Abstract: More Sustainable Coating Solutions: Unlocking the Potential of Camelina Oil-Based Resins

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The search for sustainable raw materials is a key driver in advancing environmentally friendly coating solutions. Camelina oil, derived from the resilient Camelina plant, presents a unique opportunity to combine regional agricultural practices with innovative resin technologies. This presentation explores the advantages of Camelina cultivation in Germany, where it thrives in intercropping systems with legumes or on temporary fallow land. By avoiding direct competition with food crops, requiring minimal water, and demonstrating a reduced need for pesticides due to its natural resilience against pests, Camelina cultivation supports climate-adaptive agriculture.

Building on this sustainable foundation, Worlée Chemie has developed a range of advanced polymer solutions by functionalizing Camelina oil. Beyond its application in conventional water- and solvent-based alkyd resins, we have integrated Camelina oil into polyurethane-based systems, including polyurethane dispersions, silanefunctional dual-cure systems, and specialized additives. These innovations demonstrate the potential of Camelina oil as a versatile and renewable feedstock for next-generation coatings, delivering both performance and environmental benefits.