



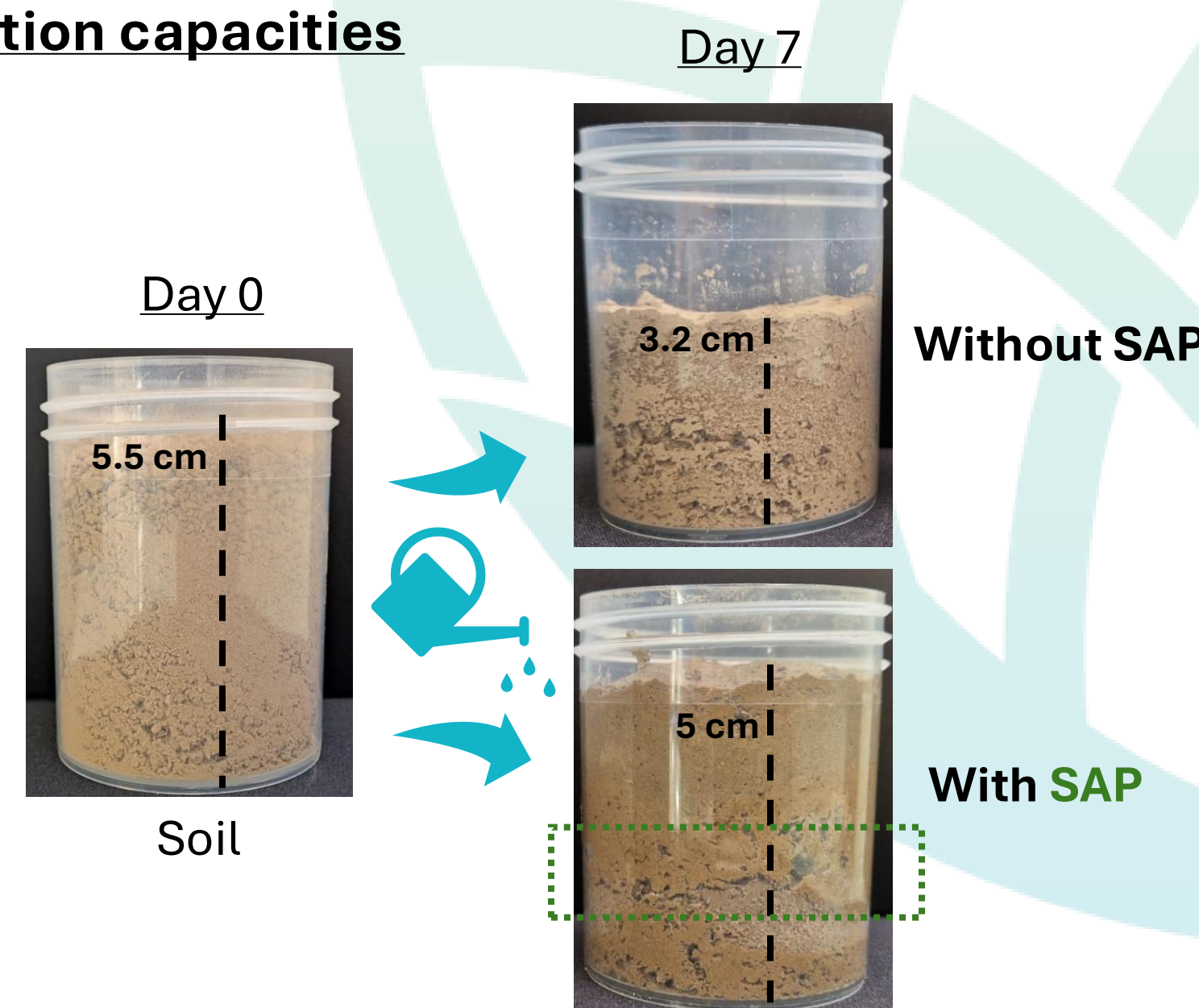
BIOMANITY, Biopôle Euromédecine, 1682 rue de la Valsière, 34790 Grabels France

**Biomianity SAP** is mainly composed of chitosan, a water soluble, biosourced and biodegradable polymer extracted from natural resources (crustacean shells, insects or mushrooms). Inside the SAP, the chitosan macromolecular chains are chemically linked together to form a 3D network which swells but no longer dissolve in water.



## Preliminary tests

### Yield performance on corn



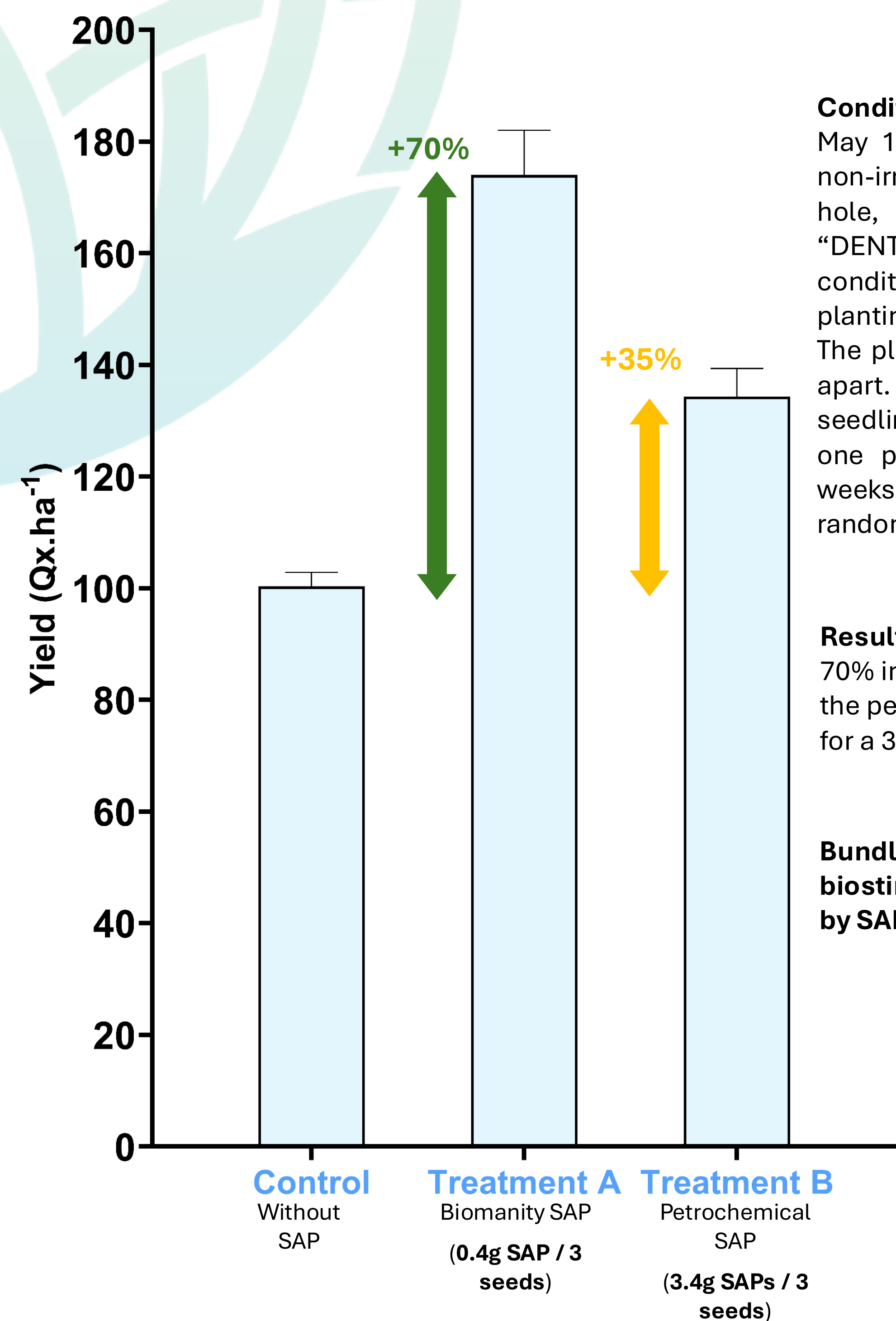
- In soil, it still manages to retain a relatively large amount of water.

A line graph showing the Average Biodegradability Rate (%) on the y-axis (0 to 100) versus Analysis time (days) on the x-axis (0 to 60). Two data series are plotted: Acetate (Control) represented by a blue line with diamond markers, and SAP Biomimicry represented by a green line with diamond markers. The Acetate (Control) series starts at approximately 60% at day 0, rises to about 77% at day 10, 79% at day 20, 82% at day 30, 80% at day 40, 84% at day 50, and 85% at day 60. The SAP Biomimicry series starts at approximately 15% at day 0, rises to about 40% at day 10, 48% at day 20, 53% at day 30, 56% at day 40, 60% at day 50, and 61% at day 60.

Analysis time (days)	Acetate (Control) (%)	SAP Biomimicry (%)
0	60	15
10	77	40
20	79	48
30	82	53
40	80	56
50	84	60
60	85	61

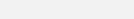
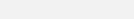
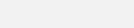
Incubation Time (days)	Cellulose (Control) (%)	SAP Biomimicry (%)
0	0	0
10	10	15
20	30	25
30	38	28
40	52	30
50	66	31
70	69	37
90	70	43
110	70	46
150	69	50

- 51% biodegradability at 150 days in **soil**
- Must reach 90% of cellulose biodegradation in 48 months to be considered biodegradable



**Bundle effect of fertilizer / biostimulant / water sorption by SAP (under evaluation).**

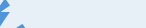
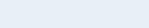
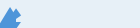
**Bundle effect of fertilizer / biostimulant / water sorption by SAP (under evaluation).**

- |   |                                      |   |                     |
|---|--------------------------------------|---|---------------------|
| 1 | Oceanic climate                      |  | Clay-limestone soil |
| 2 | More or less altered oceanic climate |   |                     |
| 3 | Semi-continental climate             |  | Sandy soil          |
| 4 | Mountain climate                     |   |                     |
| 5 | Mediterranean climate                |  | Silty soil          |

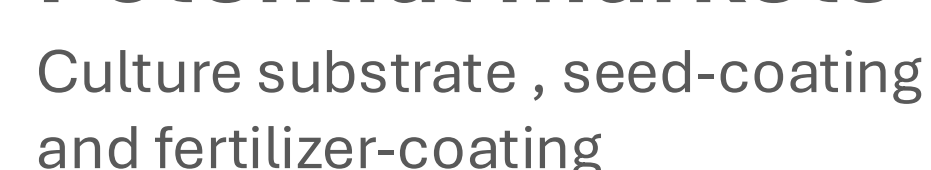
[illegible]

- **Identify the optimal dose, the best SAP profile**

<b>SAP 1</b> WAC 100		<b>SAP 2</b> WAC 500	
<b>15</b> kg/ha	<b>30</b> kg/ha	<b>15</b> kg/ha	<b>30</b> kg/ha

- |   |  |   |
|---|--|---|
|  <b>0%</b> |  <b>50%</b> |  <b>100%</b> |
| Under water stress  | Half the regular irrigation rate   | Regular irrigation rate   |

- |  |  |
|--|--|
|  <b>0 %</b> |  <b>100 %</b> |
| No fertilisation   | Regular fertilisation rate   |



## Pre-commercial contracts

## First commercial plant



**Contact :**  
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