



PVOH Seed Coating Applications

kuraray

Kuraray Poval™

PVOH for seed coating

About Polyvinyl Alcohol (PVOH)

Its physical and chemical properties are what make PVOH very versatile, and ideal for use in seed coating. It features water-solubility, excellent film forming characteristics, high tensile strength and elasticity, as well as resistance against organic solvents, dispersing power, and it is inherently biodegradable when dissolved in water.

Why PVOH for Seed Coating?

When seeds are coated with polyvinyl alcohol, they are protected by PVOH film, and the water solubility and mechanical strength of the film can be controlled. PVOH coatings decrease dusting, improve germination and can be coated in a variety of ways.

Polyvinyl Alcohol's Unique Characteristics in Seed Coatings

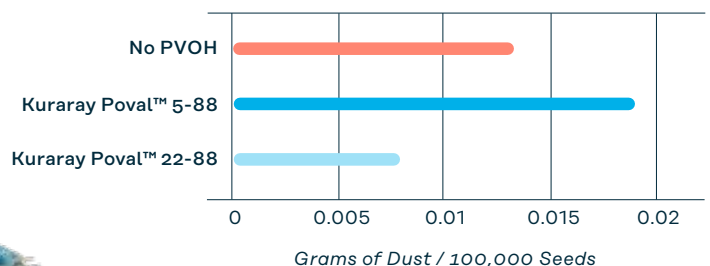
- ☆ Low dust-off properties
- ☆ Improved germination
- ☆ High bonding power
- ☆ Inherently biodegradable



Low Dust-Off Properties

Dust generation of the soybean seed was suppressed by coating with PVOH. The coating layer containing PVOH adheres well to the seed surface.

Figure 1. Dust generation of soybean seed



*Coating solution contained pesticides and pigment.



Improved Germination

Based on the result of Figure 2, PVOH coating on seeds did not show a negative impact on germination. And as shown in Figure 3, the cold germination rate of soybean seed was improved by coating with PVOH. It may be because PVOH controls proper moisture content for germination.

Figure 2. Warm germination of soybean seed

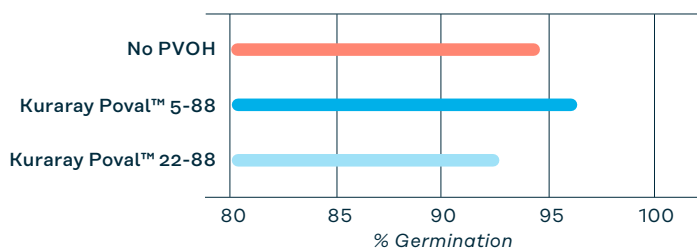
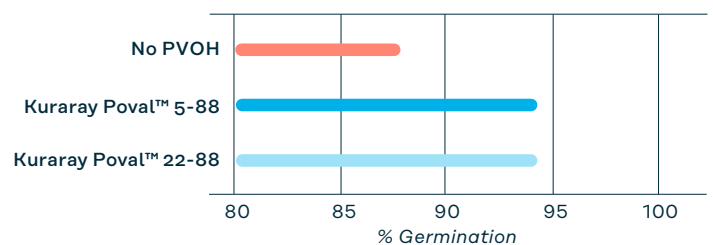


Figure 3. Cold germination of soybean seed



Inherently biodegradable

PVOH is recognized as one of the very few vinyl polymers which are water soluble and inherently biodegradable in water in the presence of micro-organisms. The biodegradability of PVOH is affected by its specification or biodegradation condition.



Why Kuraray?

Kuraray is committed to product quality, innovation and the ability to provide global solutions to our customers. This means that we produce high-quality, low VOC and ash-content PVOH with the most narrow and strict specifications. We create tailor-made, one of a kind products for our customers and are often sought out to be partners in innovation. Globally, we have the ability to second source from around the world, as well as leverage our local sales, logistics and R&D teams in Europe, Asia and the Americas. Kuraray is committed to developing new fields of business using our pioneering technologies like Polyvinyl Alcohol that will improve the environment and enhance the quality of life for all.

Adding value to your products – worldwide

Kuraray Poval™, Exceval™, Elvano™ and Mowiflex™ are the trademarks for polyvinyl alcohols made by Kuraray. Their key characteristics — outstanding film-forming properties and high binding strength — add real value to your products. Our polymers are water-soluble, highly reactive, crosslinkable and foamable. They have high pigment binding capacity, protective colloid characteristics and thickening effects. The physical and chemical properties of Kuraray Poval™ make it ideal for a wide variety of applications, ranging from adhesives through paper and ceramics to packaging films. Many of our polymers are food contact-approved and thus suitable for food applications. Ecologically Kuraray Poval™ is advantageous due to its biodegradability and the fact that combustion does not generate residues. It is available in various particle sizes from granules to fine powders.

Kuraray produces its wide range of Kuraray Poval™ grades in Japan, Singapore, Germany and the USA. Kuraray's global production and service network make us your partner of choice for innovative high-quality PVOH resins.

Kuraray – Here to Innovate.

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Kuraray Poval™ product portfolio

Please contact your local Kuraray office to discuss the right Kuraray product for your needs.

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