Dmf: Innovative technology for the extraction of olive oil with higher quality and a side product with new opportunities

Athens, 4/12/2017

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3 phase technology

Clear Water
800 l/ton

OLIVES

Black water
1.000 l/ton
POLLUTION

OLIVE OIL

HUSK
Humidity 50÷55%

Kernel Oil ← HUSK FACTORY → Biomass

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2 phase technology

Clear Water
0 l/ton

Olives

Black water 0 l/ton
Ø POLLUTION

OLIVE OIL
+3% more than
3phase

2 phase husk
Humidity 65÷70%
Almost NOT acceptable
to the husk factories

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The DMF innovative technology by Pieralisi, offers a revolutionary process for the extraction of olive oil, regarding quality, efficiency and environmental sustainability.

DMF = decanter multi phase

Olive Oil

Olive Patè

Husk

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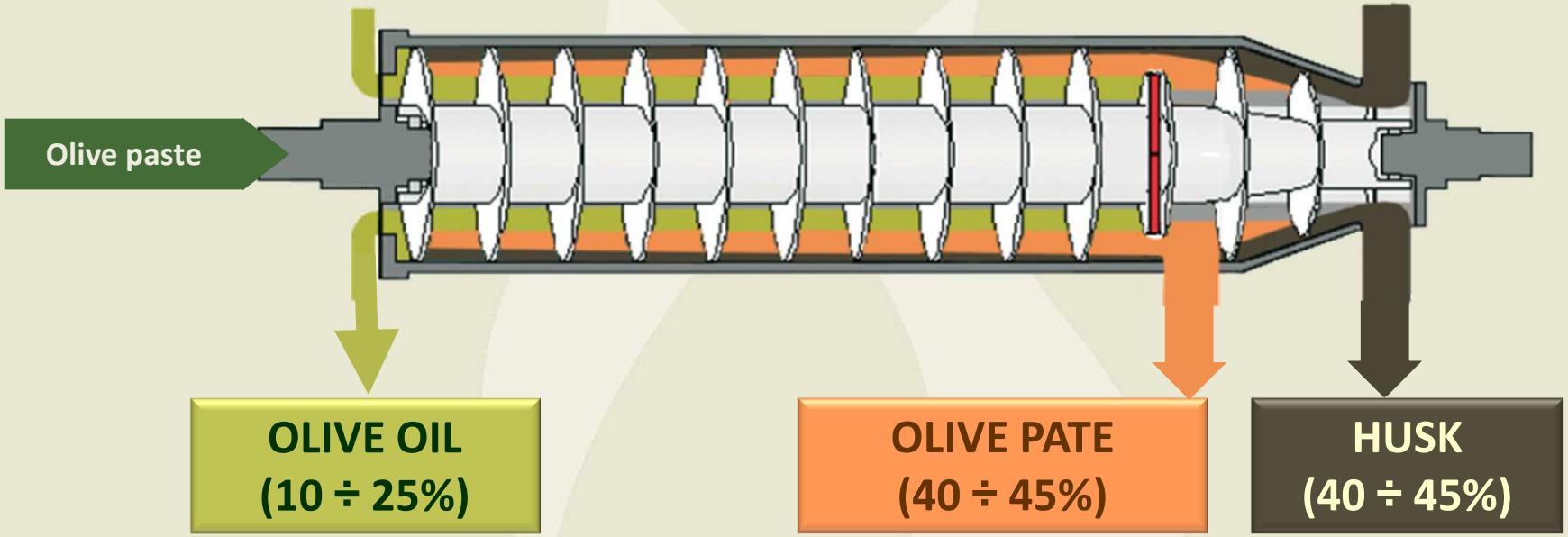
DECANTER PIERALISI DMF : process



INPUT : 2 phase technology - only olives and no potable water

OUTPUT : almost 3 phase technology – olive oil, husk like 3 phase and olive PATE

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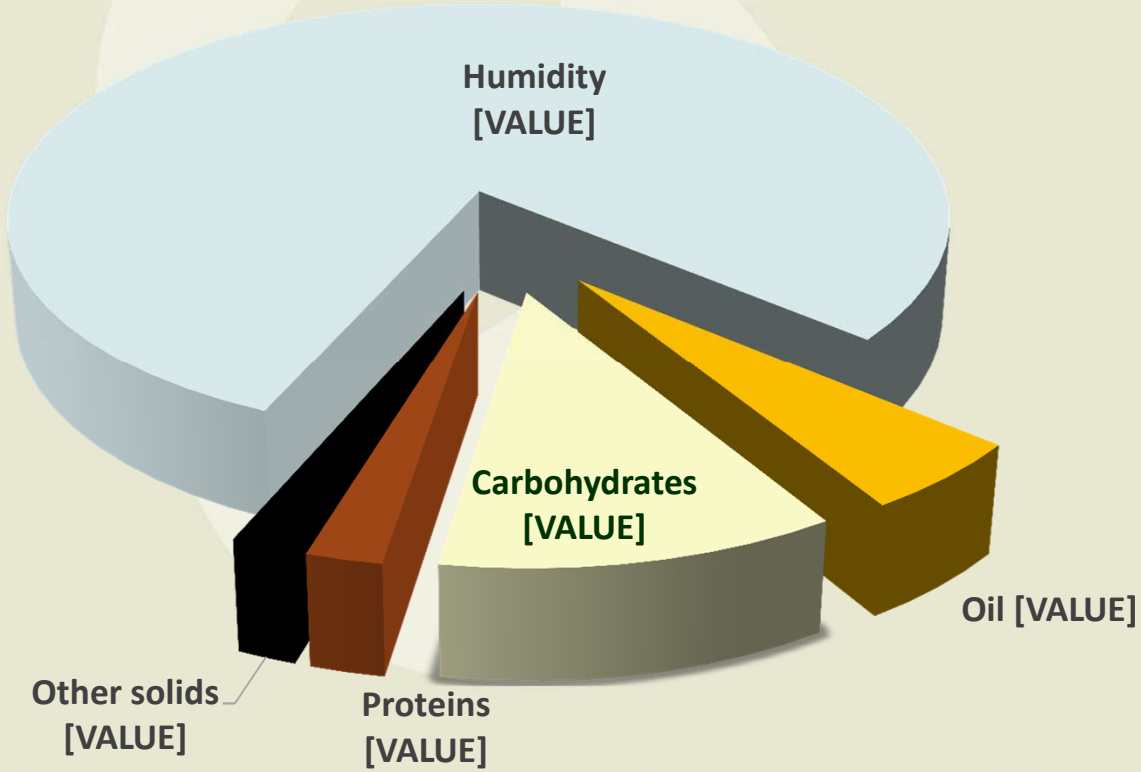
OLIVE OIL PATE

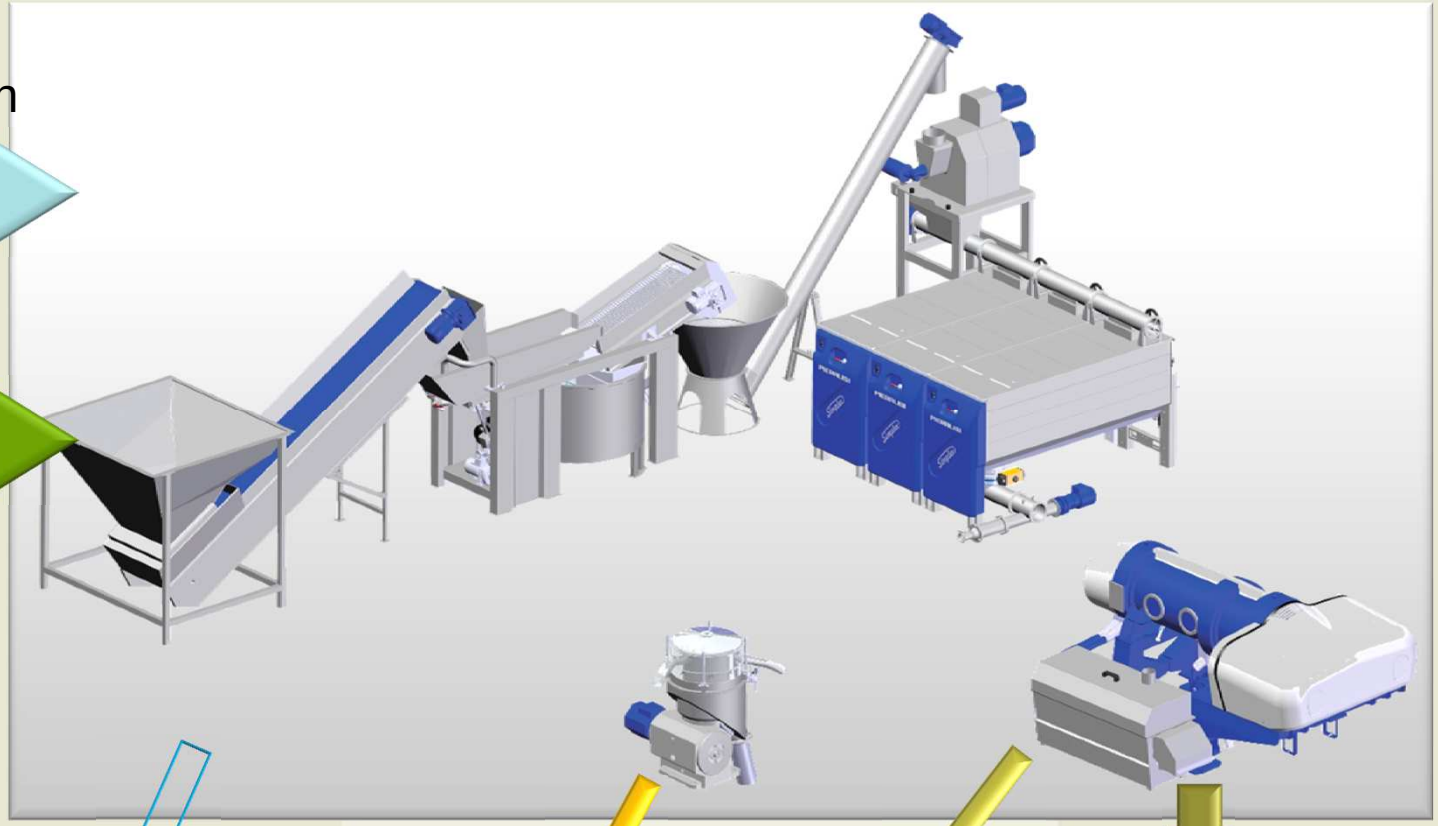
PATE is produced directly from the decanter and consists of **the olive "flesh" the olive skin but without any wooden part (kernel)**.



DMF LEOPARD

Water 0 l/ton

Olives



Black water 0 l/ton
Ø POLLUTION

OLIVE OIL
+3% more than
3phase

OLIVE PATE

HUSK
Humidity 50÷55%

Kernel Oil ← HUSK FACTORY → Biomass

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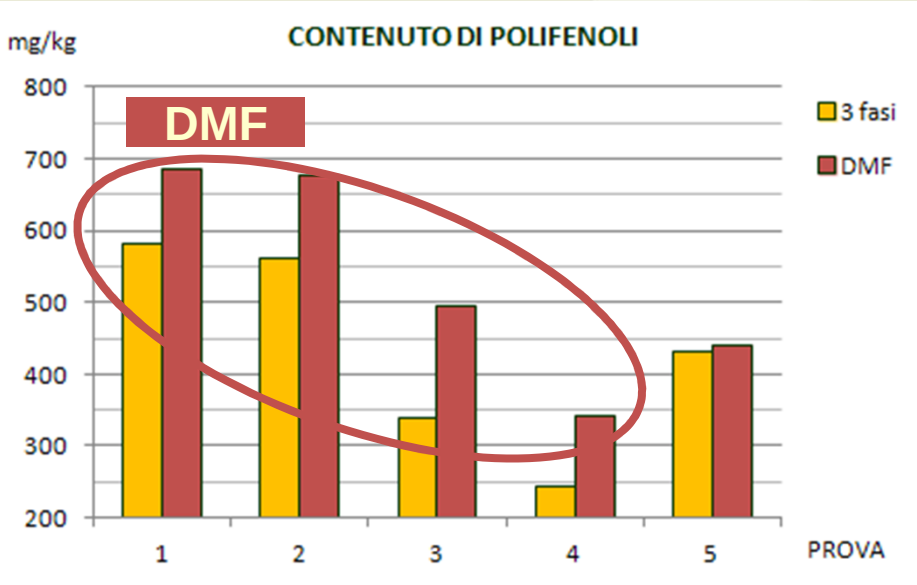
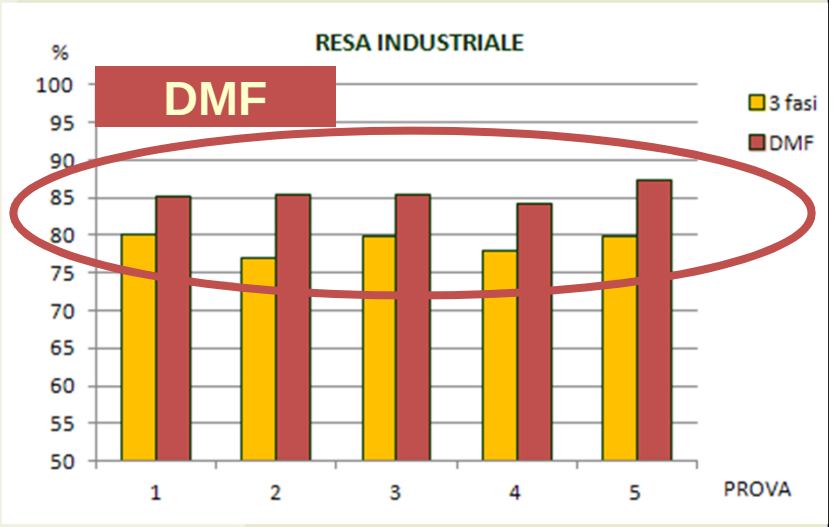
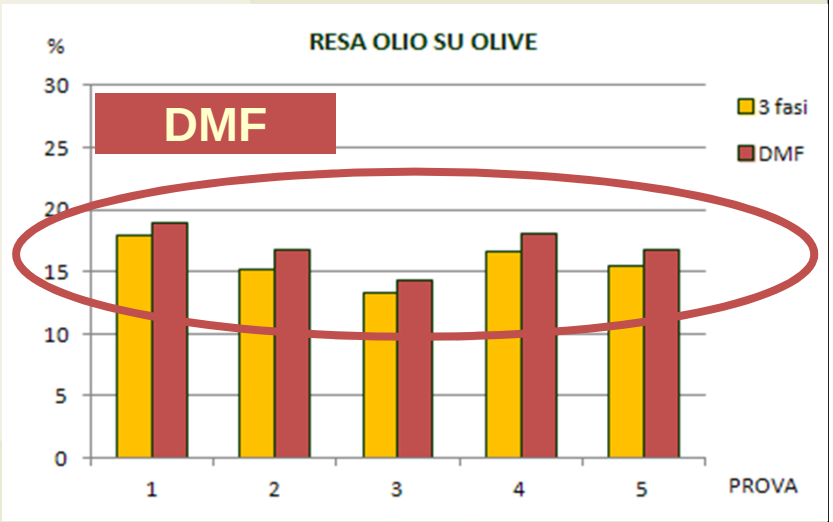
DECANTER DMF PIERALISI

BETTER QUALITY
30% more polyphenols



HIGHER EFFICIENCY





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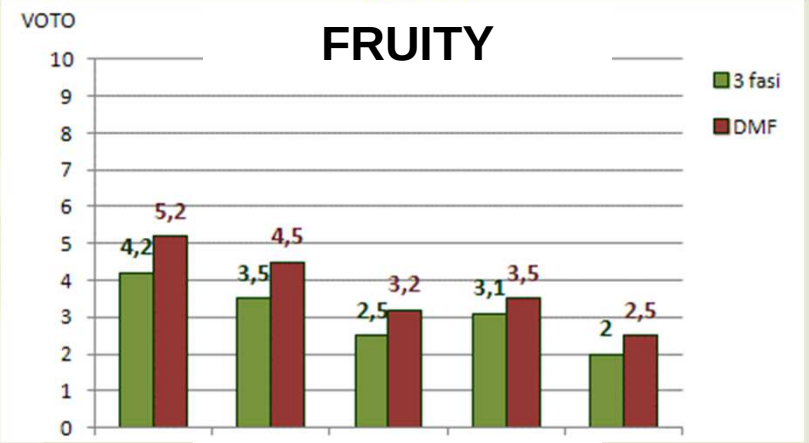
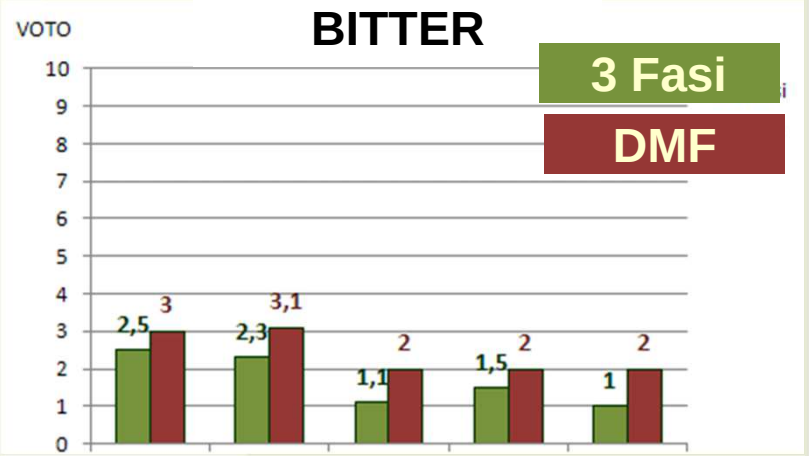
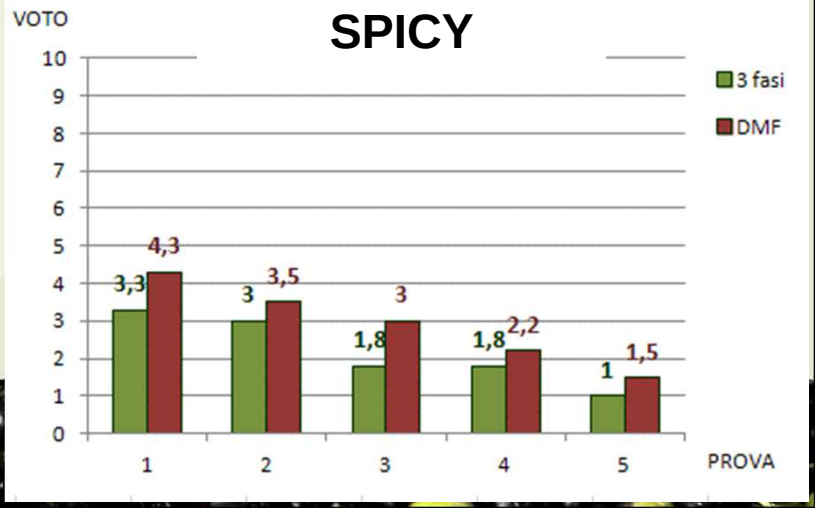
DECANTER DMF

Organoleptic properties







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DECANTER DMF PIERALISI

1. **HIGHER EFFICIENCY** (than 3 phase)
2. **SAVING of potable water and energy**
3. BETTER QUALITY of **OLIVE OIL**
4. OLIVE OIL WITH **LONGER SELFLIFE**
5. NEW SIDE PRODUCTS

   - **HUSK** almost like 3 phase,
   - **OLIVE PATE**

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USE OF PATE

Export of polyphenols for use in pharmacology and cosmetology as antioxidants and anti-inflammatory agents for the prevention of cardiovascular diseases.

- ⇨ ***FARMACEUTICAL***
- ⇨ ***COSMETICS***
- ⇨ ***FOOD ADDITIVE***
- ⇨ ***ANIMAL FEED***

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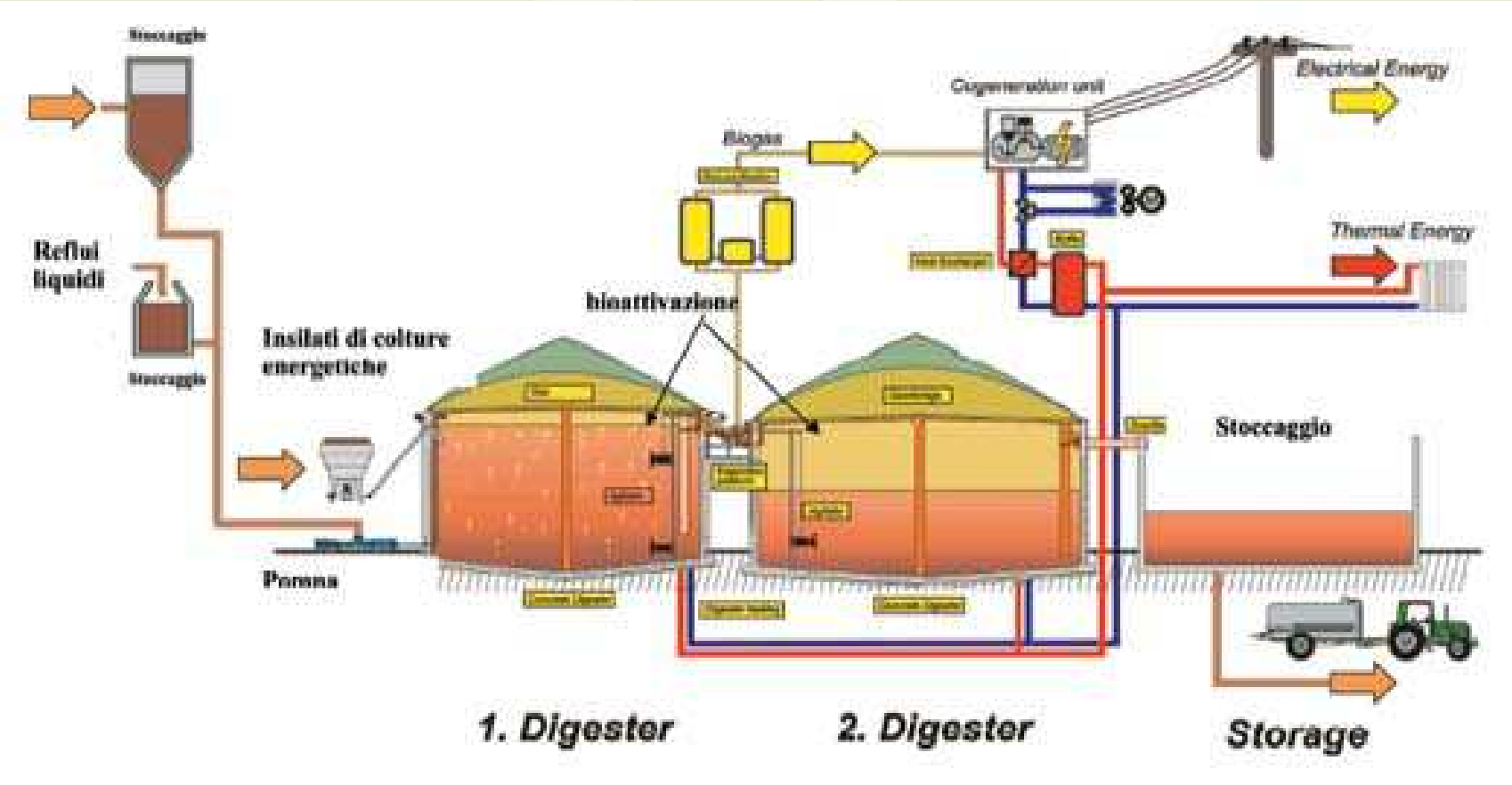
Feeding of BIODIGESTORS for agricultural products or side products ?



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Biomassa	
Produttore	Agripowerplus
ANALISI-Nr.	10-8155
Data dell'analisi	13/01/2011

Produzione di gas 256,00 m³/ t di tal quale

Produzione di gas 658,00 m³/ t di S.S. organica

Metano 53%

Parametri		valore	unità	valore	unità
Azoto	N	3,76	g/kg	9,38	g/kg S.S.
Azoto Ammoniacale	NH_4		g/kg		g/kg S.S.
Fosforo	P		g/kg		g/kg S.S.
Potassio	K		g/kg		g/kg S.S.
Calcio	Ca		g/kg		g/kg S.S.
Magnesio	Mg		g/kg		g/kg S.S.
Sodio	Na		g/kg		
Zolfo	S		g/kg		

Parametri tecnico/biologici		valore	unità	valore	unità
Sostanza secca	S.S.	40,08	%		
Sostanza secca organica	S.S.O.	97,03	% di S.S.	26,69	g/kg S.S.
Ceneri		2,97	% di S.S.		
pH			mg/kg		mg/kg S.S.
COD		32,10	g/kg	80,09	g/kg S.S.
Estratto etereo		23,50	g/kg	58,63	g/kg S.S.
Proteina grezza		93,20	g/kg	232,53	g/kg S.S.
Estrattivi inazotati		240,10	g/kg	599,052	g/kg S.S.
Fibra grezza					

Wir geben Biogas. EnviTec Biogas.

256 M3 / Ton as it is

658 M3 / Ton dryed matterial

Methane 53%

Scenario per high season or annually

⇨ 5.000 ton olives

⇨ 2.000 ton PATE

⇨ Biogas production : 150 m^3 per ton of pate.

⇨ Total BIOGAS production 300.000 m^3

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Impianto di Hermannsbrunn

Eucompact 75kW

Alimentazione di un bio-digestore con 100% di "SOLO"Patè di oliva.

Consumo annuo circa 2.000-2.400ton.

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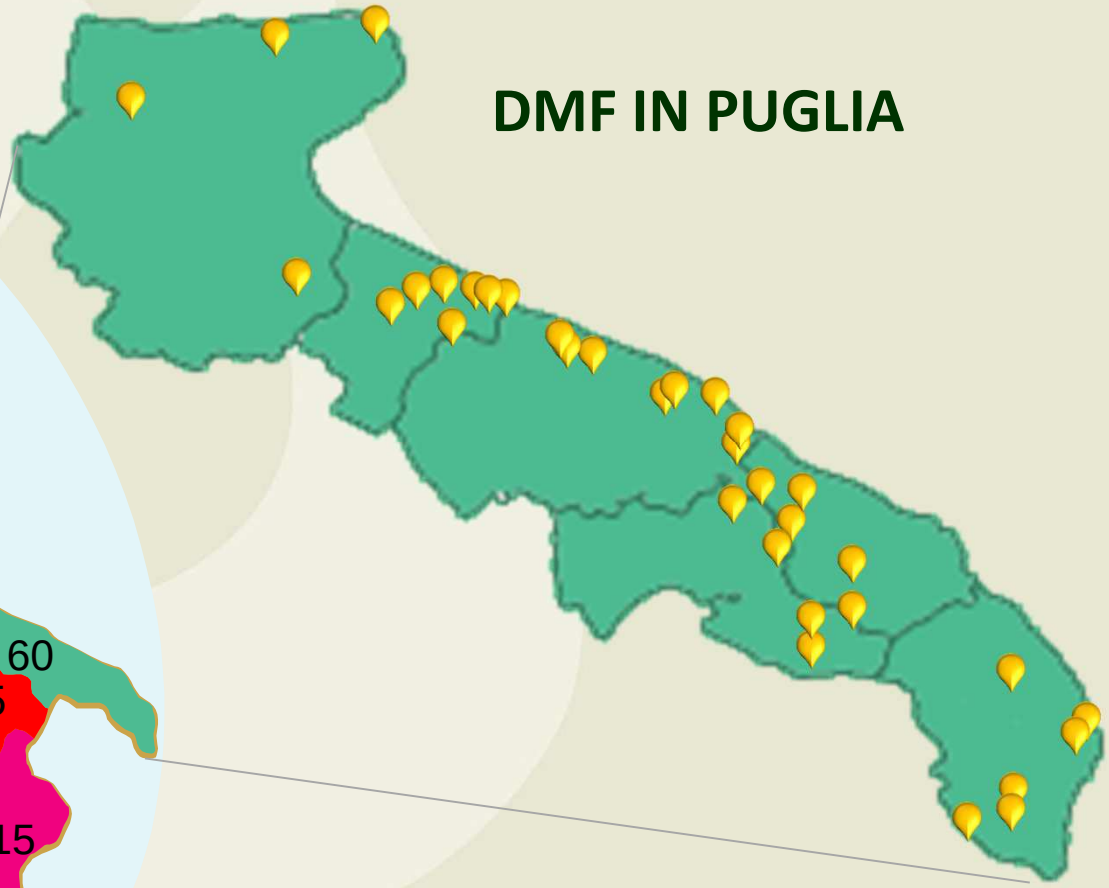
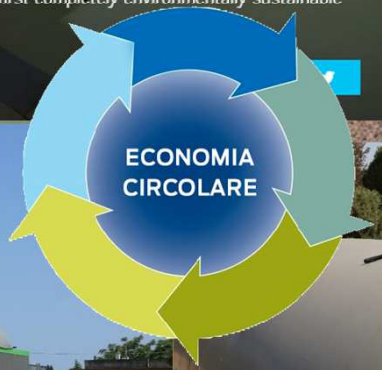
DMF IN ITALY AND IN PUGLIA

TOTALLY MORE THAN 150

DMF IN PUGLIA



OLIVE OIL PLANT DOMENICO CASSESE



A clear example of a cyclical economy in the olive sector. 2 Leopard 5 & 1 Leop
100 kW biogas plant fed 100% by PATE Leopard