



INNOVHUB
STAZIONI SPERIMENTALI
PER L'INDUSTRIA



THE ITALIAN PULP AND PAPER RESEARCH INSTITUTE
STAZIONE SPERIMENTALE
CARTA, CARTONI E PASTE PER CARTA

Innovazione e ricerca

Milano, 30 September 2015

REGIONAL PROGRAM ERGON – NOTICE "Support for enterprise networks"– ASSE 1 (POR FESR 2007-2013) – I.D. project – BIO015 NANO APP.

DETERMINATION OF THE UTIMATE BIODEGRADABILITY IN ANAEROBIC ENVIRONMENT.

Sample preparation.

The sample was cut and then milled until obtaining a thin and homogeneous fluff.

TOC determination (Total Organic Carbon). (Analytic method UNI 13137/02)

% total organic carbon "Vaschetta Cartonspecialist LM01/00.LC31020"= 36,5%.

Experimental conditions

Reactors employed: (0,5 litres capacity jars).

3 reactors for the blank.

3 reactors for the reference sample.

3 reactors for the sample.

Reference sample used: Kraft Cellulose about 3g for each reactor.

Analysed sample: milled sample, about 3 g for each reactor

Temperature during the test: 37 ± 2 °C.

Testing mixture: digestate from anaerobic plant with a percentage of solids equal to 6.57%. Each reactor contains 500 mL of digestate.

Preparation of the sample: The sample "Vaschetta Cartonspecialist LM01/00.LC31020" was cut and then milled until obtaining a thin and homogeneous fluff. The reference sample kraft cellulose was cut and then milled until obtaining a thin and homogeneous fluff.

Determination of biodegradability: Biodegradability is determined by measuring the production of biogas from each reactor and relating this measurement to the theoretical volume of the biogas produced by the sample, calculated on the basis of the total organic carbon content (TOC) of the sample itself.

S.O.

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*Dal 1798 l'istituzione
Al servizio del sistema
produttivo.*

SEDE OPERATIVA:
Via Colombo, 83
20133 Milano
Tel +39 02.239553.1
Fax +39 02.2365039

analisi.sscpp@mi.camcom.it
www.sperimentalecarta.it
P.IVA 0512106965
C.F. 97425580152



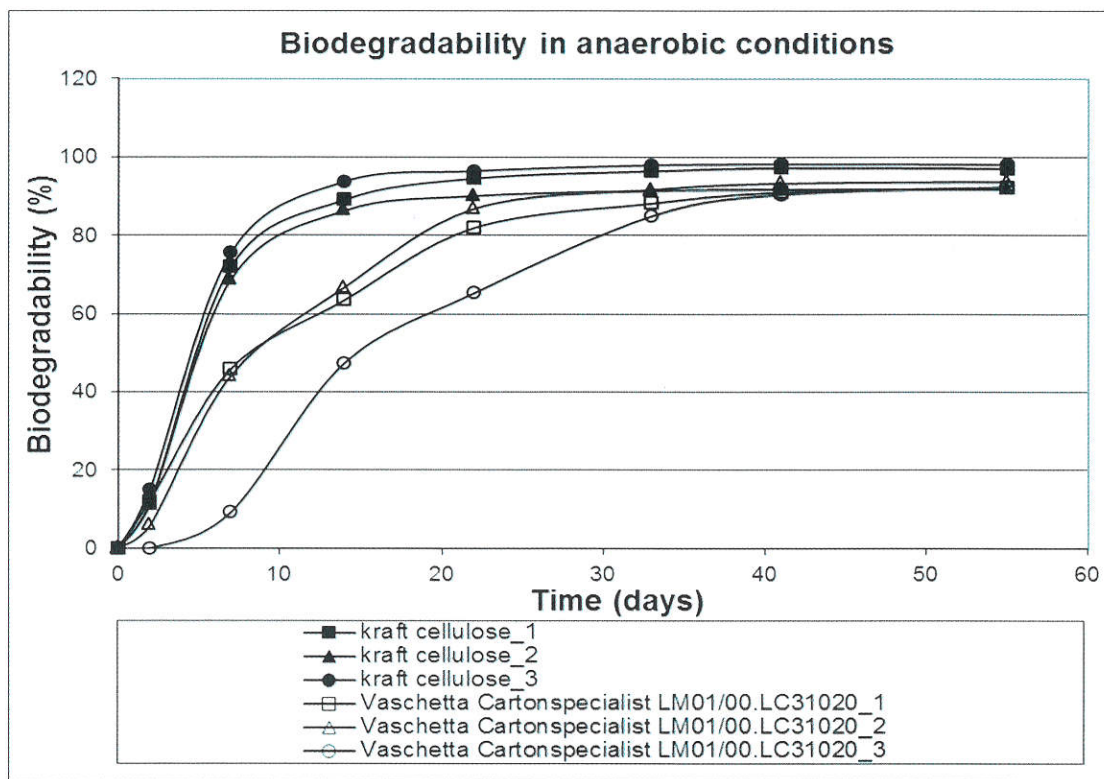
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RESULTS



% biodegradability = Calculated respect the quantity of the total organic carbon initially contained in the sample.

Sample	% Biodegradation				
	replicate 1	replicate 2	replicate 3	Average	Standard Deviation
Reference, Kraft Cellulose	97,0	91,7	98,1	95,6	3,4
Vaschetta Cartonspecialist LM01/00.LC31020	92,0	93,7	93,0	92,9	0,9

DESIGNATED TECHNICAL RESPONSIBLE

Sara Daina

THE DIVISION MANAGER

Patrizia Sadocco

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