

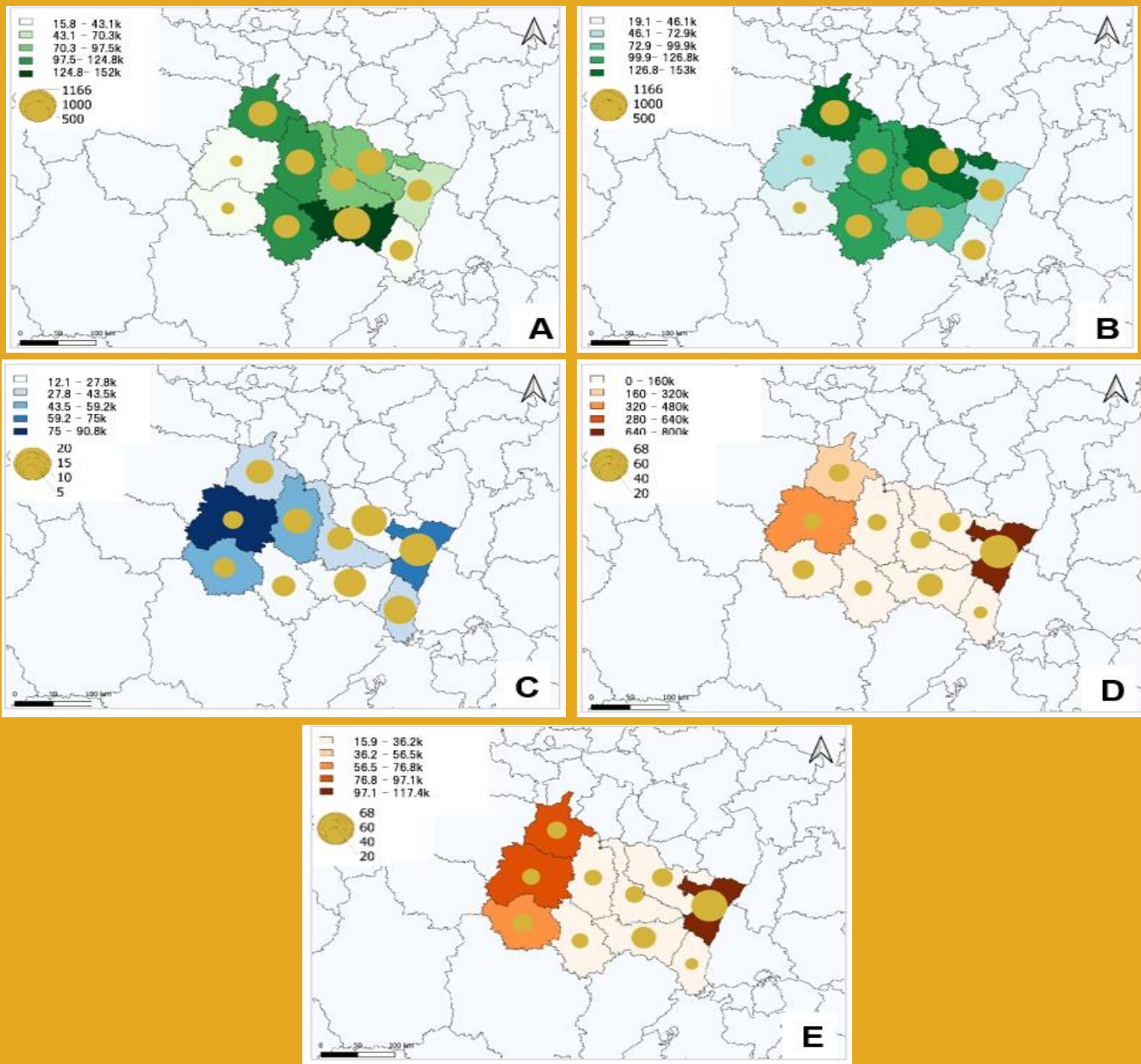


FERTIMANURE

INNOVATIVE NUTRIENT RECOVERY FROM SECONDARY SOURCES – PRODUCTION OF HIGH-ADDED VALUE FERTILISERS FROM ANIMAL MANURE

Grand Est (France) – Region card

Number of animals (census) per animal type (LSU) per county (NUTS-3)



A: Dairy cows, B: beef cattle, C: pigs, D: laying hen, E: broiler chickens. Circles represents the number of farms.

Livestock sectors in France regions are dominated by cattle production in terms of nutrient generation, particularly, Grand Est region where pig and poultry farming are minimal. In Grand Est livestock breeding is mainly integrated in crop-livestock farming systems and nitrogen and phosphorus surplus are low.

Grand-Est also is the leading region for cereals and oilseed crops.

Manure management

Type of treatment	Equipment used	Cost	
Separation phase	Screw press	20 – 40 k€	
	Centrifuge	80 (1.5m ³ /h) – 150 k€ (5 m ³ /h)	
	Drying belt	250k€/year for 1.500 m ³ of raw digestate to be dehydrated € 350k for 3,500 m ³ / year and € 600k for 10.000 m ³ / year.	
Composting	The easiest: Composting at the field (100 T manure)	4.6 €/t including: - Stable emptying, field transport, swath setting 3h30 * 50€ = 175€ - Composting, turning = 150€ (average hourly time needed) - Loading, spreading = 140 € 460 € / 100 T	
		On farm composting platform (only manure from the farm)	Grinder: 100 – 250 k€ Turner: 80 k€ Siever: 100 k€
		Digestion	But using averages costs for on farm anaerobic digestion: For cogeneration: 30-75 kW= 7 – 13 k€/kW and 80-500 kW = 5.3 – 10 k€/kW For injection: 50 – 150 Nm ³ /h = 30 – 50 k€/Nm ³ /h



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