

TITAN MOVES THE WORLD.



American Engineered. American Manufactured.



Welcome

Protecting, Preserving Tires
In Those Tough No-Till
Situations

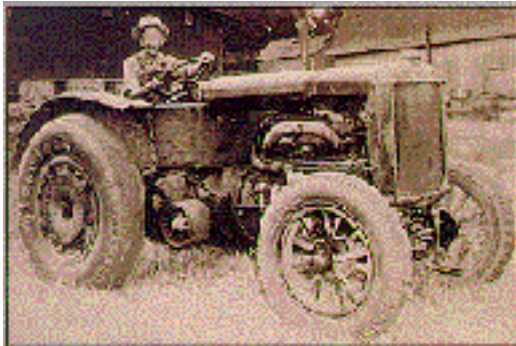


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Equipment Trends - Then

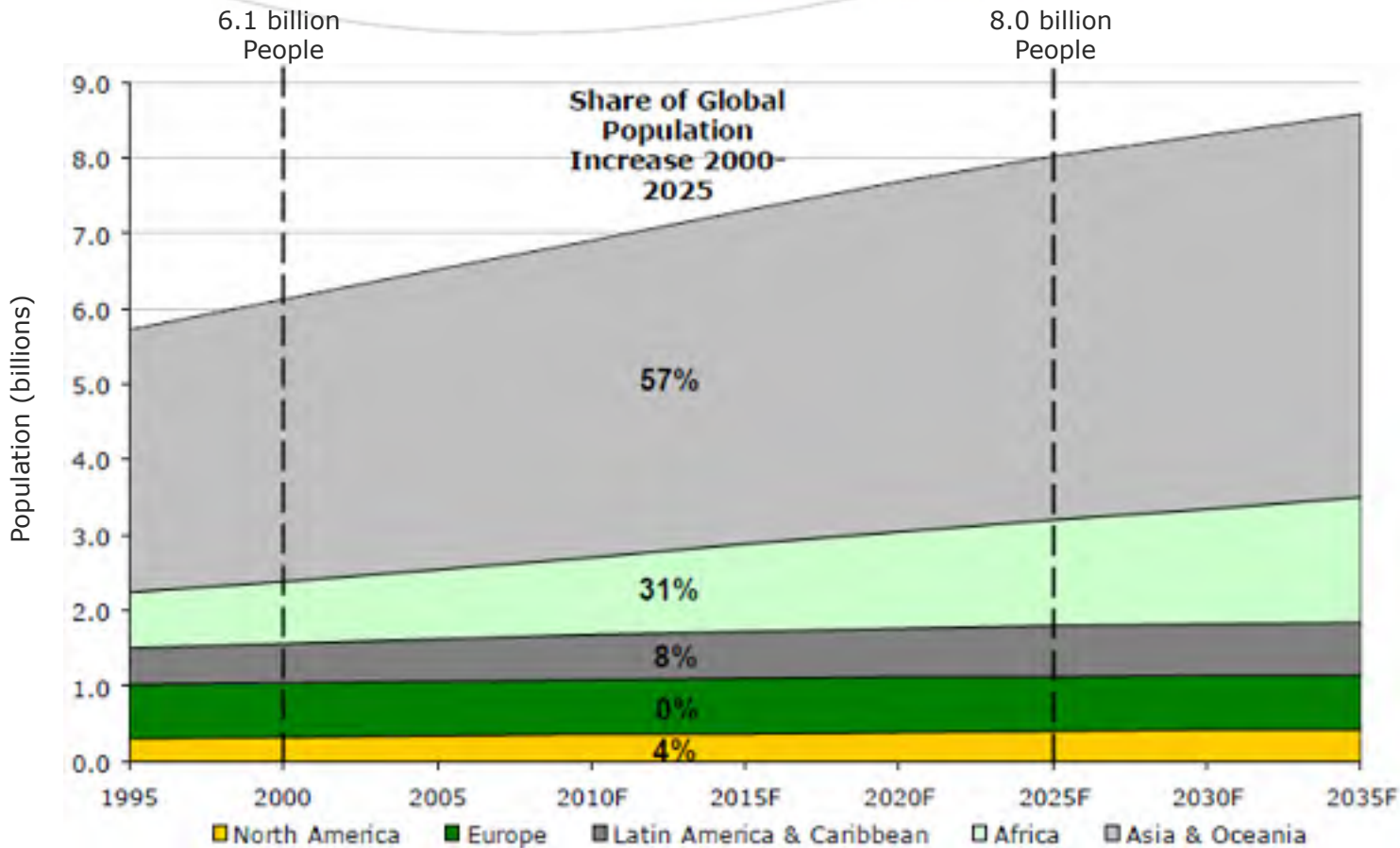


Equipment Trends - Now



Global Population by Geography 1995-2035

Additional 1.9 billion people need food, shelter, infrastructure



Source: Population Division of Dept of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision



What's Next

- Bigger – More Horse Power
 - 600 HP Tractors
 - 500+ HP Combines
- Faster – Speeds That Will Exceed 40 MPH
- Heavier – 500 to 600 Bushel Combine Grain Tanks – 45 Foot Grain Heads
- Motorized Sprayers – 1600 Gallon Tanks
- Grain Carts – 2000 Bushel



Customer Trends

- Consolidation
 - Corporate Farming
 - Implement Dealer Consolidation
 - Specialization of key functions
 - Spraying, Planting, and Harvesting
 - Hobby Farms – Compacts



Customer Trends

- Highly Educated
 - Must be well versed in financial management, cash flow, government regulations and all aspects of running a business
 - Internet
 - 99% of farmers under 35 have internet access
 - Social networking to solve problems



Customer Trends

- Precision Farming
 - GPS
 - Auto Steer
 - Crop Monitoring
 - New Hybrids
 - Chemical Dispersion



Quick Review

Or Quiz the Audience



Quick Review

What is the difference between
an R1 and R1W tire?



RMA Industry Codes – Rear Tractor

Code	Industry Tire Type	Tire Service
Drive Tractor Tires		
<u>R-1 Radial & Bias</u>	Drive wheel, regular tread	General farming
<u>R-1W Radial</u>	Drive wheel, wet traction tread 20% deeper than an R-1	Wet or moist soil
<u>R-2 Radial & Bias</u>	Drive wheel, wet traction deep	Wet and muck Rice & cane farming
<u>R-3 Radial & Bias</u>	Drive wheel, shallow tread	Sandy or volcanic ash soil Golf course work, light industrial service, highway mowing



Commonly Asked Questions

What is the ply rating of my 2 *
radial rear farm tire?



Ply Rating

- Does not mean number of plies in tire. Ratings vs. actual plies
- Applies to bias tires
- Each tire manufacturer determines number of plies so that the tire will perform at its maximum load and inflation
- Max load and inflation is based on tire size



Star Rating

- Star Rating is based on inflation
- Rated inflation:
 - 1 star 18 psi
 - 2 star 24 psi
 - 3 star 30 psi
 - 4 star 36 psi
- Max load rating is based on tire size:
 - 18.4-38 1* 18 psi 5,680 lbs.
 - 20.8R-38 1* 18 psi 6,800 lbs.
- Each tire manufacturer determines number of plies/belts so that the tire will perform at the rated conditions



Load Index

- Standardized System for load.
- Max load rating is based on the index system no matter the size:

380/90R46	149A8/B	7150lbs
480/80R38	149A8/B	7150lbs
520/85R42	149A8/B	7150lbs
- Each tire manufacturer determines number of plies/belts so that the tire will perform at the rated conditions



Commonly Asked Questions

How low can I run my
air pressure in my tires?



Air Pressure – Optimum Tire Performance

- You must set up the air pressure to the load
- Setting up your tractor to achieve best overall field performance






Optimum Tractor Tire Performance

- Benefits

- Improved Traction & Reduced Slip
- Improved Fuel Efficiency
- Reduced Compaction
- Improved Ride
- Longer Tread Life
- Improved Sidewall Stability
- Improved Resistance to Bruising/Stubble
- Better Control of Power Hop



Correct Inflation Footprint Comparison

480/80R42 Load 151A8	Per Load Tire	Inflation Pressure	Contact Area Square Inch	Footprint
Correct (Rated)	7600	23	340	
Overinflated	4080	33	167	
Correct	4080	9	340	



Get the Best From Your Tires

- Where do you Find Answers to All These Questions
 - Tire Manufacturer's Data Book
 - Tire Dealer
 - Internet
 - Call Me



Load inflation tables can be found in your tire manufacturer's handbook ?



Your Manufacturer's Farm Tire Data Book

YOUR MANUFACTURER'S FARM TIRE DATA BOOK



Stubble Damage

What can I do about stubble damage?



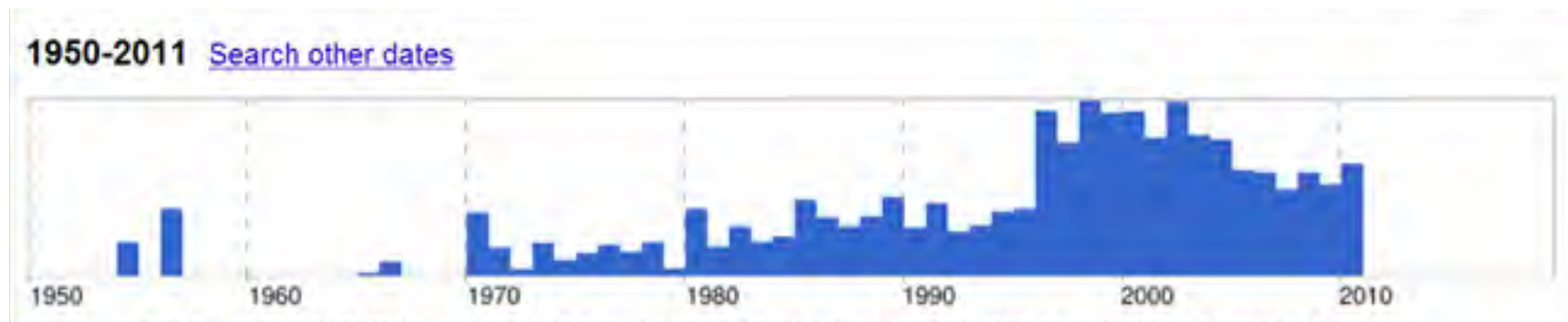
Stubble Damage

- Causes:
 - Tougher Hybrids
 - Weather Hardened Stalks
 - Height of Stalks
 - Shorter the stalk the greater the problem
 - Angle of the Cut Stalks
 - Driving on the Row



Stubble Damage

- Causes:
 - Tougher Hybrids
 - Number of Corn Genetic Patents Since 1950



Stubble Damage

- Causes:
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Stubble Damage

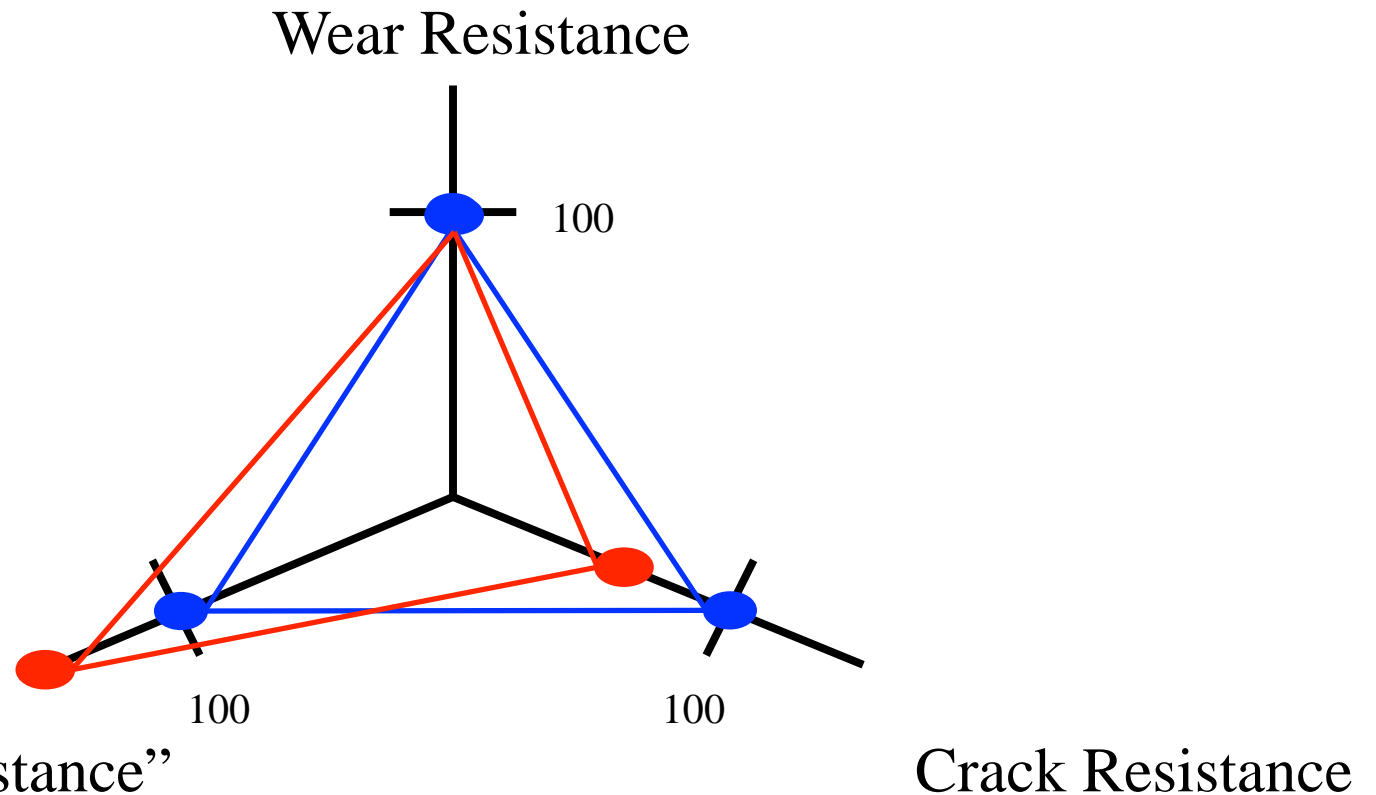


Stubble Damage

- What are we doing?
 - New Tread Compounds
 - Harder? Too hard causes other problems



Rubber Compound “Magic Triangle”



No single compound does everything....

.... It's all about compromise.



Stubble Damage

- What are we doing?
 - New Tread Compounds
 - Harder? Too hard causes other problems
 - Do older tires perform better?
 - Hybrids. SBR / NR
 - New Prototype design



Stubble Damage

- What are we doing?
 - New Stubble Resistant Prototypes



Stubble Damage

- What are we doing?
 - New Tread Compounds
 - Harder? Too hard causes other problems
 - Do older tires perform better?
 - Hybrids. SBR / NR
 - New Constructions
 - Multiple ply constructions. Bullet proof vest theory
 - Prevent penetration
 - Experimenting with the use of materials such as Kevlar.



Stubble Damage

The Big Question

- What Can You Do?
 - Stay off the rows as much as possible
 - Run The Tires Between The Rows
 - Tire never sees the stubble.
 - Proper Tire Inflation
 - Minimizes sidewall damage
 - Tillage Angle



Stubble Damage

- What Can You Do?
 - *****Modify Equipment****
 - *****Modify the Condition you are running in****
 - Stubble Stompers
 - Stalkhogs
 - Anything to get the stubble to start laying over.
 - Start protecting yourself



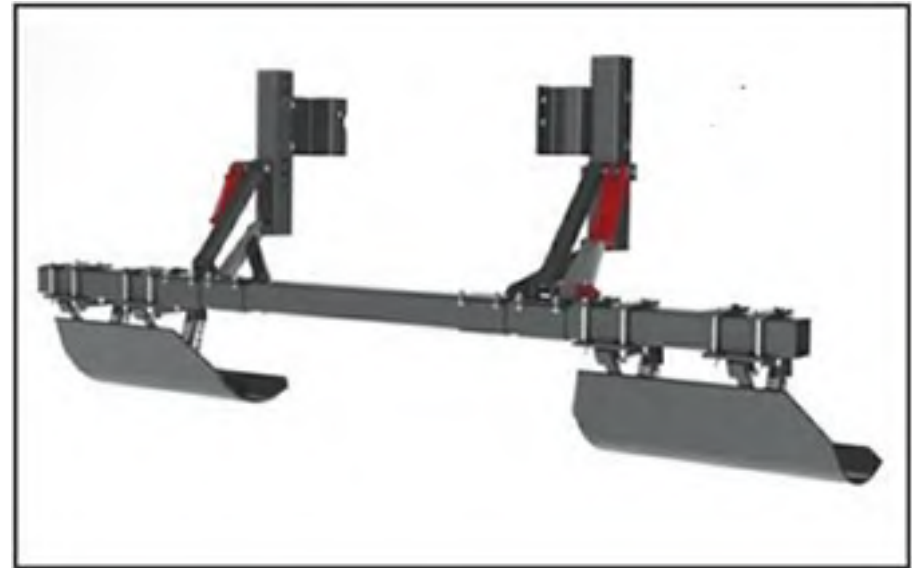
Aftermarket Stubble Devices



Made to knock down stubble in front of the tires
Minimizes stubble related issues



Aftermarket Stubble Devices



Made to knock down stubble in front of the tires
Minimizes stubble related issues



Conclusion

- What Can You Do?
 - Growers need to take an active and aggressive approach to minimizing potential for stubble and protect their investment in tires.
 - Genetics and methods are ever changing, tires are on equipment for decades. You may not have an issue this season but wait for the next change then it becomes a problem.
 - Don't let that happen to you.



Conclusion

- What Can You Do?

“Insanity: doing the same thing over and over again and expecting different results.”

-Albert Einstein

- Continuing to run tires in the same conditions will result in the same outcome. Spending time and money on tires looking for a brand that works is not an economical option. Whether you want to believe it or not, stubble effects all brands of tires



Conclusion

- What Can You Do?
 - Don't waste time and money continuing to fix the result of the condition by replacing tires, you need to eliminate or modify the condition itself.
 - Determine what system works best for your situation and start to change your condition.
 - Once you have changed the condition, you may find that a less expensive tire option may work just as well.



Conclusion

- Bottom Line

- We will continue to work to improve the tire performance in all conditions.
- Tire companies are reviewing Stubble warranty policies.
- Prediction-If stubble warranty goes away, stubble damage goes away.
- Because growers are extremely creative and innovative and they will find a solution.
- Necessity is the Mother of Invention



Thank You



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