



Plant tissue culture

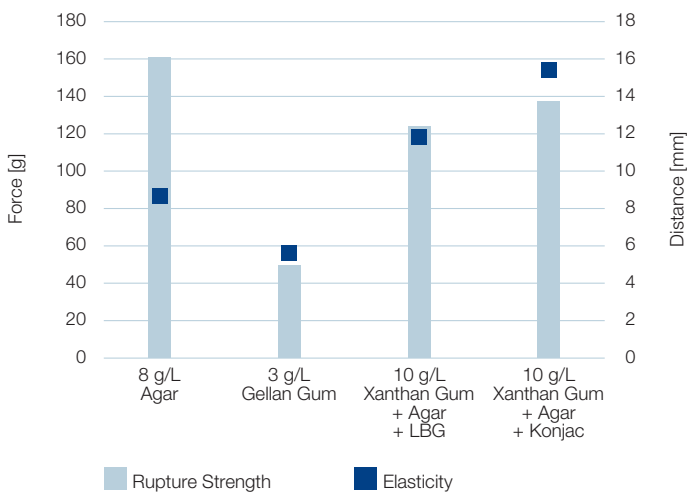
with Xanthan Gum

Xanthan gum in combination with other hydrocolloids forms clear, firm gels, offering an innovative approach to optimise in vitro growth media for plants.

Benefits at a glance

Rupture strength

Firm and clear gels are formed by a combination of xanthan gum, locust bean gum / konjac gum and agar.

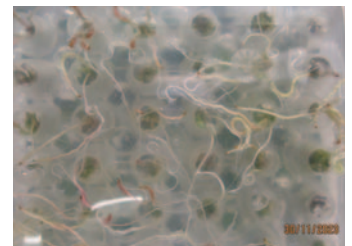


Combinations of xanthan gum and other hydrocolloids have higher rupture strength than low acyl gellan gum and comparable rupture strength to agar. An advantage of the combination containing xanthan gum is a higher elasticity, thus reduced brittleness of the media. Rupture strength and elasticity are stable over at least a month.

Plant performance

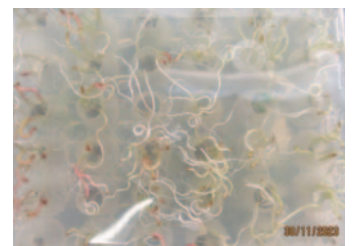
Echinacea as model plants showed excellent performance when growing on media gelled with xanthan gum, agar and locust bean gum. Compared to the media with low acyl gellan gum, a larger number of plants fulfilled the criteria for successful transplantation (stronger growth and root development, better uniformity).

Echinacea on media with LA Gellan Gum



bottom view (roots)

Echinacea on media with Xanthan Gum + Agar + LBG



bottom view (roots)

Jungbunzlauer ingredients

Name	Xanthan Gum FNCS
INCI	Xanthan Gum
Function	Gelling agent
Biodegradability ¹⁾	Readily biodegradable
CAS number	11138-66-2
EC number	234-394-2
REACH number	Exempted from registration

¹⁾ Method: OECD test guideline 301

Value proposition

Media properties with Xanthan Gum

- Firm but less brittle media: better transportability, potential for automatisisation
- Transparent and clear appearance
- Compatibility of gelling system with standard media components in tissue culture
- Pourability, gelling and stability over time comparable to standard media with agar or gellan gum

Plant performance

- Cultivar-specific better rooting and better plant development
- Cultivar-specific more homogeneous plant development

Cost in use

- Combinations of xanthan gum and other hydrocolloids with cost-saving potential