

Certified Seed & seed treatment matters in the Americas and SAA STWG current actions

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Certified seed and seed treatment in the Americas

Why they matter

The importance of Certified Seed properly treated – an easy technology access to all producers

- › Early protection for best establishment, is key for a successful harvest
- › New seed applied technologies available in the market
- › SAA Seed Treatment Working Group efforts to:
 - › Reduce trade barriers with new technologies treated seed flow across the countries in the Americas
 - › Educate industry, end users and general public on benefits of professionally treated certified seed
 - › Joint efforts industry wide to achieve STWG goals and objectives

One seed = One plant



Wheat seeds / Kg	32,158
Seeding rate / Ha	120
# of seeds / Ha	3,858,960

5% Reduction – 192,948 plants/ha
Yield potential reduction – 120 kgs/ha

10% Reduccion – 385,896 plantas/ha
Yield potential reduction – 240 kgs/ha

20% Reduccion – 771,792 plantas/ha
Yield potential reduction – 480 kgs/ha

30% Reduccion – 1,257,688 plantas/ha
Yield potential reduction – 660 kgs/ha

Seedling loss = poor crop establishment

Abiotic stress



Dry conditions



Flooding



Salinity

Early season foliar pests



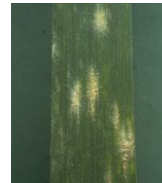
Soil pests



Nematodes



Foliar diseases



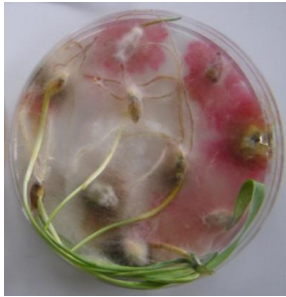
Seedling diseases



Seed and soil borne diseases



Cereals seed applied technology evolution – InVitro



UNTREATED



'70s Technology



'80s Technology



'90s Technology



'00s Technology



'10s Technology

Seed applied technology field performance – 30 DAP

UNTREATED



SAIF Treated



Seed applied technology field performance 30 DAP

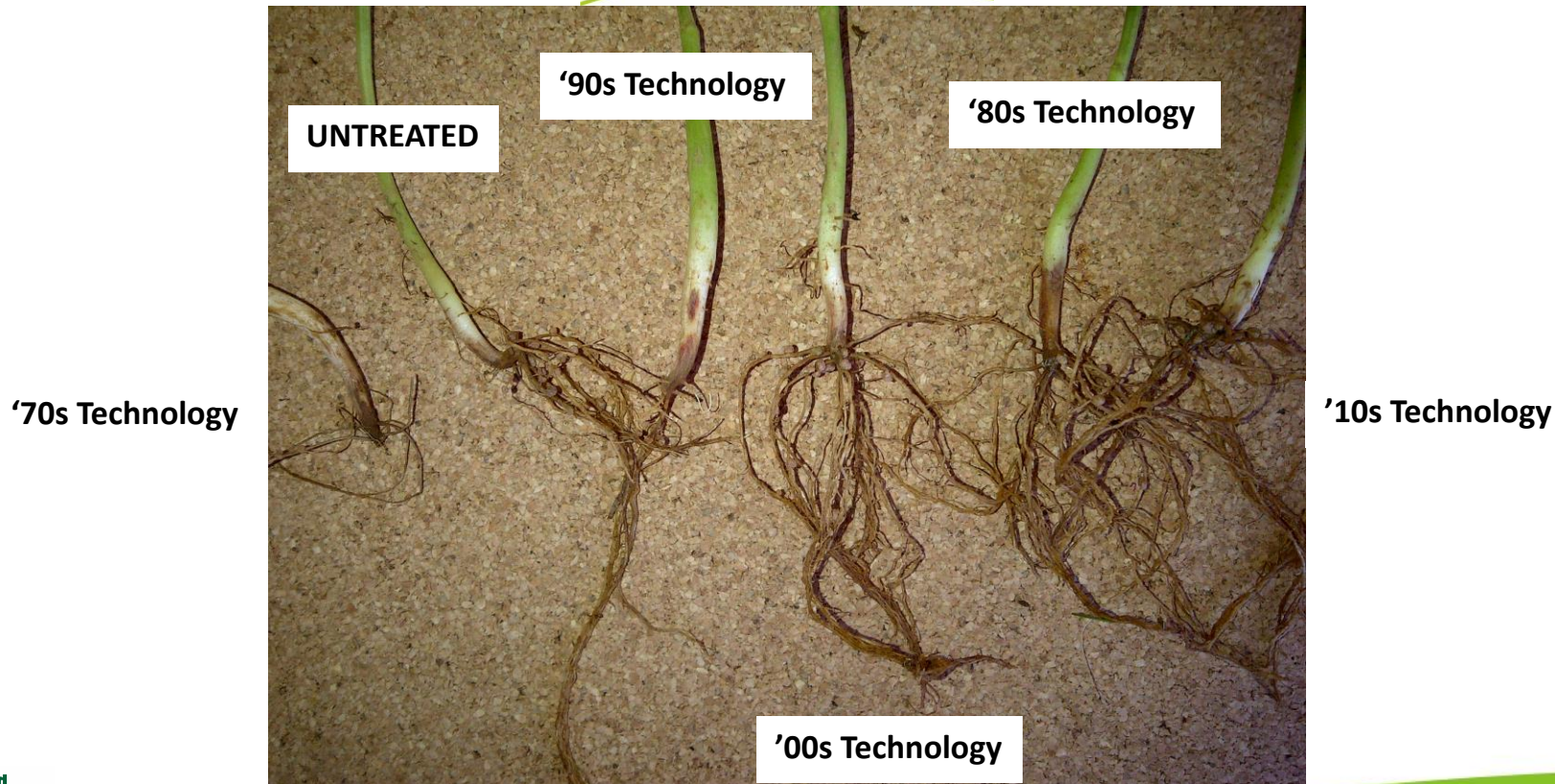
UNTREATED



SAIF Treated



Seed applied technology field performance – 30 DAP



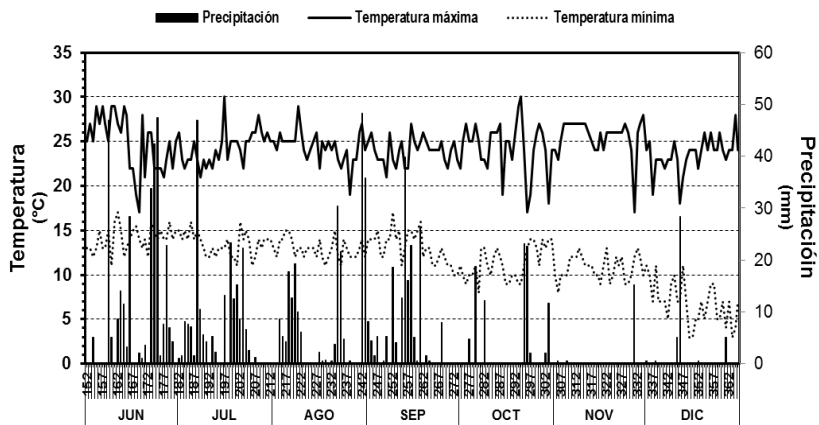
Photos source: Dr. Luis M. Serrano, Universidad de Chapingo



Seed applied technologies protecting yield potential

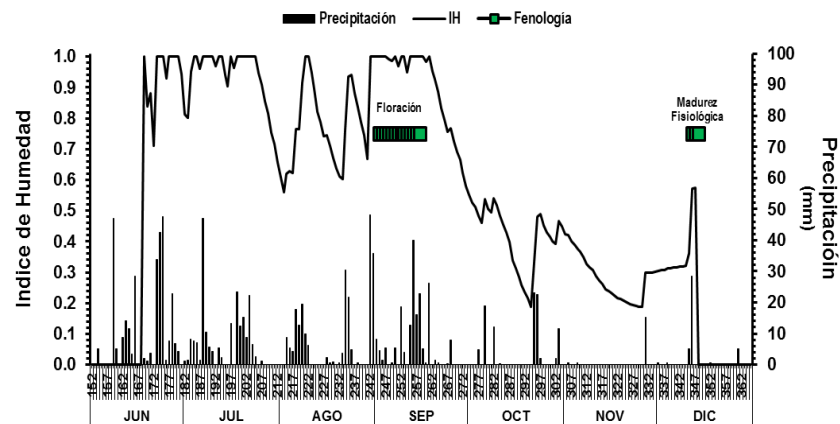
Climate conditions during 2015 growing season in Tepatitlan, Jalisco

- Temperature and rainfall (Daily)



- Growing cycle Jun 17 to Dec 13, 2015
- Average low temperature 12.2C / 54.2F
- Average high temperature 24.2 C / 76.04F
- Rainfall during growing season 943.7mm / 37.15in
- Adjusted GDD to moisture availability 1,325

- Water balance and Humidity index (Daily)



- Humidity index ranges from 0.1 a 1
- At zero, there is no moisture available
- One, indicates full moisture available
- Flowering is the most sensitive period to moisture availability
- Grain fill period, influences yield greatly

Relating growing conditions and hybrid characteristics with yield potential

• Growing conditions

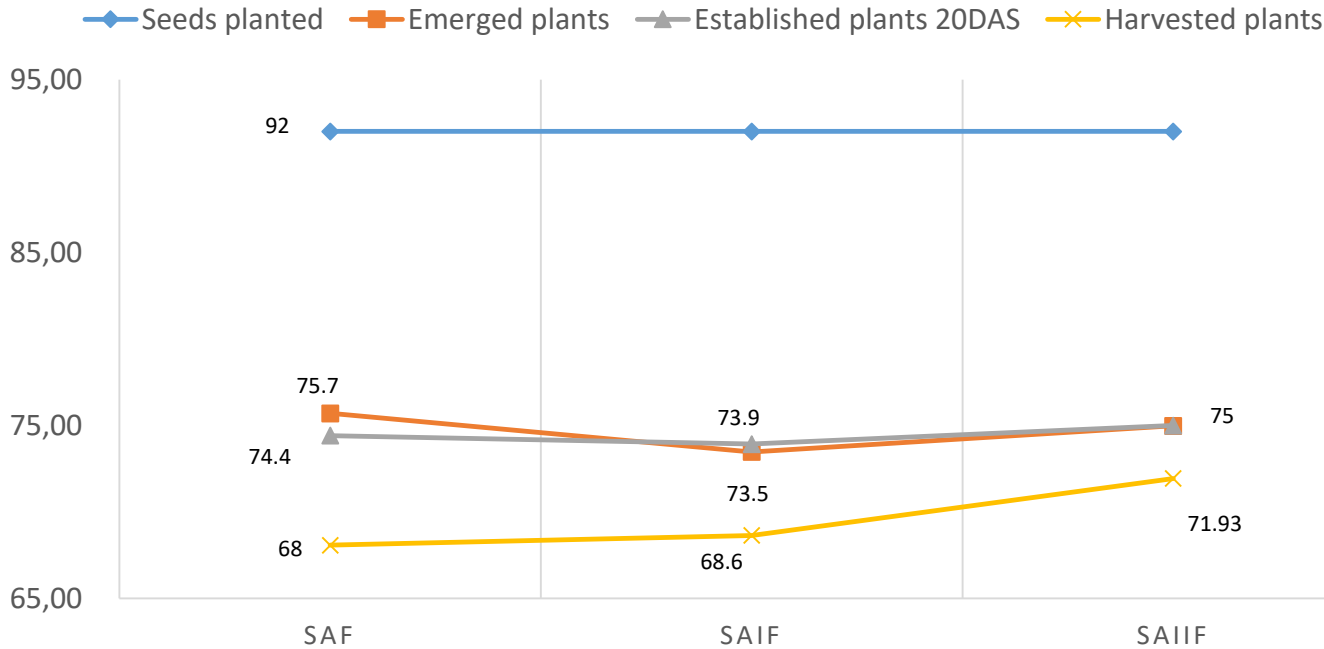
- Planting date June 17, 2015
- Emergence: June 24, 2015
- Flowering date: Sept 9, 84 Days After Planting (DAP)
- GDD to flowering: 744 based on 10C / 50F
- Physiological Maturity: Nov 28 (164 DAP)
- GDD to physiological maturity: 1,391 based on 10C / 50F
- Average plant height: 254 cm

• Yield potential

- Total potential yield:
 - Stalk, leaves and ear = 19.43 Ton/Ha dry
- Grain yield adjusted to 14% moisture:
 - 11.75 Ton/Ha
- Treatments
 1. Four active ingredient fungicide (SAF)
 2. Four active ingredient fungicide + Neonic insecticide (SAIF)
 3. Four active ingredient fungicide + Neonic insecticide + Diamide insecticide (SAIIF)

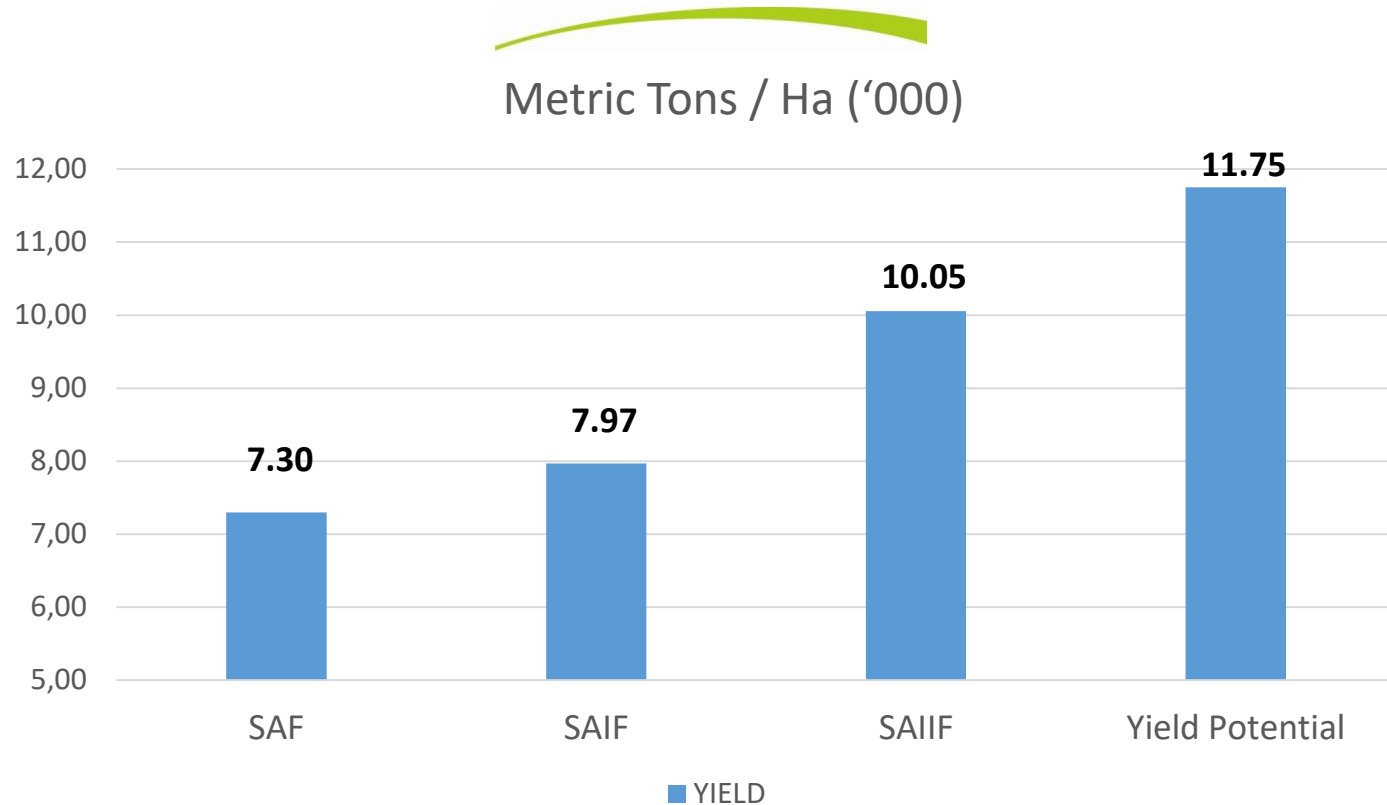
Planting to harvest – initial protection sets the tone for a great harvest

KERNELS / #PLANTS PER HA ('000)



Datos : Dr. Hugo Flores, INIFAP Altos Sur. Tepatitlán, Jalisco

A larger amount of plants reaching harvest, reflects in yield



Datos : Dr Hugo Flores, INIFAP Altos Sur. Tepatitalan, Jalisco

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Seedling loss = poor crop establishment

Abiotic stress

- Bio-stimulants
- Biological products
- Micronutrients
- Water and nutrient use efficiency
- Root stimulants

Early season foliar pests

- Diamides
- Sulfoximines
- Neonicotinoides
- Carbamates

Soil pests

- Diamides
- Neonicotinoides
- Biologicals
- Pyrethroids
- Carbamates

Nematodes

- Biological products
- Chemical solutions

Diseases

- Long lasting protection
- Downy mildew
- New modes of action – SDHIs
- Sudden death syndrome
- Biological products



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Reduce trade barriers with new technologies treated seed flow across the America's



- Dynamic data base available to SAA Members
 - Local authorities contact information
 - List of main crops being imported and exported out of each SAA National Seed Association member
 - General information or links with all info to each country's phytosanitary requirements for bringing in or shipping out seed
 - Labeling requirements

Reduce trade barriers with new technologies treated seed flow across the America's

Treated Seed Regulatory Information

Country	Agency	Contact Name in Agency	Local Seed Association Lead	Main crop seed exported from Country	Main crop seed imported from Country	Sanitary laws and regulations to export seed	Sanitary laws and regulations to import seed	In case there are no defined laws and regulations in place, how can the Local Seed Association, SAA and ISF can help local authorities in developing these for importing and exporting seed	What Labeling is required to accompany all seed coming into the country	What Labeling is required to accompany all seed being exported	If seed treatment should be included in the product label/package, is it required to be described as amount of formulated product per weight	If seed treatment should be included in the product label/package, is it required to be described as an amount of active ingredient per seed	What are the Labeling requirements for Colorants, Polymers and flow additives	What are the Labeling Requirements for Biological products (Bacteria, Bacillus, etc)
Argentina	SenASA Servicio Nacional de Sanidad y Calidad Agroalimentaria	Maria Julia Palacin	Juan Erdmann	Maiz	Soya	https://aps3.senasa.gov.ar/Regl/ahentacionesPOV/tafes/publicPages/consultaPublicaDisposicion.es.jsp http://www.senasa.gov.ar/requisitos_fitosanitarios/principal.html	Aut Fitosanitaria de Imp (AFIDI) http://www.senasa.gov.ar/contenido.php?to=n&id=1094&io=18888	N/A	La Ley de semillas 20247/75 y el decreto de implementación, N° 2183/91 regulan la producción y el comercio. Mediante el Art.9 de la mencionada ley y las Resoluciones 408-1992 y 42-2000 se regulan las especificaciones que deberán llevar los rótulos tanto en clase fiscalizada como en identificada. Si la semilla hubiese sido tratada con sustancias tóxicas deberá figurar en letras rojas la leyenda "SEMILLA CURADA VENENO".	Para exportación de semillas las AD Declaraciones Adicionales de los Certificados de Exportación, deben detallar la sustancia en el caso de tratamientos de Plagas Cuarentenarias. No hay en el rotulo requerimiento formal que lo solicite	No hay requisito formal que solicite indicar el tratamiento utilizado en el rótulo. Solo en las Declaraciones Adicionales de los Certificados Fitosanitarios, se expresan en ml o gr por Kg. Nunca en unidades de semillas y para plagas Cuarentenarias reglamentadas cuya medida de intensidad (tratamiento), lo requiera.	no exige ningún requerimiento para el mercado local o para la importación. La información es colocada en la mayoría de las veces en forma voluntaria por las empresas productoras y/o importadoras	No existe requisito referidos al tema, ni para mercado local ni para importación	No existen requisitos bajo normativa para el rotulado aplicado a tratamiento en semilla
				Soya	Maiz									
				Sorgo	Alfalfa									
				Arroz	Forrajes									
				Girasol	Girasol									
				Rye Grass	Festuca									
				Canola/Colza/Nabiza	Sorgo									
				Trebol Blanco	Maiz Pisingallo									
				Maiz Pisingallo	Hortalizas									
				Cebolla	Anejas									
					Sandia									
					Gramma Rhodes									
					Gatton Paric									
					Espinaca									
					Zapilo									
					Zanahoria									
					Choco									
					Pasto									
					Tomate									
					Lechica									
					Cebolla									
					Pimiento									
					Melon									
					Tabaco									

Education sessions across industry to bring a clear message to everyone using treated seed



Joint industry wide efforts to reach all STWG goals



This is why certified seed protected with latest technology and all work being done matters!!!!

Certified treated corn seed



Farm saved untreated corn seed



Thank you for your attention!

