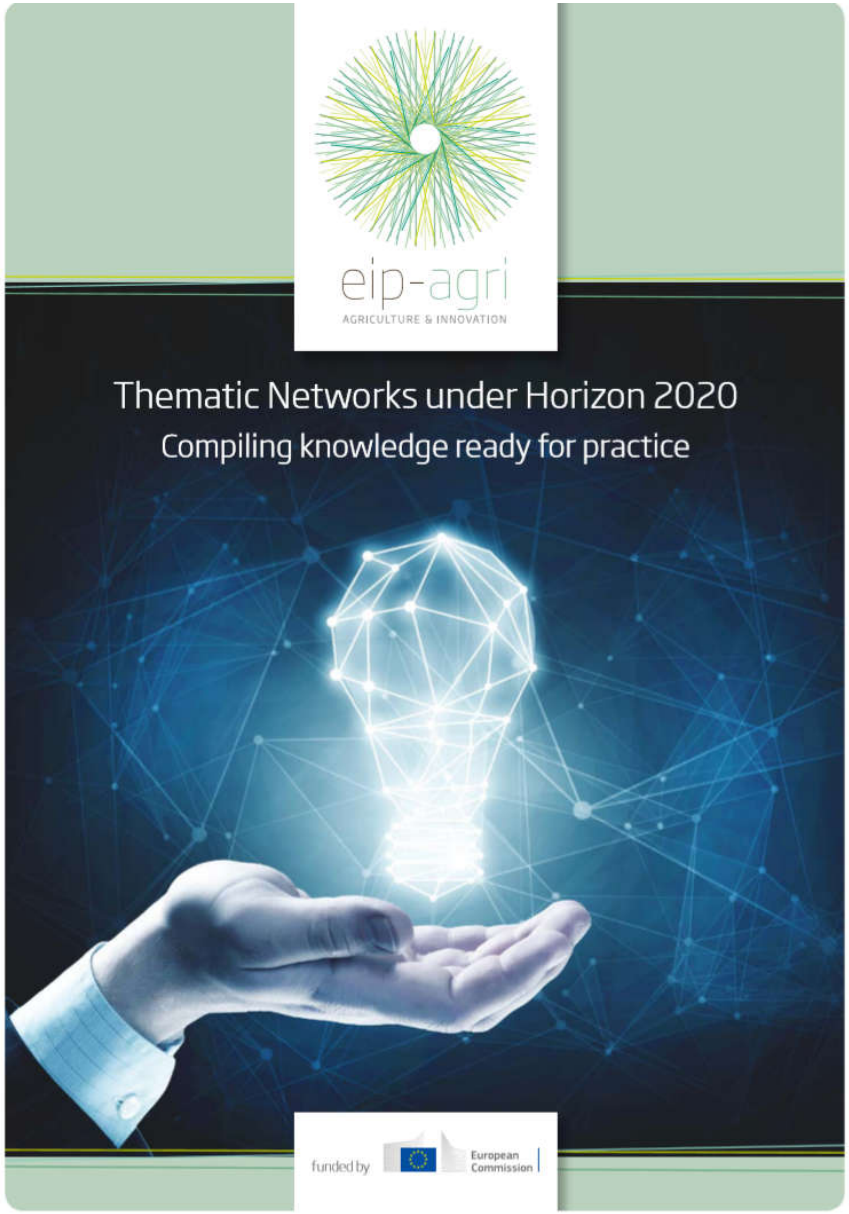
Thematischer Workshop für OG

Eiweißpflanzen

20-21 Februar, Hofgut Eichigt, Sachsen

Legumes Translated (Translating knowledge for legume-based farming for feed and food systems) has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 817634

Legumes Translated is a Thematic Network



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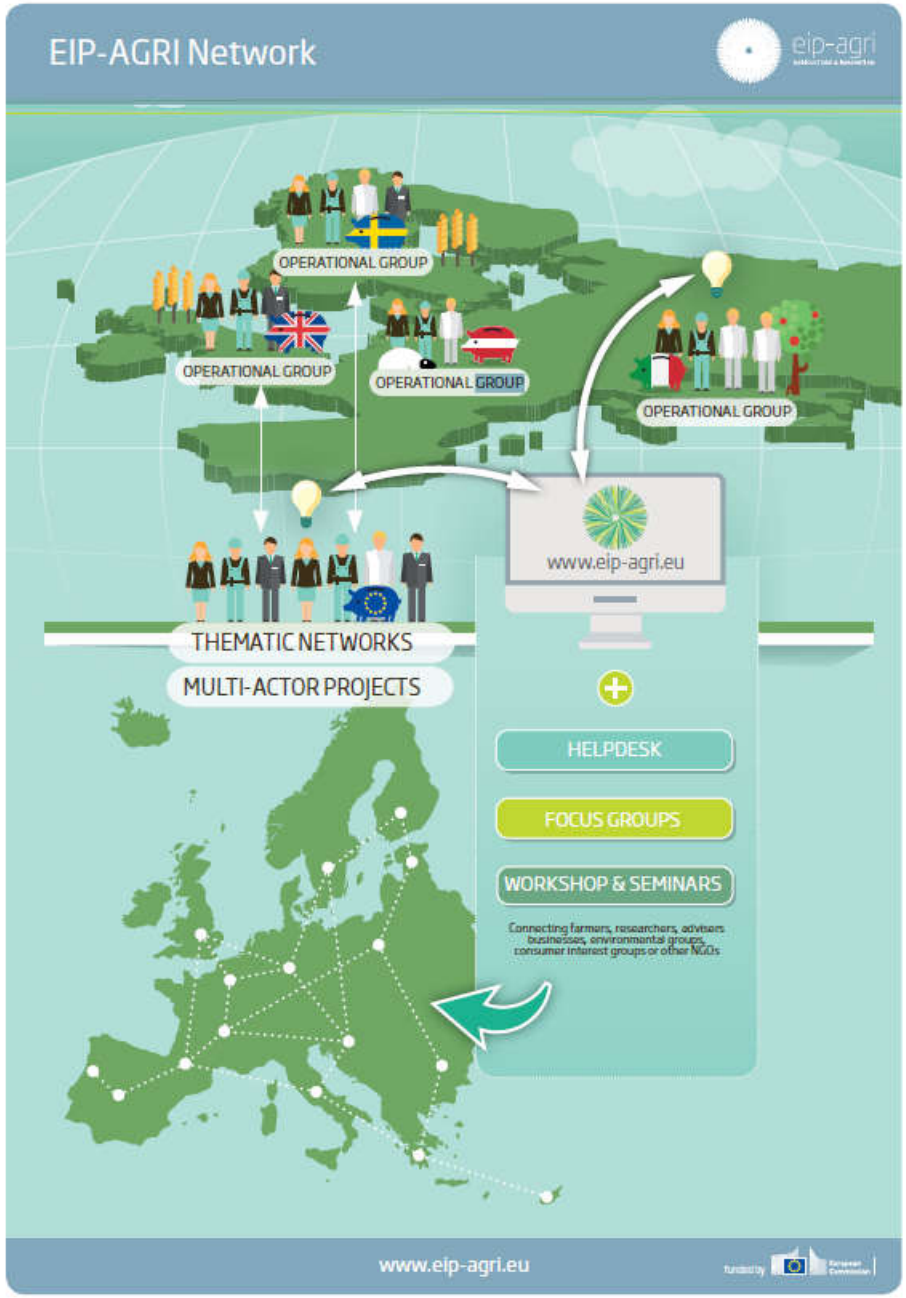

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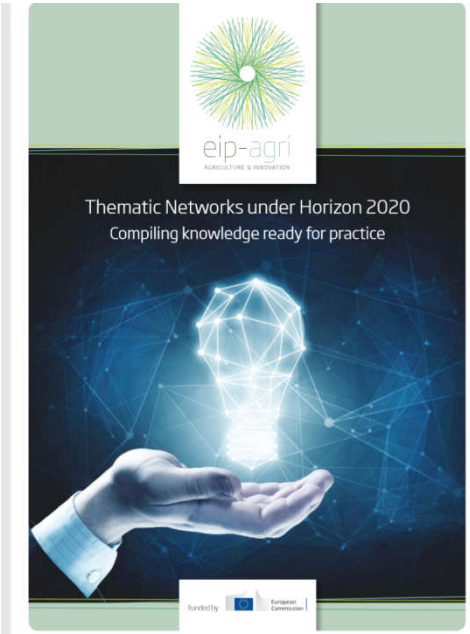
Thematic networks

Collect existing scientific knowledge and best practices which are close to being put into practice, but not yet sufficiently ready for farmers and foresters to implement.



Translate this knowledge into easily understandable end-user material such as short, informative recommendations and solutions (“practice abstracts”), leaflets, guidelines and audio-visual material (photos, video clips, etc.).

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The project concept and ambition

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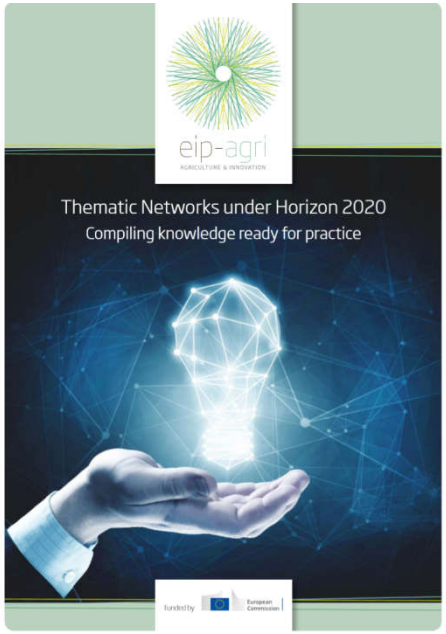
Thematic networks

.. are a key element in the implementation of the EIP Agricultural Productivity and Sustainability (EIP-AGRI)

…..fostering **cross-border knowledge exchange** and may enable links being established with and between the EIP-AGRI Operational Groups….



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This project will bring knowledge together and focus it on key users using a value chain approach. This will integrate the contributions of all relevant actors and support key decision makers. The project is about enabling active and **empowering knowledge exchange and acquisition** rather than just 'knowledge transfer'.

Actors are not just stakeholders

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The Multi-Actor Approach

…means that projects must focus on real problems or opportunities that farmers, foresters or others who need a solution ("end-users") are facing. It also means that partners with complementary types of knowledge – scientific, practical and other – must join forces in the project activities from beginning to end. As a result, MAA projects are able to develop **innovative solutions** which are more ready to be applied in practice and cover real needs.

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Irish Examiner

Teagasc Dairy Manual proves big hit

Thursday, November 24, 2011

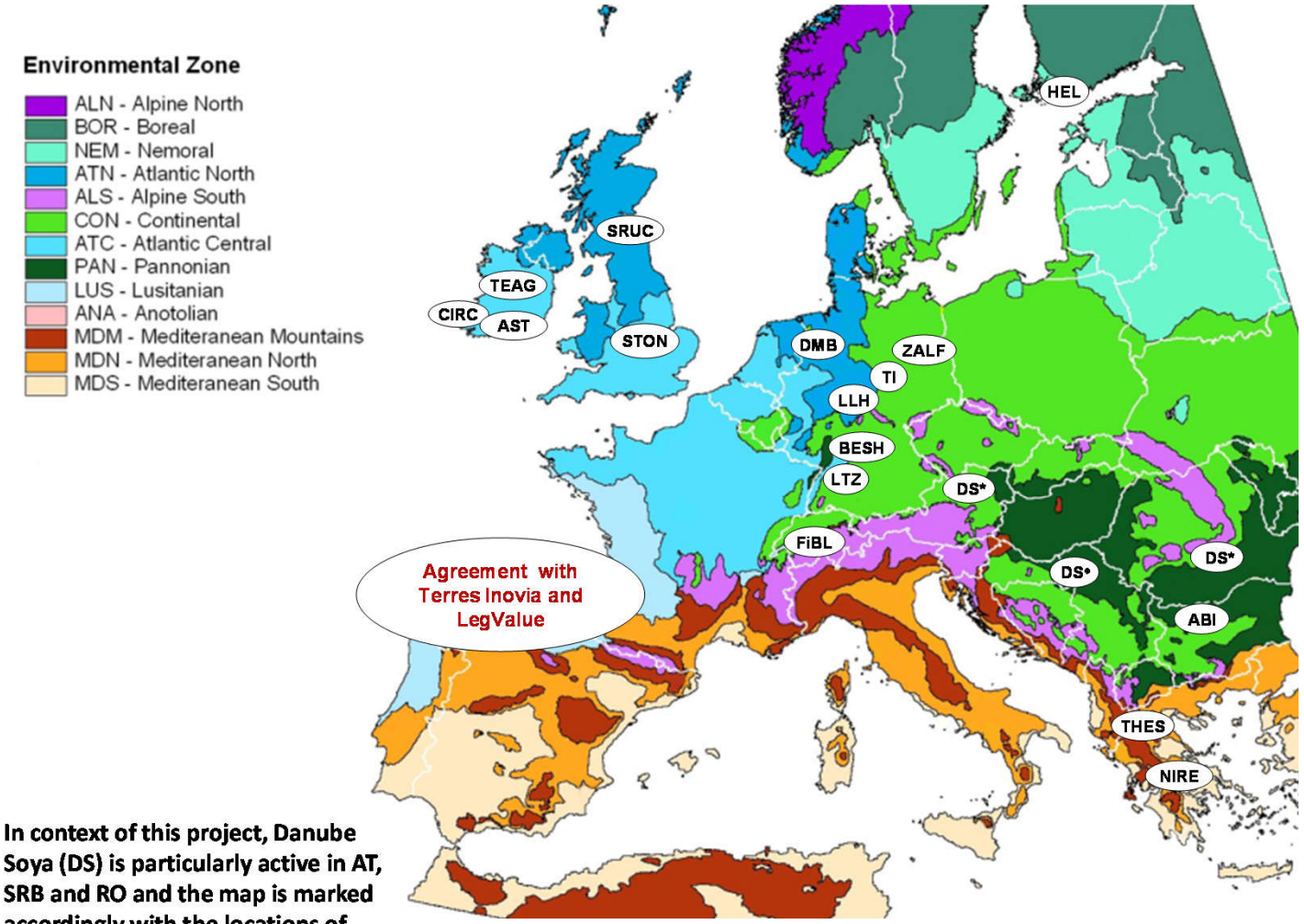
By Joe Dermody

AMBITIOUS dairy farmers have been snapping up copies of the new Teagasc Dairy Manual (TDM), a comprehensive guide to planning for the post-quota era.

A 320-page weather-proof road map with advice on everything from animal health to project management, farmers snapped up 165 copies at Teagasc's recent dairy conference in Cork, and another 150 in Athlone, with another 20 people putting their names on a list when the copies ran out.

The manual is available from local Teagasc offices.

The consortium



In context of this project, Danube Soya (DS) is particularly active in AT, SRB and RO and the map is marked accordingly with the locations of three DS offices.

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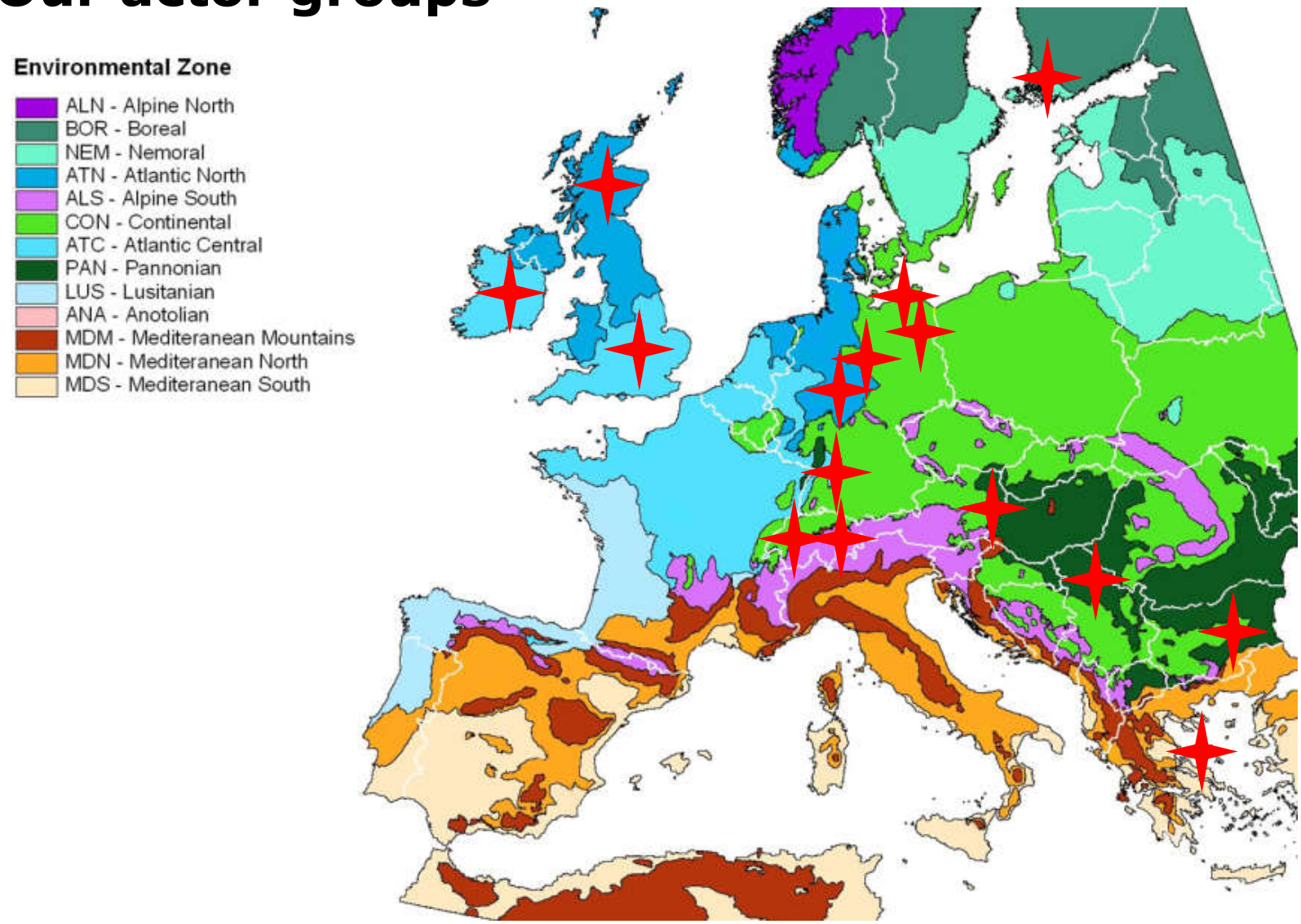
Our actor groups



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Transition networks

No	Transition Network/Themed Case Studies	Lead partners
1.	Diversified of arable cropping using cool-season grain legumes (Cool-season grain)	ZALF
2.	Soy-based value-chains for feed and food (Soy)	LTZ
3.	Legume-based food products and high-tech processing (Food)	HEL
4.	Value chains based on pigmeat (Pigmeat)	BESH
5.	Value chains based on poultry (Poultry)	DS
6.	Value chains based on dairy and beef (Dairy and beef)	SRUC
7.	Aquaculture	NIRE

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Transition networks

			Transition Networks and their coordinating partners						
		Actor Group coordinating partner	Cool-season grain	Soy	Food	Pig meat	Poultry	Dairy and beef	Aquaculture
			ZALF	LTZ	HEL	BESH	DS	SRUC	NIRE
1.	Bulgarian Legumes Network	ABI	■	■		■	■	■	
2.	German Soybean Association	LTZ		■					
3.	Soy Network Switzerland	FiBL		■	■				
4.	Schwaebisch Hall Producers	BESH	■	■		■	■	■	
5.	Soybean Cultivation Group in South-east Europe	IFVC		■		■	■		
6.	Donau Soja value Chain Development Group	DS		■		■	■	■	
7.	The German Lupin Network	ZALF	■		■	■	■		■
8.	The German Pea and Bean Network	LLH	■		■		■	■	■
9.	Swiss Lupin Network	FiBL	■						
10.	Brandenburg Farmers	ZALF	■	■	■		■		
11.	The Irish Protein Crops Group	TEAG	■					■	
12.	SRUC Dairy Protein Group	SRUC	■					■	
13.	LegumesForFish	NIRE	■						■
14.	Waitrose Livestock Group	STON		■		■	■	■	
15.	Ground for Growth	HEL	■		■				

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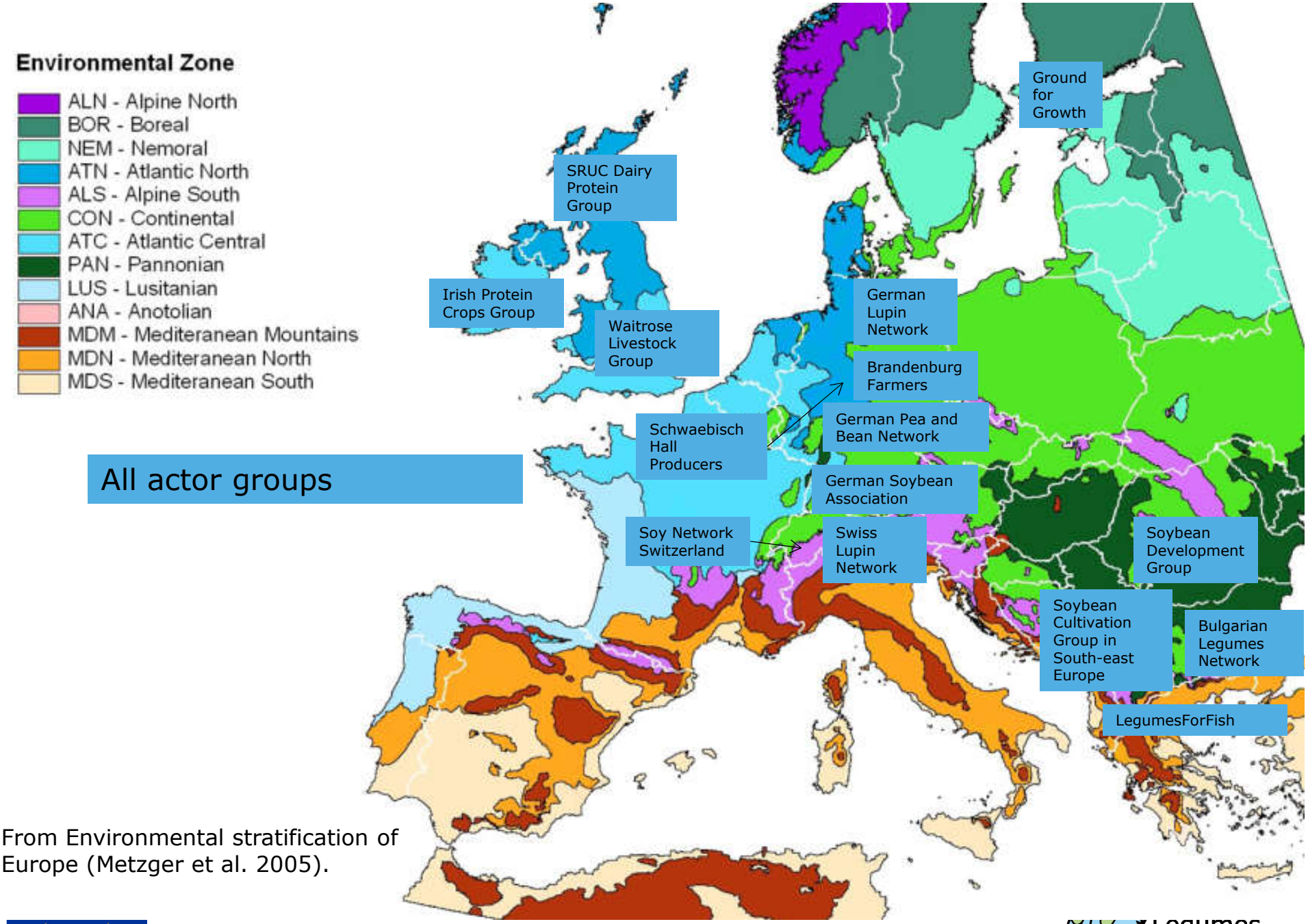

All actor groups

From Environmental stratification of Europe (Metzger et al. 2005).

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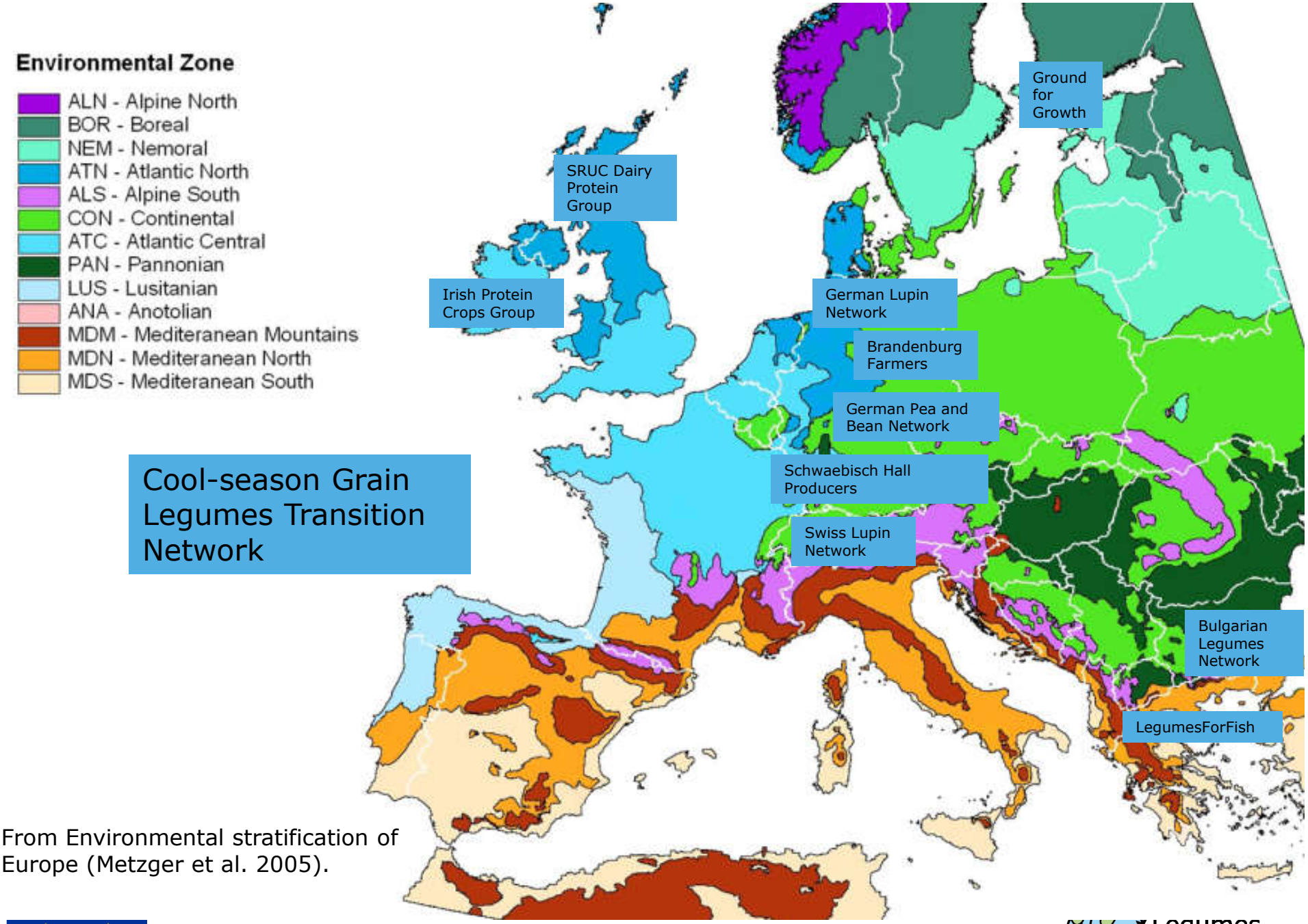

Cool-season Grain Legumes Transition Network

From Environmental stratification of Europe (Metzger et al. 2005).

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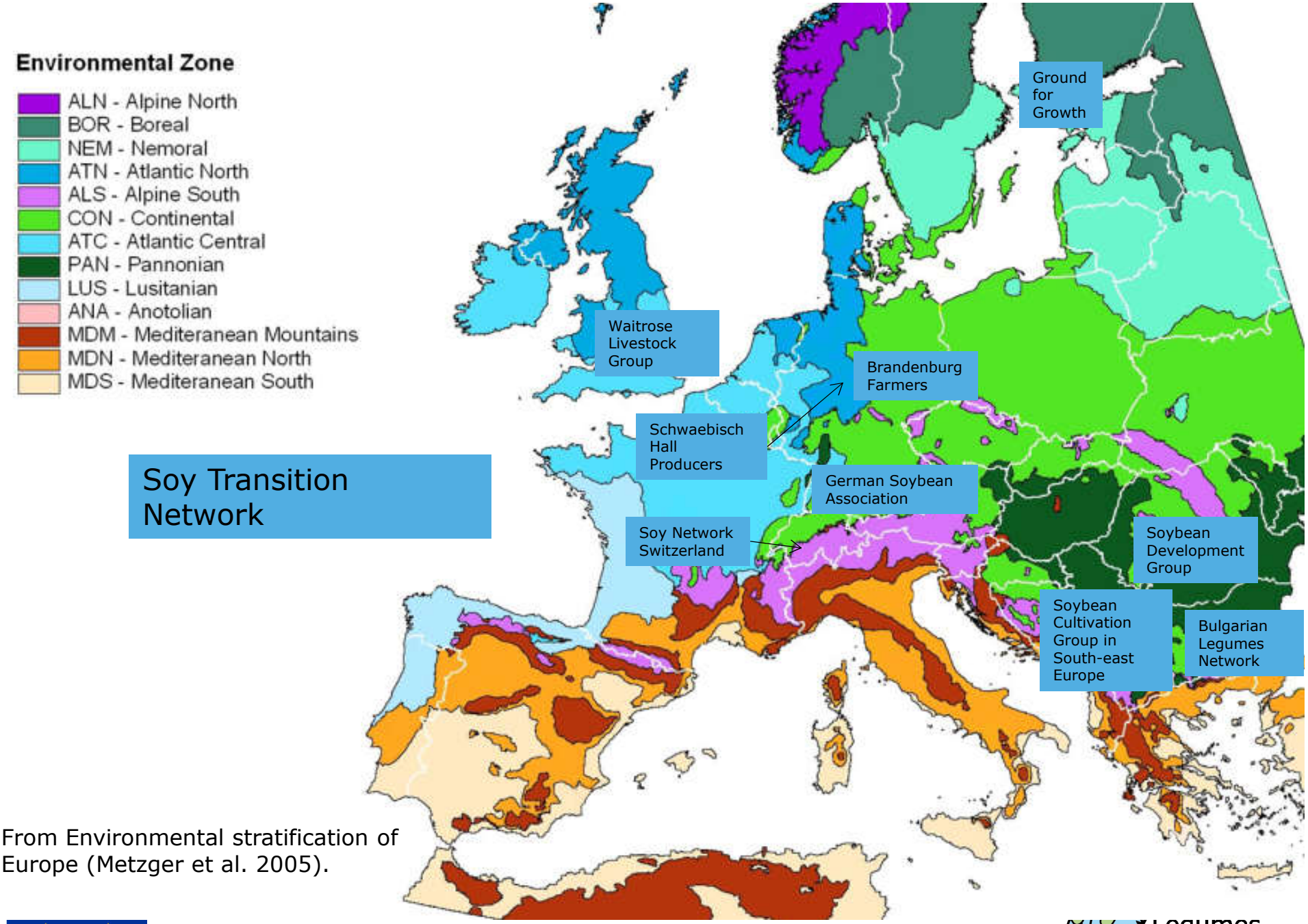
Soy Transition Network



From Environmental stratification of Europe (Metzger et al. 2005).

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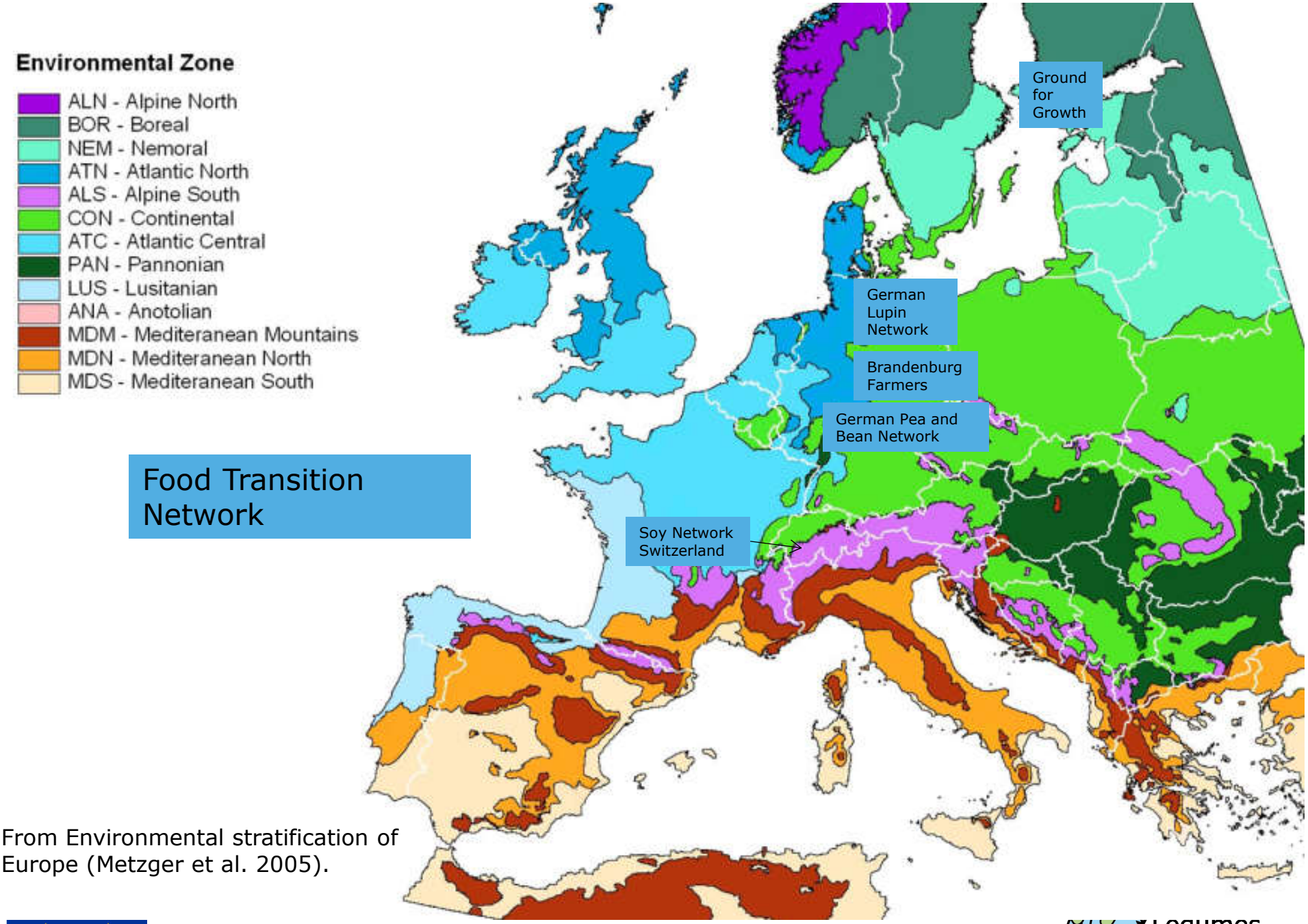

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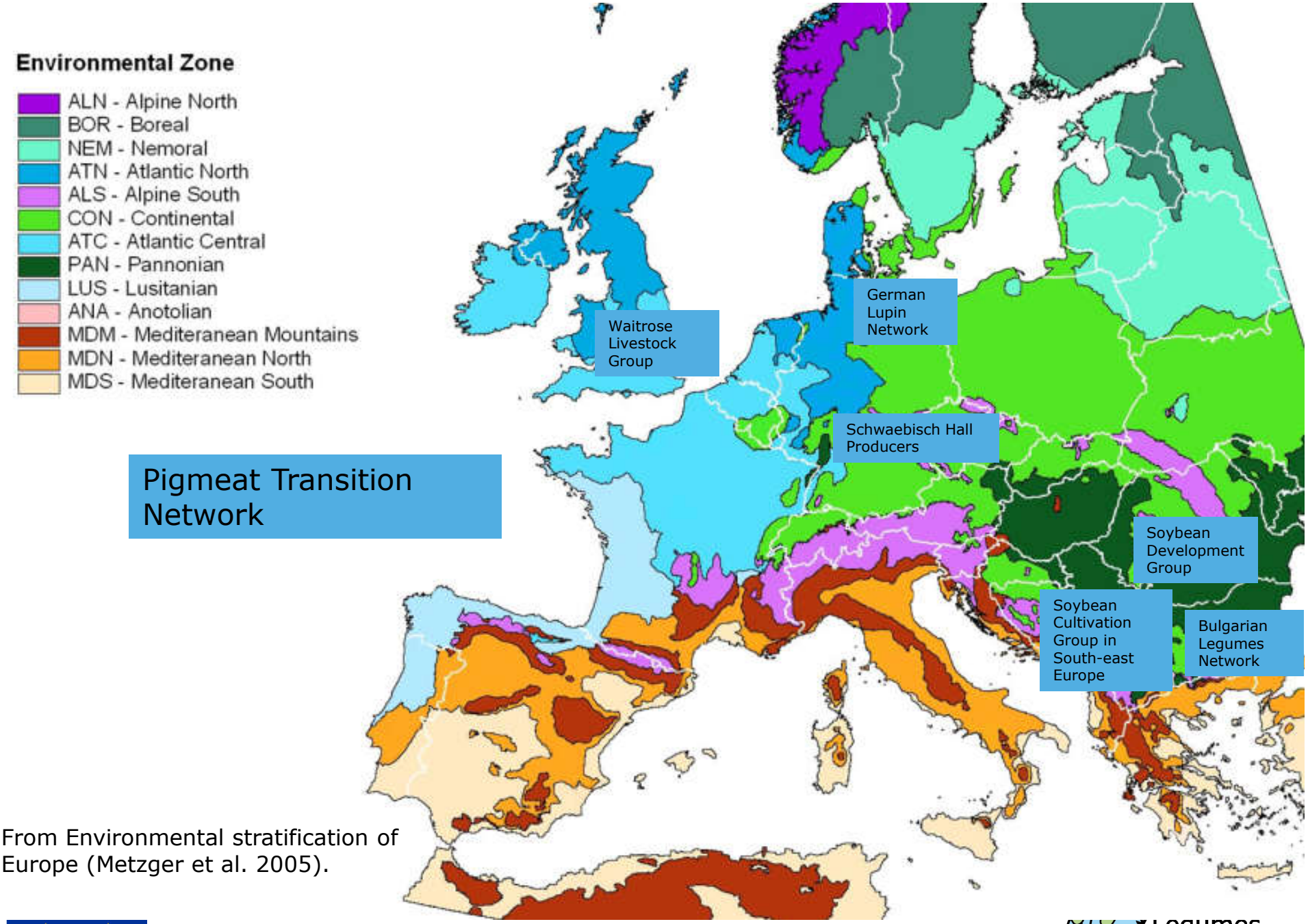

Pigmeat Transition Network

From Environmental stratification of Europe (Metzger et al. 2005).

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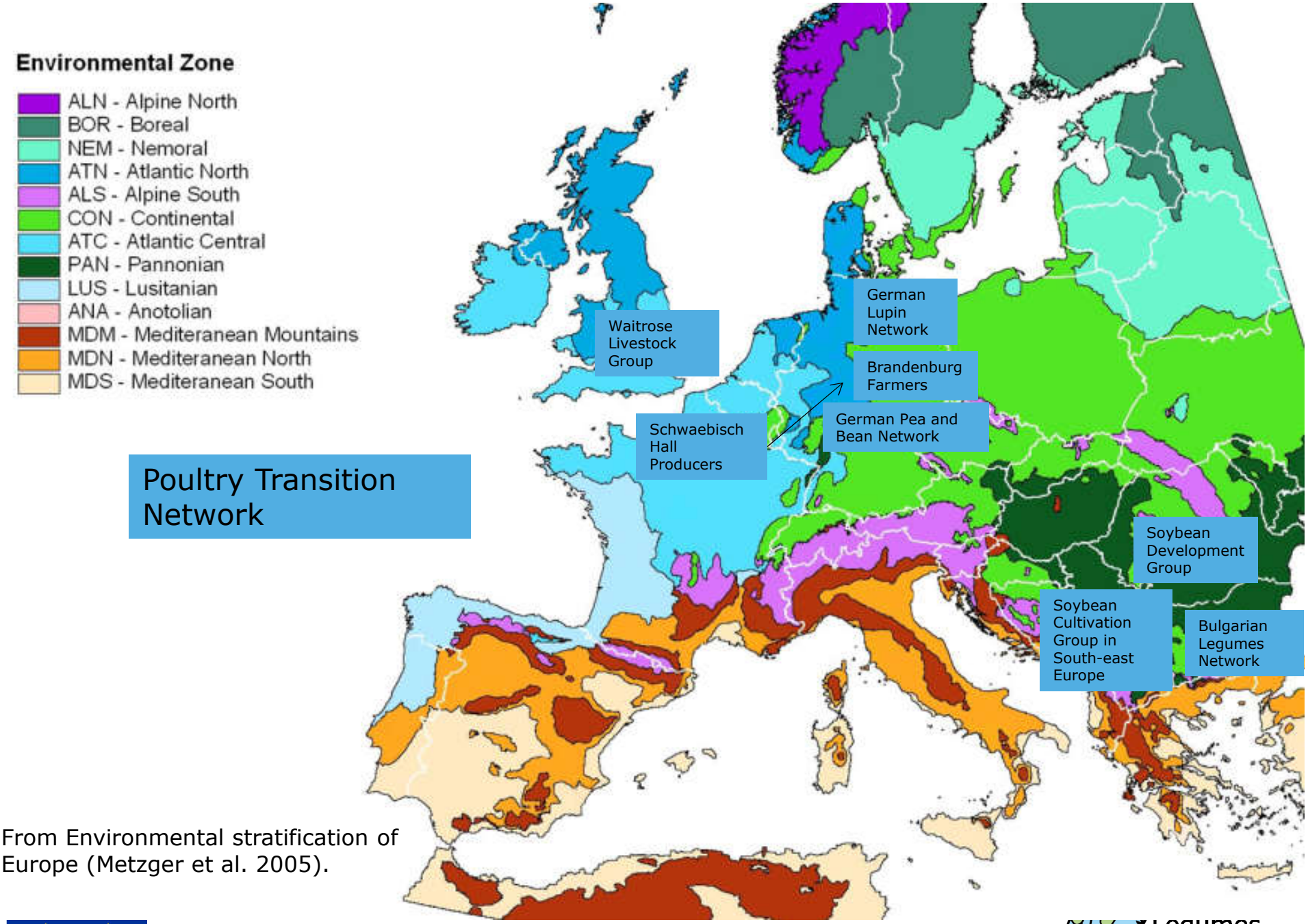

From Environmental stratification of Europe (Metzger et al. 2005).

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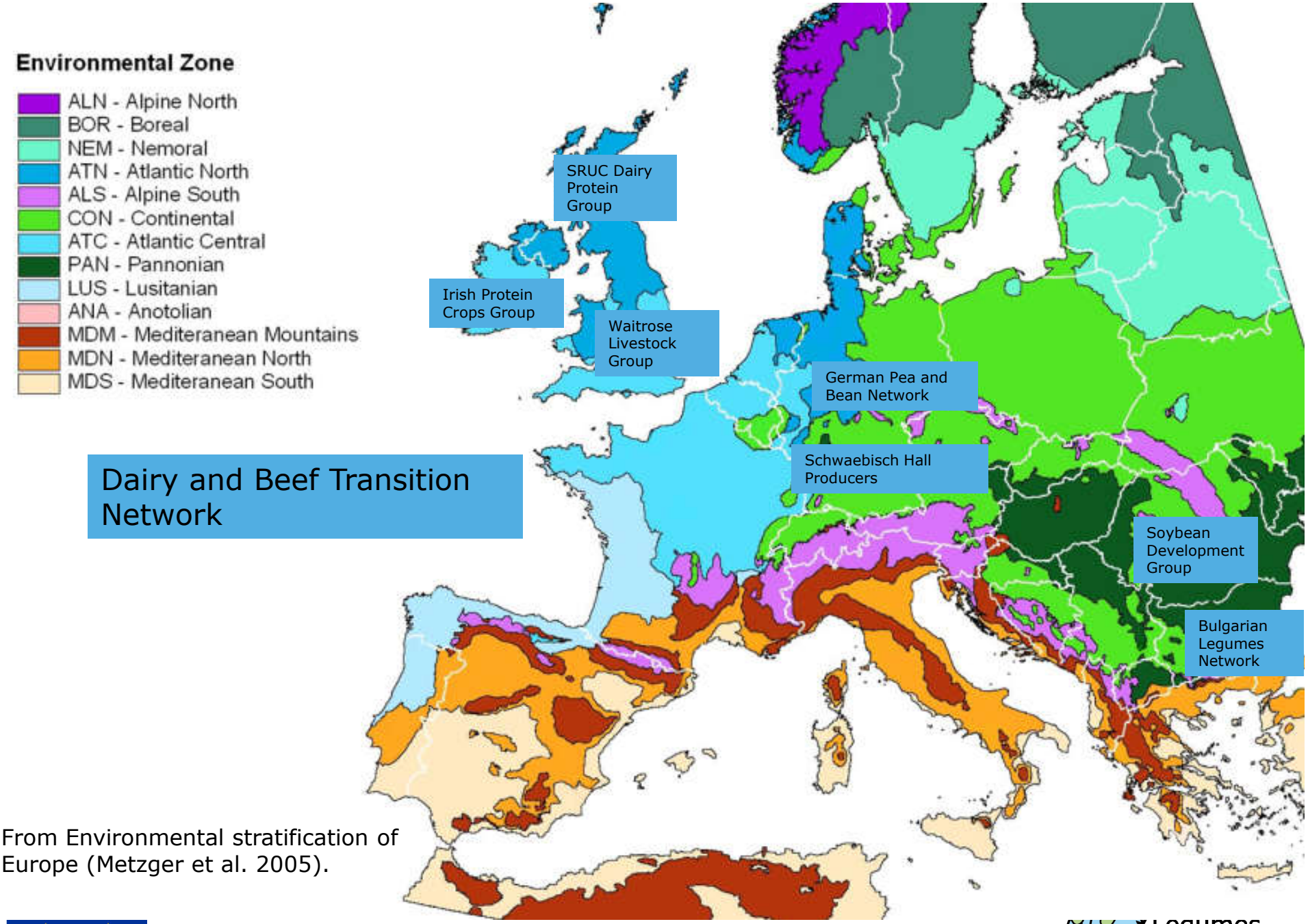

Dairy and Beef Transition Network

From Environmental stratification of Europe (Metzger et al. 2005).

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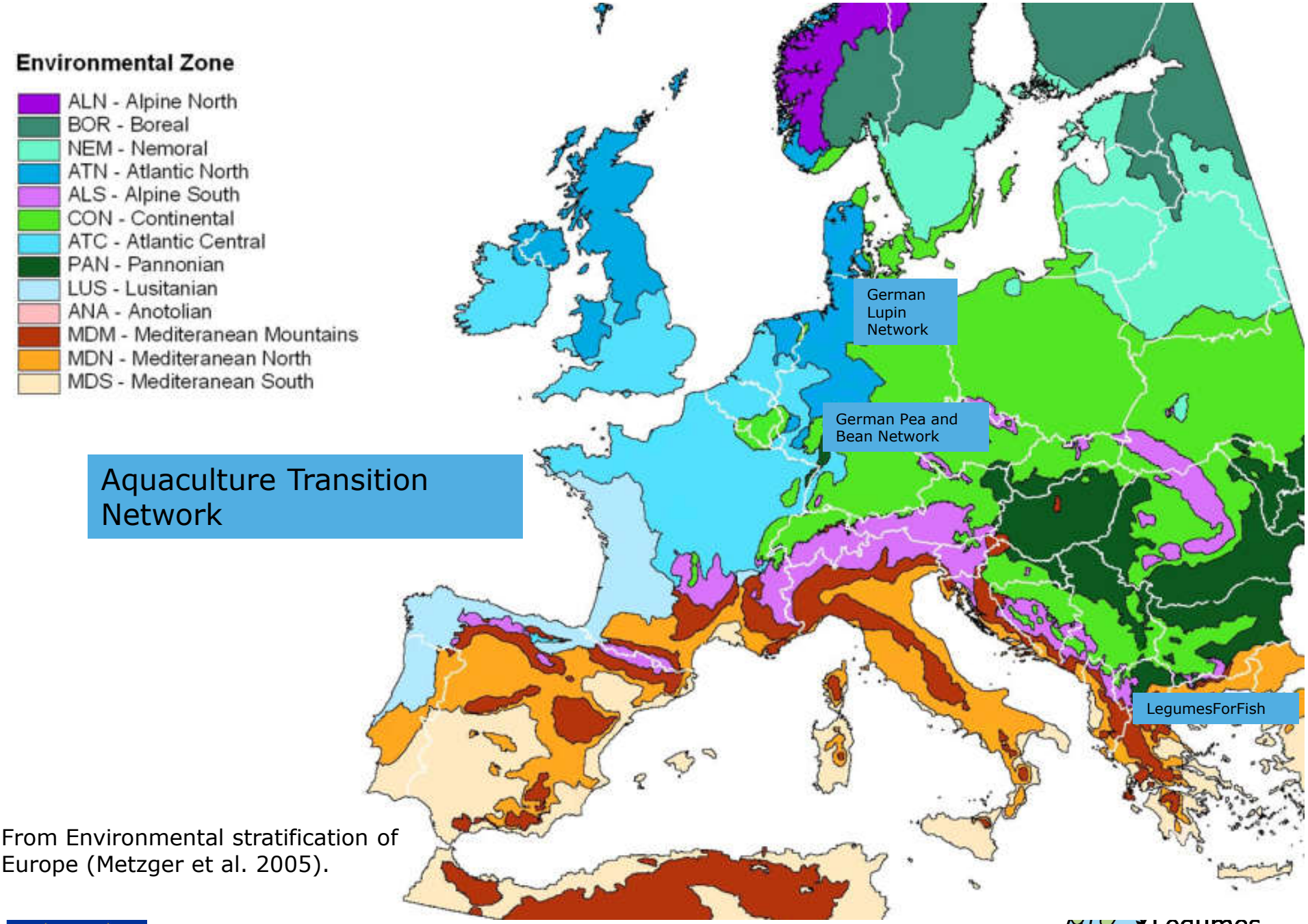

Aquaculture Transition Network

From Environmental stratification of Europe (Metzger et al. 2005).

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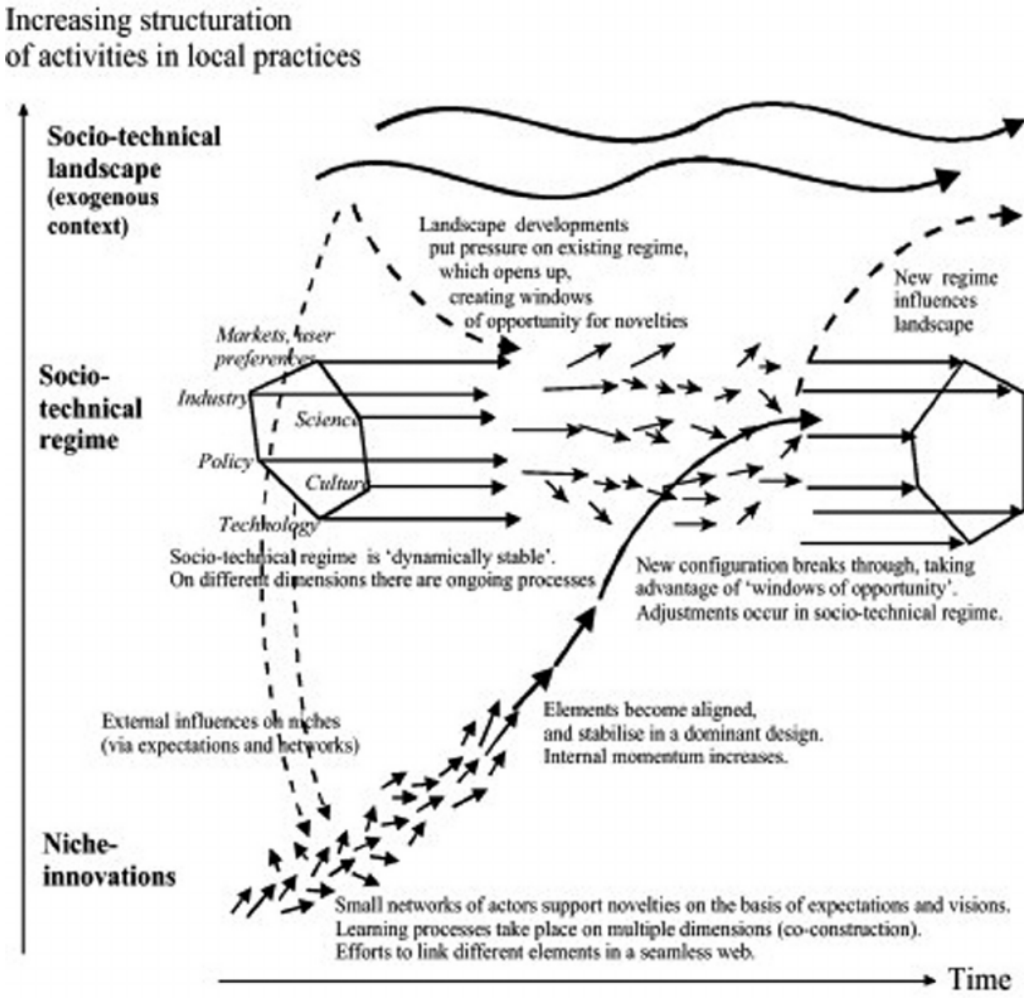
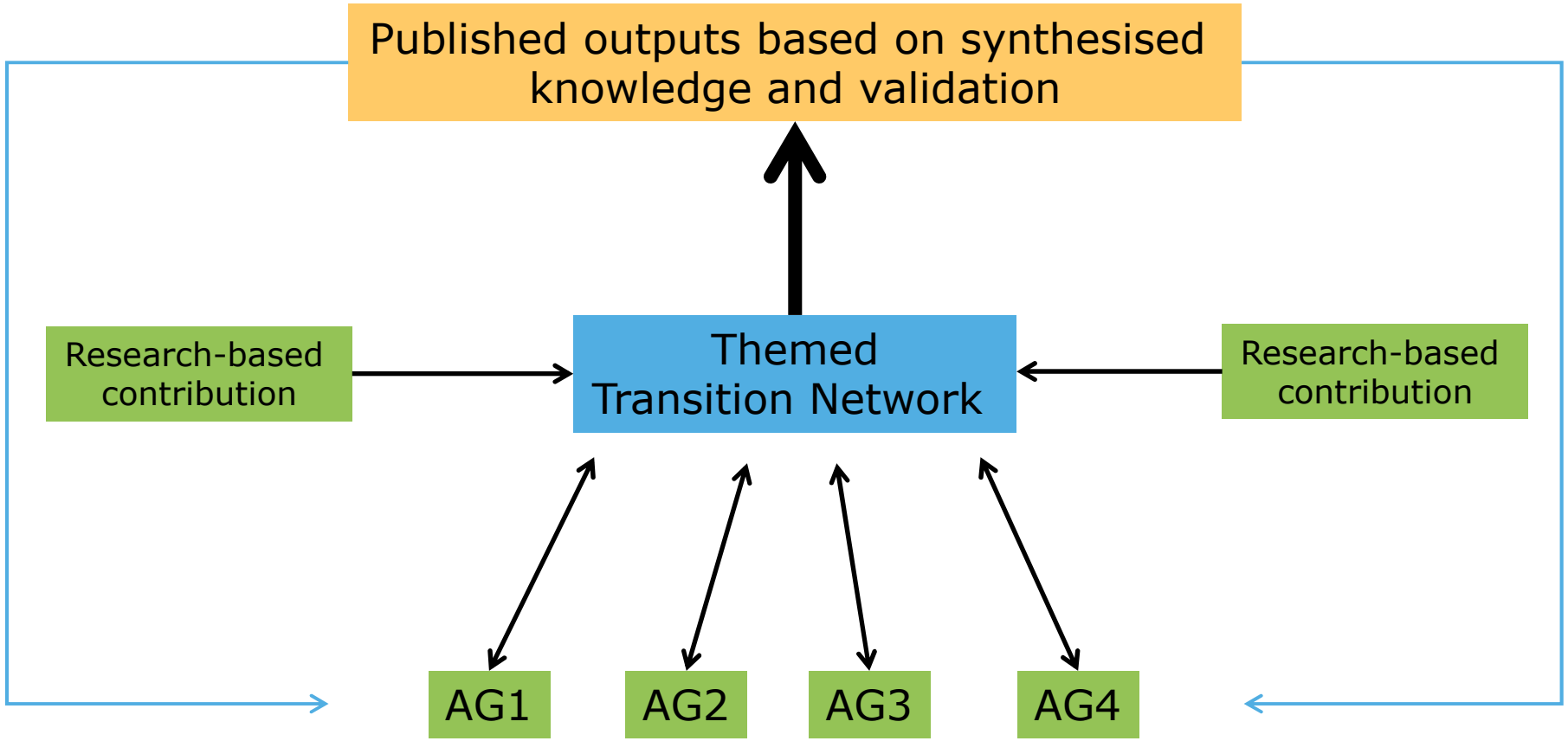
Transition



Geels FW (2011) The multi-level perspective on sustainability transitions: response to seven criticisms. Environn. Innov. Soc Transit 1:24–40

What should happen in these transition networks?



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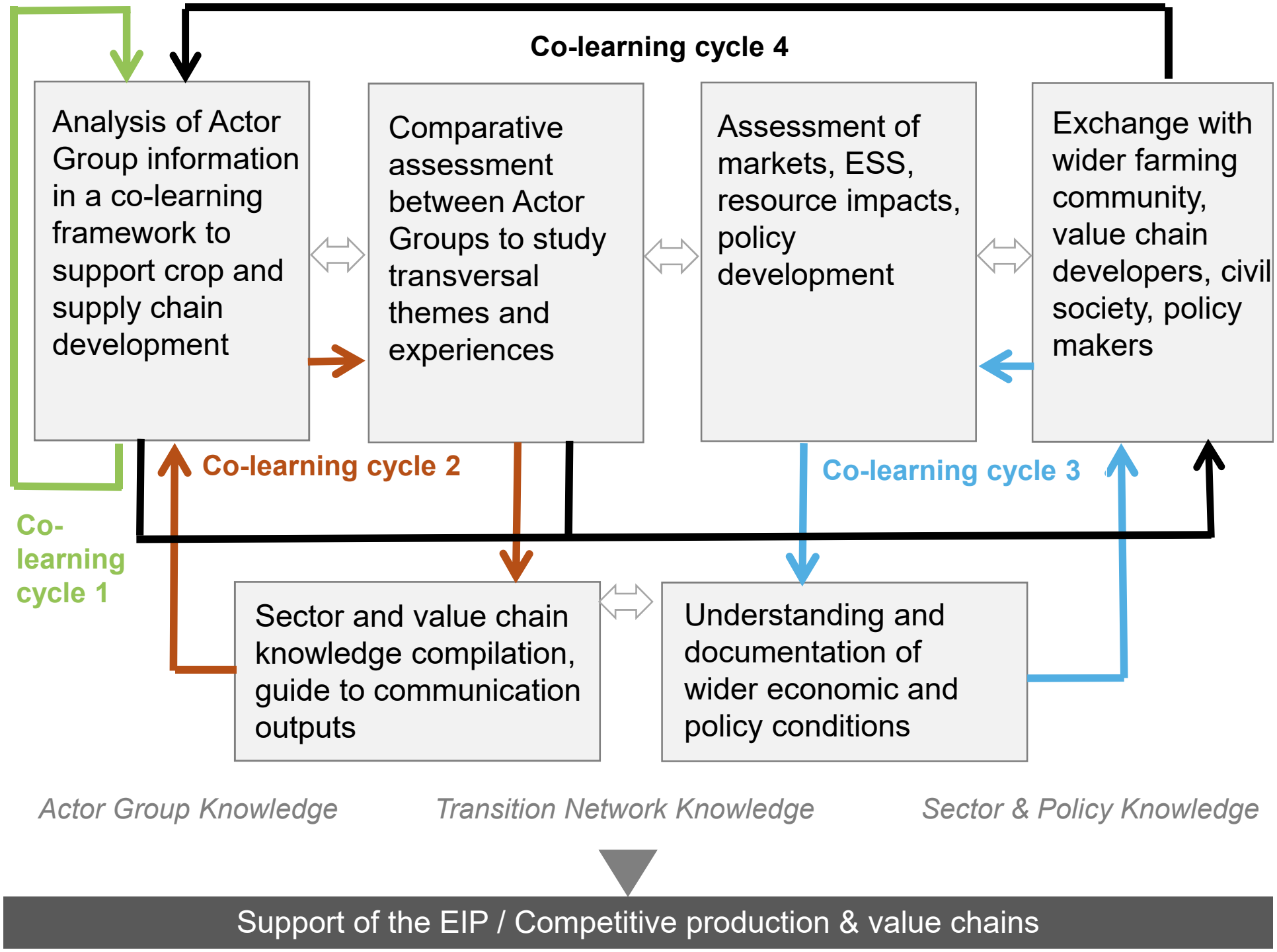
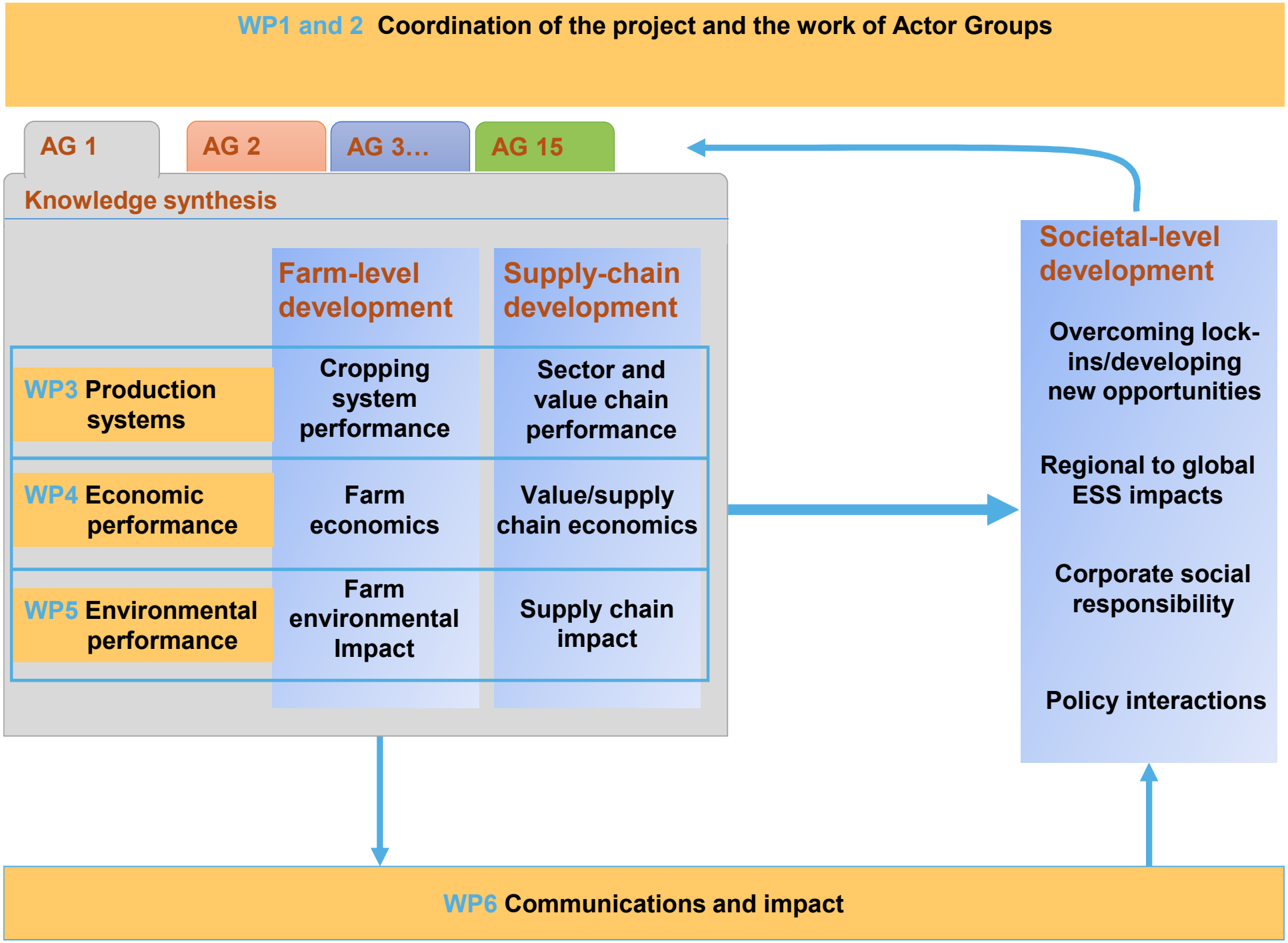
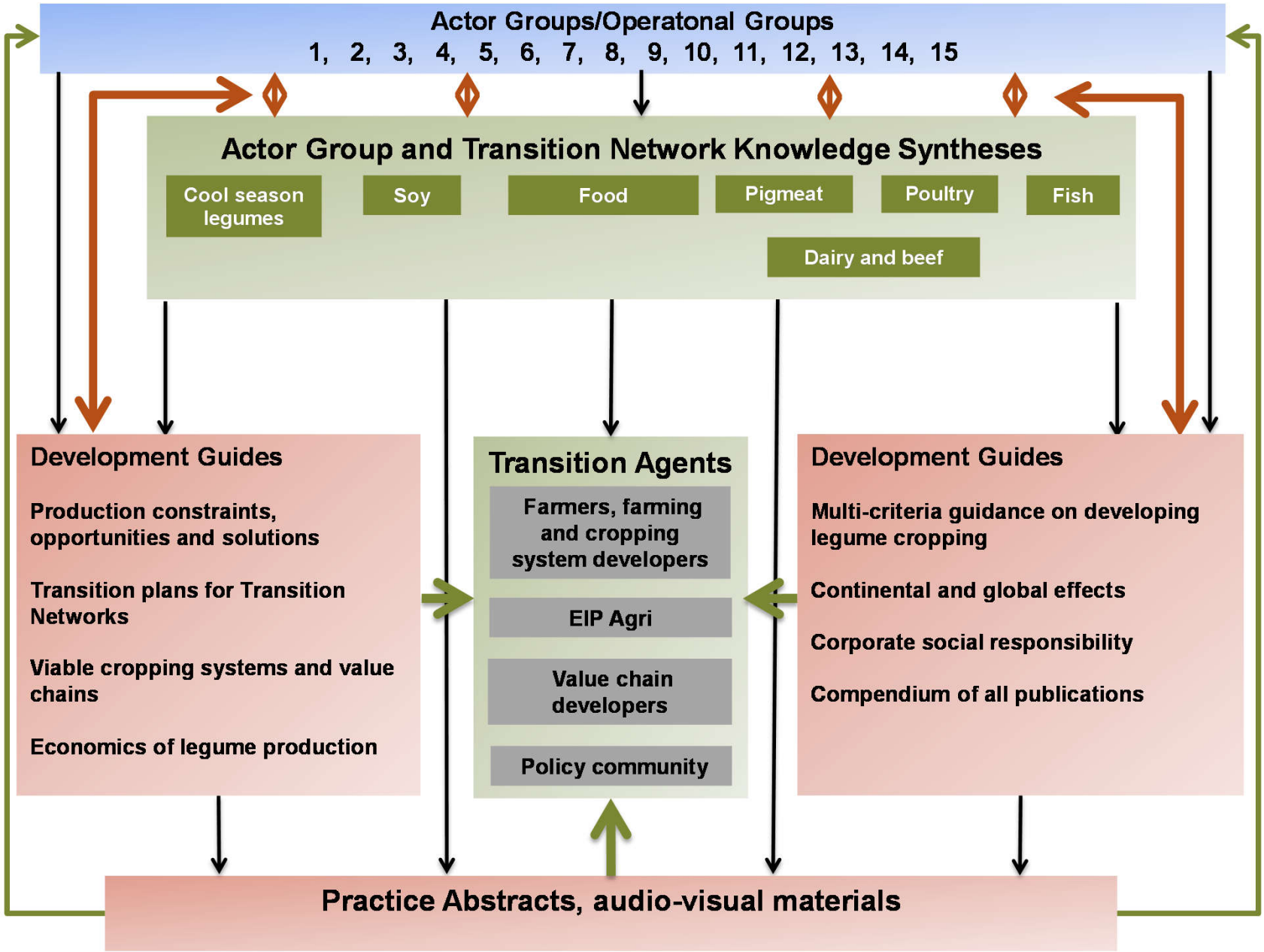
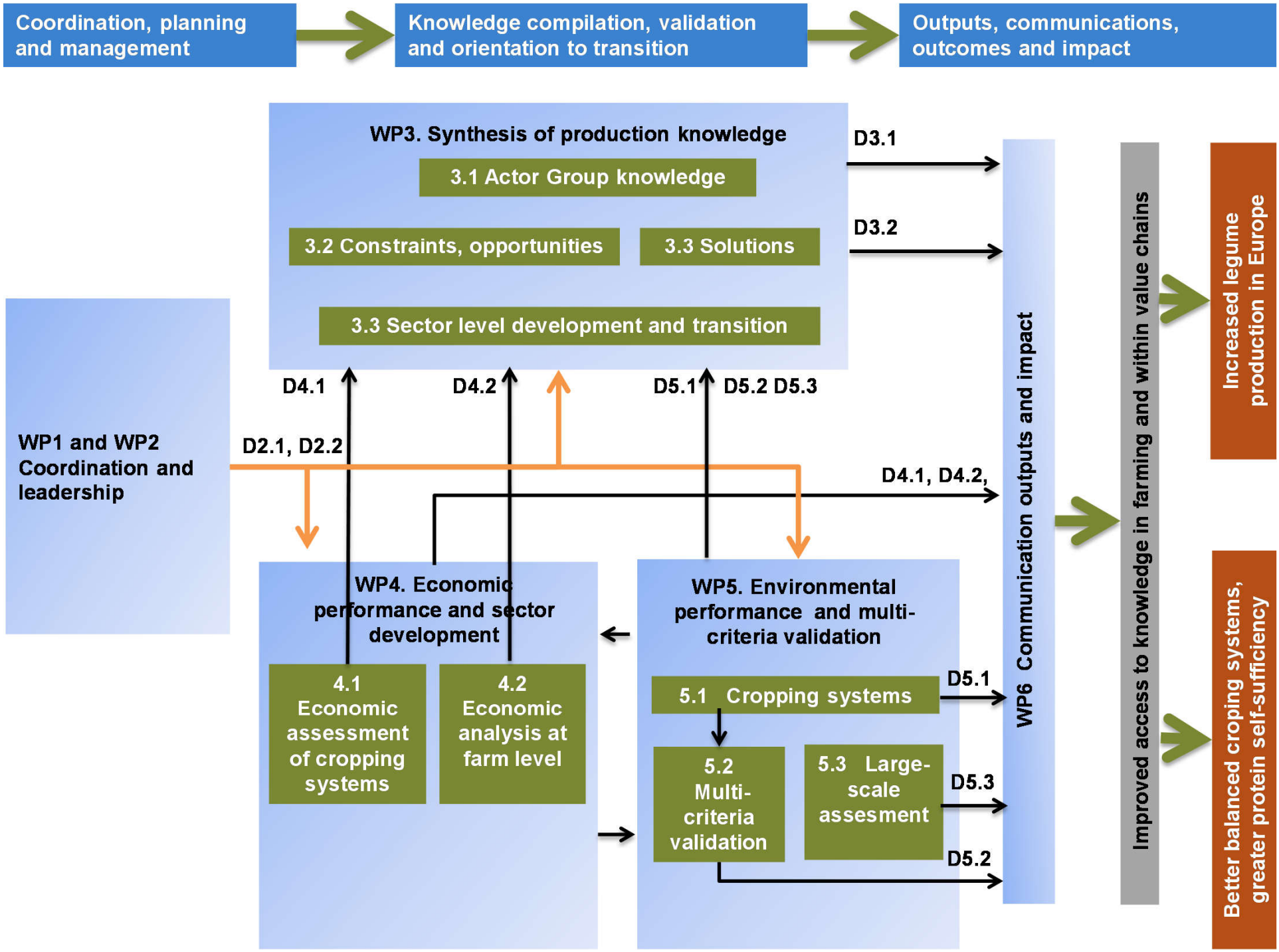

Co-learning cycle 4
Analysis of Actor Group information in a co-learning framework to support crop and supply chain development
Comparative assessment between Actor Groups to study transversal themes and experiences
Assessment of markets, ESS, resource impacts, policy development
Exchange with wider farming community, value chain developers, civil society, policy makers
Co-learning cycle 2
Co-learning cycle 3
Co-learning cycle 1
Sector and value chain knowledge compilation, guide to communication outputs
Understanding and documentation of wider economic and policy conditions
Actor Group Knowledge
Transition Network Knowledge
Sector & Policy Knowledge
Support of the EIP / Competitive production & value chains

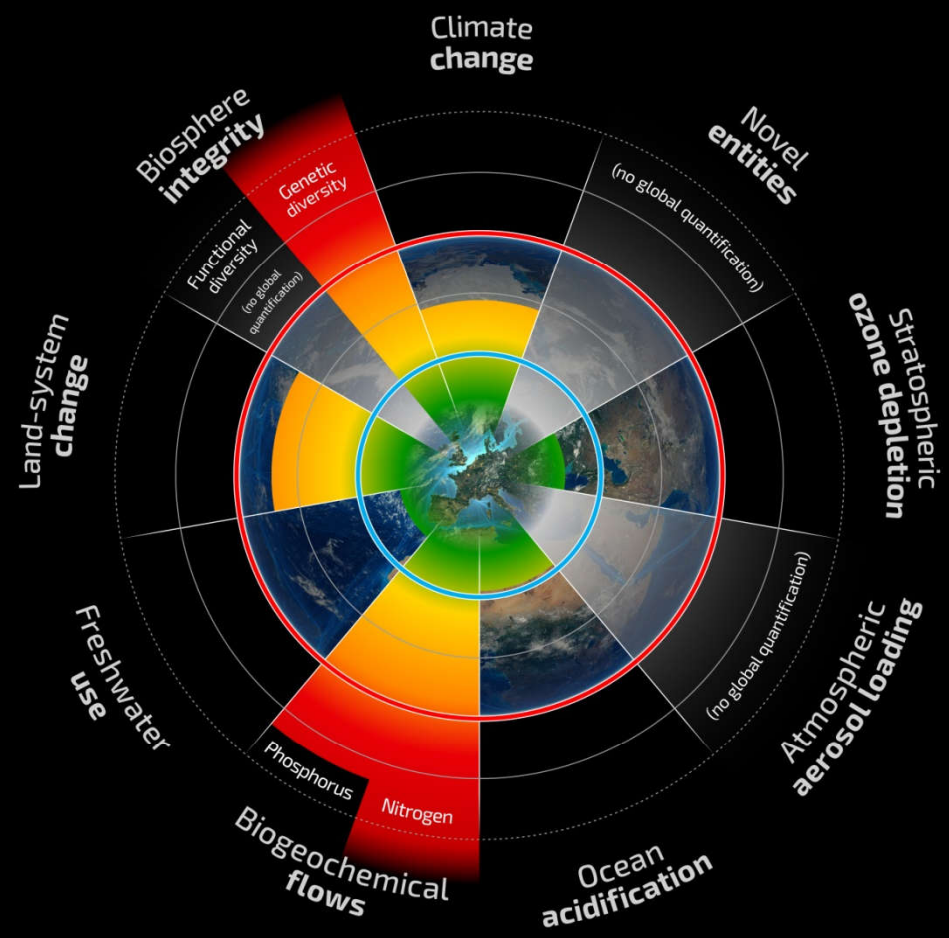

WP1 and 2 Coordination of the project and the work of Actor Groups
AG 1
AG 2
AG 3…
AG 15
Knowledge synthesis
Farm-level development
Supply-chain development
WP3 Production systems
Cropping system performance
Sector and value chain performance
WP4 Economic performance
Farm economics
Value/supply chain economics
WP5 Environmental performance
Farm environmental Impact
Supply chain impact
Societal-level development
Overcoming lock-ins/developing new opportunities
Regional to global ESS impacts
Corporate social responsibility
Policy interactions
WP6 Communications and impact


Actor Groups/Operatonal Groups
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
Actor Group and Transition Network Knowledge Syntheses
Cool season legumes
Soy
Food
Pigmeat
Poultry
Fish
Dairy and beef
Development Guides
Production constraints, opportunities and solutions
Transition plans for Transition Networks
Viable cropping systems and value chains
Economics of legume production
Transition Agents
Farmers, farming and cropping system developers
EIP Agri
Value chain developers
Policy community
Development Guides
Multi-criteria guidance on developing legume cropping
Continental and global effects
Corporate social responsibility
Compendium of all publications
Practice Abstracts, audio-visual materials


Coordination, planning and management
Knowledge compilation, validation and orientation to transition
Outputs, communications, outcomes and impact
WP3. Synthesis of production knowledge
3.1 Actor Group knowledge
3.2 Constraints, opportunities
3.3 Solutions
3.3 Sector level development and transition
D3.1
D3.2
WP1 and WP2 Coordination and leadership
D4.1
D4.2
D5.1
D5.2 D5.3
D2.1, D2.2
D4.1, D4.2,
WP4. Economic performance and sector development
4.1 Economic assessment of cropping systems
4.2 Economic analysis at farm level
WP5. Environmental performance and multi-criteria validation
5.1 Cropping systems
5.2 Multi-criteria validation
5.3 Large-scale assesment
D5.1
D5.3
D5.2
WP6 Communication outputs and impact
Improved access to knowledge in farming and within value chains
Increased legume production in Europe
Better balanced croping systems, greater protein self-sufficiency

Planetary Boundaries

A safe operating space for humanity



- **Beyond zone of uncertainty** (high risk)
- **In zone of uncertainty** (increasing risk)
- **Below boundary** (safe)
- **Boundary not yet quantified**

Source: Steffen et al. Planetary Boundaries: Guiding human development on a changing planet, *Science*, 16 January 2015.
Design: Globaïa

Inoculation of soybean seed

Inoculation for efficient nitrogen fixation

Juergen Recknagel, Landwrtschaftliches Technologiezentrum Augustenberg
Fabian von Beesten and Martin Miersch, Taifun-Tofu GmbH
Leo Rittler and Dragos Dima, Donau Soja

The soybean, like all legume crops, hosts the nitrogen-fixing nodule bacteria. In soy, this is *Bradyrhizobium japonicum* that does not naturally occur in European soils. Careful seed or soil inoculation is required so that the developing plant root is colonised by this bacterium.

Outcome

If properly inoculated, biological nitrogen fixation (BNF) in soy can fully cover the nitrogen fertiliser needs of the crop. Inoculation typically increases the grain yield and the protein concentration by 40 – 60%. This treatment costs about 25 EUR/ha. The return on this investment is therefore very high.

In short

Theme: Crop nutrition

For: All soybean growers

Where: On all farms where soy is grown

Timing: Shortly before sowing

Equipment: Mixing equipment or spray gun

Follow-up: No follow-up action required

Impact: Optimum yield without fertiliser N.

Implementation: care and attention to detail are essential

Seed inoculation: The inoculant is purchased as living strains of rhizobia, either in moist solid or liquid forms. The overall aim is to apply the bacteria to the seed or soil so that it remains viable and can infect the emerging roots. The easiest way is to buy pre-inoculated seed. Relying on this is not recommended because the viability of the inoculant by the time the seed is sown is very variable. The most common approach is the use of contact inoculation of the seed as soon as possible before sowing. Pure peat-based preparations (e.g., HiStick, LegumeFix) can be mixed by hand directly in the seed tank or using a cement mixer. Forced mixing is usually used where a peat-based inoculant has an added polymer adhesive (e.g., Force 48). The adhesive must have enough time to dry on the seed so that the seed does not clump in the seeder.

The seed should be treated gently. Pouring seed between big-bags is a good way of gently mixing the inoculum through the seed. The work involved should not be underestimated. Inoculation by spraying a stream of seed is very efficient, but this can only be used when using liquid preparations (e.g., LiquiFix, Rhizolig, Turbosoy).

Soil inoculation: Inoculation of the soil is practiced in France, usually in combination with contact inoculation of seed. Inoculant granules are applied using a granule applicator on the

About this practice note and Legumes Translated

Publisher: (the lead institution)

Permalink:

This practise note was prepared within the Legumes Translated project. Legumes Translated (Translating knowledge for legume-based farming for feed and food systems) supports access to relevant knowledge from recent research, especially research funded by the European Union (Horizon 2020, Project Grant Number 817634).

Funded by the European Union

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THE DEVELOPMENT OF PLANT PROTEINS
IN THE EUROPEAN UNION
OPPORTUNITIES AND CHALLENGES
P. Hogan
European Commissioner for
Agriculture and Rural
Development
THE DEVELOPMENT OF PLANT PROTEINS
IN THE EUROPEAN UNION
DIE ENTWICKLUNG VON EIWEISSPFLANZEN
IN DER EUROPÄISCHEN UNION
22 & 23 NOVEMBER 2018 - VIENNA/WIEN

Novelty in Legumes Translated

First Thematic Network in this area

First substantial investment in soy-supported cropping

Centre of gravity in central Europe

Strong East-West interaction

First formal network between the networks under the German Protein Crop Strategy

Legumes Translated