

Desde el Contrato del río: presente y futuro de la cuenca del Matarraña

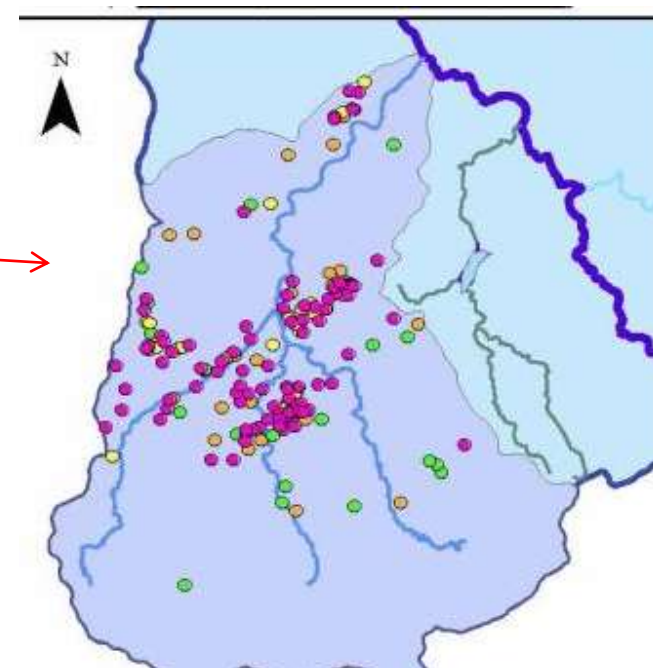
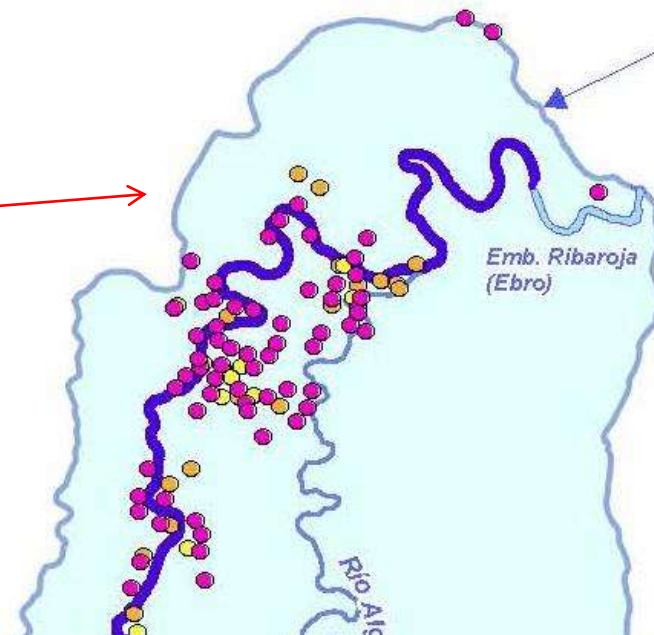
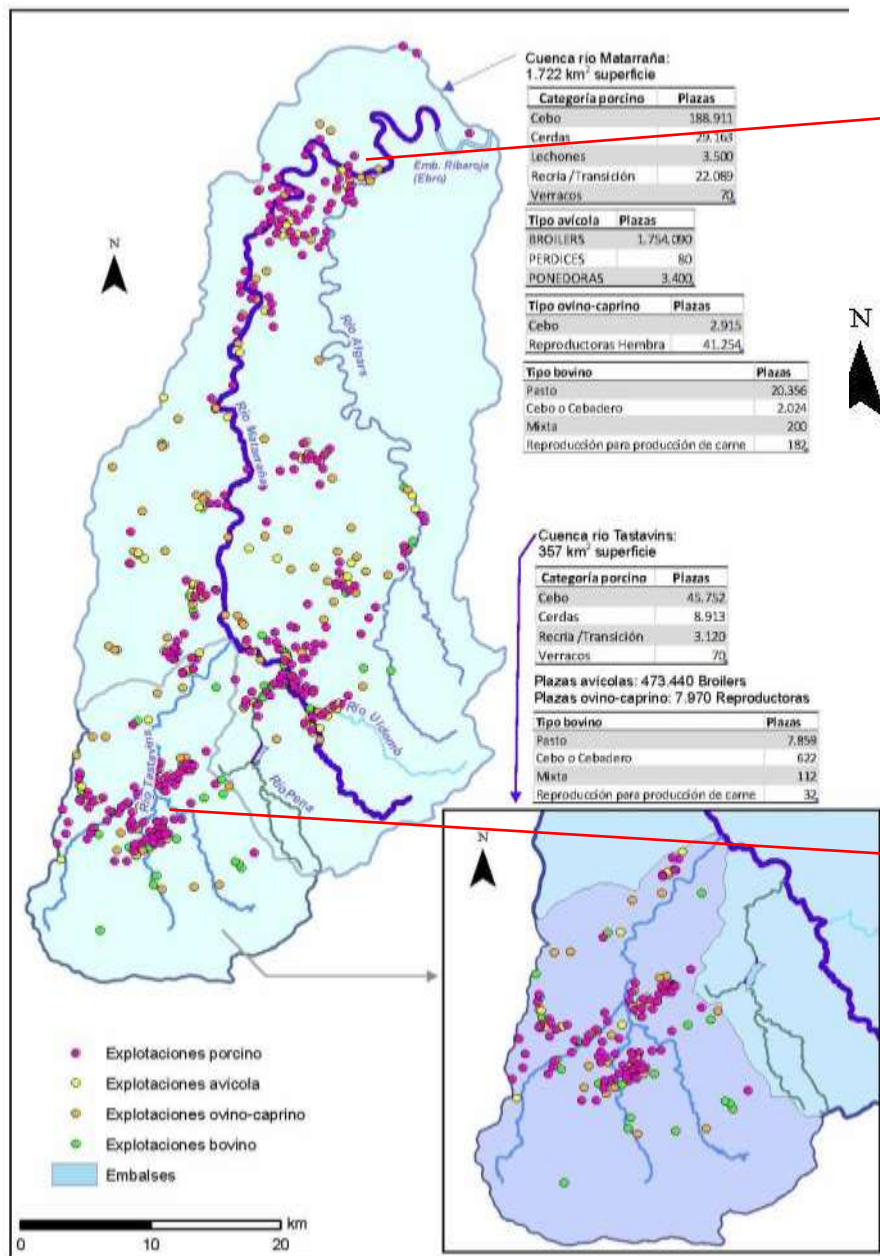
*Valderrobres, 13 de diciembre de 2014
Sede de la Comarca del Matarraña - Avenida Cortes de Aragón Nº7*



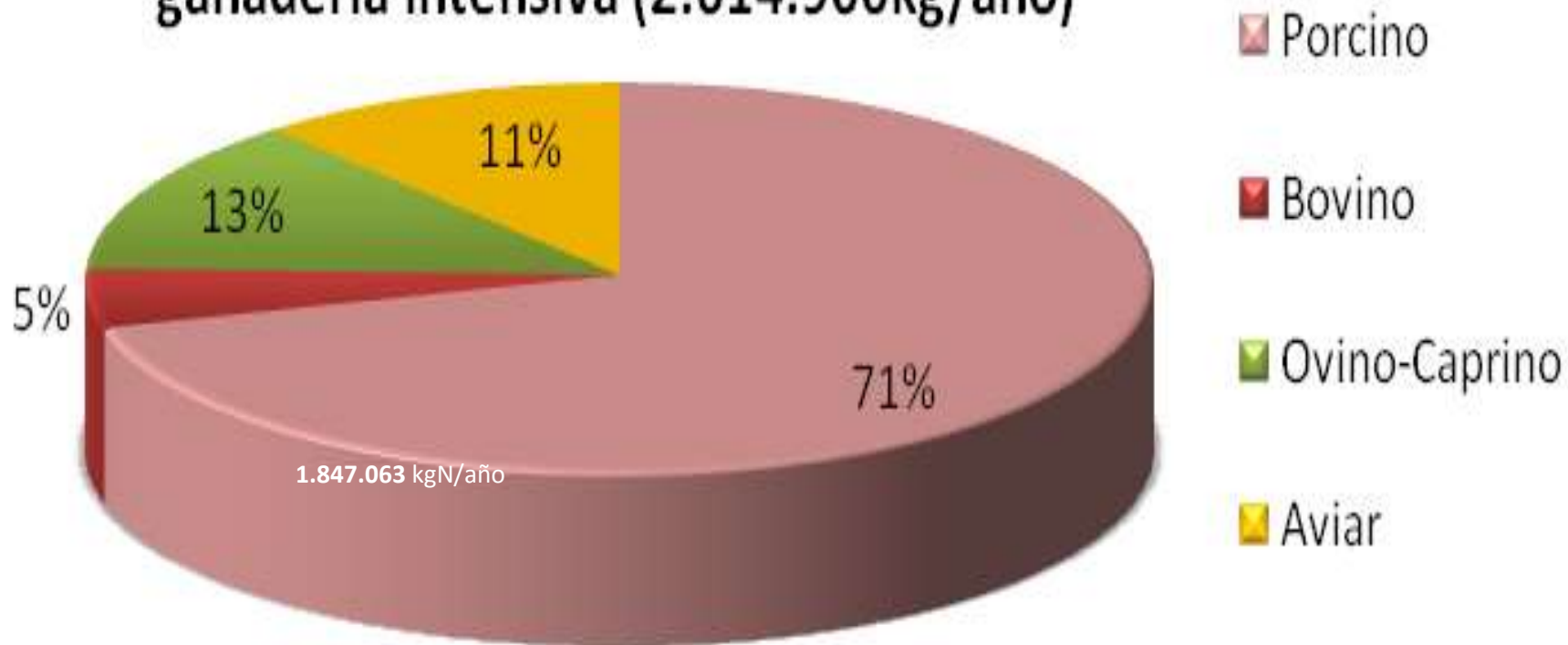
12.00 -12.45 h - Panel: estado de la cuestión de la contaminación por purines

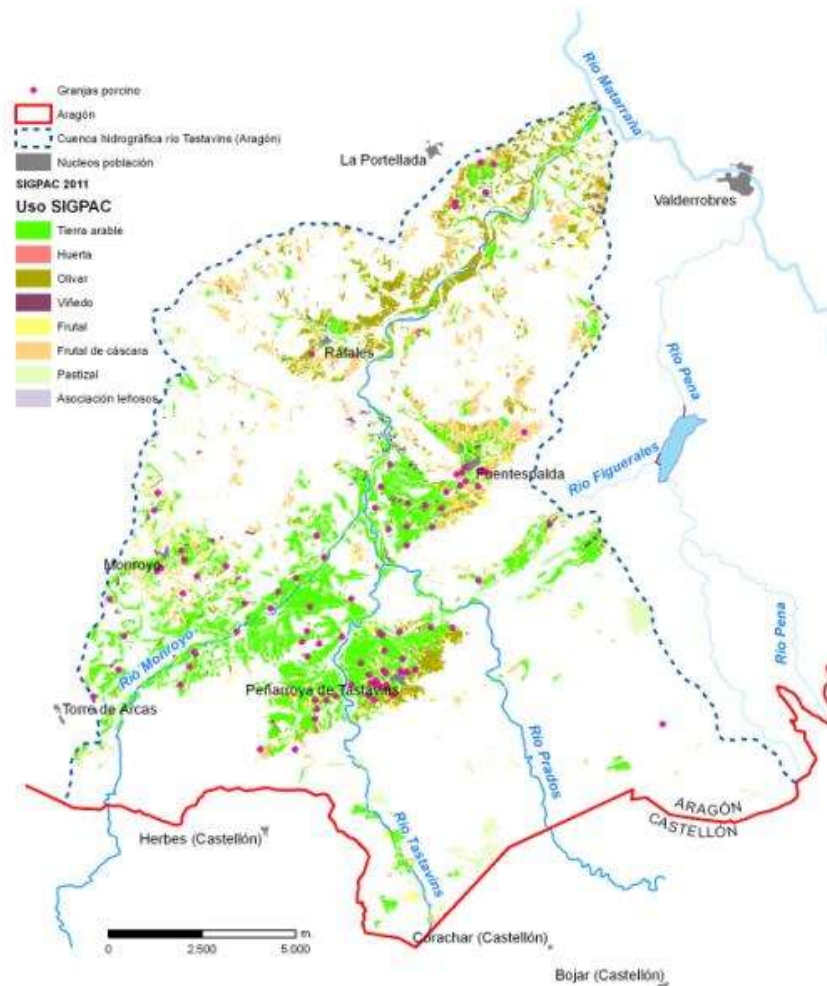
Diagnóstico, Arturo Daudén, experto en proyectos europeos

Presentación proyecto Life "Purimat", Miguel Ángel Gracia, experto en proyectos europeos



Nitrógeno total comarcal procedente de la ganadería intensiva (2.614.900kg/año)

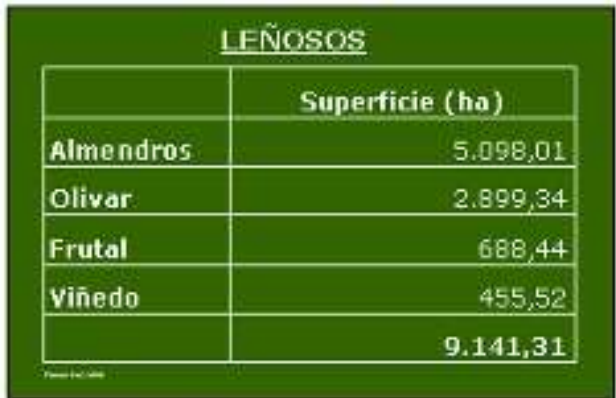




Nitrógeno generado por las explotaciones de porcino ubicadas
 en la parte aragonesa de la cuenca del río Tastavins: 474.624 kg N/año.

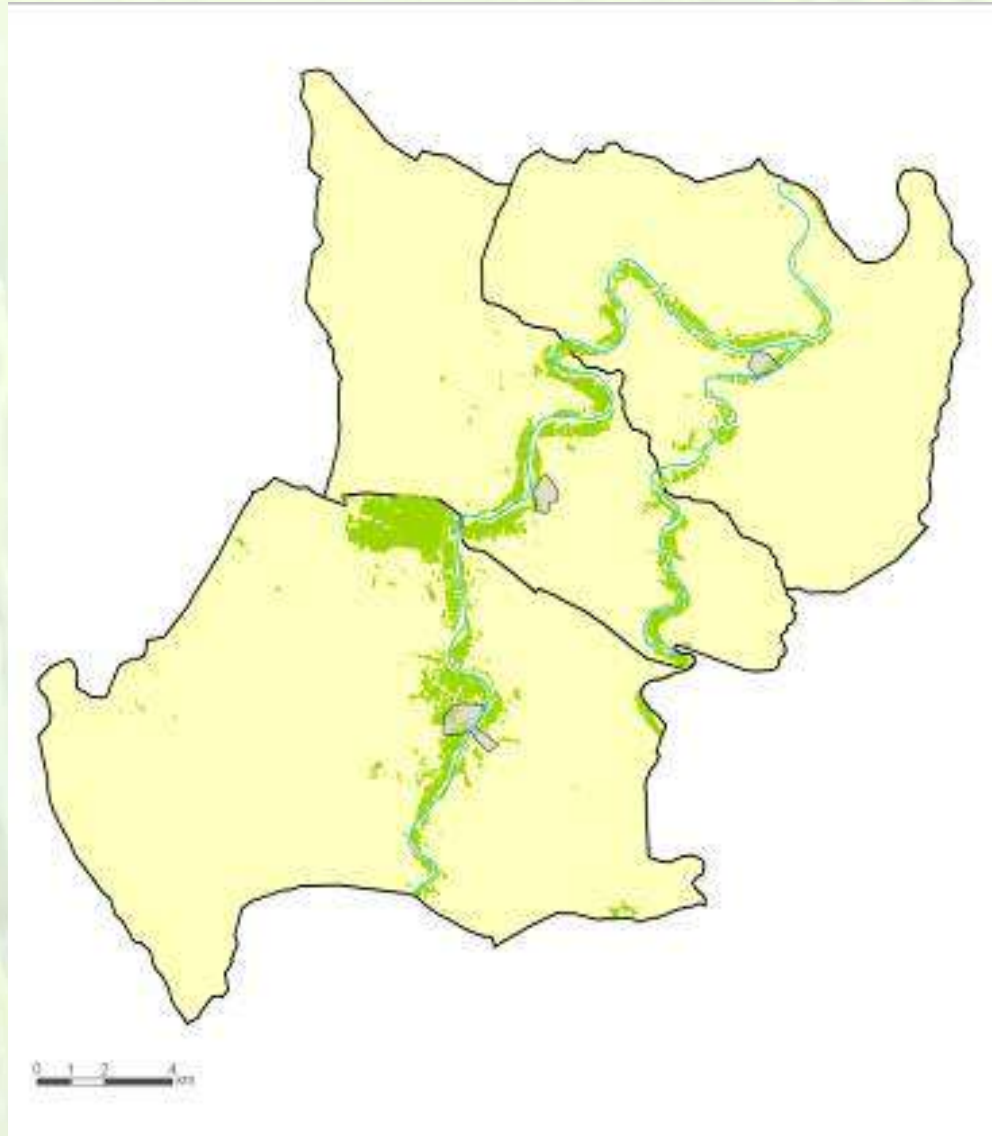
Journal of Management Inquiry 23(4) 399-417

ON

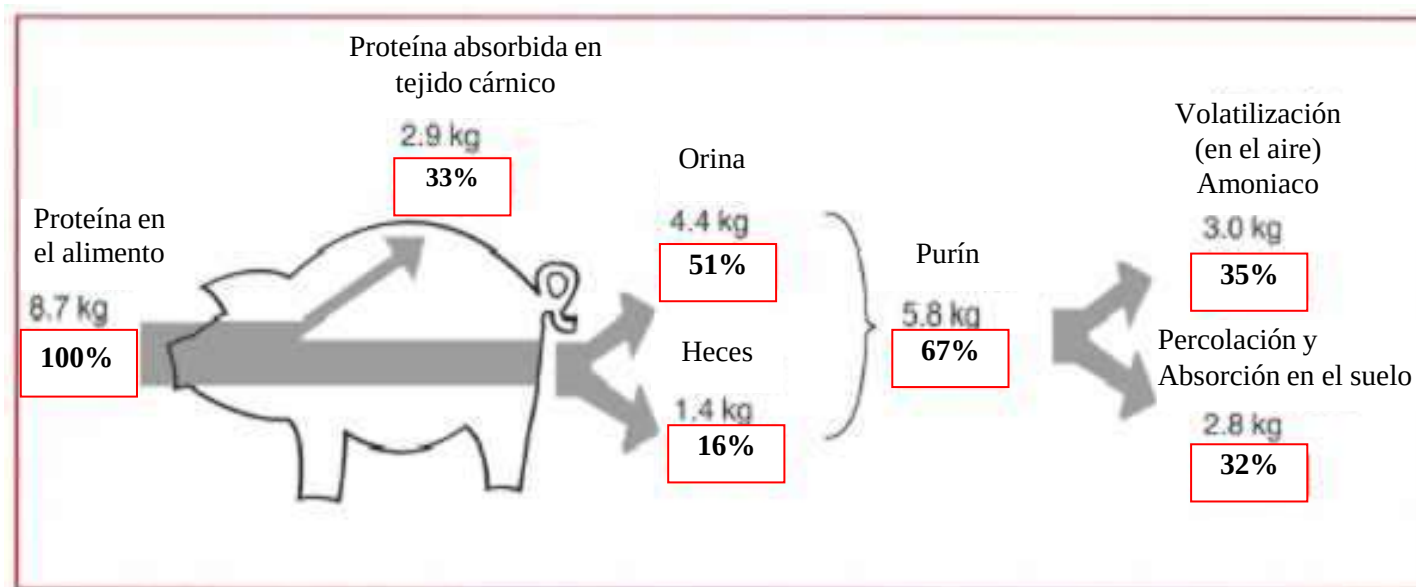


ADS MATARRAÑA

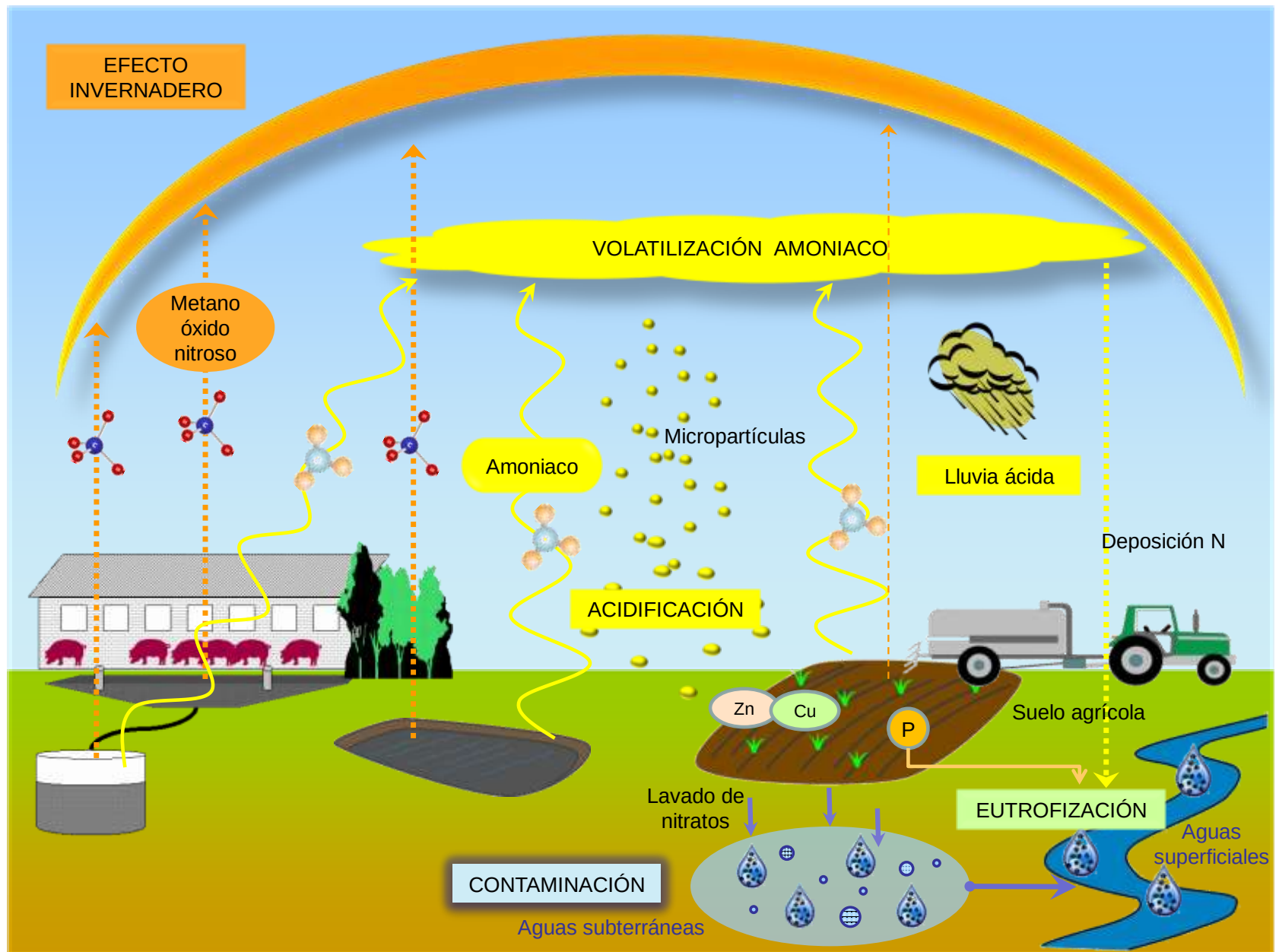
Maella, Fabara y Nonaspe



LA EXCRECIÓN DE NITRÓGENO:



Esquema del aprovechamiento del nitrógeno en el ganado porcino (cerdo con un peso vivo final de 108 kg). (MTD, 2010).



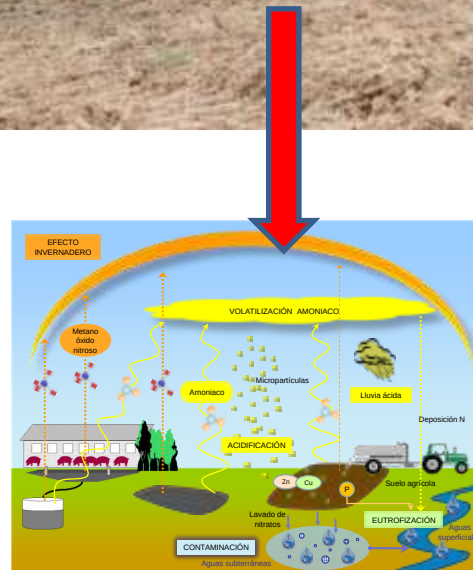
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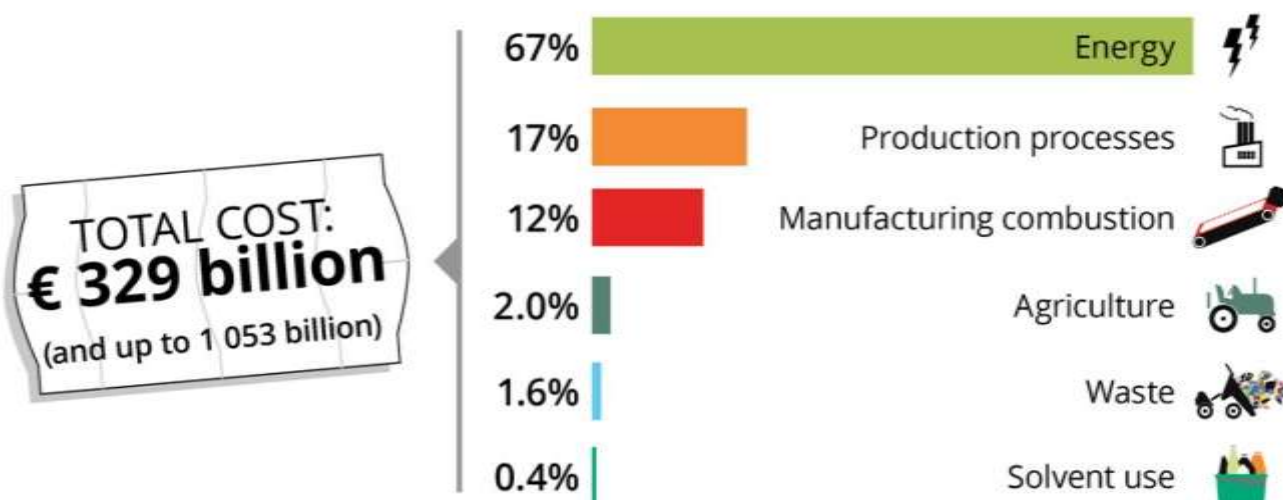
S







Health and environmental costs of air pollution from industrial facilities in Europe Damage costs by industrial sector (2008–2012)



Note 1: Sectors are based on information reported to the European Pollutant Release and Transfer Register (E-PRTR). The E-PRTR Regulation (EU, 2006) requires only those industrial facilities with an activity rate exceeding a defined threshold and emissions exceeding pollutant-specific thresholds to report information to the register. As a result, the E-PRTR's coverage varies significantly across the different pollutants and sectors. The low-high range of damage cost values reflects a) the different approaches used to value health impacts and b) the range of values used to estimate CO₂ related damage costs. **Note 2:** The low-high range of damage cost values reflects a) the different approaches used to value health impacts from air pollution and b) the range of values used to estimate CO₂ related damage costs.

Antibiotic Uptake by Vegetable Crops from Manure-Applied Soils

Dong Hee Kang,^{†,¶} Satish Gupta,^{*,†} Carl Rosen,[‡] Vincent Fritz,^{‡,§} Ashok Singh,^{||} Yogesh Chander,^{||,¶} Helene Murray,[†] and Charlie Rohwer[‡]

[†]Department of Soil, Water, & Climate, University of Minnesota, 1991 Upper Buford Circle, St. Paul, Minnesota 55108, United States

[‡]Southern Research and Outreach Center, University of Minnesota, 35838 120th Street, Waseca, Minnesota 56093, United States

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Supporting Information

ABSTRACT: This study quantified the uptake of five antibiotics (chlortetracycline, monensin, sulfamethazine, tylosin, and virginiamycin) by 11 vegetable crops in two different soils that were fertilized with raw versus composted turkey and hog manures or inorganic fertilizer. Almost all vegetables showed some uptake of antibiotics from manure treatments. However, statistical testing showed that except for a few isolated treatments the concentrations of all antibiotics in vegetable tissues were generally less than the limits of quantification. Further testing of the significant treatments showed that antibiotic concentrations in vegetables from many of these treatments were not significantly different than the corresponding concentrations from the fertilizer treatment (matrix effect). All five antibiotic concentrations in the studied vegetables were $<10 \mu\text{g kg}^{-1}$. On the basis of the standards for maximum residue levels in animal tissues and suggested maximum daily intake based on body weight, this concentration would not pose any health risk unless one is allergic to that particular antibiotic.

KEYWORDS: Organic agriculture, manure, animal agriculture, composting, antibiotics

- chlortetracycline, monensin, sulfamethazine, tylosin, and virginiamycin

Fate and Transport of Antimicrobials and Antimicrobial Resistance Genes in Soil and Runoff Following Land Application of Swine Manure Slurry

Stacey R. Joy,[†] Shannon L. Bartelt-Hunt,[†] Daniel D. Snow,[‡] David B. Parker,^{||,¶} David B. Marx,[⊥] and Xu Li^{*,†}

Research

Bioaccumulation of Pharmaceuticals and Other Anthropogenic Waste Indicators in Earthworms from Agricultural Soil Amended With Biosolid or Swine Manure

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DANA W. KOLPIN,[§]
MARK R. BURKHARDT,[‡]
STEVEN D. ZAUGG,[‡]
STEPHEN L. WERNER,[‡]
JOSEPH P. BOSSIO,[⊥] AND
MARK J. BENOTTI[⊥]

Department of Chemistry, Colorado State University at Pueblo, 2200 Bonforte Blvd, Pueblo, Colorado 81001, National Water Quality Laboratory, U.S. Geological Survey, P.O. Box 25046, Denver Federal Center, Denver, Colorado 80225-0046, U.S. Geological Survey, 400 S. Clinton St. Suite 269, Iowa City, Iowa 52240-4105, Department of Chemistry and Biochemistry, Eastern Washington University, Cheney, Washington 99004, and U.S. Geological Survey, 2045 Route 112, Building 4, Coram, New York 11727

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Testosterone-Mineralizing Culture Enriched from Swine Manure: Characterization of Degradation Pathways and Microbial Community Composition

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[†]Department of Soil and Crop Sciences, [‡]Department of Chemical and Biological Engineering, [§]Department of Microbiology, Immunology, and Pathology, and [⊥]Department of Chemistry, Colorado State University, Fort Collins, Colorado 80523-1170, United States

Supporting Information

ABSTRACT: Environmental releases and fate of steroid sex hormones from livestock and wastewater treatment plants are of increasing regulatory concern. Despite the detection of these hormones in manures, biosolids, and the environment, little attention has been paid to characterization of fecal bacteria capable of hormone degradation. The enrichments of (swine) manure-borne bacteria capable of aerobic testosterone degradation were prepared and the testosterone mineralization pathway was elucidated. Six DNA sequences of bacteria from the Proteobacteria phylum distributed among the genera *Acinetobacter*, *Brevundimonas*, *Comamonas*, *Sphingomonas*, *Stenotrophomonas*, and *Rhodobacter* were identified in a testosterone-degrading enriched culture with testosterone as the sole carbon source. Three degradation products of testosterone were identified as androstenedione, androstadienedione, and dehydrotestosterone using commercially available reference standards, liquid chromatography-UV diode array detection, and liquid chromatography-time-of-flight mass spectrometry (LC-TOF/MS). Three additional degradation products of testosterone were tentatively identified as 9 α -hydroxytestosterone, 9 α -hydroxyandrostadienedione or 3-hydroxy-9,10-secodrostadiene-1,3,5(10)-triene-9,17-dione, and 9 α -hydroxydehydrotestosterone or 9 α -hydroxyandrostenedione using LC-TOF/MS. When ¹⁴C-testosterone was introduced to the enriched culture, 49–68% of the added ¹⁴C-testosterone was mineralized to ¹⁴CO₂ within 8 days of incubation. The mineralization of ¹⁴C-testosterone followed pseudo-first-order reaction kinetics in the enriched culture with half-lives (*t*_{1/2}) of 10–143 h. This work suggests that Proteobacteria play an important environmental role in degradation of steroid sex hormones and that androgens have the potential to be mineralized during aerobic manure treatment or after land application to agricultural fields by manure-borne bacteria.



Entonces.... ¿Qué hacemos?



Foto: Christian Ziegler.







Decreto/2014, de de por el que se regula la **gestión de estiércoles** y residuos generados en las explotaciones ganaderas, y los procedimientos de acreditación y **control coordinado** de materia **orgánica fertilizante**

Núm. 241

Boletín Oficial de Aragón

10/12/2014



LEY 11/2014, de 4 de **diciembre, de Prevención y Protección Ambiental de Aragón.**

En nombre del Rey y como Presidenta de la Comunidad Autónoma de Aragón, promulgo la presente Ley, aprobada por las Cortes de Aragón y ordeno se publique en el "Boletín Oficial de Aragón", y en el "Boletín Oficial del Estado", todo ello de conformidad con lo dispuesto en el artículo 45 del Estatuto de Autonomía de Aragón.

ÍNDICE

PREÁMBULO

Núm. 241

Boletín Oficial de Aragón

10/12/2014



I. Disposiciones Generales

PRESIDENCIA DEL GOBIERNO DE ARAGÓN

LEY 10/2014, de 27 de **noviembre, de Aguas y Ríos de Aragón.**

En nombre del Rey y como Presidenta de la Comunidad Autónoma de Aragón, promulgo la presente Ley, aprobada por las Cortes de Aragón y ordeno se publique en el "Boletín Oficial de Aragón", y en el "Boletín Oficial del Estado", todo ello de conformidad con lo dispuesto en el artículo 45 del Estatuto de Autonomía de Aragón.

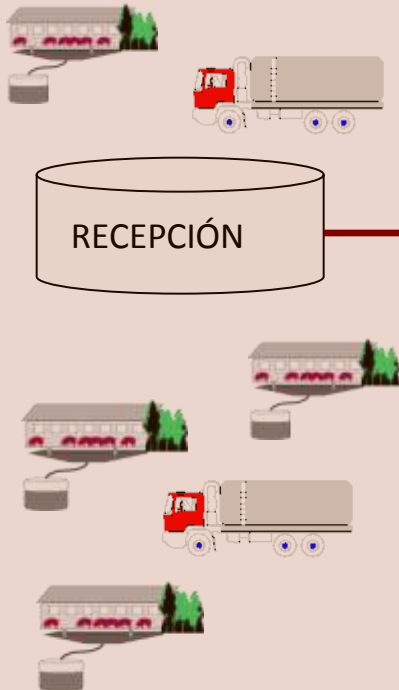




ESQUEMA PLANTA BIOGÁS

-► Biogas
- Purín
-► Fangos
- Clarificado
- Productos

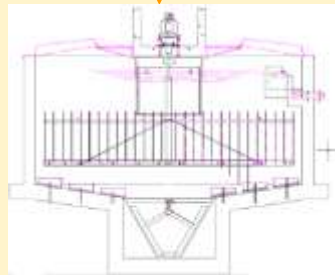
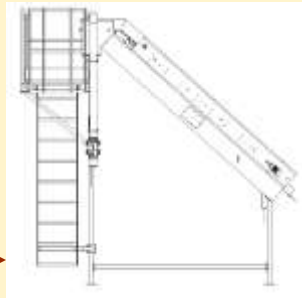
RECEPCIÓN DEL PURÍN



COSUSTRATOS



TAMIZADO Y ESPESAMIENTO



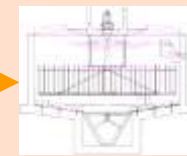
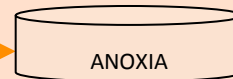
PRODUCCIÓN DE ENERGÍA



DIGESTIÓN ANAEROBIA



TRATAMIENTO BIOLÓGICO N/DN



PRODUCTOS

CALOR +
ELECTRICIDAD

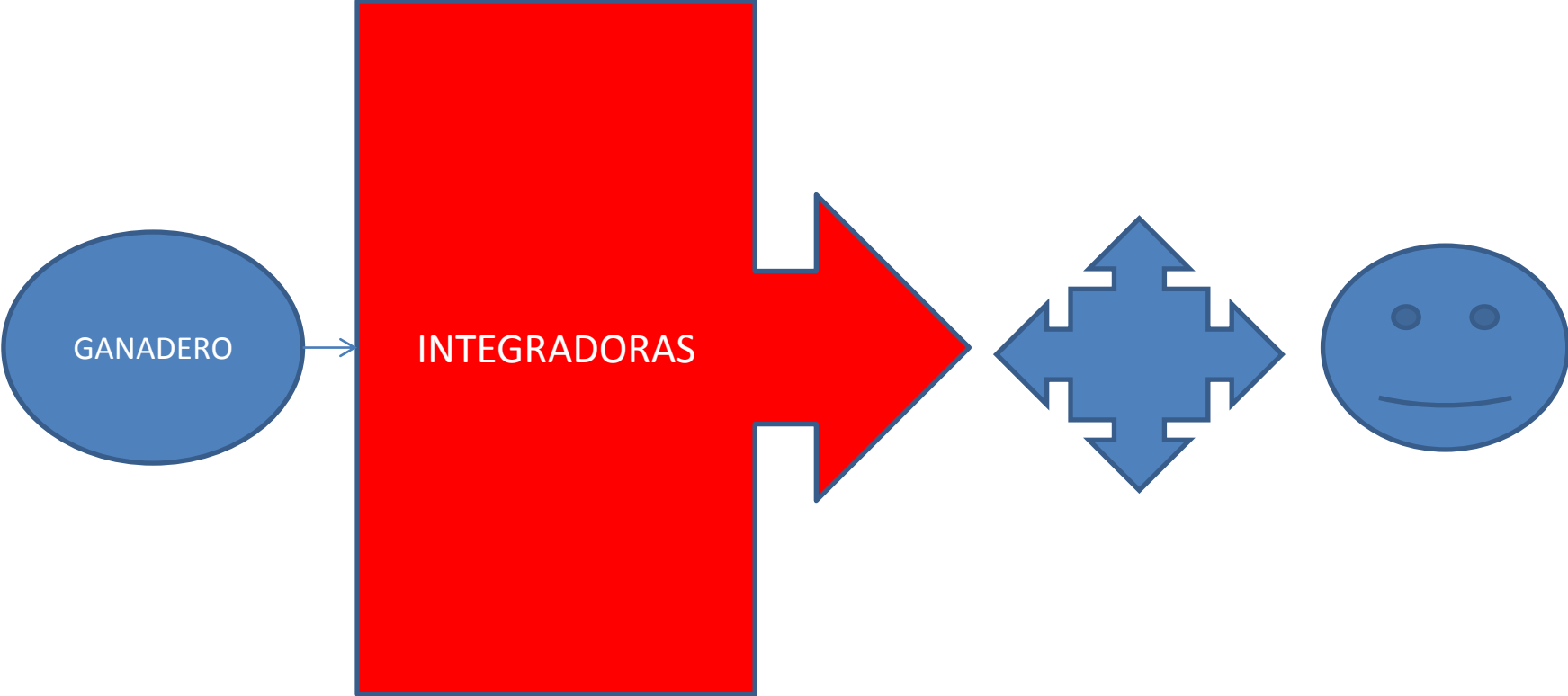


FRACCIÓN SÓLIDA
Compostaje



FRACCIÓN LÍQUIDA
Fertirrigación

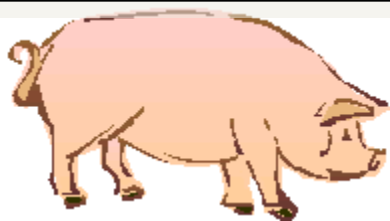




INCIDENCIA EN LAS DISTINTAS FASES DE LA MEJORA DE LA GESTIÓN DEL PURÍN.

Suponiendo un incremento del coste en la gestión del purín de **3 €/m³**

Un cerdo Pesa 100 kg
En su ciclo vital produce
1 m³ de purín
Costes de producción 1,2 €/kg
Coste total: **120 €**
El ganadero **integrado** recibe:
11.5 €/ cerdo engordado
14 € /lechón 20 kg producido



Incram. Costes producción:
 $3 \text{ €} / 120 \times 100 = \mathbf{2.5\%}$

La canal de un cerdo
pesa 80 kg
El precio vp medio es
6 €/kg
Un cerdo vale:
 $80 \times 6 = \mathbf{480 \text{ €}}$



Incram. Costes Canal
 $3 \text{ €} / 480 \times 100 = \mathbf{0.62\%}$
Precio: 6.04 €
Incram. de 3.75 ct €



4.90 €/kg



8.50 €/kg



15 €/kg

Incremento del Precio por kg

4.93 €/kg

3 c€/kg

8.55€/kg

5 c€/kg

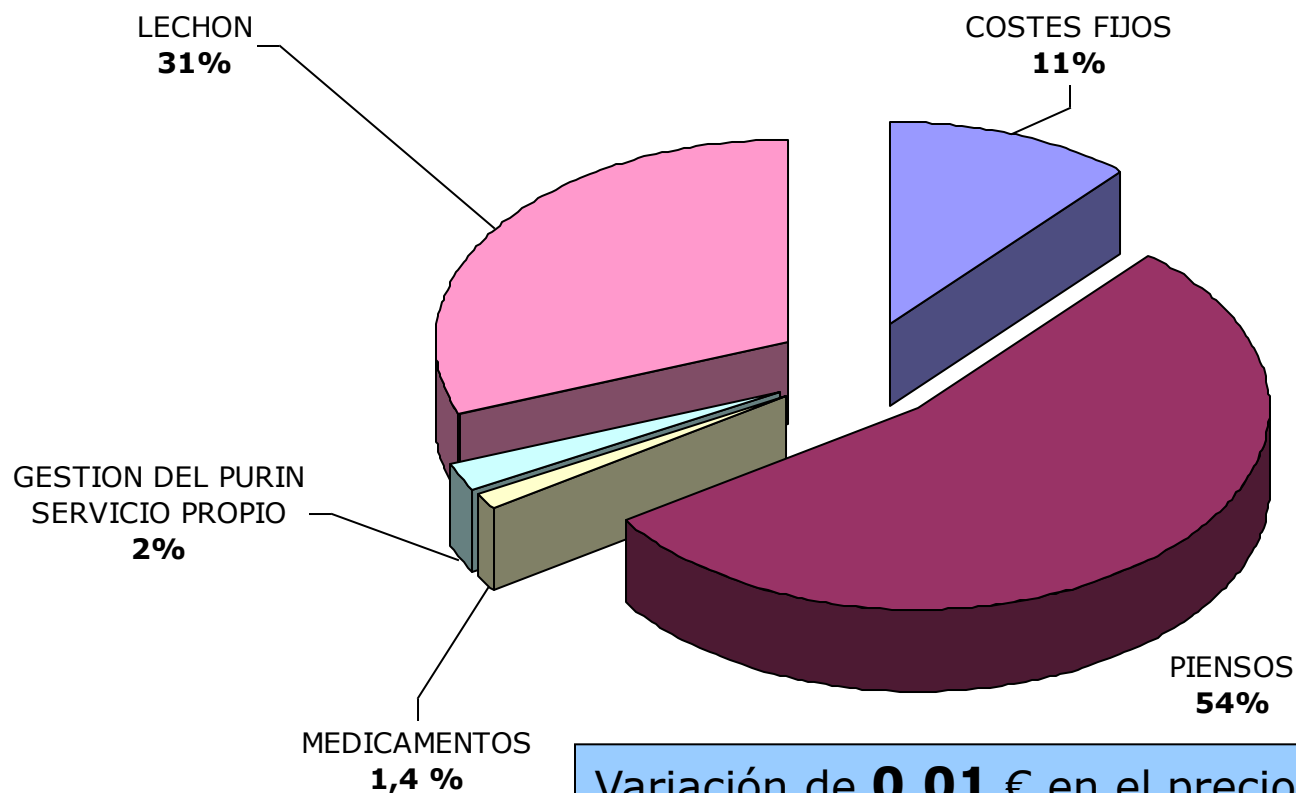
15.09 €/kg

9 c€/kg

Producción integrada: el incremento del coste de la correcta gestión representa, respecto al pago que recibe el ganadero:

- Cebadero: **13% aprox.**
- Producción de lechones: **7% aprox.**

COSTES POR CERDO PARA EXPLOTACIÓN DE CEBO TRADICIONAL NO INTEGRADA

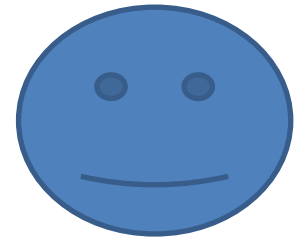
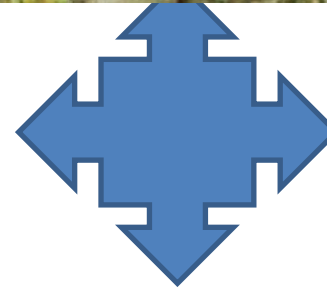


Variación de **0,01 €** en el precio del pienso →
Variación de **2,53 €/coste por cerdo**

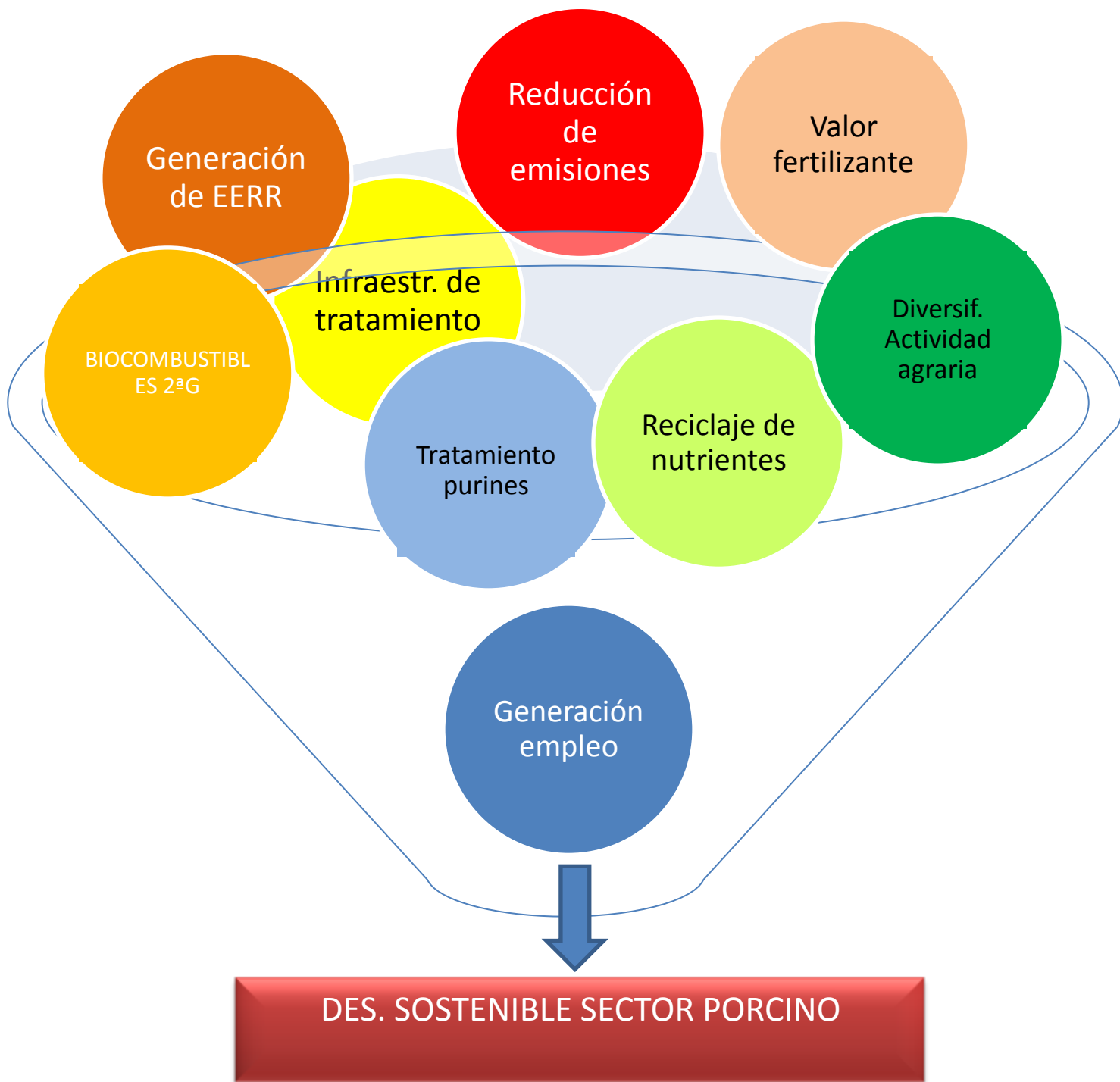
Coste pienso considerado: **0,30 €/Kg**

Fuente: www.3tres3.com

La reducción en un 50% del pienso desperdiciado
equivale a → una reducción **2,4 €/coste por cerdo**



Valoración económica





Muchas gracias !!!!

Arturo Daudén