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## **Recycling of Agricultural, Municipal and Industrial Residues in Agriculture**

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## ORGANIC FERTILIZERS : THE FRENCH LEGISLATION FRAMEWORK

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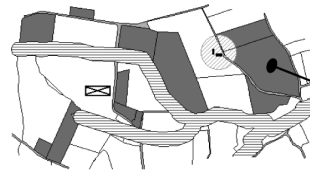
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- In France and from a statutory point of view, organic fertilizers (including manure) may be considered, either as :



products

↳ they must be homologated, following a specific procedure (rural law), or must comply with an appropriate standard (e.g. NF U44-051 for soil improvers). Then, they are freely traded or marketed and used.



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waste

or ↳ both their quality and use are controlled. Particularly, their application must be preceded by a study to assess the ability of soils for spreading ; and each spreading operation is registered (date, quantity used, reference of the field etc.)

- In detail, for "wastes" in particular, the regulations are different according to the type of fertilizer.

But **technical requirements** are globally logical and consistent (or will be soon, regarding soil improvers) :

	Manures or slurries <sup>1</sup> (cows, pigs and poultry)	(Agro-) industrial sludges and wastes <sup>2</sup>	Municipal sewage sludges <sup>3</sup>	Soil improvers <sup>4</sup> (incl. urban composts)
<i>French yearly production × 1000t (dm)</i>	300 000 (40 000)	50 000 (5 000)	5 000 (500)	> <sup>5</sup>
Planning and control	+	++	++	-
Spatial, weather and dose limitations	++	+	+	-
Time limits for some crops	-	+	+	-
Metals in the soils	-	+	+	-
Agronomic quality of the product	-	+	+	++
Metal and organic contaminants	-	+	+	++
Hygienization (pathogens)	-	-	+	++

	Sludges		Soil improvers	
Cd	10	0,015	3	0,015
Cr	1000	1,5	120	0,6
Cu	1000	1,5	300	1
Hg	10	0,015	2	0,01
Ni	200	0,3	60	0,3
Pb	800	1,5	180	0,9
Se		0	12	0,06
Zn	3000	4,5	600	3

Thresholds for metallic contaminants, in concentration (mg/kg dm) and flow (g/m<sup>2</sup> for 10 years) – general case.

- Besides, zonal and transverse measures (mainly, maximum dose of N and seasonal limitations for spreading) apply to the use of all fertilizers at the farm level, especially with the implementation of the " nitrate " European directive in **vulnerable zones**.

<sup>1</sup> Law on classified installations for the protection of the environment, rubrics 2101, 2102 and 2111.

<sup>2</sup> Law on classified installations for the protection of the environment, ministerial order of 2 February 1998.

<sup>3</sup> Law 92-3 on water of 3 January 1992, decree 97-1133 of 8 December 1997 and ministerial order of 8 January 1998.

<sup>4</sup> Rural Law, Book 9, Chapter V, and NF U44-051 standard being revised (current draft, January 2002)

<sup>5</sup> A lot of them are made from agro-industrial waste, for example. MSW composts represent 500 kt/y (about 300 kt dm), plus 600 kt from green waste.

- Finally, since 1999, "big" livestock farmers may have to pay a **tax**, very roughly based on the estimated surplus of their nitrogen balance. In the next years, this tax should be generalized to all "big" farmers, but its total yield should stay rather symbolic (probably less than 10 M€), in the beginning at least.



Vulnerable zones in France