Seed Science and Technology

Seed Coatings with Hydrophilic additives

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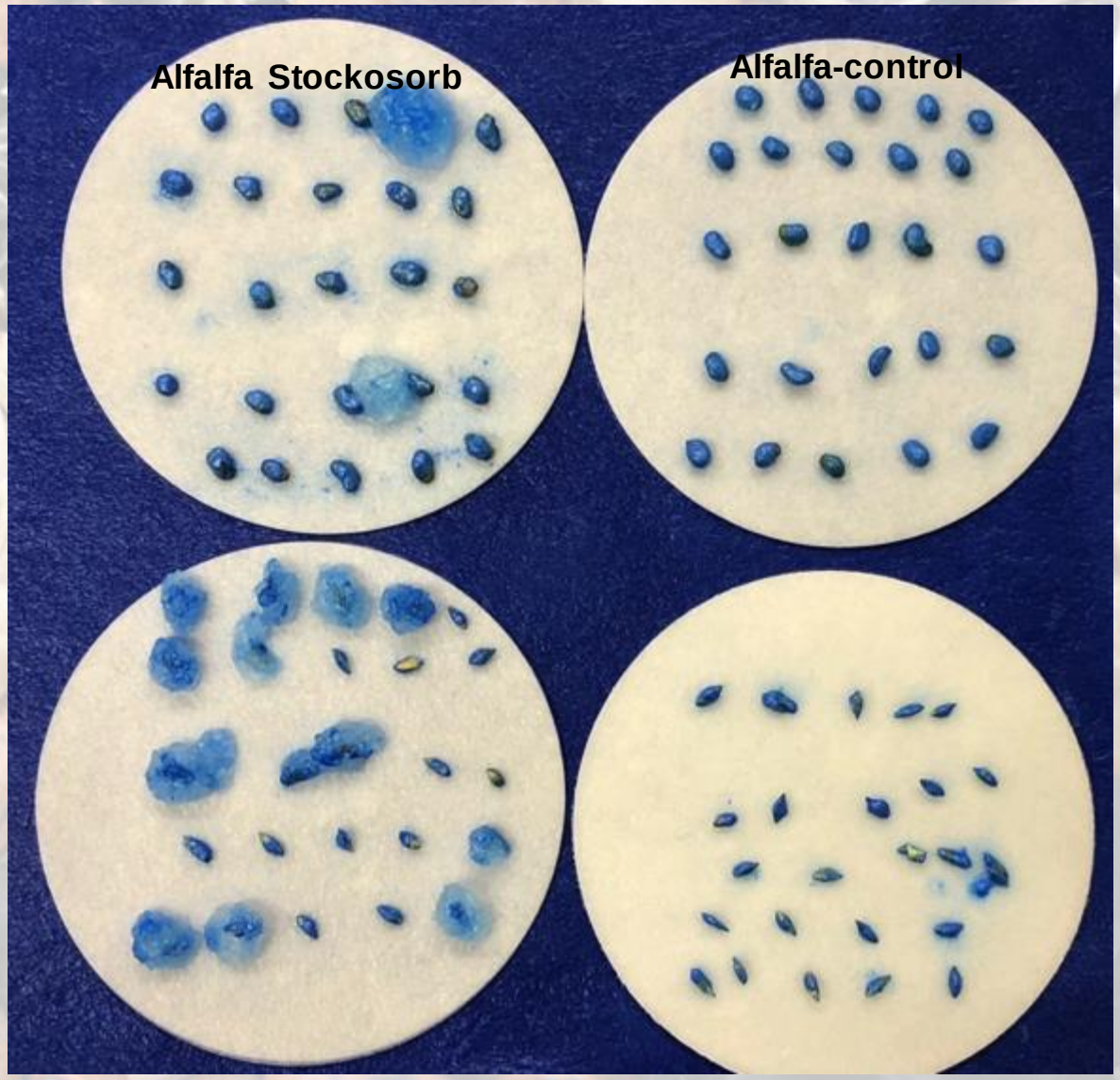
Stockosorb, cross-linked polyacrylate. Absorbs water instantly and makes a clear gel

Cornell contacted Precision Seed Coaters with interest in the Seed Coatings with the addition of hydrophilic polymers (SAP) to Seed during Coating.

PSC samples of coated alfalfa and bermuda grass with and without SAP were sent to Cornell for observation.

19% coatings show gel

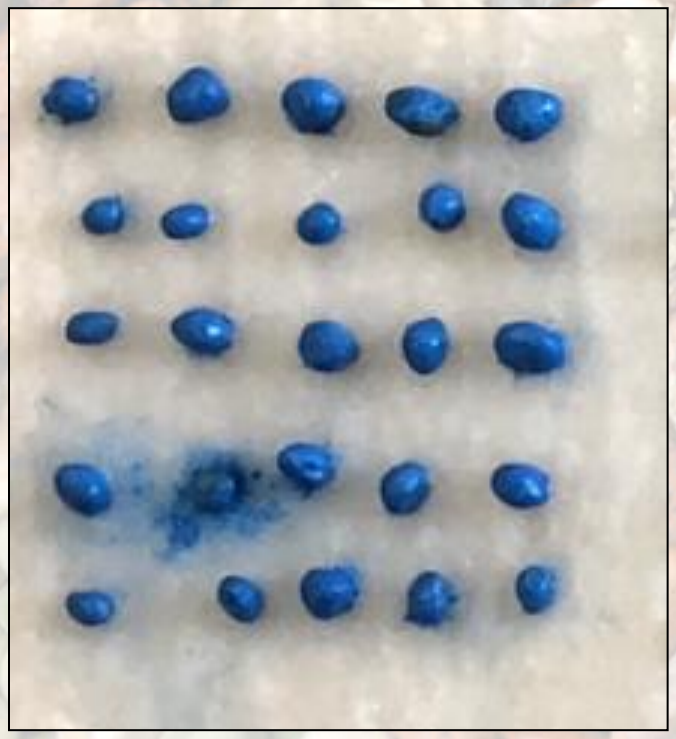
24% coatings show gel



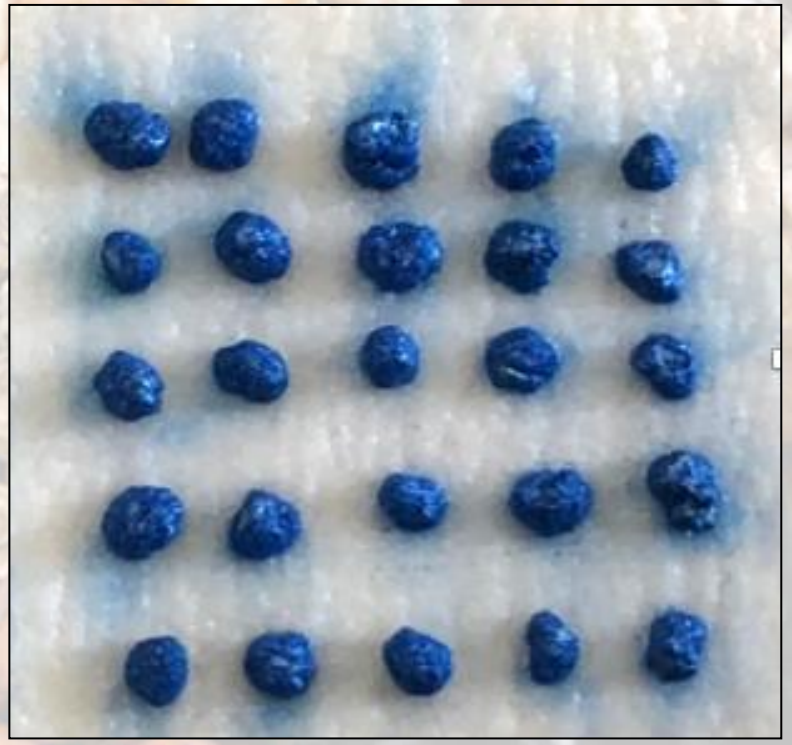
Cornell observed poor uniformity of gel formation from seed-to-seed. Cornell obtained different Stockosorb formulations from Evonik and also further sized one formulation and sent to PSC for coating red clover seeds.

Red Clover Seeds Coated with SAP (Hydrophilic Polymer) less than 325 mesh

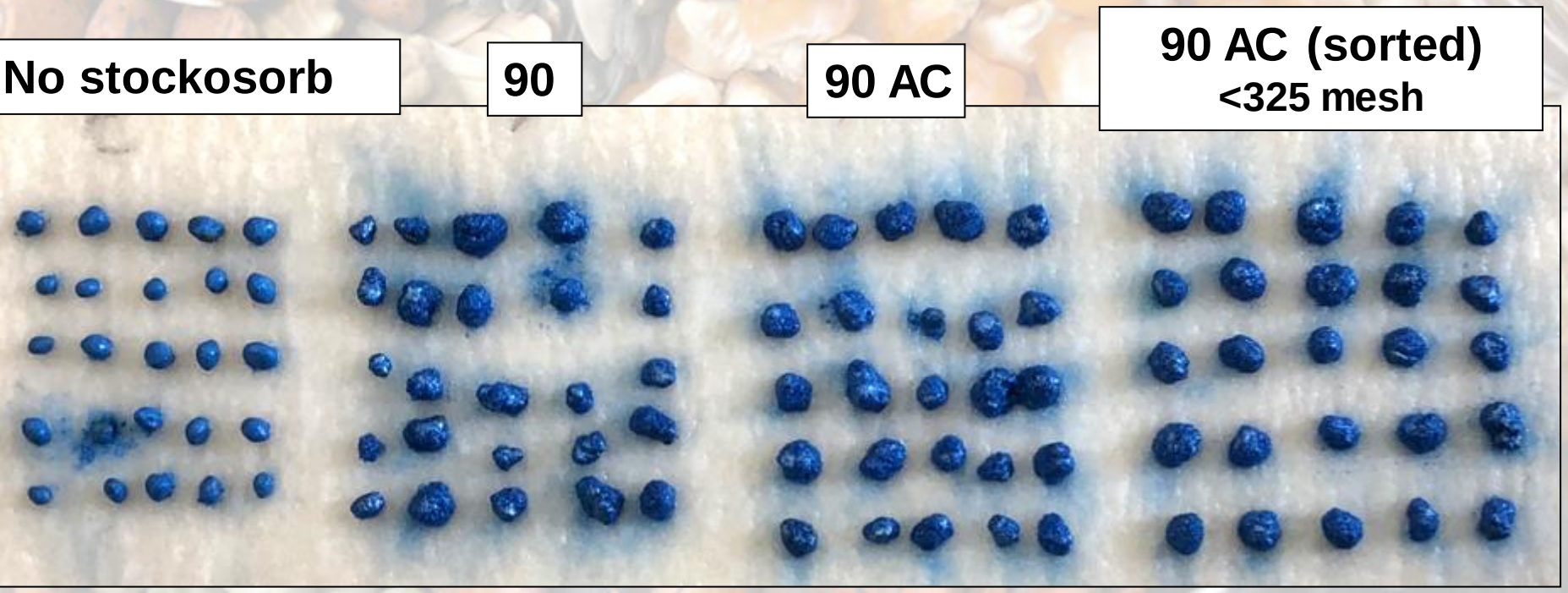
Coating control



Coating + SAP

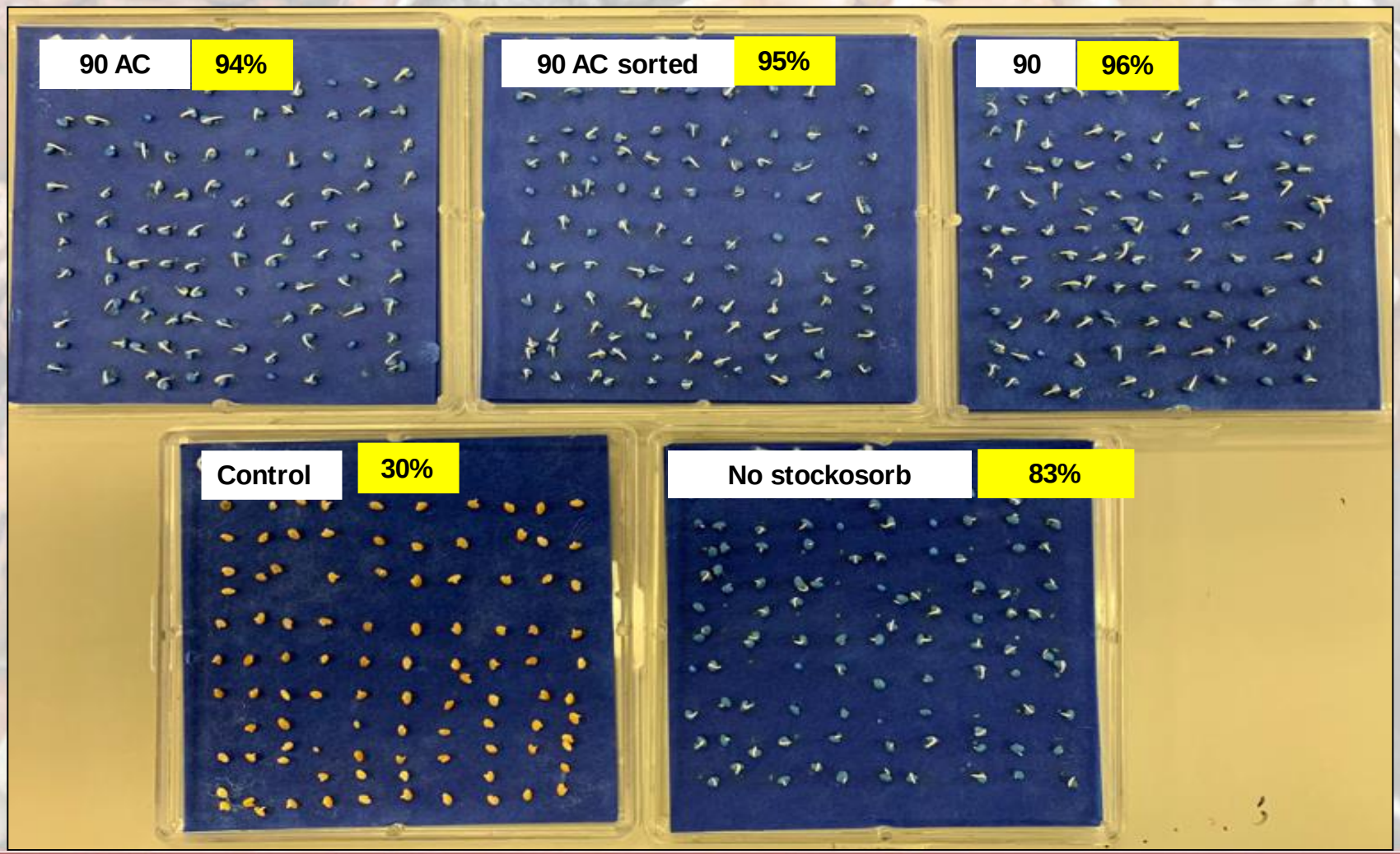


Red clover seeds coated by PSC with different Stockosorb formulations in 2018.



Improved uniformity of SAP application, especially with <325 mesh 90 AC

Germination percentage after 24 hours



Laboratory Germination at 20C

Treatments	Germination %	
	24h	48h
Control	30	95
No Stockosorb	83	92
90	96	98
90AC	94	94
90AC Sorted	95	95

Field Study at Big Flats, NY fall 2018. All treatments were broadcast on soil surface except, control incorporated

Control incorporated

No Stockosorb

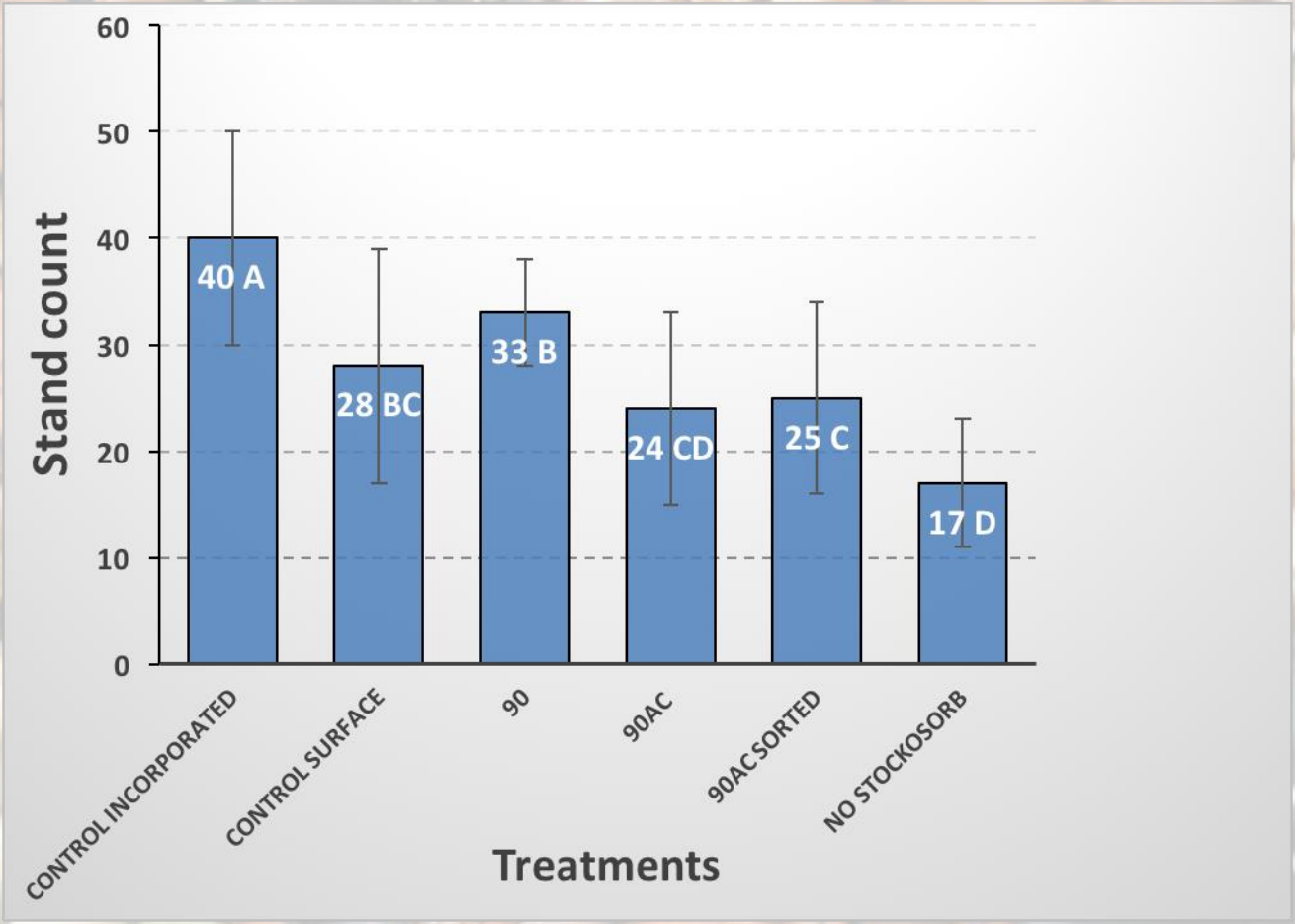
90

90 AC

Control broadcasted

Field experiment conducted late in the growing season and there were not good conditions to test the SAP coatings

Field Study in Big Flats, NY 2018 Stand Count Data



Stand Count= Average of plant stand in 12 Square plots [30x30 cm^2] per treatment