

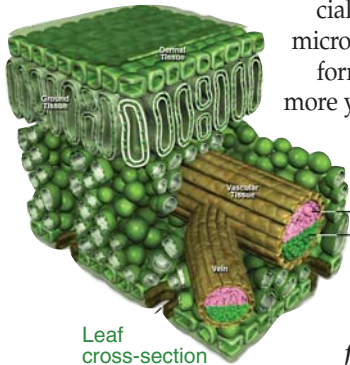
# How a “Nanotech” Nutrient Transporter Helps You Drought-proof Yields



**These soybeans** raised by Freddie Doub in Yadkin County, N.C. had only 0.75 in. of rain for 100 days in 2008. But they had an advantage: *They were sprayed with SoySoap surfactant at the two-leaf stage.* They developed massive roots and high leaf sugars (brix levels), which helped this field produce more than a 50-bu. yield despite severe drought. *SoySoap-treated bottomland fields yielded over 65 bu. per acre.*

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A primary crop response to **SoySoap** seen all over the world is *larger roots with more root hairs*. Bigger, deeper roots provide more water-extracting capacity to keep crops growing in dry weather. **SoySoap's** nano-sized colloids — less than a billionth of a meter — help crop leaves absorb morning dew through the outer waxy cuticle. **Soysoap** also provides surfactant and nutrient transport benefits in the plant's vascular system. It reduces surface tension of water and nutrients circulating in the xylem and phloem tubules. Leaf sugars flow easily to roots. More root exudates stimulate growth of beneficial soil bacteria and mycorrhizae. These microbes convert more nutrients to soluble form, which build higher brix levels and more yield. In second-crop soybeans, we've also seen higher leaf brix levels help protect the soybeans against frost.



*Xylem (nutrients up to leaves)  
Phloem (sugars down to roots)*

*Need to foliar-feed crops to relieve drought stress? Ask us about SoySoap for nutrient absorption and transport!*

**Dewdrops on the points** of soybean leaf hairs (right) normally evaporate *before the leaf has a chance to absorb them*. But when the same leaf is sprayed with highly diluted **SoySoap** surfactant, water surface tension vanishes. A moisture film spreads evenly across the leaf's epidermal cells. The nano-sized colloids of **SoySoap** and the dew are absorbed by the leaf through a softened waxy cuticle. **SoySoap** stays inside to reduce surface tension and lubricate the tiny tubes of the plant's vascular system. By making water “wetter,” the crop can circulate sugars and nutrients more efficiently. Result: Larger roots and higher sugar production from photosynthesis. *That means higher grain test weights and more yield potential.*



**Dewdrops condense on tips of soybean leaf hairs**



**10 seconds after spraying with SoySoap, dew has spread evenly and is quickly absorbed through a softened waxy leaf cuticle**

**BioBased USA** reserves the name *SoySoap* for its family of biobased, non-toxic “nano-technology” formulations to enhance plant growth and clean up our environment. Authorized distributors private-label each BioBased USA product under registration requirements of their state or country. BioBased USA does not sell directly to growers or consumers. For information, please Email: [donwilsh@biobased.us](mailto:donwilsh@biobased.us) See on-farm videos and field reports at our website: [www.biobased.us](http://www.biobased.us) Or call 800-995-9203 Offices: 4237 Cornelius Road, East Bend, NC 27018

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