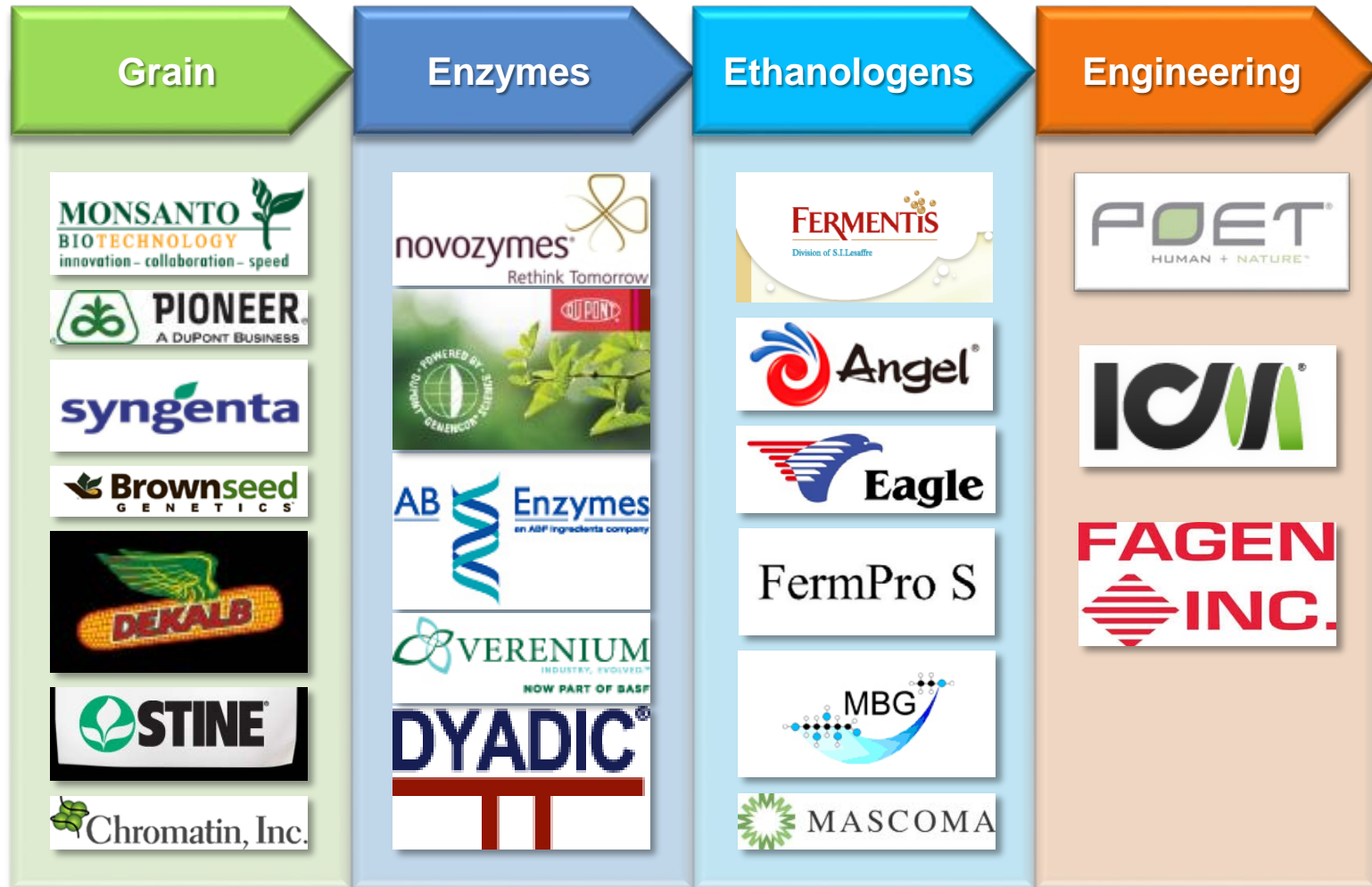


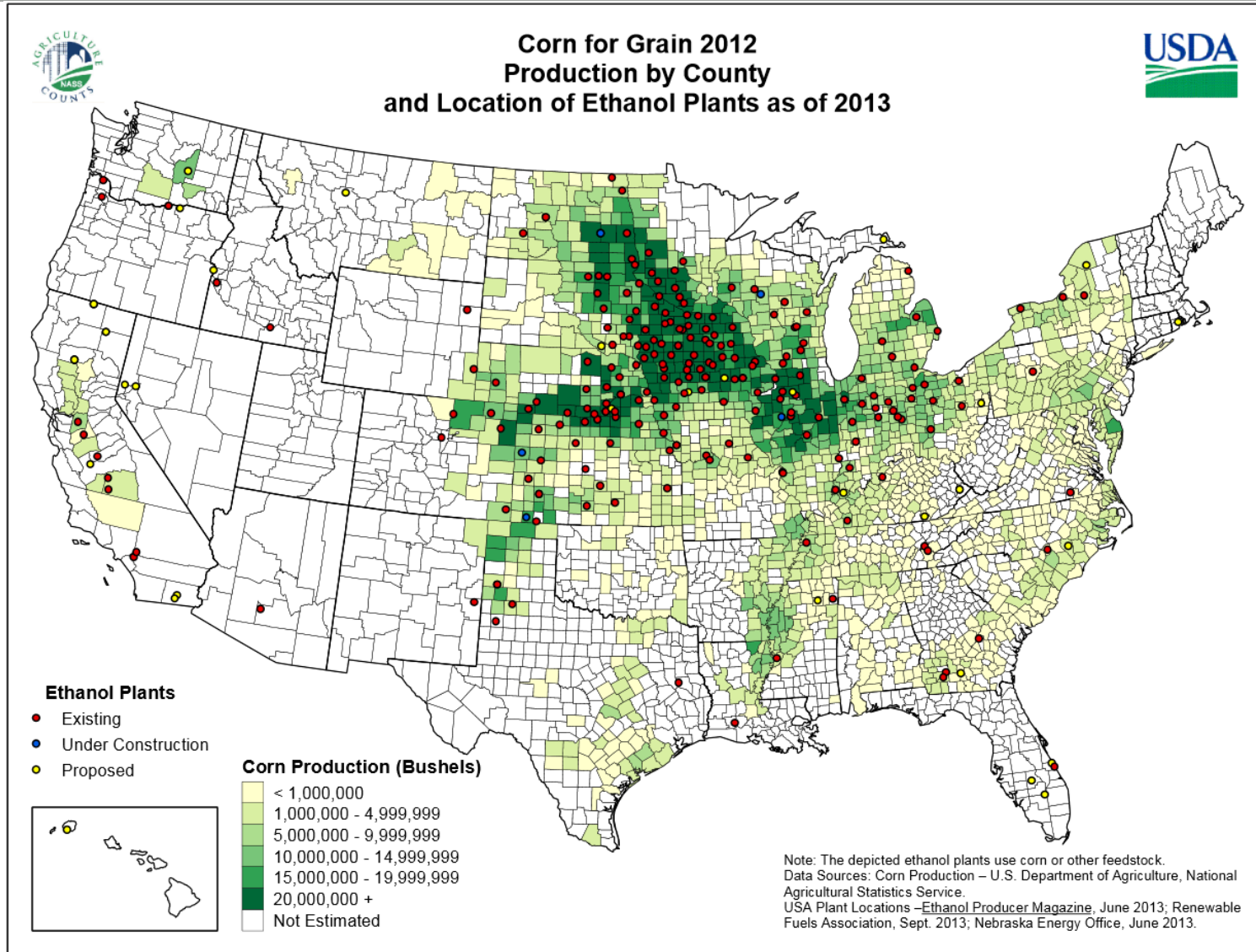
- Topics
 - + Corn, Enzymes, Yeast
 - + POET dry-grind ethanol bio-refineries
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ETHANOL VALUE CHAIN



CORN PRODUCTION



CORN PRODUCTION



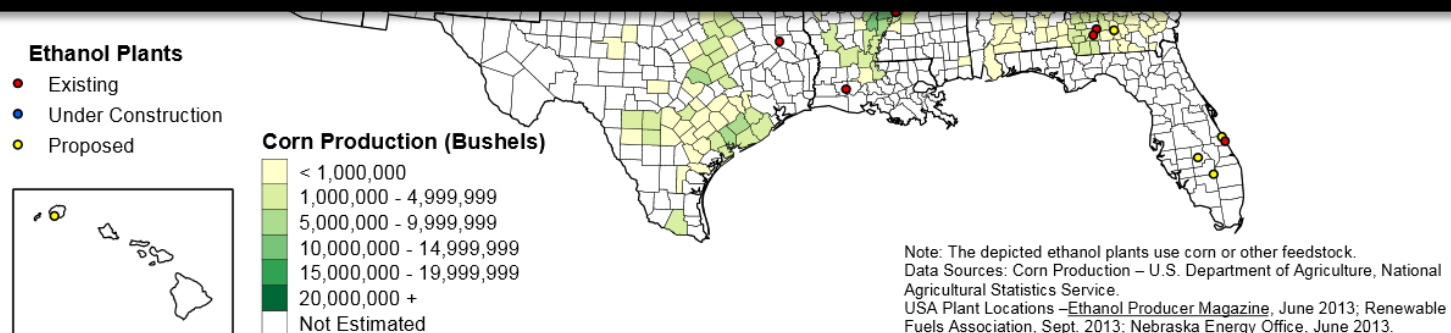
Corn for Grain 2012 Production by County



212 US ethanol biorefineries

14.9 billion gal nameplate (56.4 billion liters)

14.0 billion gal production



CORN STARCH



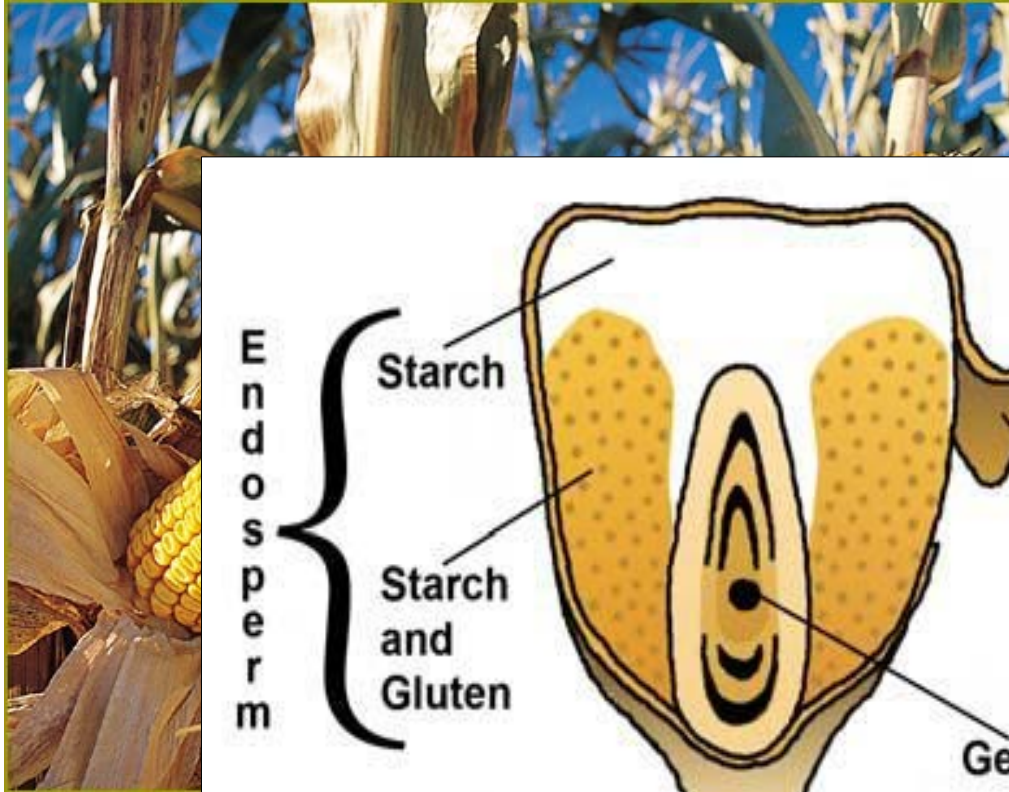
2014 US crop (est.)

- 14.475 billion bushels
- (368 million metric tons)

Crop yield

- 174.2 bu/acre
- (11 metric tons/hectare)

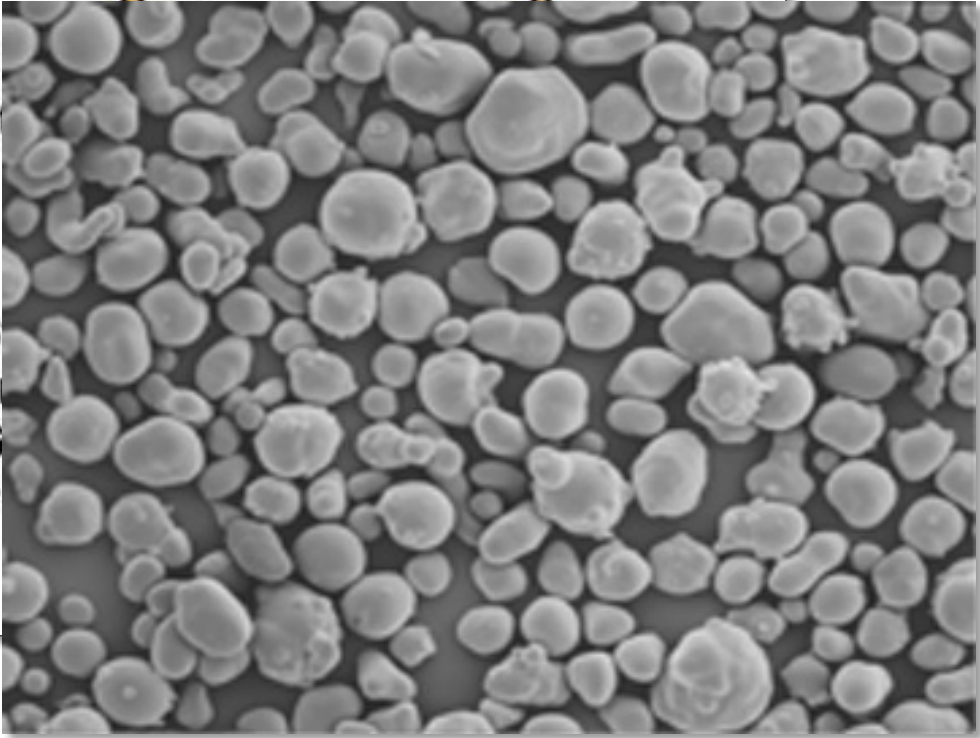
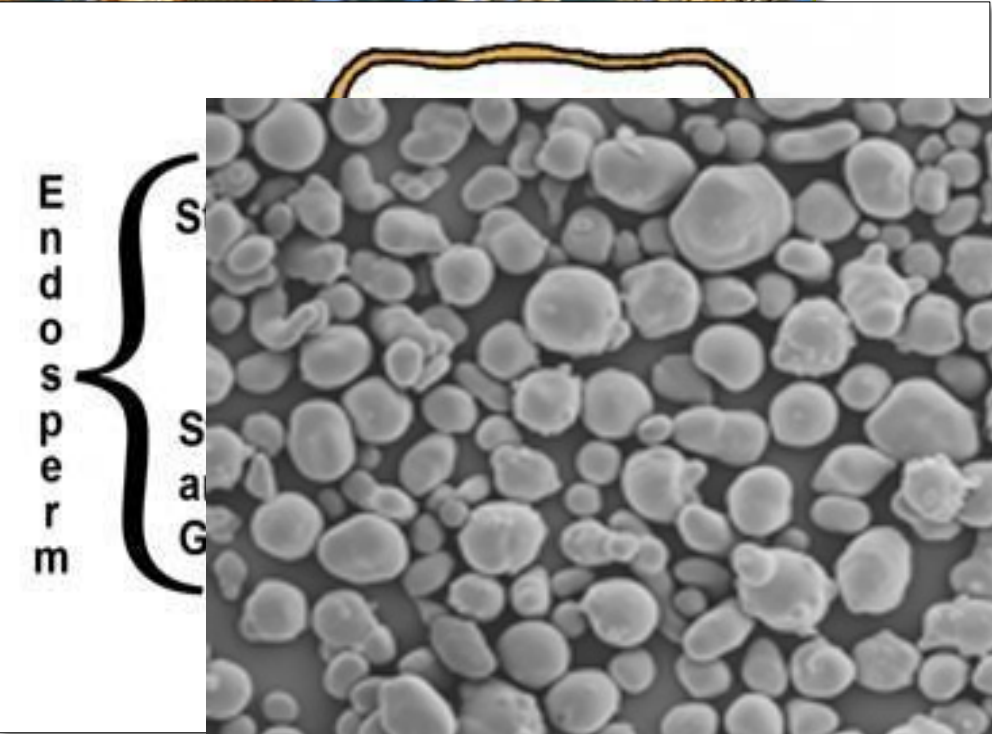
CORN STARCH



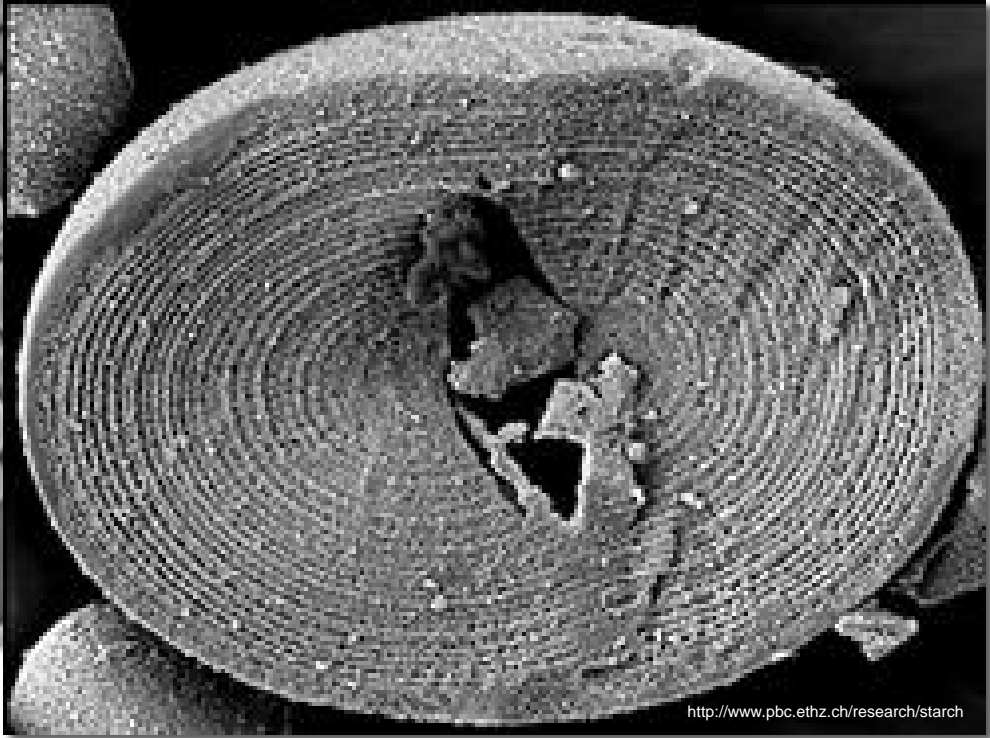
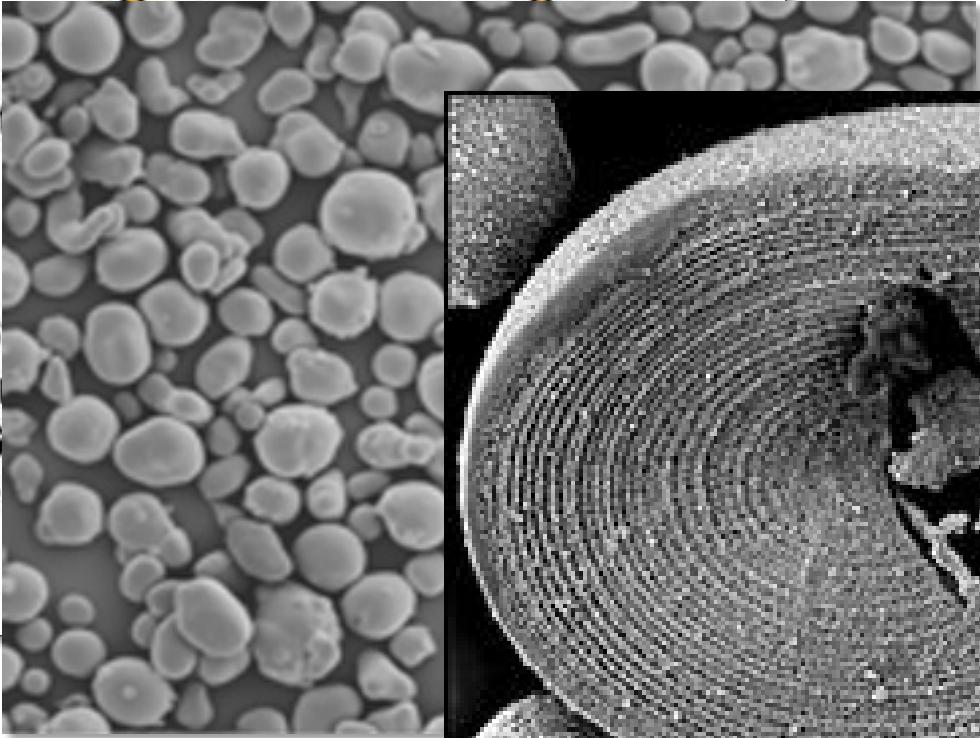
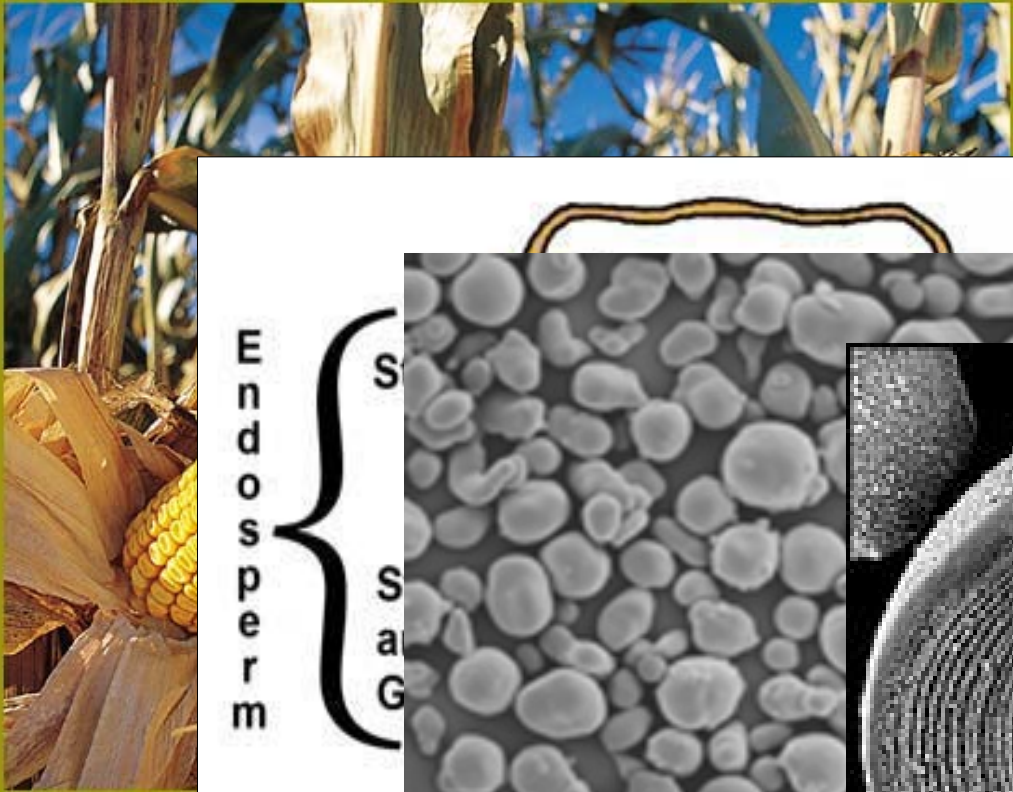
Corn grain

- 11 – 13 % moisture
- 87 - 89% DM
 - 69 - 72 % starch
 - 8 - 9 % protein
 - 3 - 5 % oil
 - 2.5 % fiber
 - 1.5 % ash

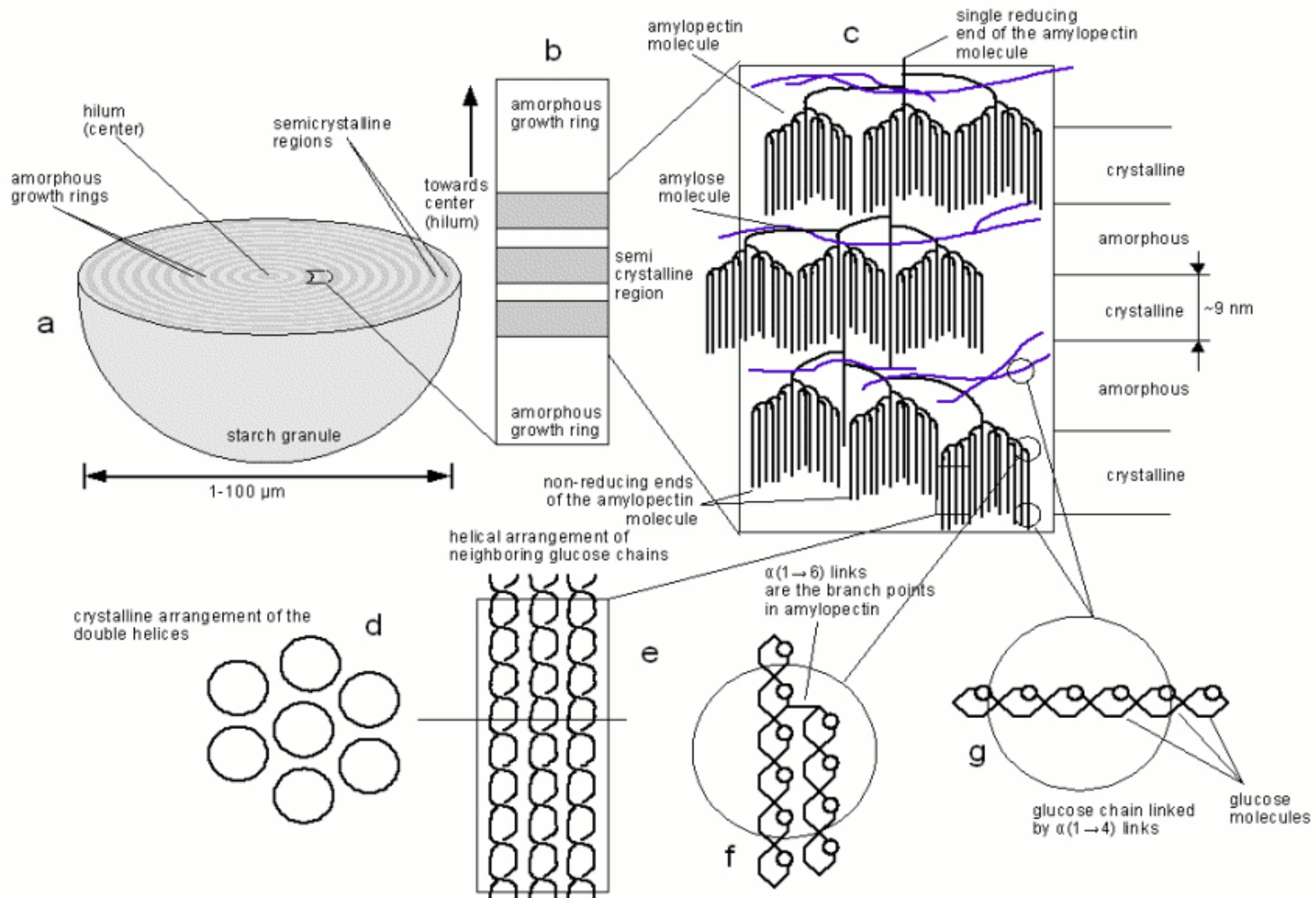
CORN STARCH



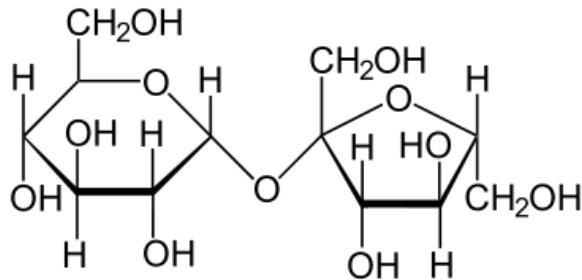
CORN STARCH



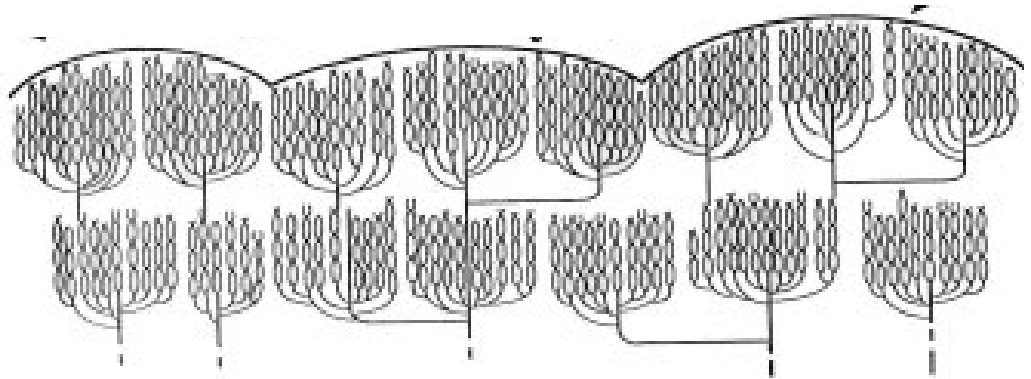
STARCH STRUCTURE



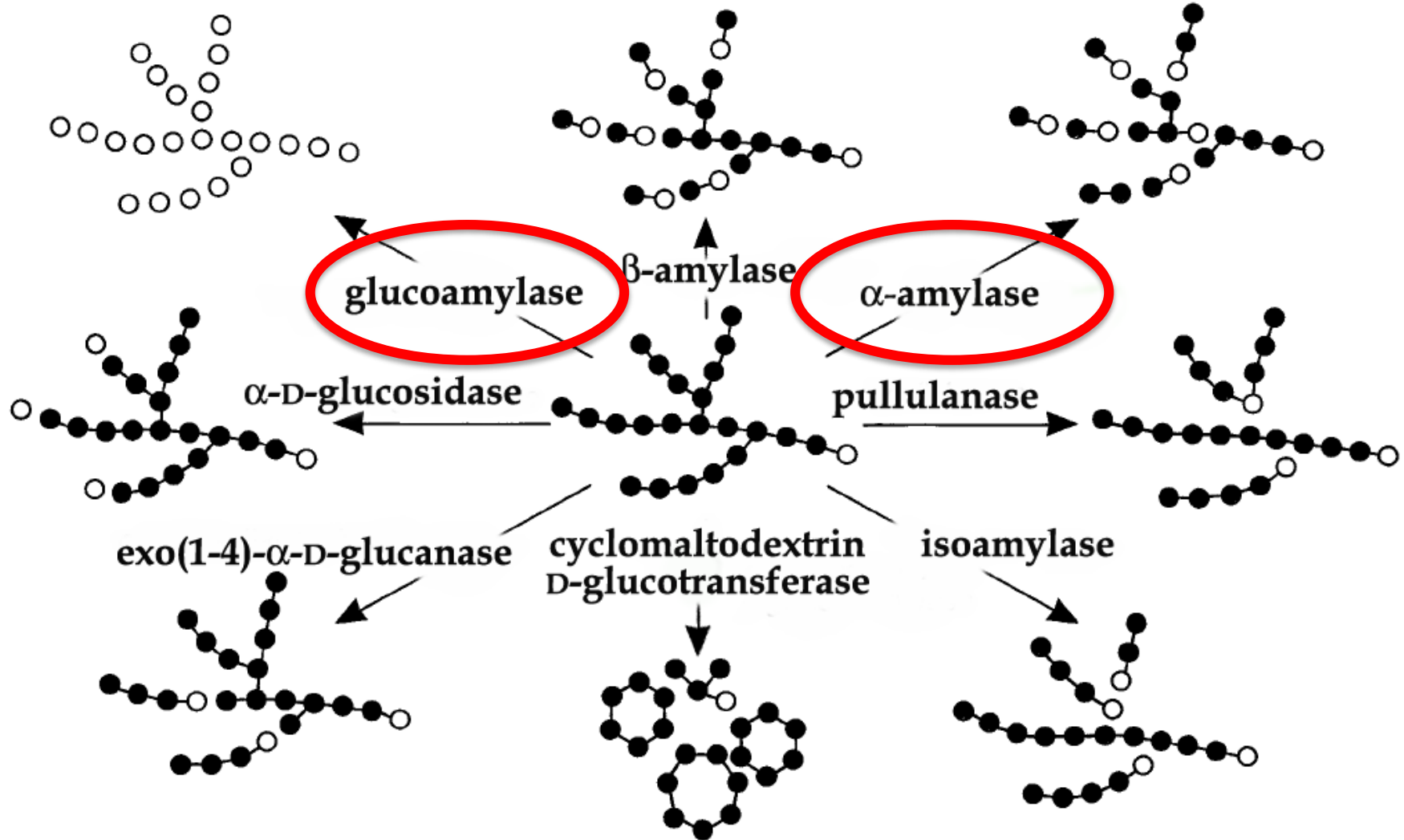
Easy
Fácil



Challenging
Desafiante

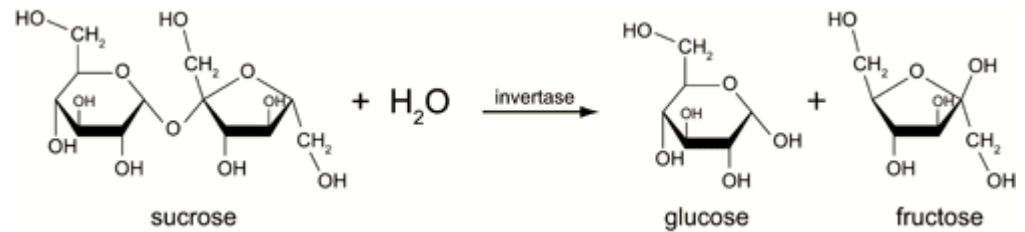


STARCH ENZYMES

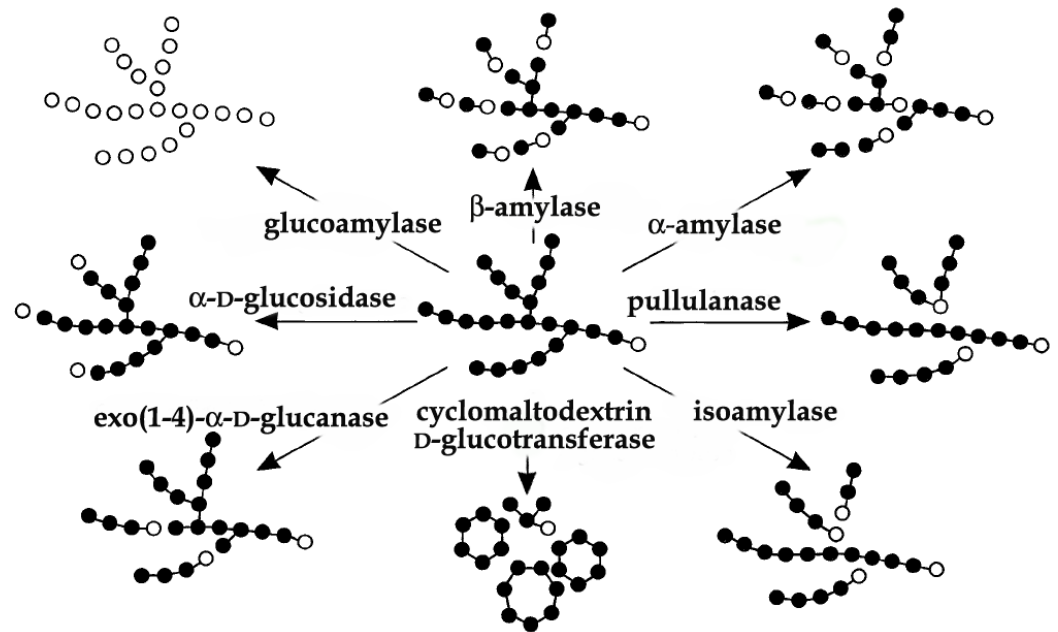


SECOND DIFFERENCE

Easy
Fácil



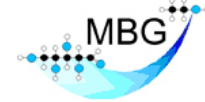
Challenging
Desafiante



FERMENTATION



FermPro S



AB | MAURI



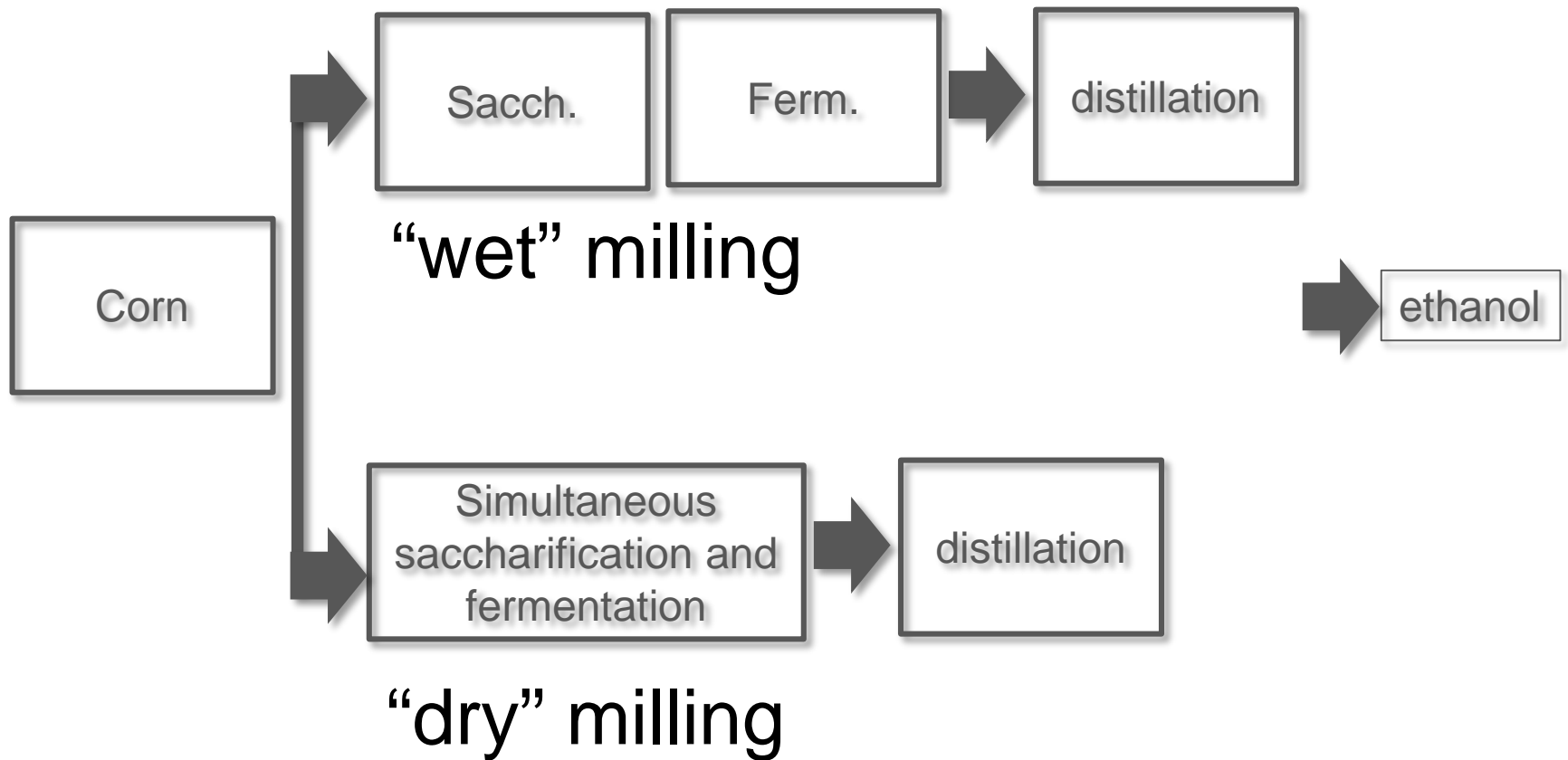
Yeast supply

- Crème yeast (stabilized)
- ADY (active dry yeast)



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WET VS DRY MILLING

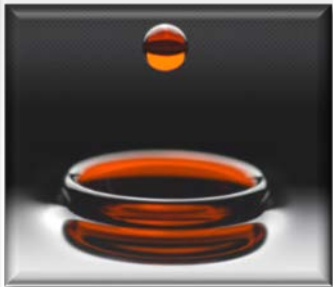


CORN BIO-REFINERIES (DRY)



- 11% of US production, 7% world
- 1.6 billion gallons of ethanol per year
- 27 production Biorefineries in Eastern and Western Corn Belts

- Raw starch hydrolysis (no-cook) process
- Industry-leading gallons per bushel
- Proprietary low-temperature enzymes
- Total Water Recovery system
- 2.6 gal water per gallon ethanol



- 550 million pounds
- Distillers corn oil
- Biodiesel production, feed and potential food grade oil

- 9 billion pounds
- POET Heat-Free Process maintains nutritional integrity
- Poultry, cattle, dairy

