



HYDROCOLLOID COMPATABILITY MATRIX

A visual guide to how gums, pectins, and alginates interact in food formulations.

	Xanthan Gum	Guar Gum	Locust Bean	Carrageenan	Agar	Alginate	Pectin	CMC	Konjac	Tara Gum
Xanthan Gum	●	●	●	●	●	●	●	●	●	●
Guar Gum	●	●	●	●	●	●	●	●	●	●
Locust Bean	●	●	●	●	●	●	●	●	●	●
Carrageenan	●	●	●	●	●	●	●	●	●	●
Agar	●	●	●	●	●	●	●	●	●	●
Alginate	●	●	●	●	●	●	●	●	●	●
Pectin	●	●	●	●	●	●	●	●	●	●
CMC	●	●	●	●	●	●	●	●	●	●
Konjac	●	●	●	●	●	●	●	●	●	●
Tara Gum	●	●	●	●	●	●	●	●	●	●

Footnotes:

- Compatible = Hydrocolloids mix well with synergistic effects.
- Limited = Compatibility depends on pH, ions, sugar concentration, etc.
- Not Compatible = Hydrocolloids generally do not mix well.

Examples:

- Xanthan + LBG = Strong synergistic gel.
- Xanthan + Konjac = Thermostable gel.
- κ -Carrageenan + LBG = Enhanced gel strength.
- Alginate + Calcium = Irreversible gel (common in spherification).
- LM Pectin + Calcium = Heat-reversible gel suitable for low-sugar foods.