

# COMPACTION ACTION DAY

From Thursday September 7<sup>th</sup>, 2017

## The Results

**Graphical Results of Soil Stress Sensor Response to Various Equipment Configurations as a Proxy to Soil Compaction**



Bern University  
of Applied Sciences

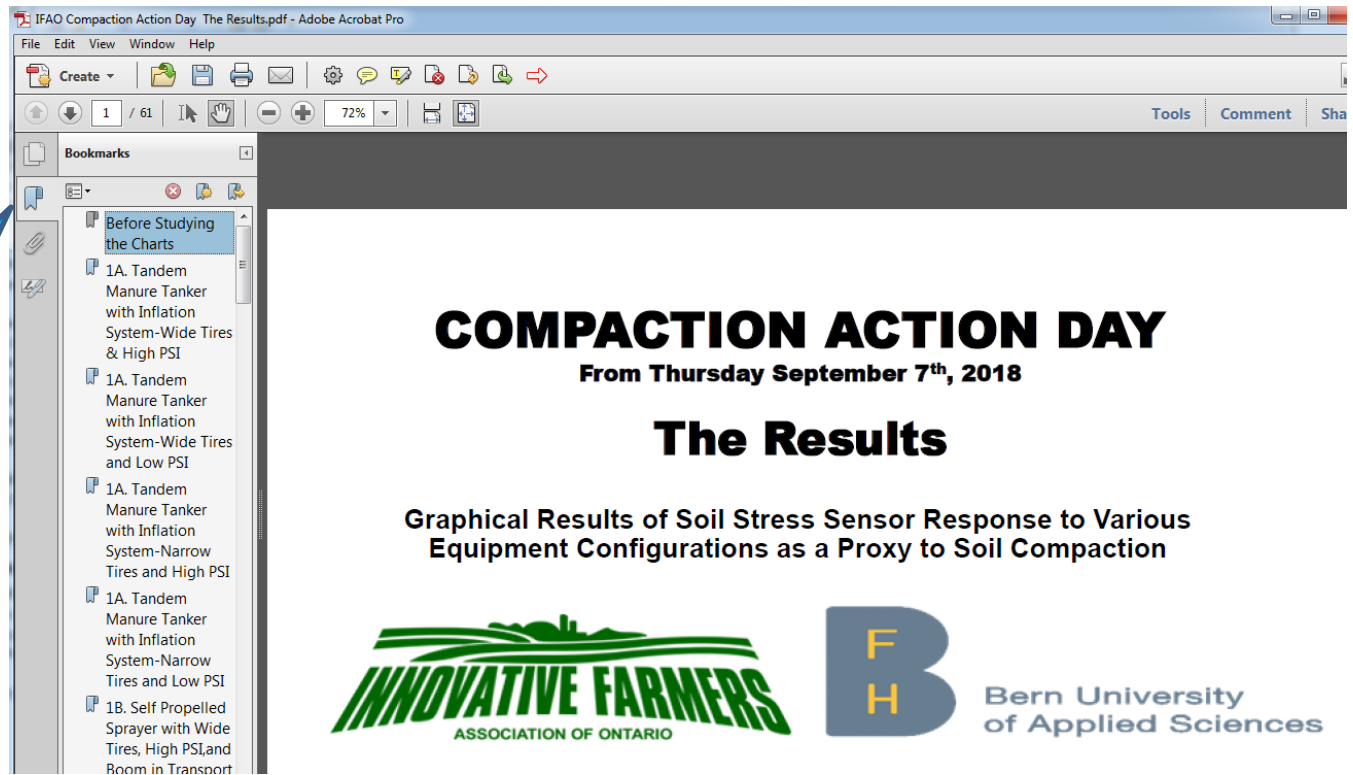
# **Before Studying the Charts**

Please read the following two documents here on the website which give background on how the data was collected, and what considerations you need to make when reviewing the data:

1. Understanding Soil Compaction
2. Interpreting Compaction Action Results from Recorded Sensor Data

# Don't See the Bookmark View?

Click Here!



The screenshot shows the Adobe Acrobat Pro interface. The title bar reads "IFAO Compaction Action Day The Results.pdf - Adobe Acrobat Pro". The menu bar includes "File", "Edit", "View", "Window", and "Help". The toolbar contains various icons for file operations. The status bar shows "1 / 61" pages, a mouse cursor, and a zoom level of "72%". The "Bookmarks" panel on the left is expanded, showing a list of bookmarks. A blue callout bubble points to the top of the bookmark list with the text "Click Here!".

**COMPACTON ACTION DAY**  
From Thursday September 7<sup>th</sup>, 2018

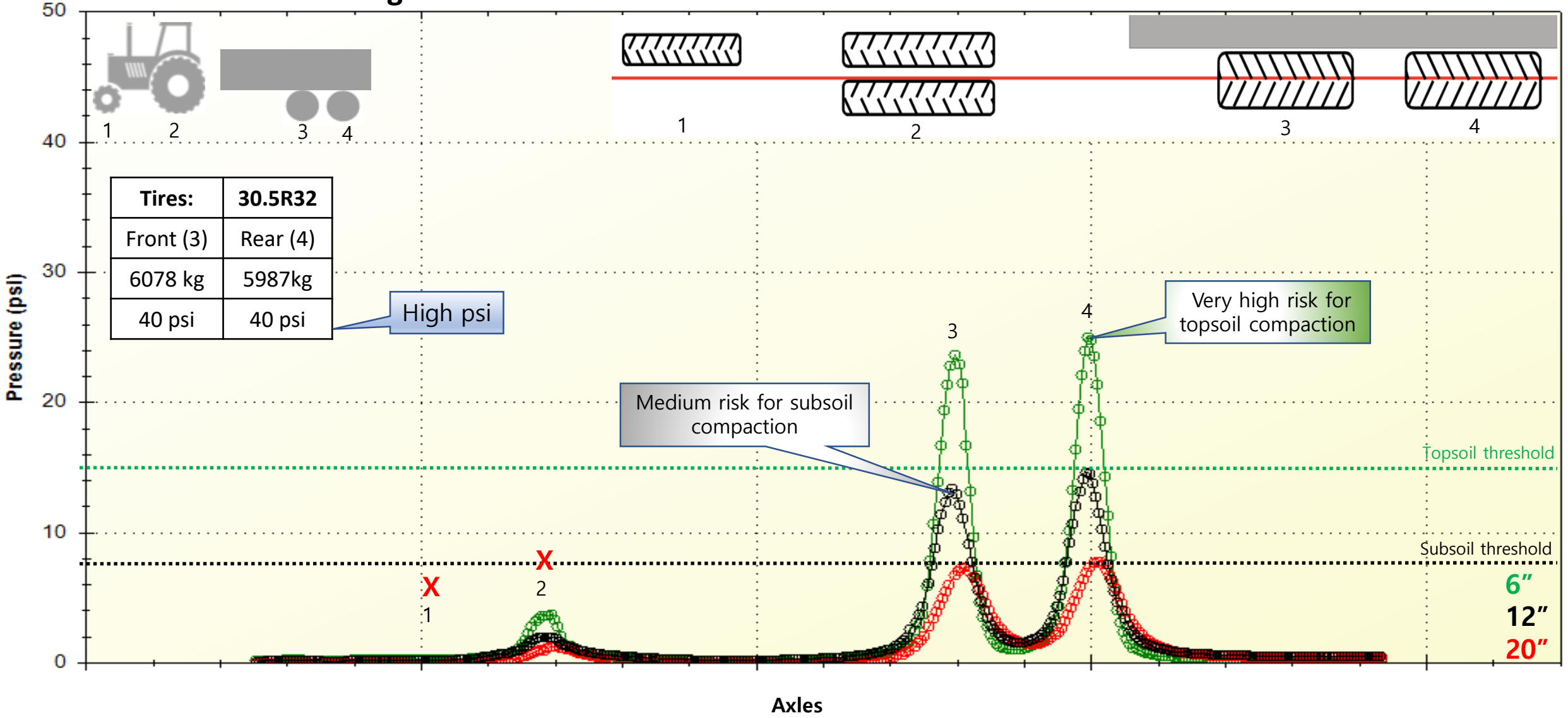
**The Results**

Graphical Results of Soil Stress Sensor Response to Various Equipment Configurations as a Proxy to Soil Compaction

**INNOVATIVE FARMERS**  
ASSOCIATION OF ONTARIO

**B**  
H  
Bern University  
of Applied Sciences

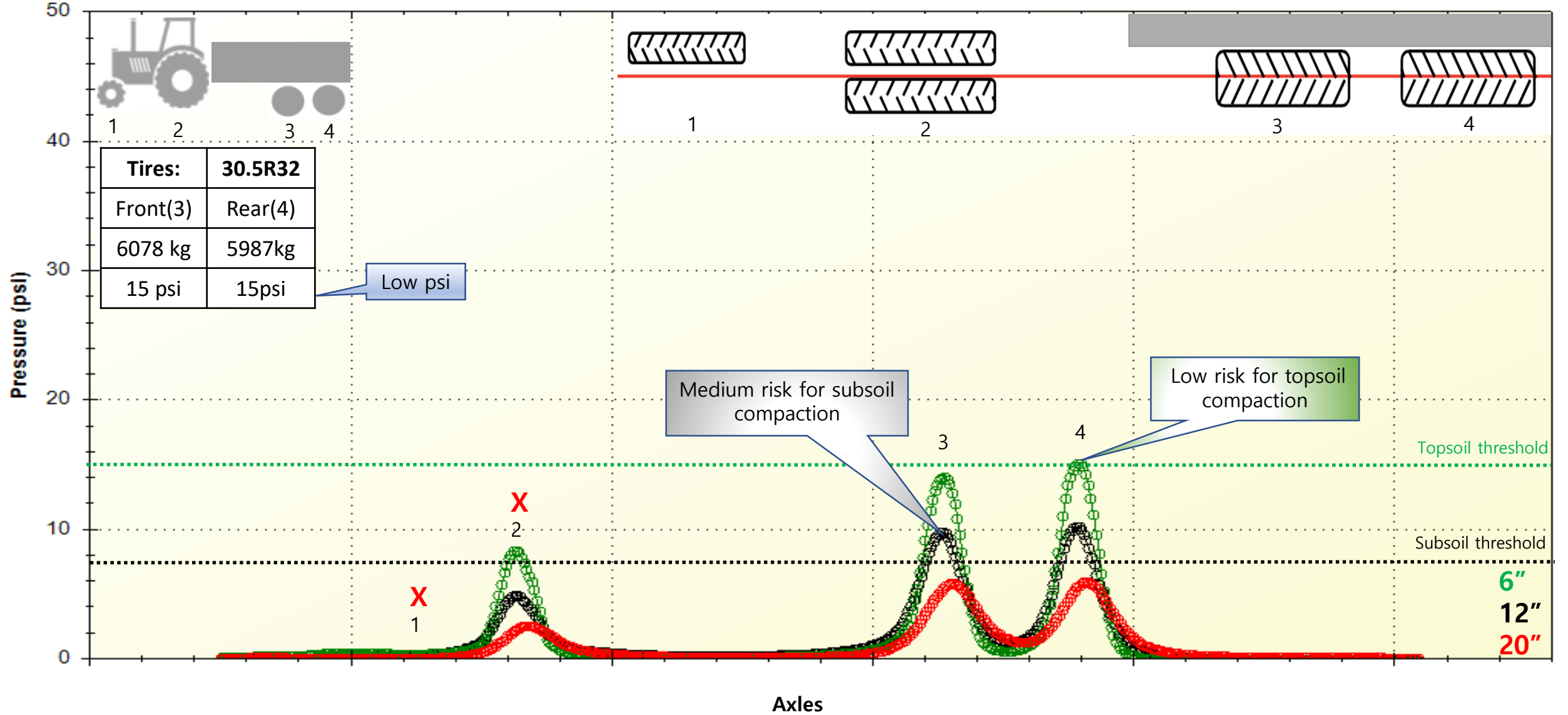
# 1A. Tandem Manure Tanker with Inflation System - Wide Tires & High PSI



**X**: Off sensor, not measured.

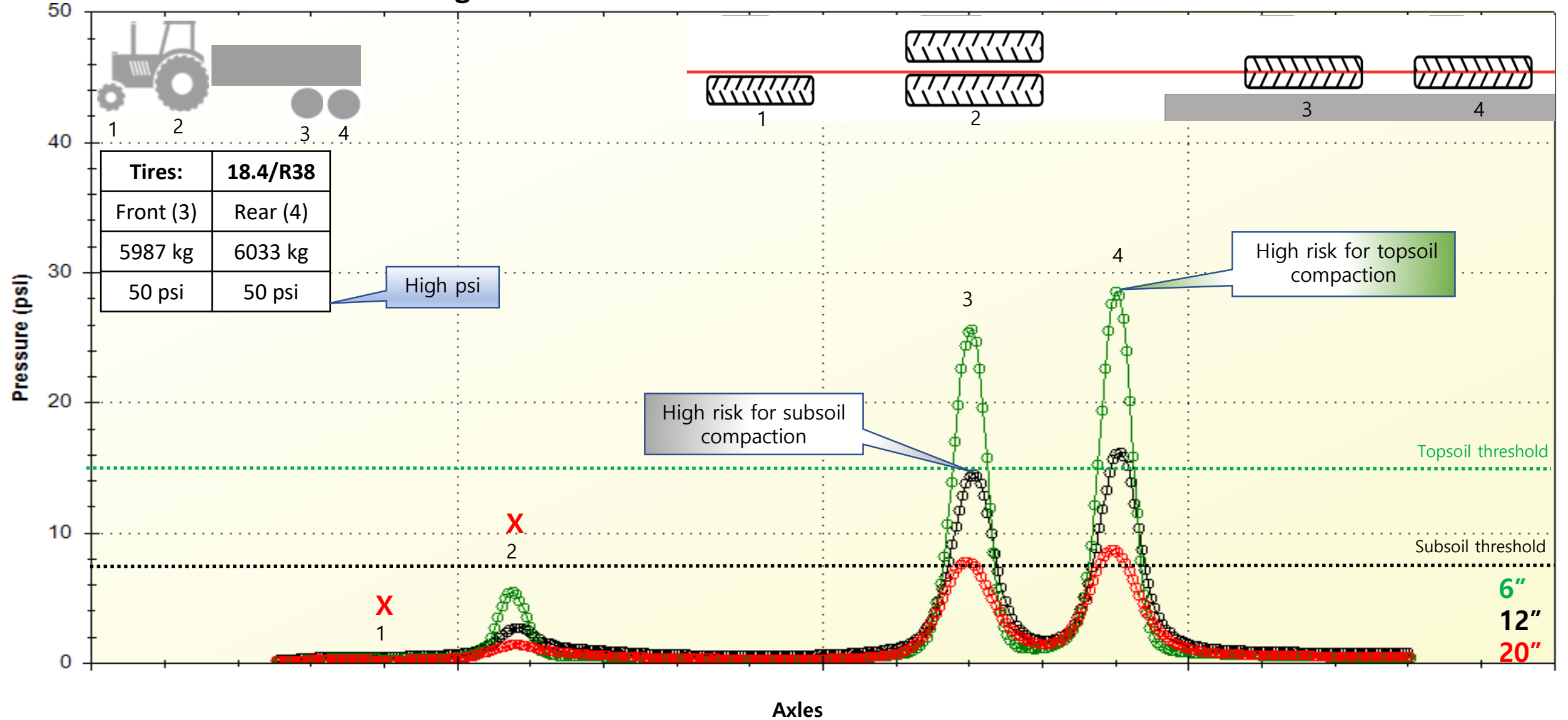
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# 1A. Tandem Manure Tanker with Inflation System - Wide Tires and Low PSI

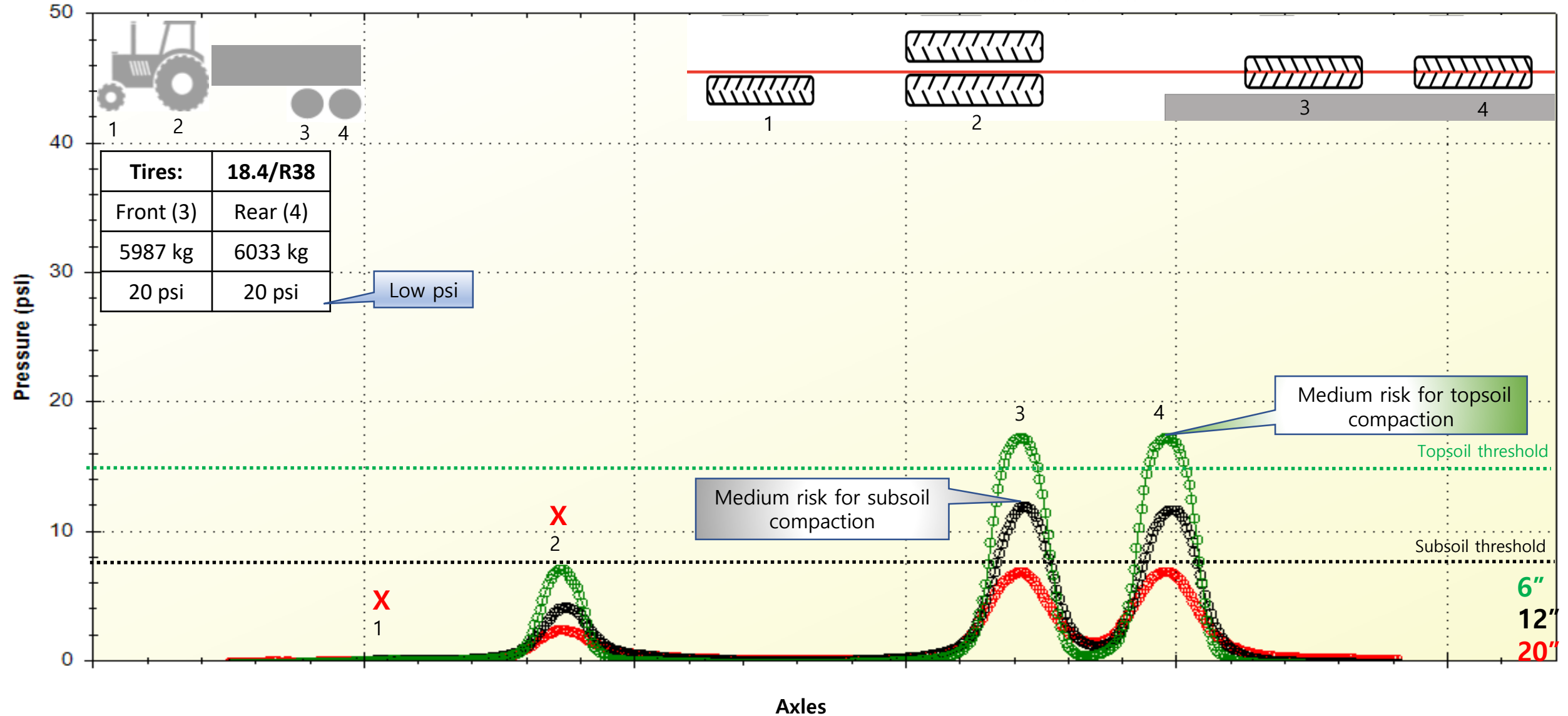


# 1A. Tandem Manure Tanker with Inflation System

## - Narrow Tires and High PSI



# 1A. Tandem Manure Tanker with Inflation System - Narrow Tires and Low PSI



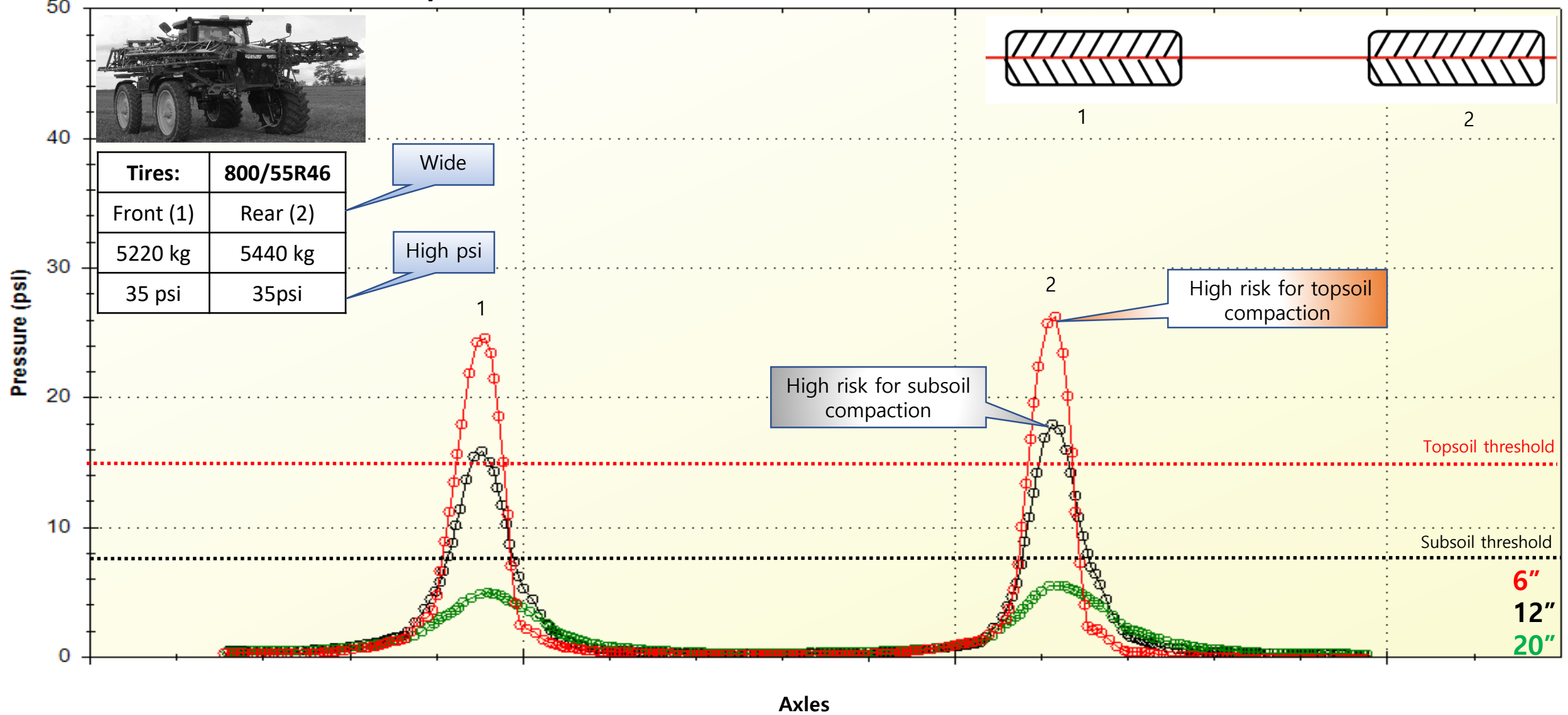
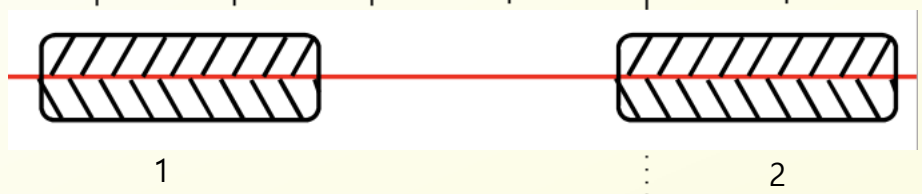
# 1B. Self Propelled Sprayer with Wide Tires, High PSI, and Boom in Transport Position



<b>Tires:</b>	<b>800/55R46</b>
Front (1)	Rear (2)
5220 kg	5440 kg
35 psi	35psi

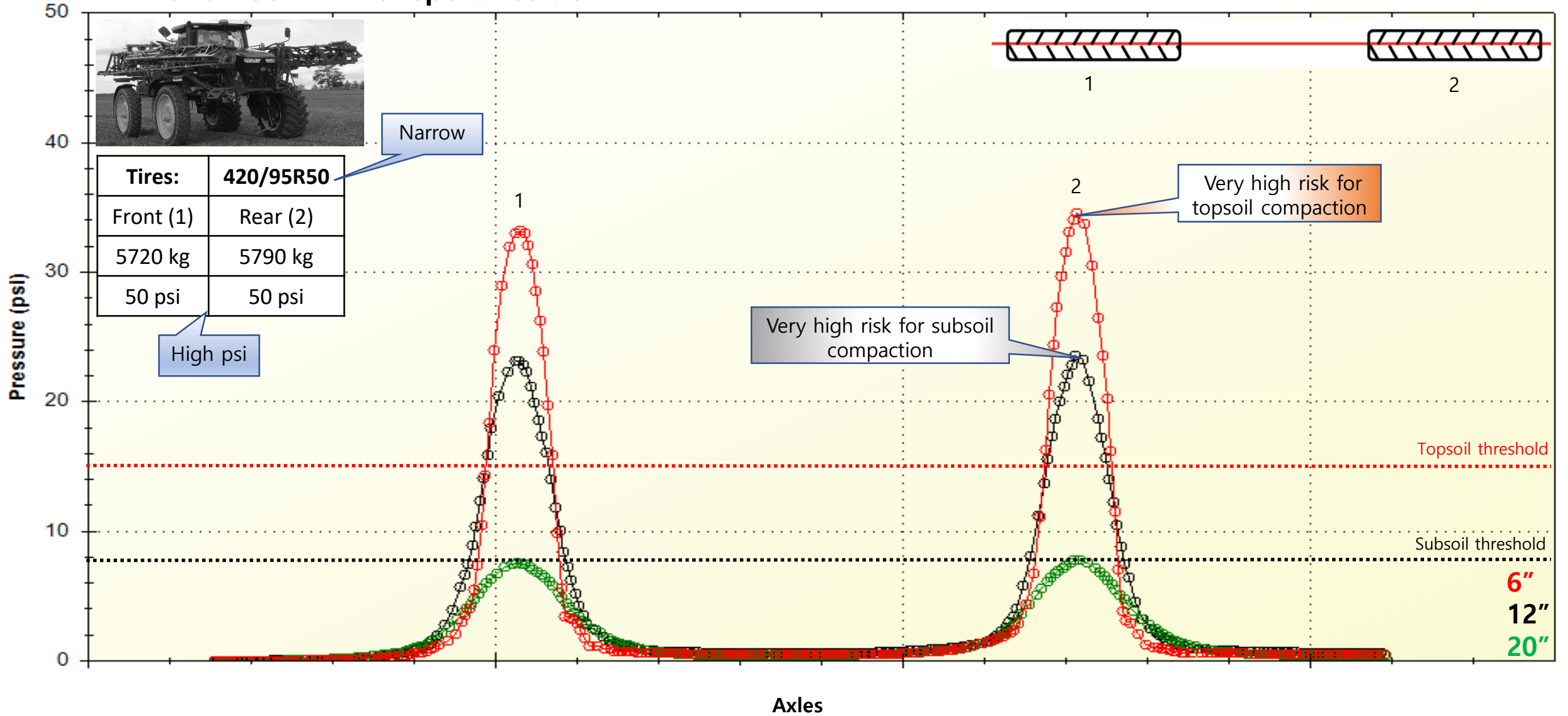
Wide

High psi





# 1B. Self Propelled Sprayer with Narrow Tires, High PSI, and Boom in Transport Position



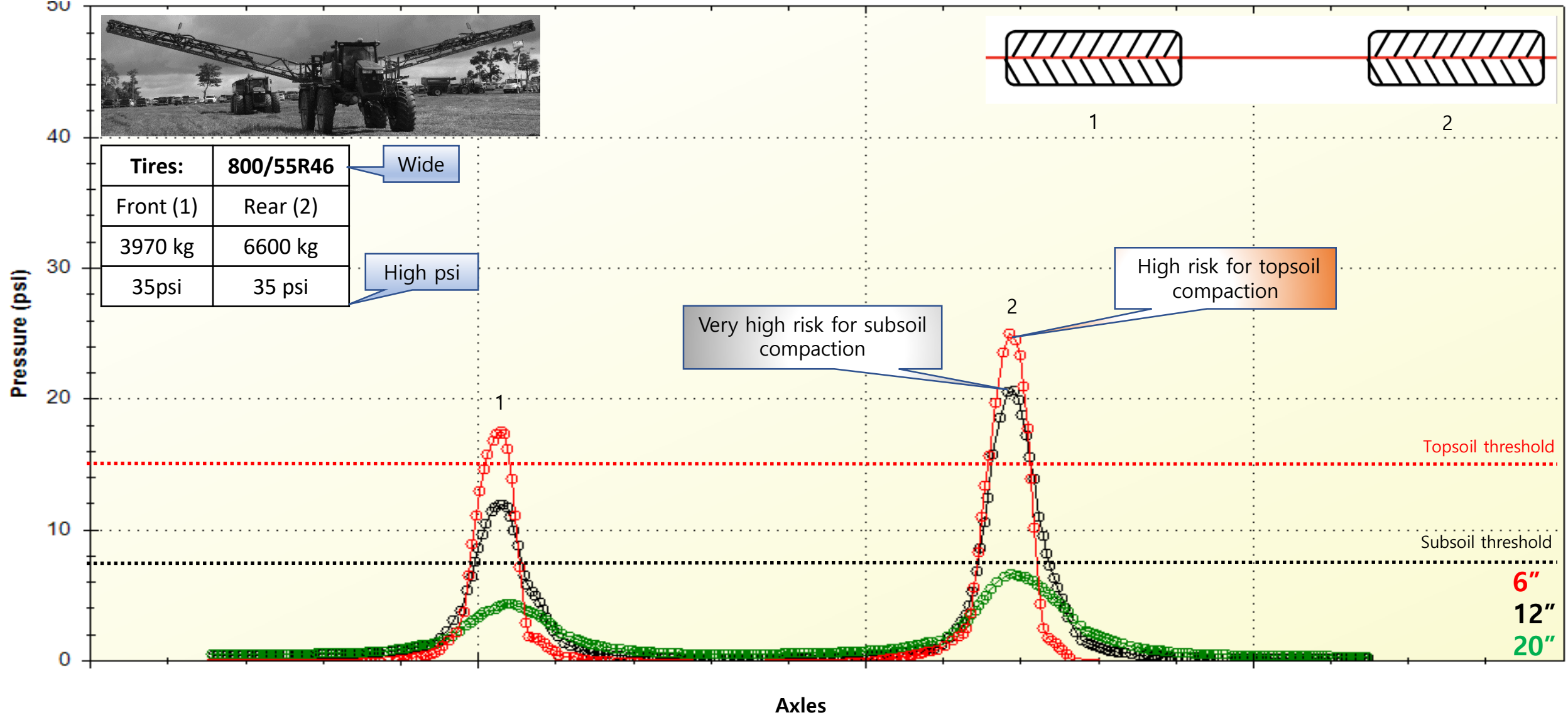
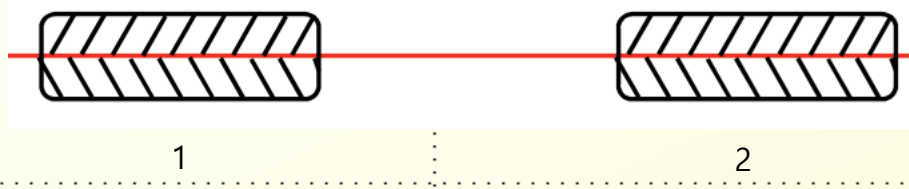
# 1B. Self Propelled Sprayer with Wide Tires, High PSI, and Boom in Field Position



<b>Tires:</b>	<b>800/55R46</b>
Front (1)	Rear (2)
3970 kg	6600 kg
35psi	35 psi

Wide

High psi

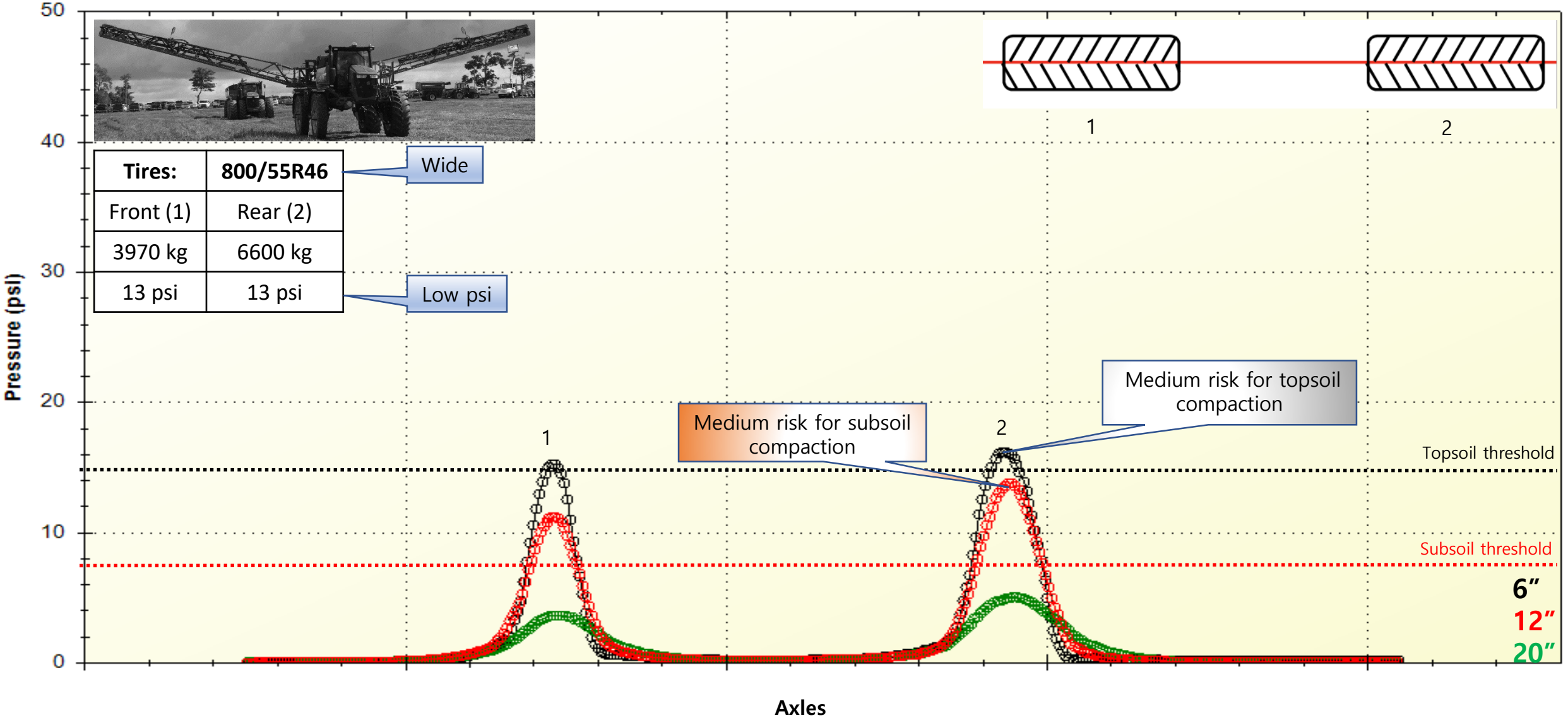


1B.PLWHF

**X:** Off sensor, not measured.

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# 1B. Self Propelled Sprayer with Wide Tires, Low PSI, and Boom in Field Position

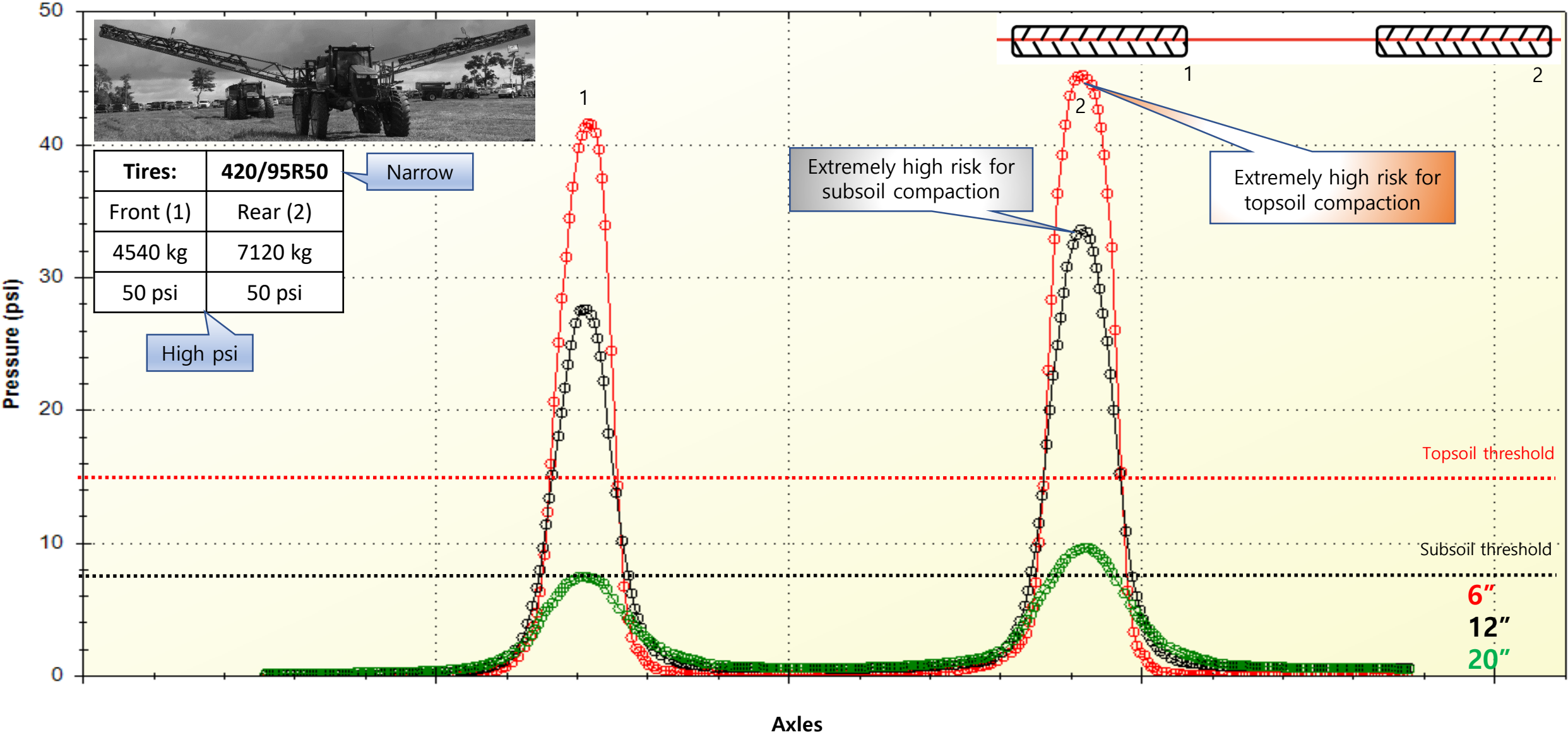


1B.PLWLF

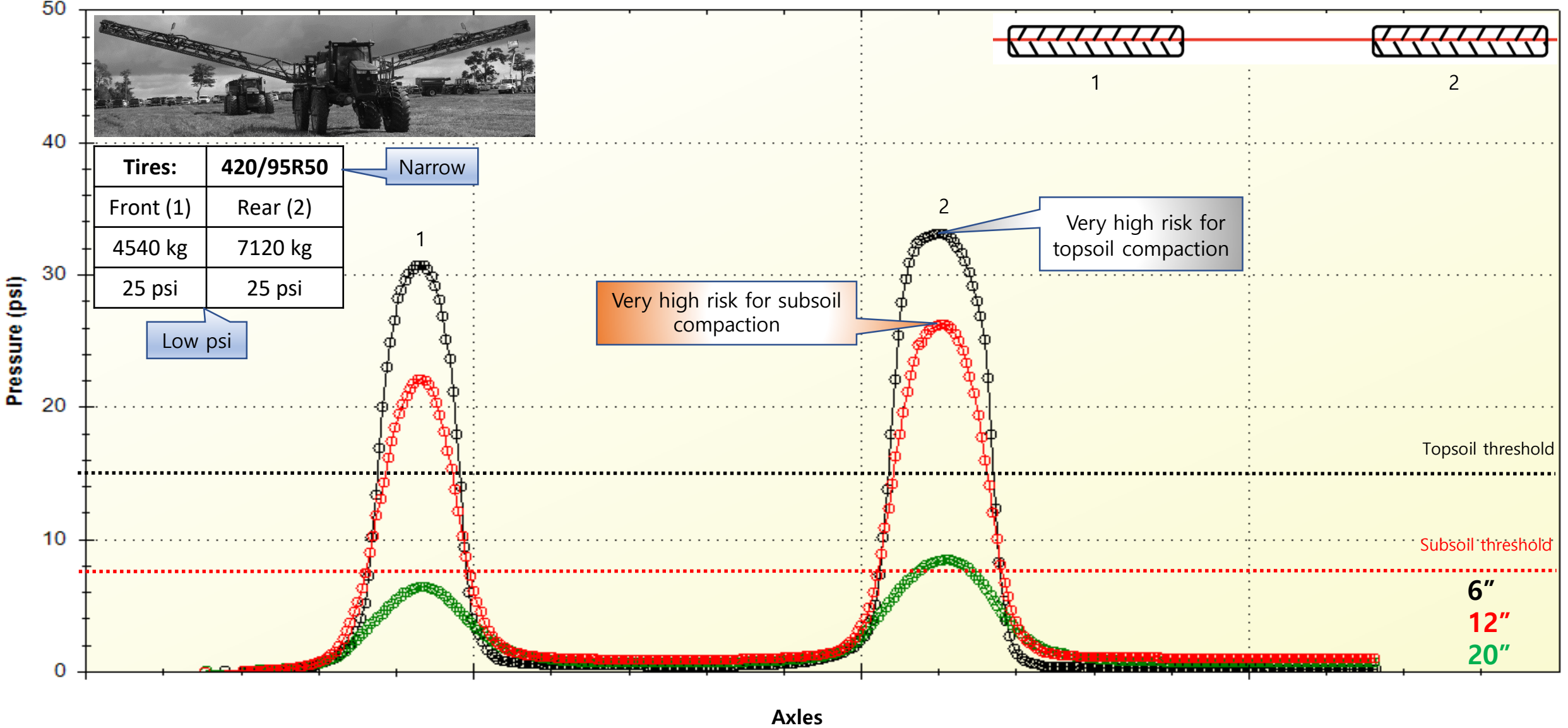
**X:** Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 1B. Self Propelled Sprayer with Narrow Tires, High PSI, and Boom in Field Position



# 1B. Self Propelled Sprayer with Narrow Tires, Low PSI, and Boom in Field Position



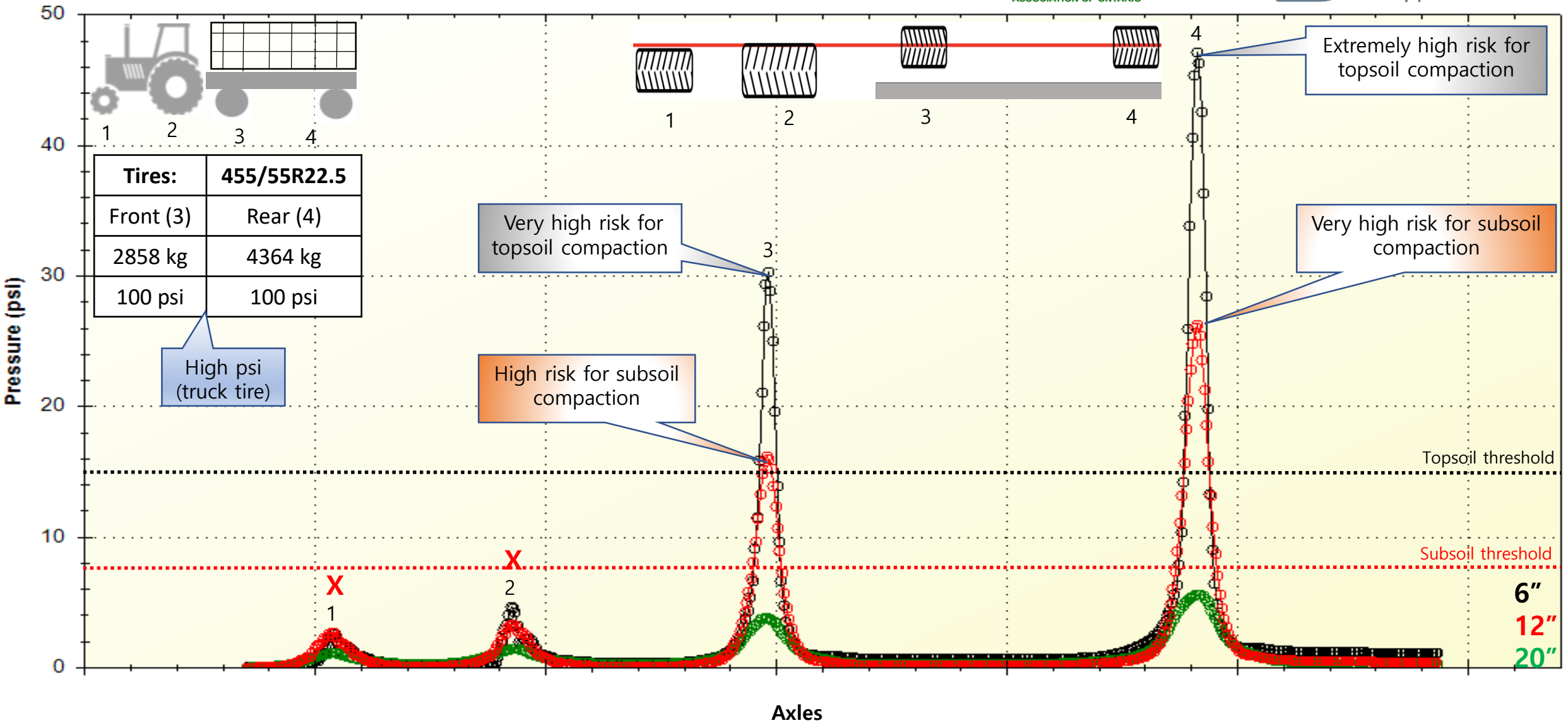
1B.PRNLf

**X:** Off sensor, not measured.

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# 2A. Large Square Bale Wagon with Truck Tires, High PSI

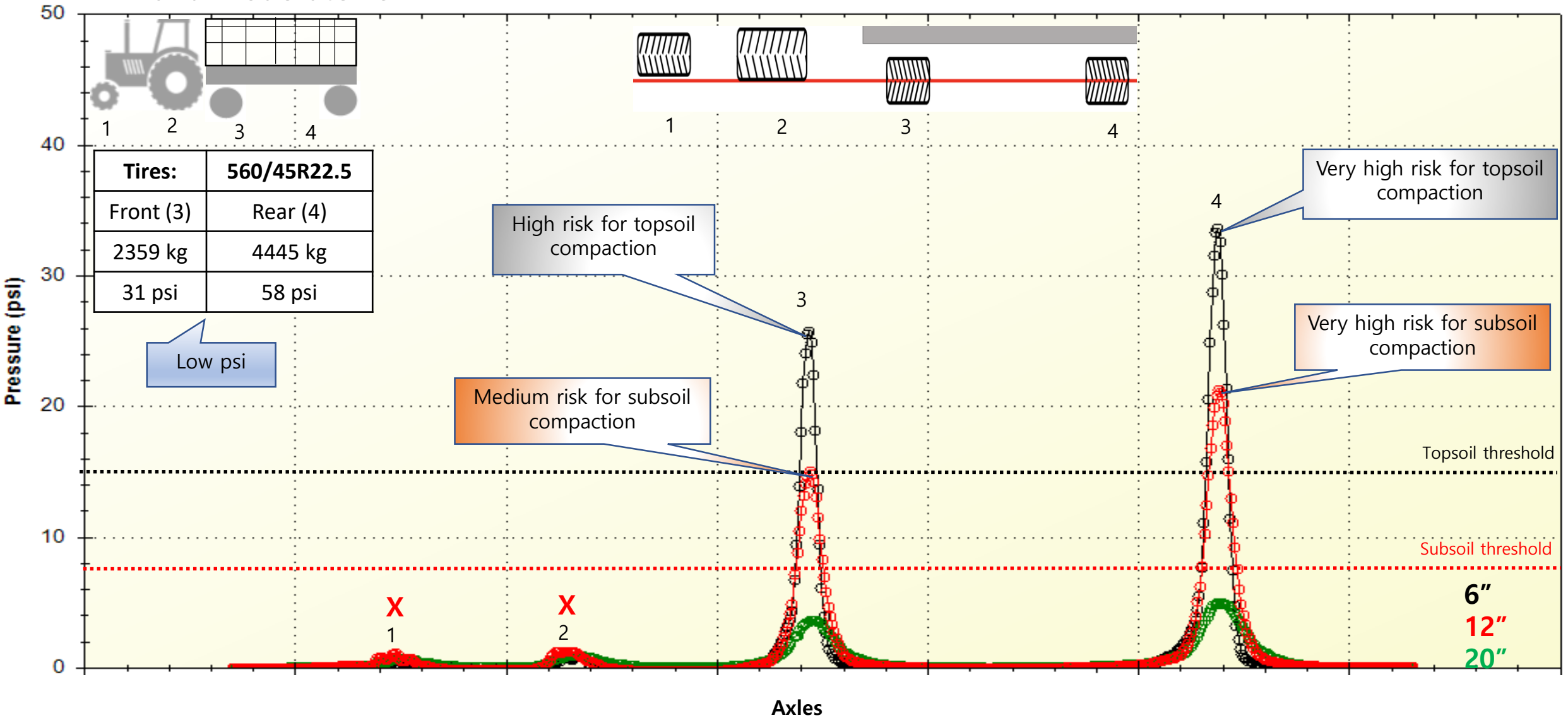


2A.IRMH

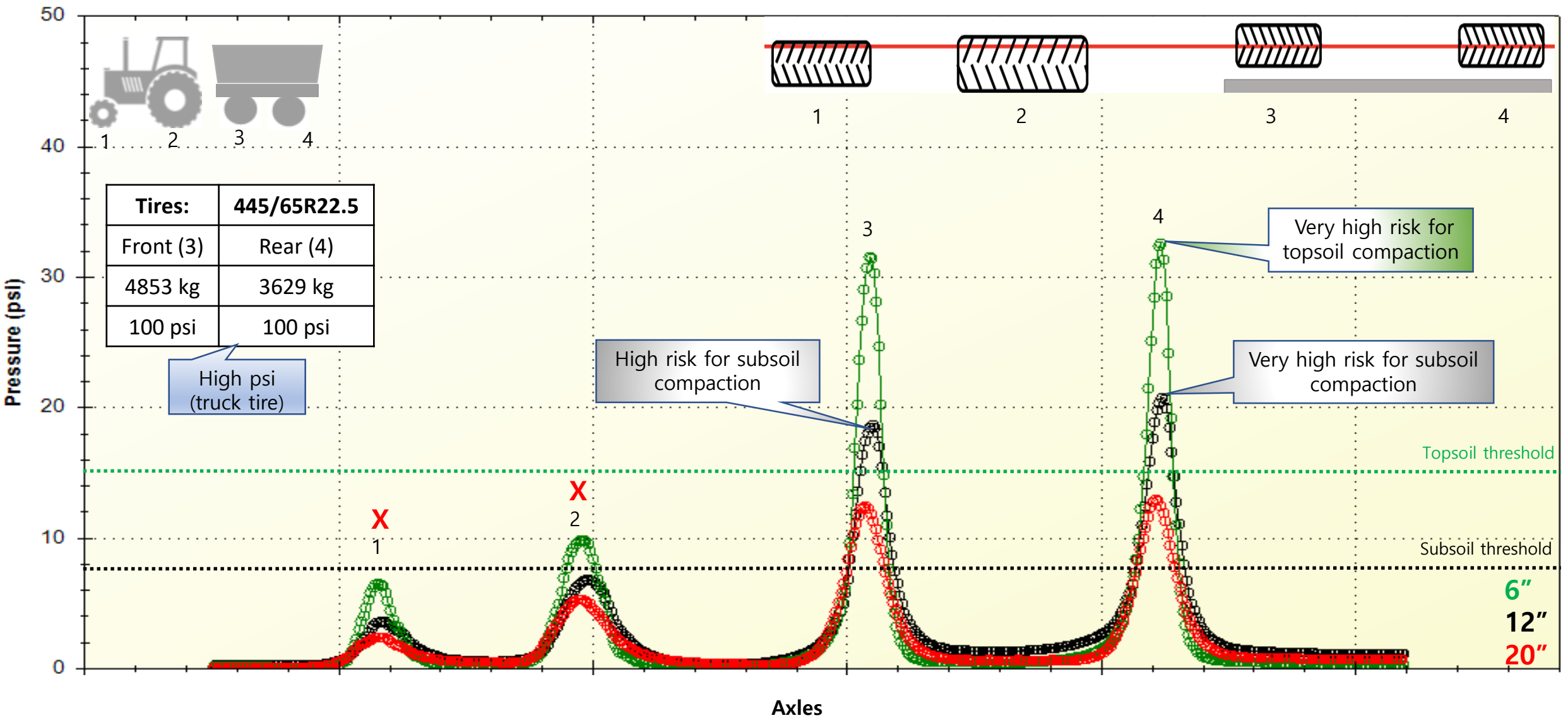
**X:** Off sensor, not measured.

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# 2A. Large Square Bale Wagon with High Flotation Tires, and Moderate PSI



# 2B. 600 Bu Gravity Wagon with Truck Tires High PSI

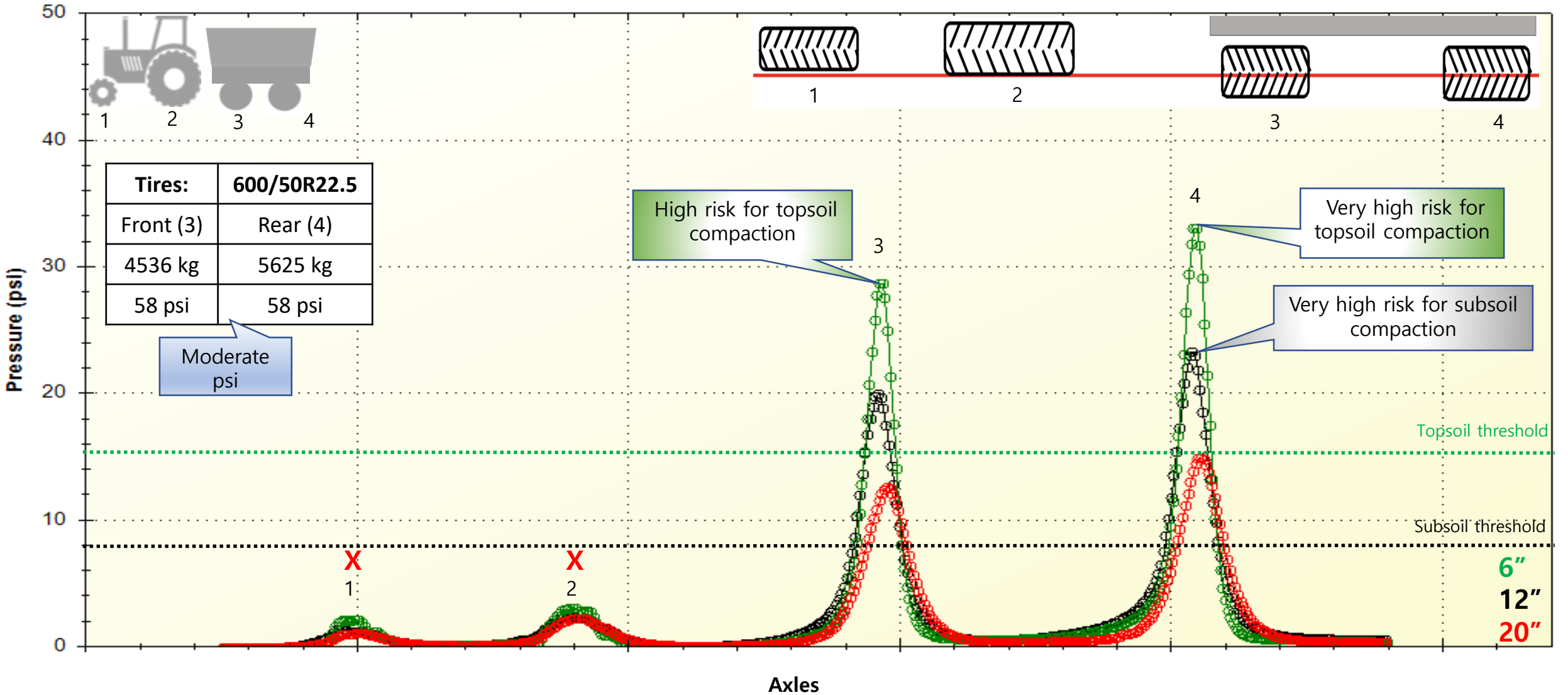


**X:** Off sensor, not measured.

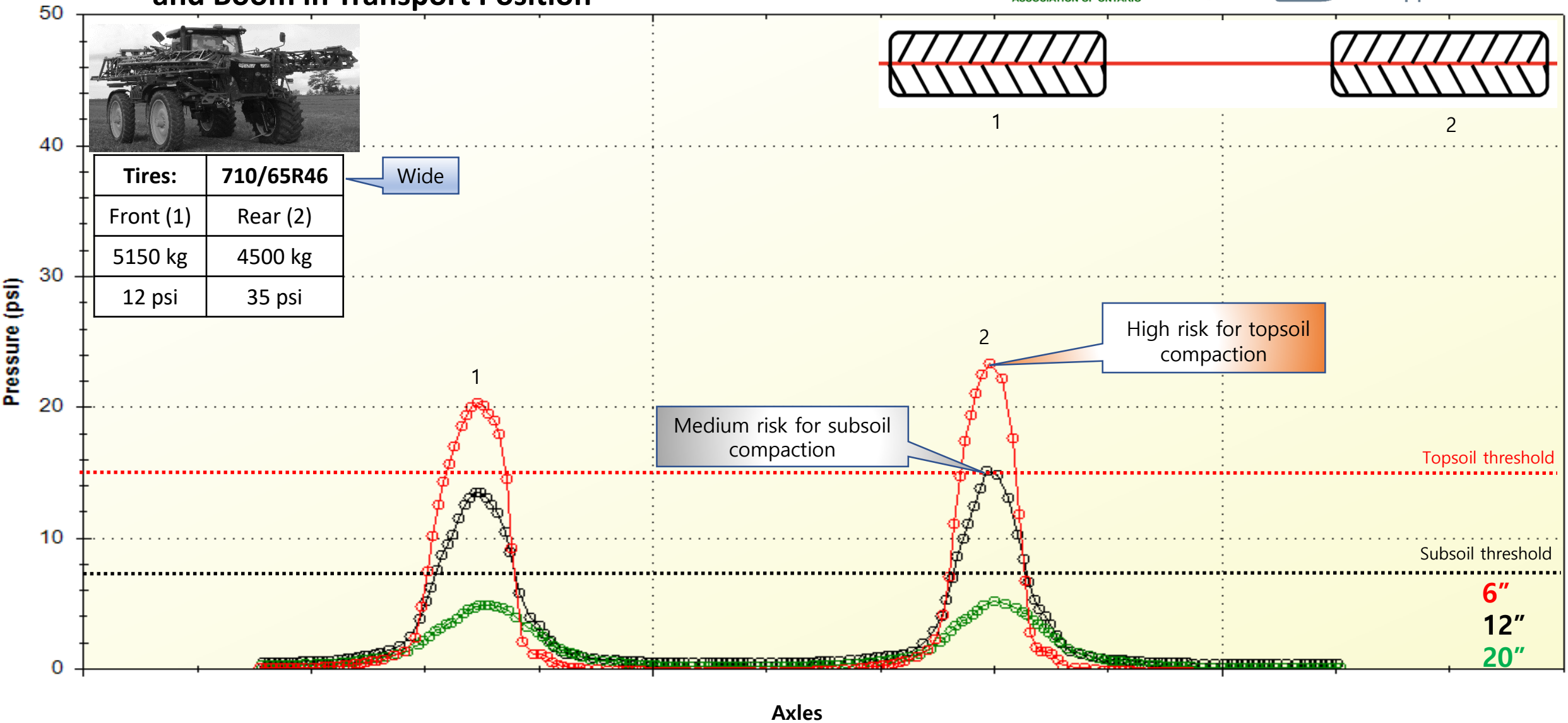
Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)



# 2B. 600 Bu Gravity Wagon with High Flotation Tires, and Moderate PSI



### 3A. Self Propelled Sprayer with Wide Tires, High PSI, and Boom in Transport Position

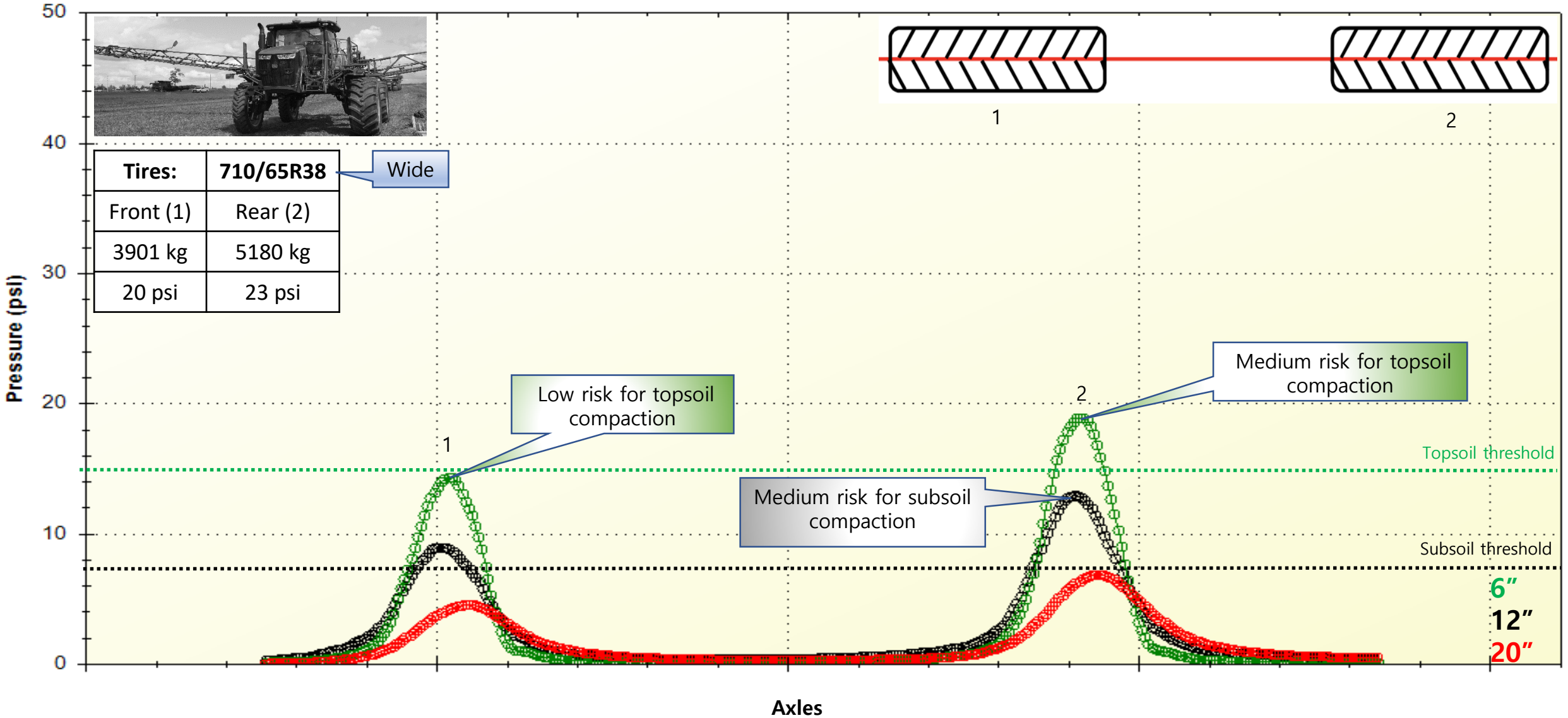


# 3A. Self Propelled Sprayer with Wide Tires, High PSI, and Boom in Field Position



<b>Tires:</b>	<b>710/65R38</b>
Front (1)	Rear (2)
3901 kg	5180 kg
20 psi	23 psi

Wide

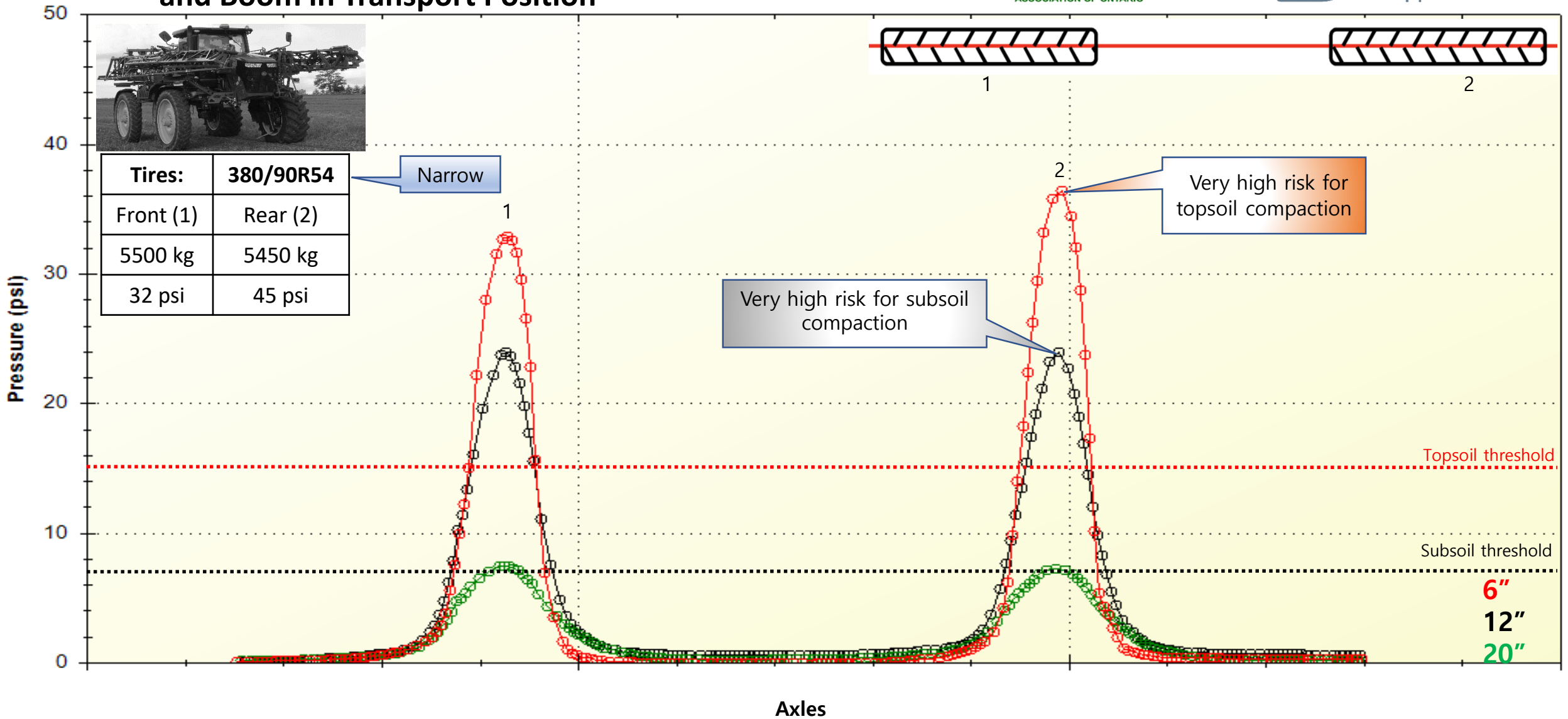
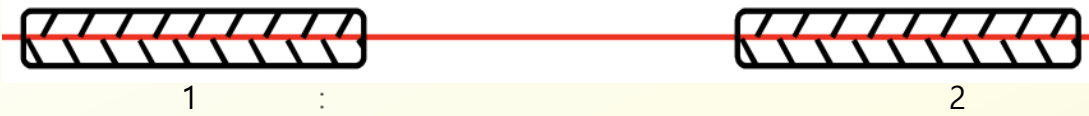


# 3A. Self Propelled Sprayer with Narrow Tires, High PSI, and Boom in Transport Position

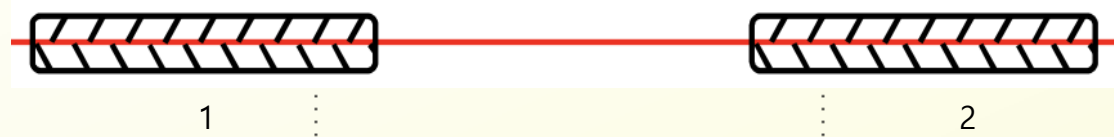


<b>Tires:</b>	<b>380/90R54</b>	
Front (1)	Rear (2)	
5500 kg	5450 kg	
32 psi	45 psi	

Narrow

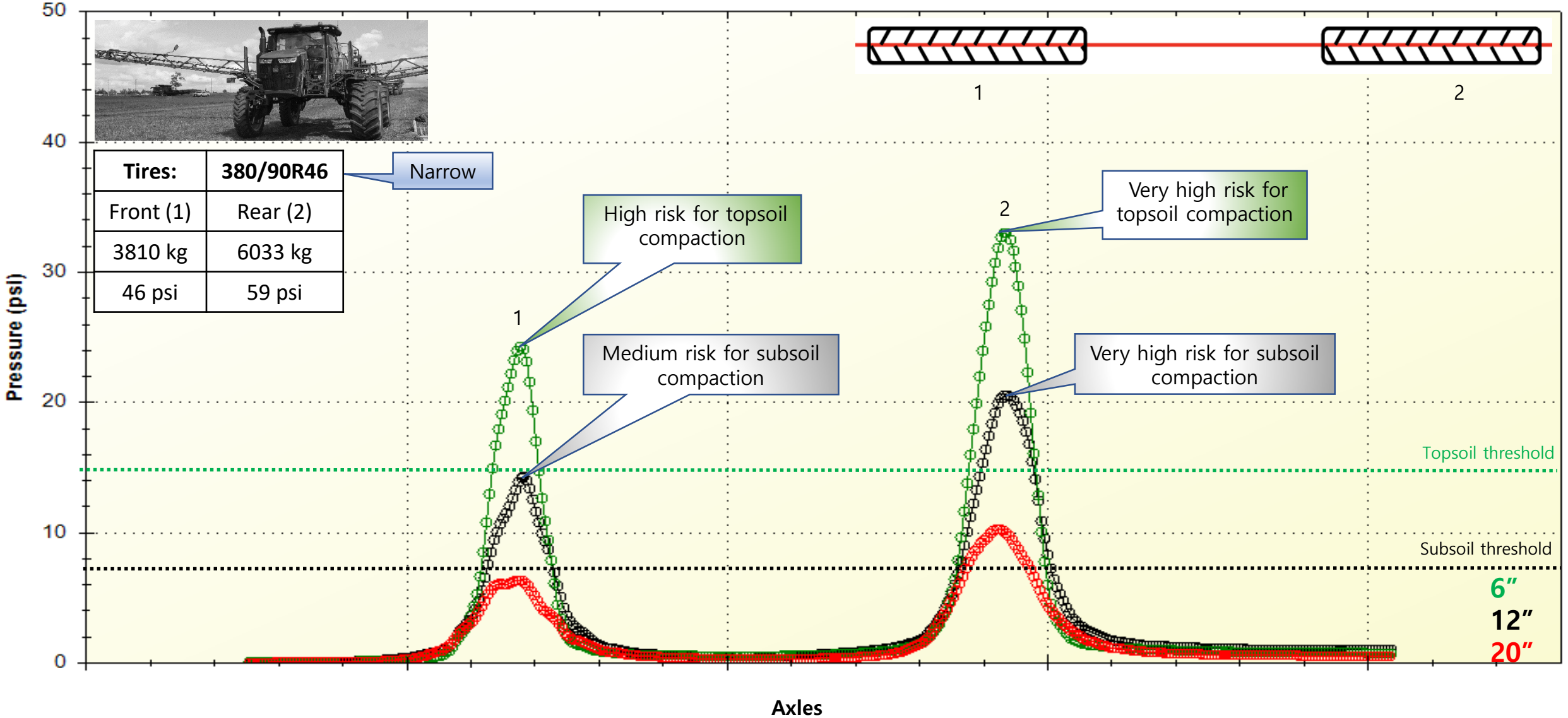


# 3A. Self Propelled Sprayer with Narrow Tires, High PSI, and Boom in Field Position



<b>Tires:</b>	<b>380/90R46</b>	
Front (1)	Rear (2)	
3810 kg	6033 kg	
46 psi	59 psi	

Narrow



High risk for topsoil compaction

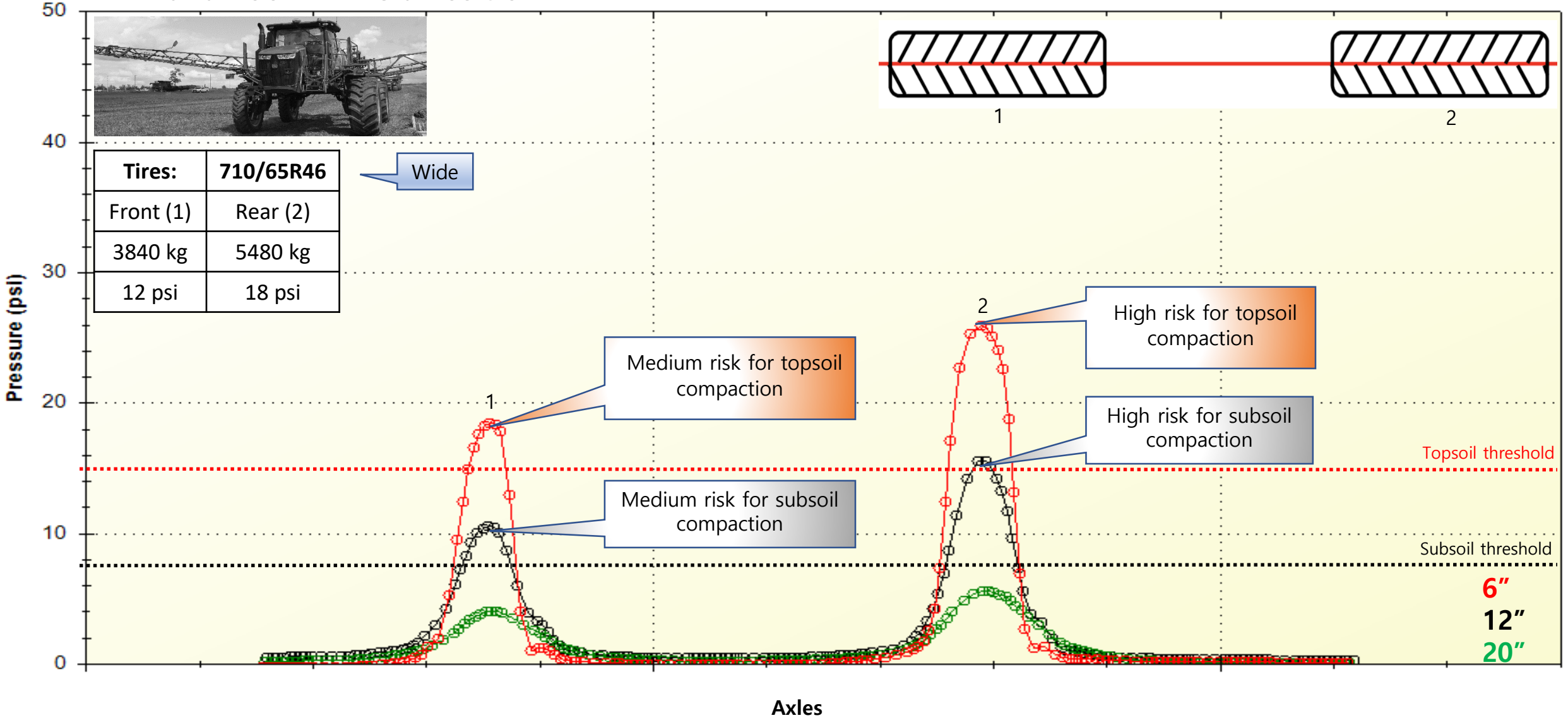
Very high risk for topsoil compaction

Medium risk for subsoil compaction

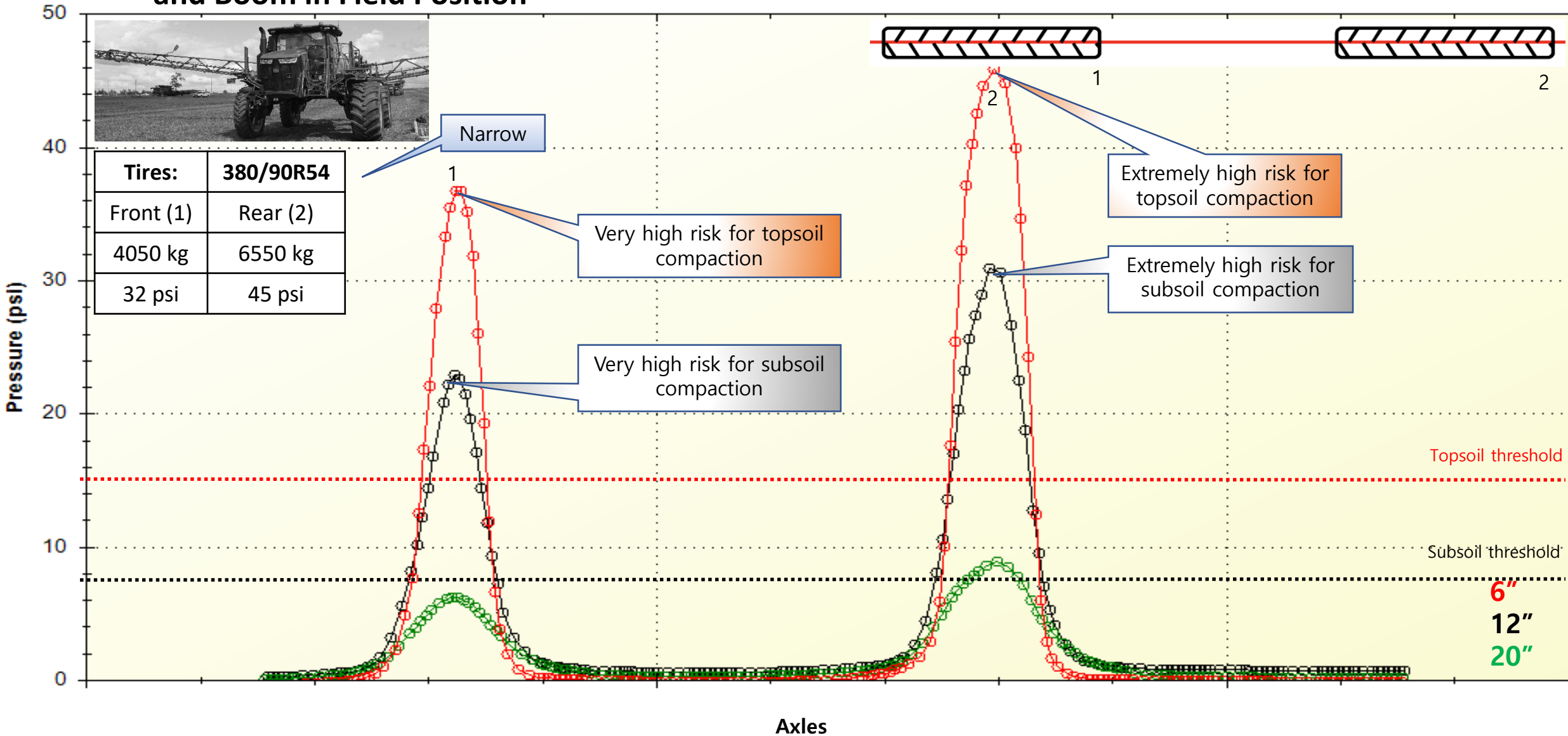
Very high risk for subsoil compaction



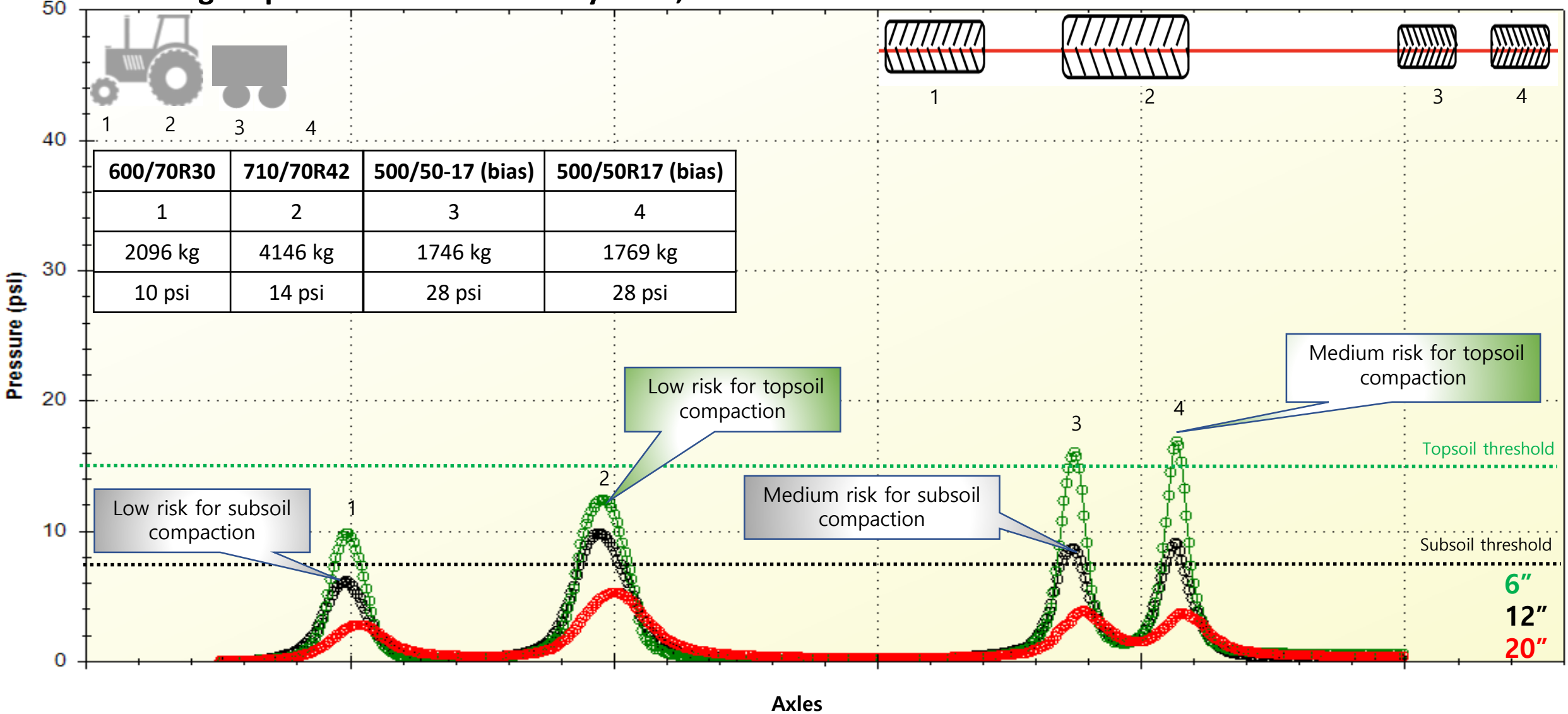
# 3A. Self Propelled Sprayer with Wide Tires, Low PSI, and Boom in Field Position



# 3A. Self Propelled Sprayer with Narrow Tires, High PSI, and Boom in Field Position



# 4A. Row Crop Tractor with Moderate Single Tires, Low PSI Large Square Baler with Bias Ply Tires, Moderate PSI

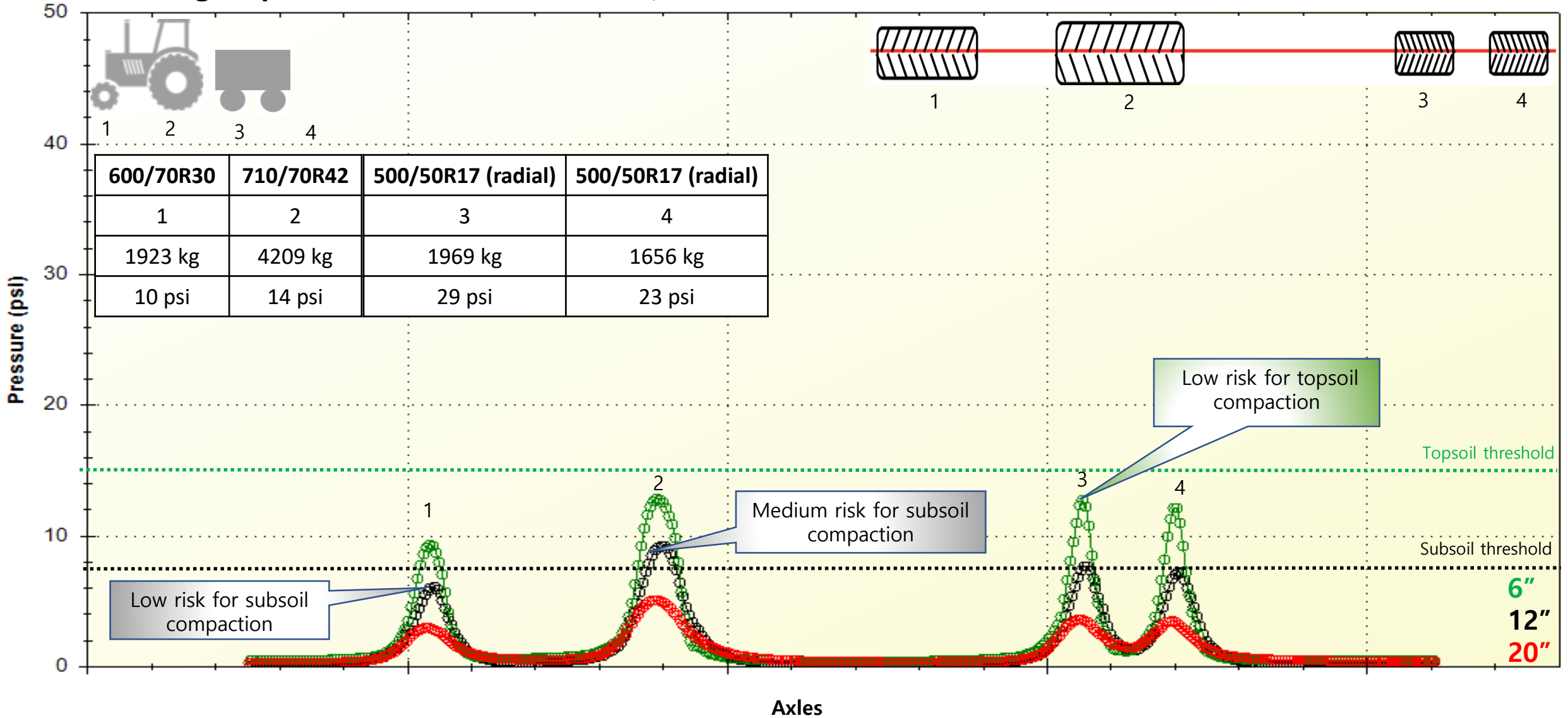


4A.PLWL  
4A.ILWM

**X: Off sensor, not measured.**  
 Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)



# 4A. Row Crop Tractor with Moderate Single Tires, Low PSI Large Square Baler with Radial Tires, Moderate PSI

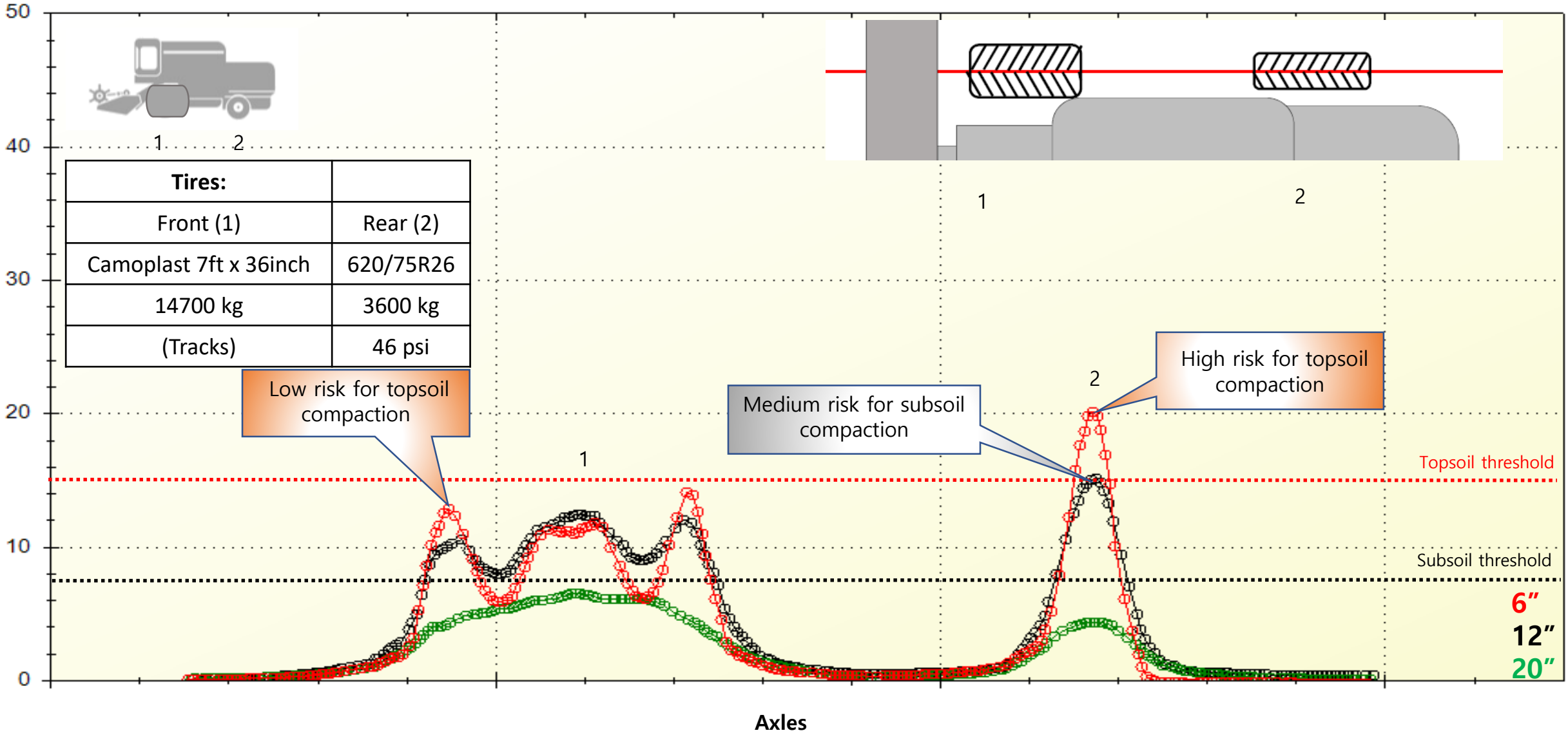


4A.PRWL  
4A.IRWM

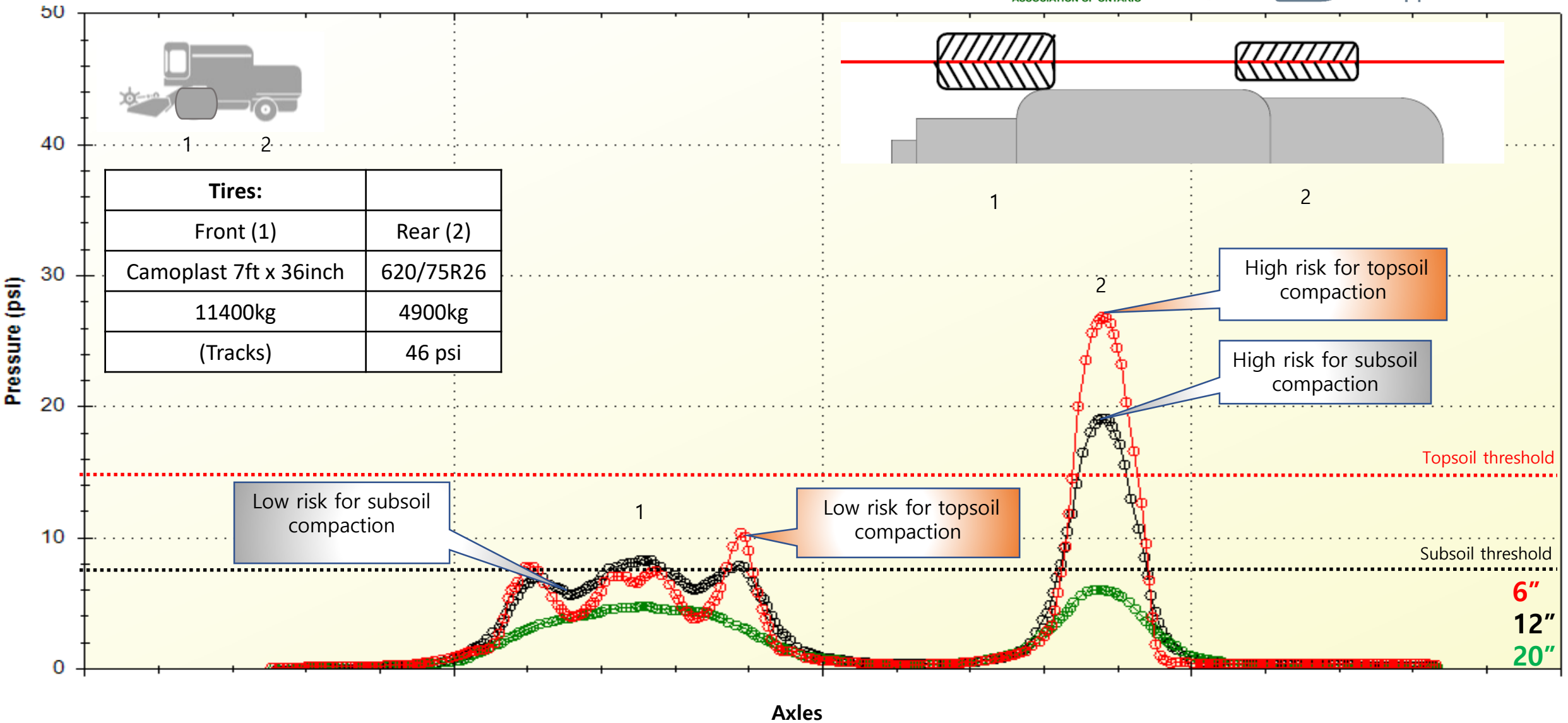
**X**: Off sensor, not measured.

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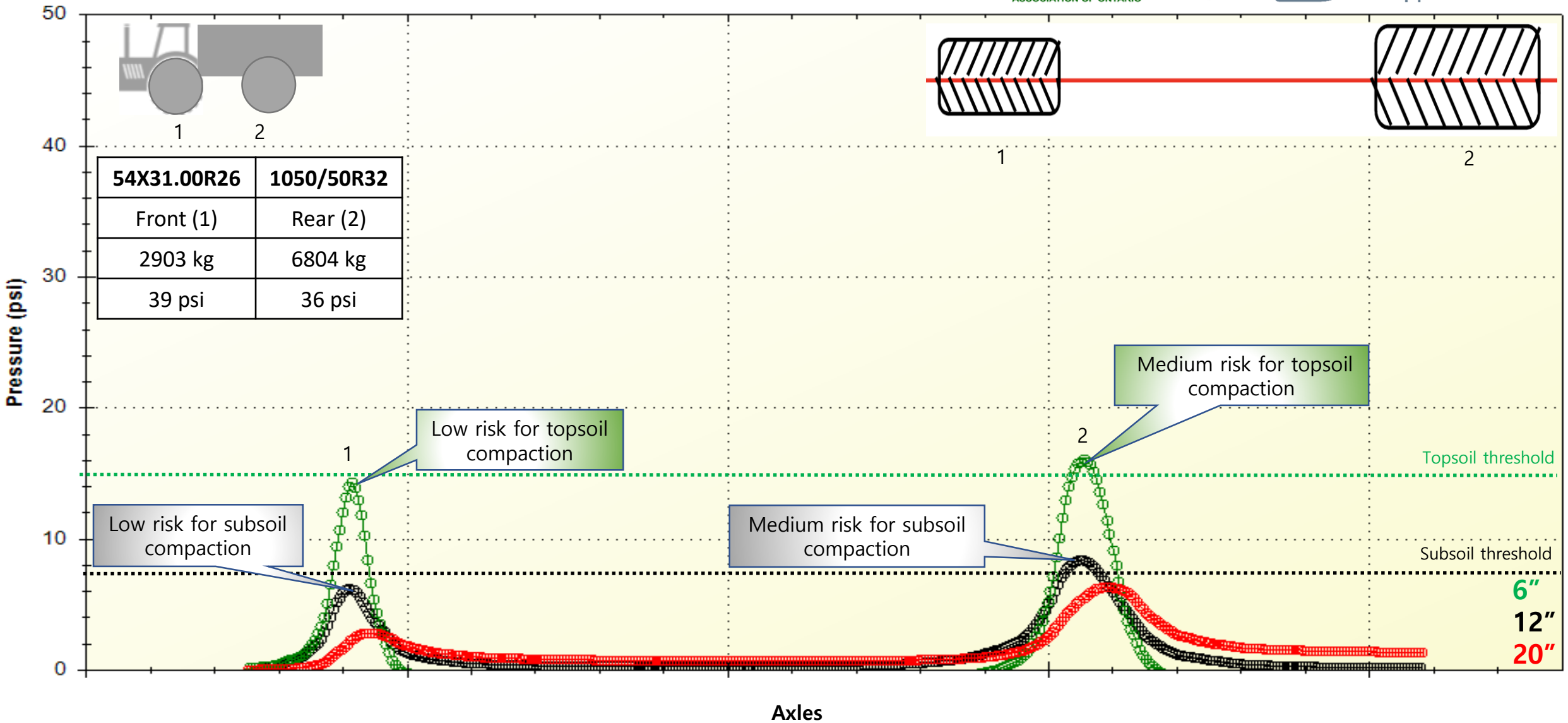
# 5A. Tracked Combine – full bin of wheat and 31' Corn Head



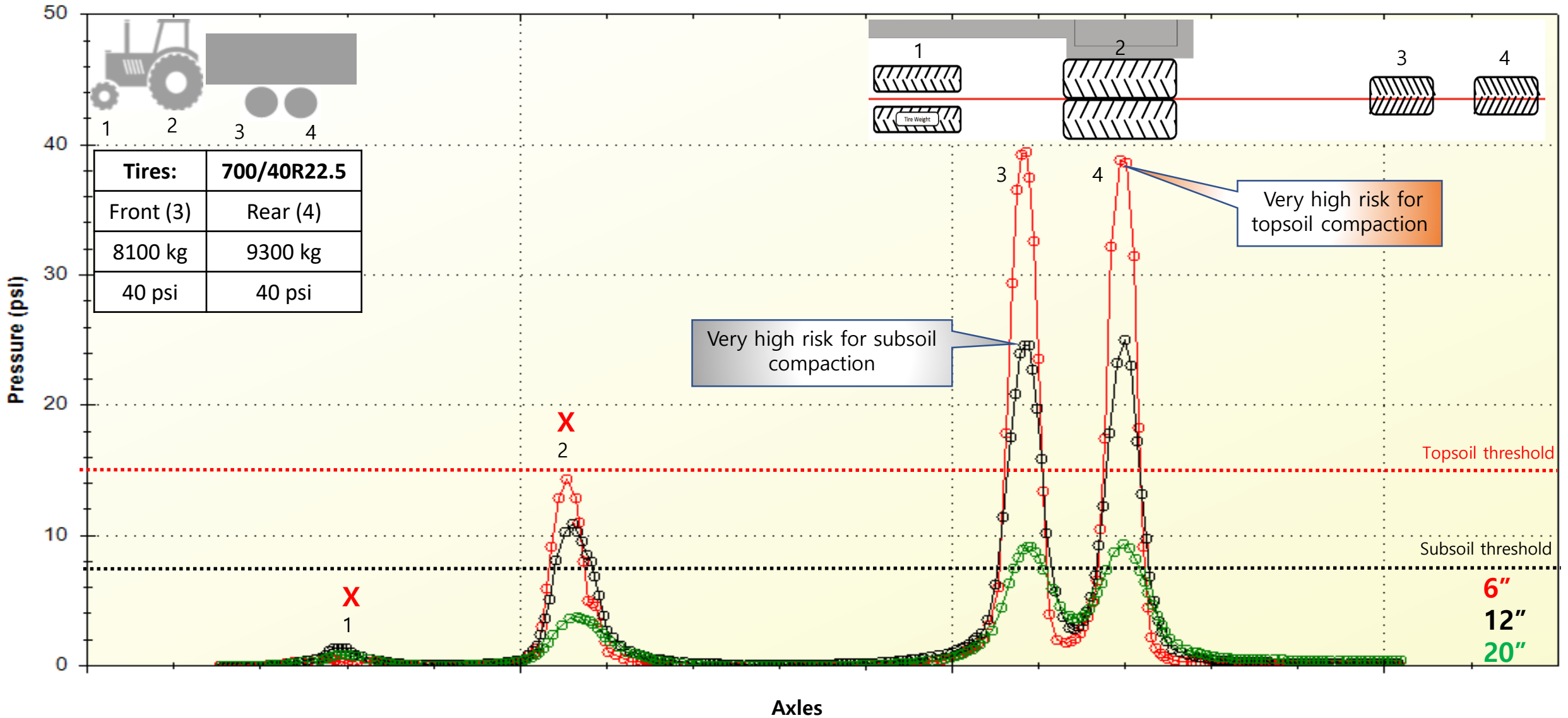
# 5A. Tracked Combine - full bin of wheat and no header



# 5B. Self Propelled Quad Fertilizer Spinner Spreader



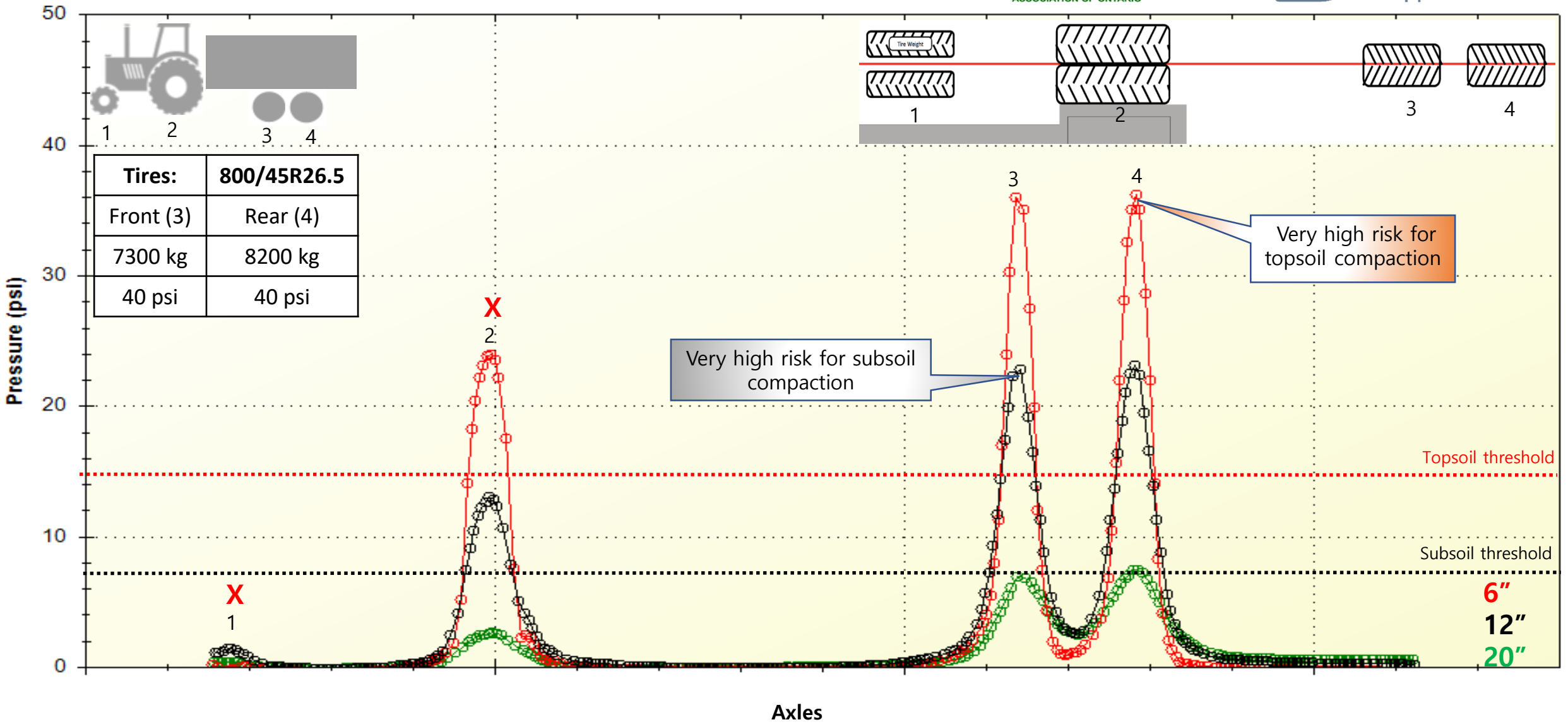
# 6A. Large Tandem Silage Trailer Small Tire



**X:** Off sensor, not measured.

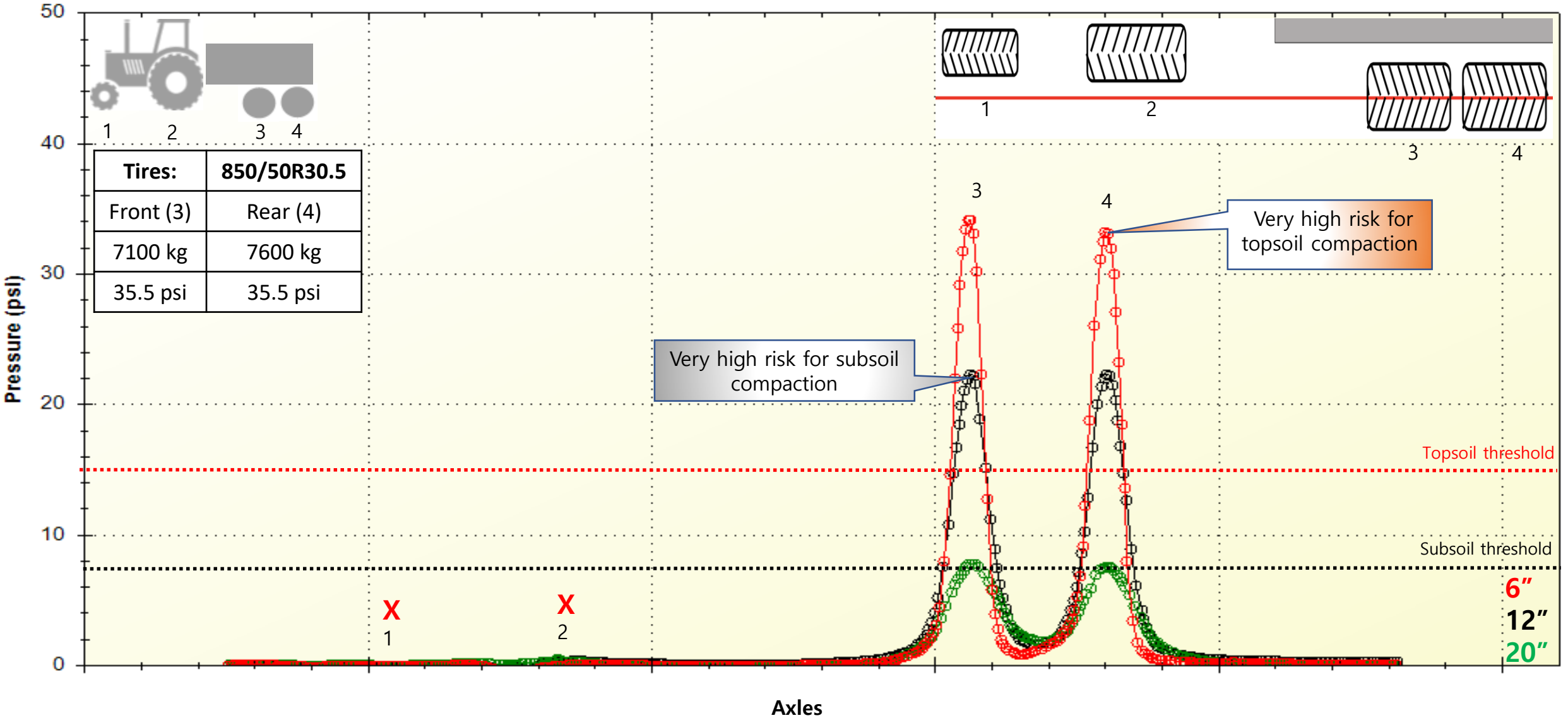
Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 6A. Large Tandem Silage Trailer Large Tire





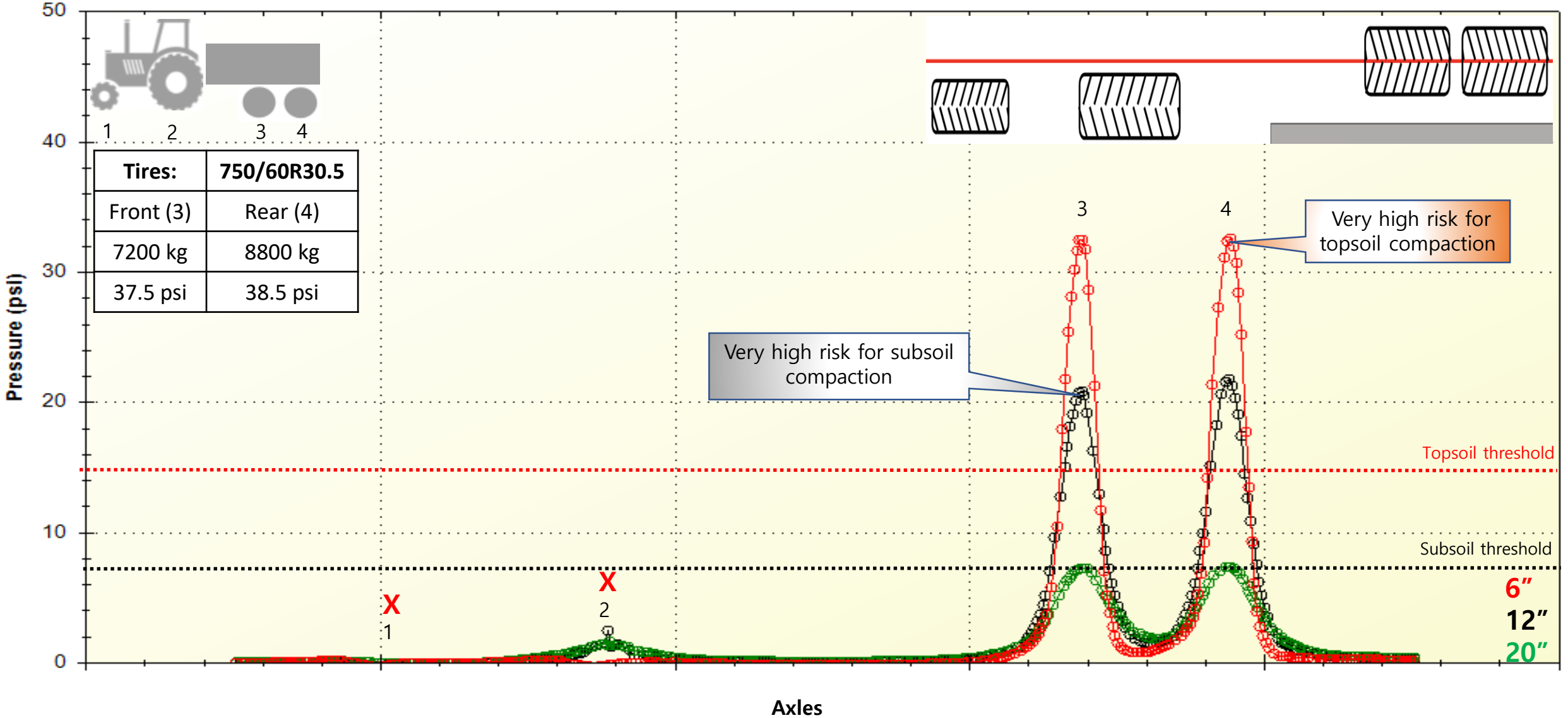
# 6B. Large Tandem Box Manure Spreader Wide Tire



**X:** Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 6B. Large Tandem Box Manure Spreader Narrow Tire

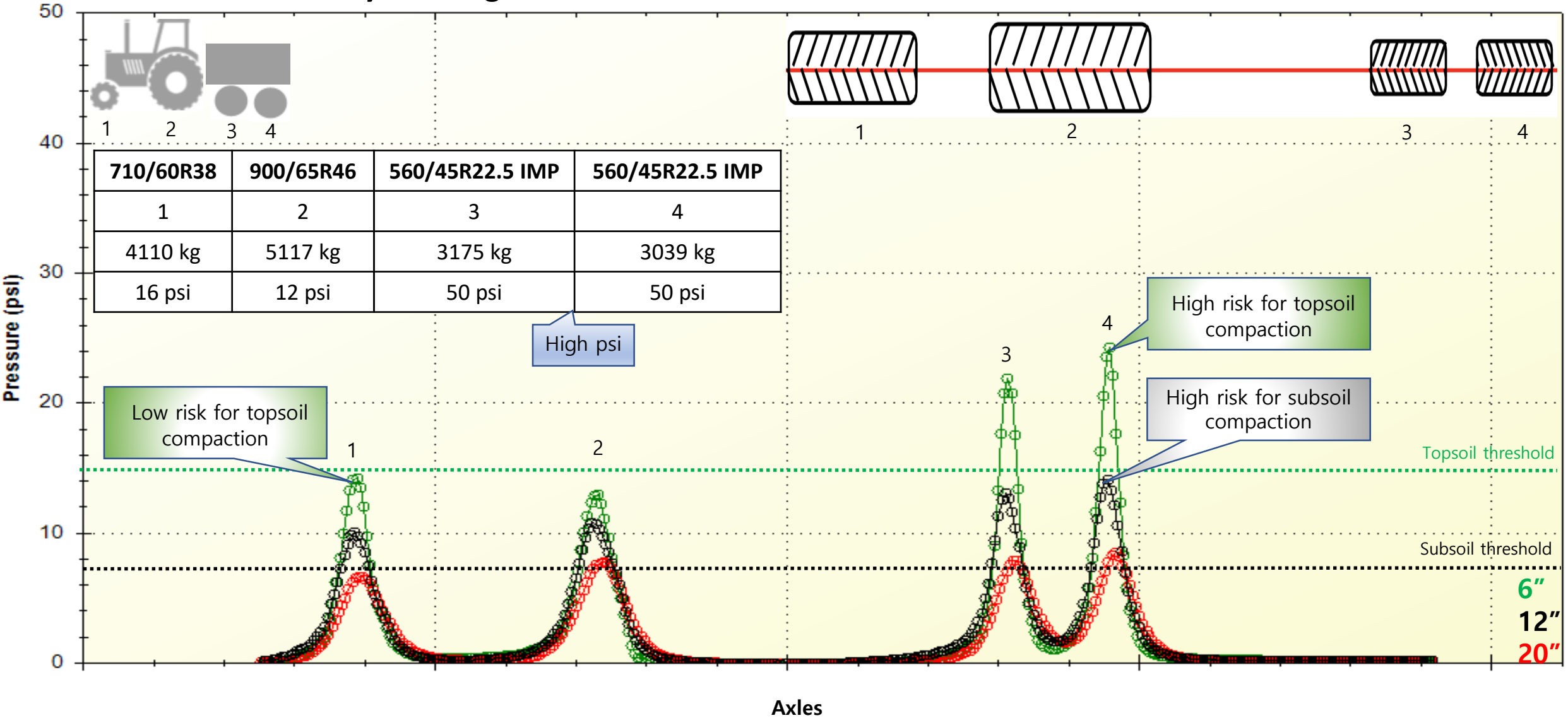


**X:** Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)



# 7A. High HP Row Crop Tractor w Large Square Baler with Inflation System High PSI

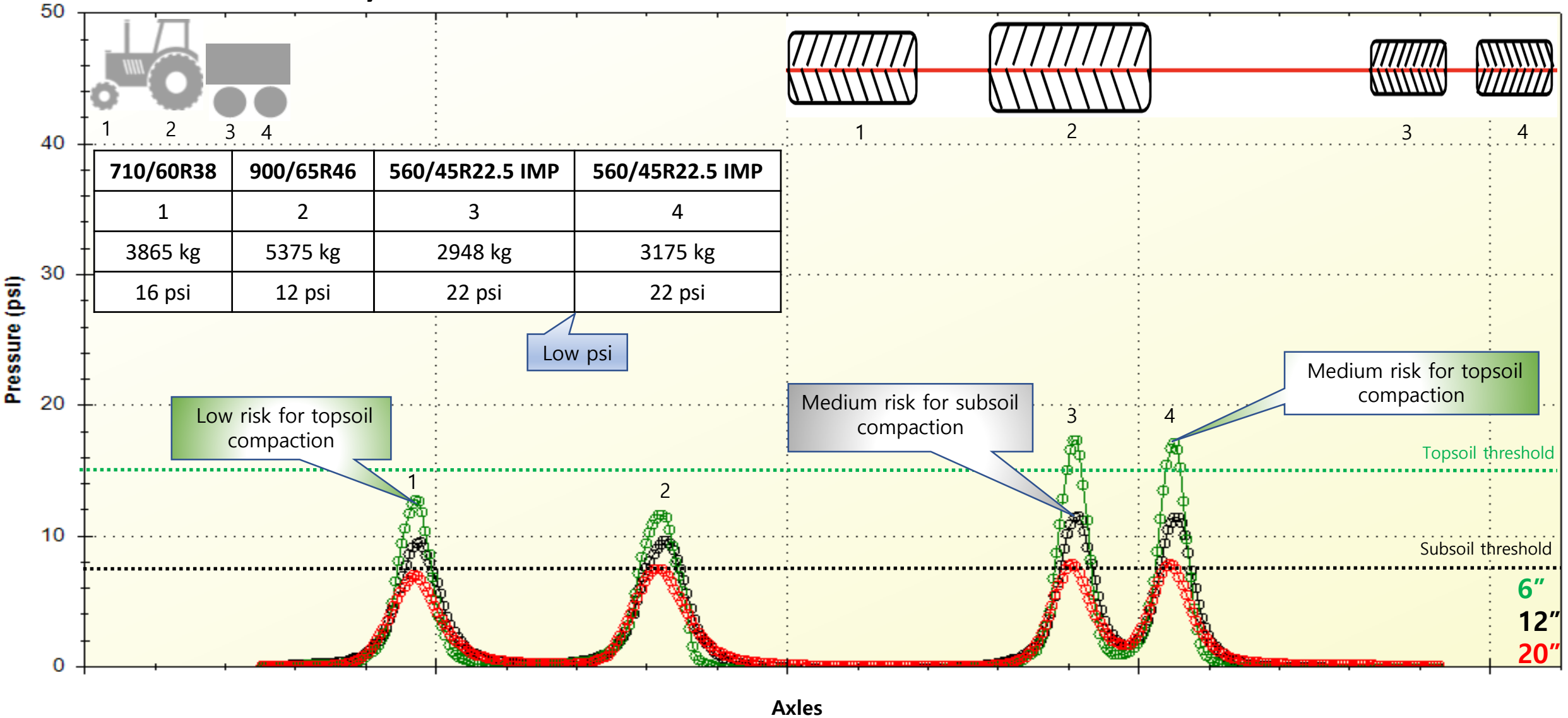


7A.PLWH

**X**: Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 7A. High HP Row Crop Tractor w Large Square Baler with Inflation System Low PSI



7A.PRWL

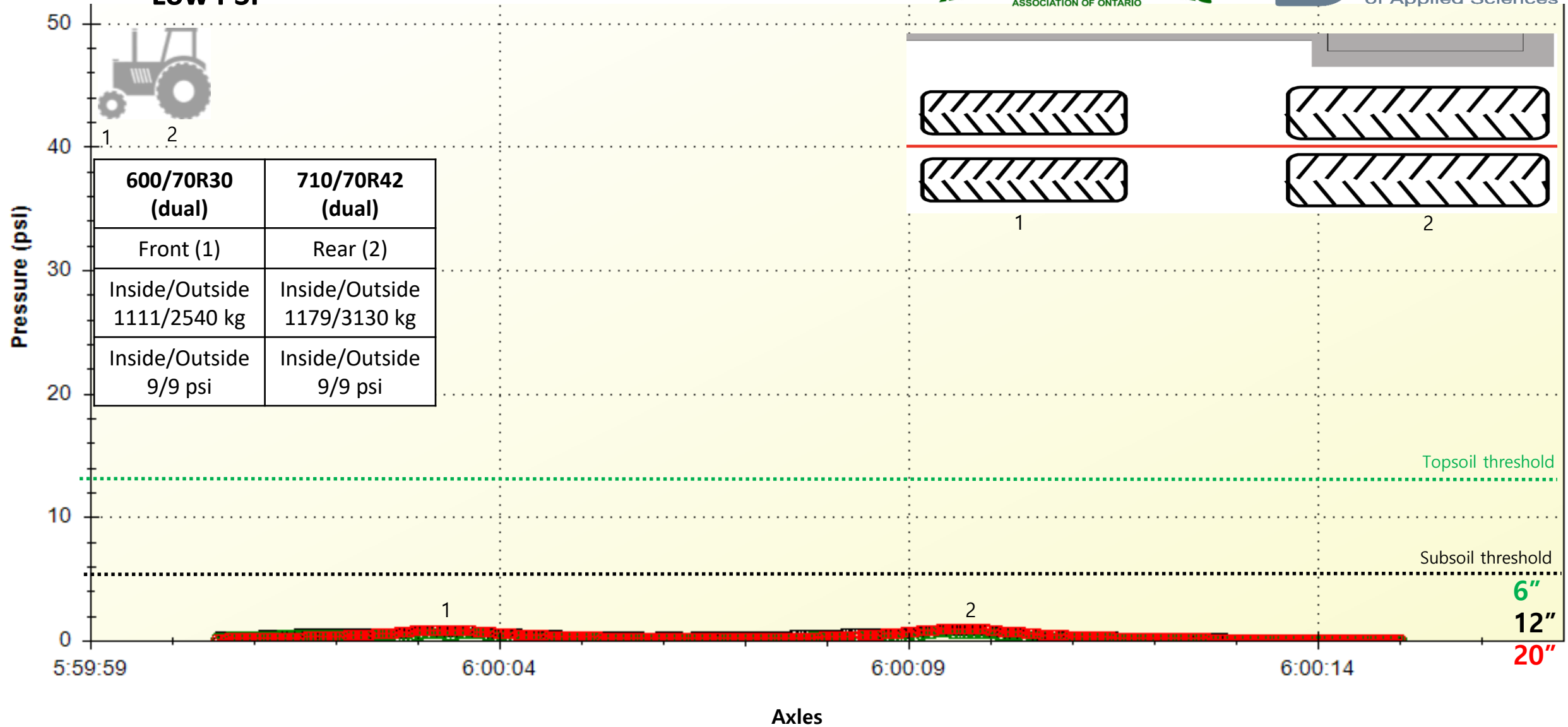
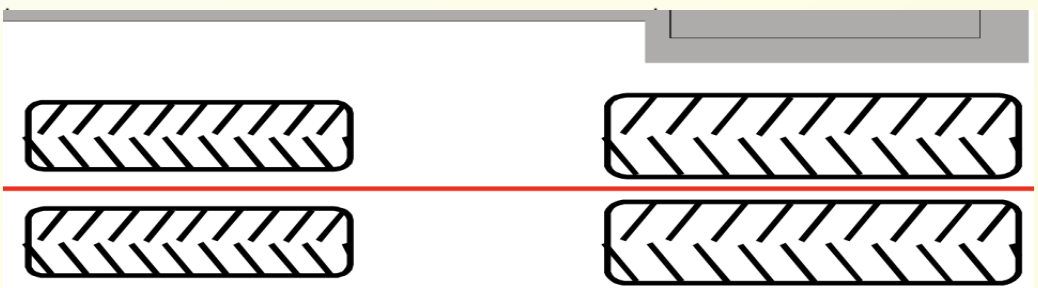
**X**: Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 7B. High HP Row Crop Tractor with Duals Between Tires, Low PSI



600/70R30 (dual)	710/70R42 (dual)
Front (1)	Rear (2)
Inside/Outside 1111/2540 kg	Inside/Outside 1179/3130 kg
Inside/Outside 9/9 psi	Inside/Outside 9/9 psi

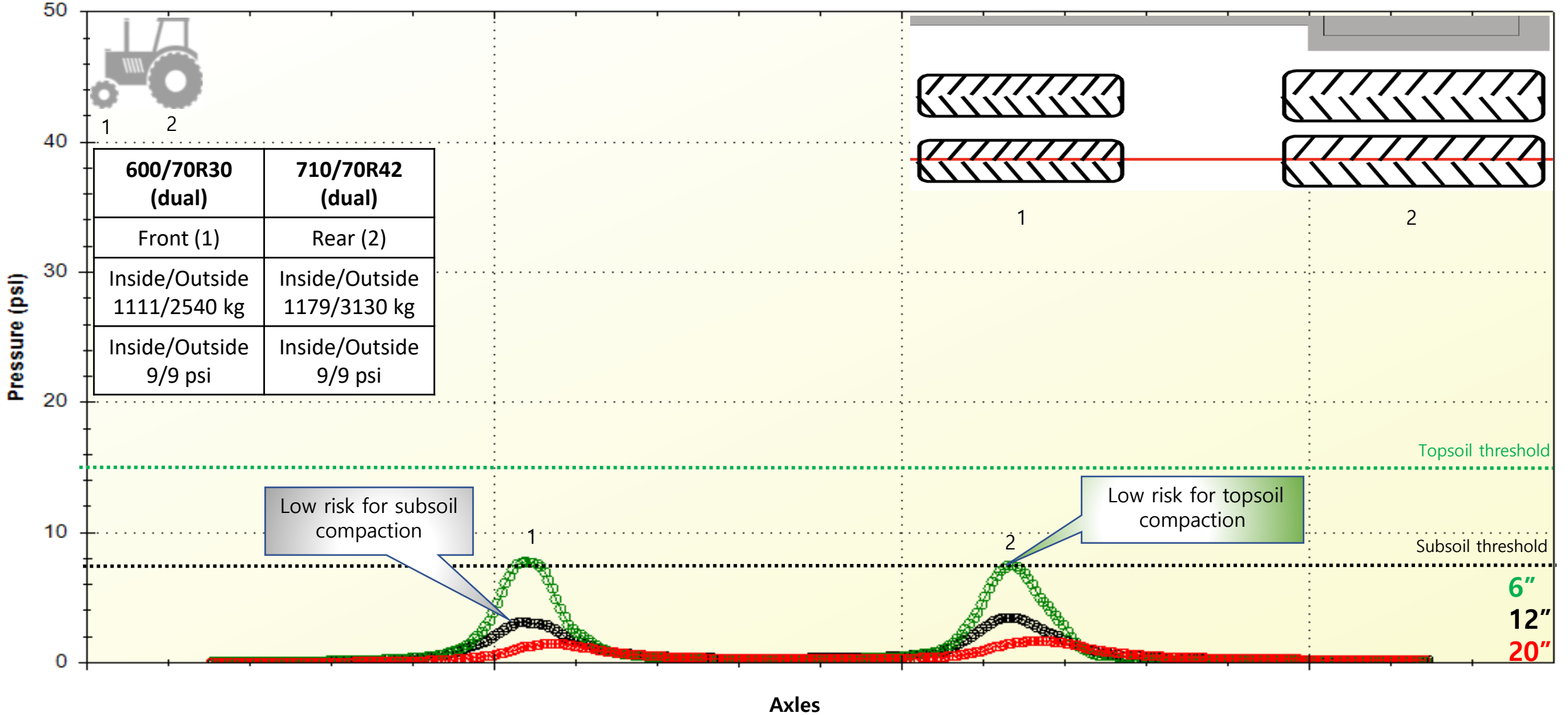


7B.PBWL

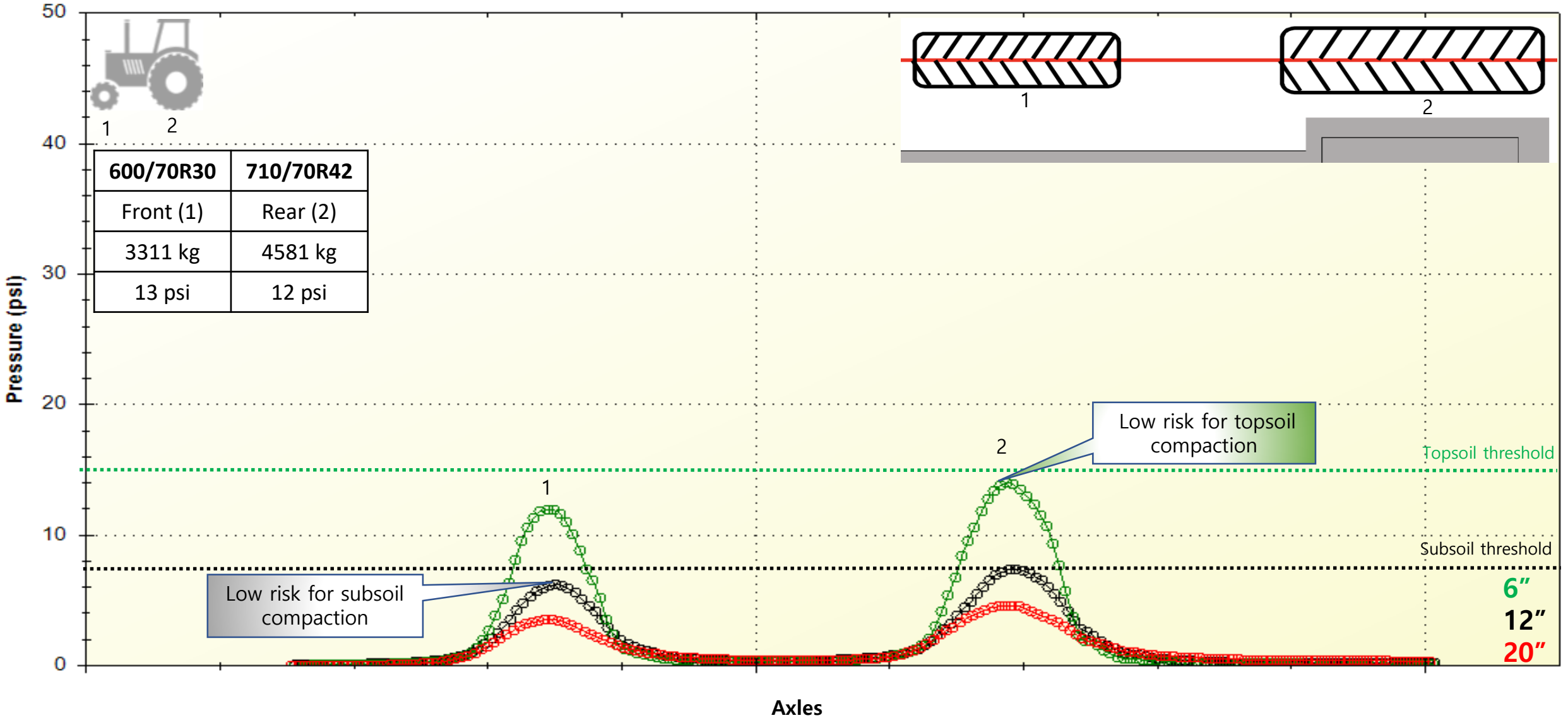
**X:** Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 7B. High HP Row Crop Tractor with Duals Outer Tire, Low PSI



# 7B. High HP Row Crop Tractor with Singles Low PSI

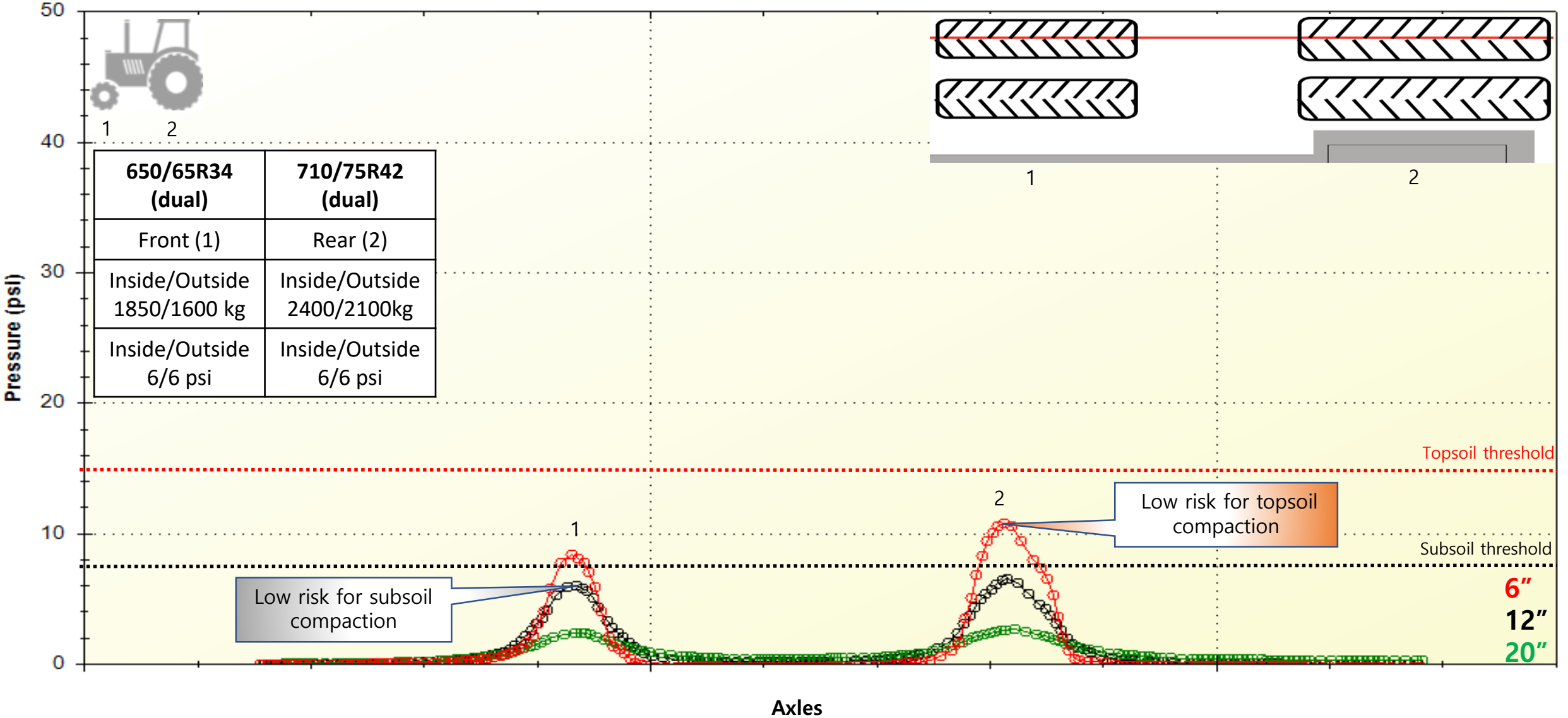


7B.PRWL

**X:** Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 8A. High HP Row Crop Tractor with Duals Low PSI, Outer Tire

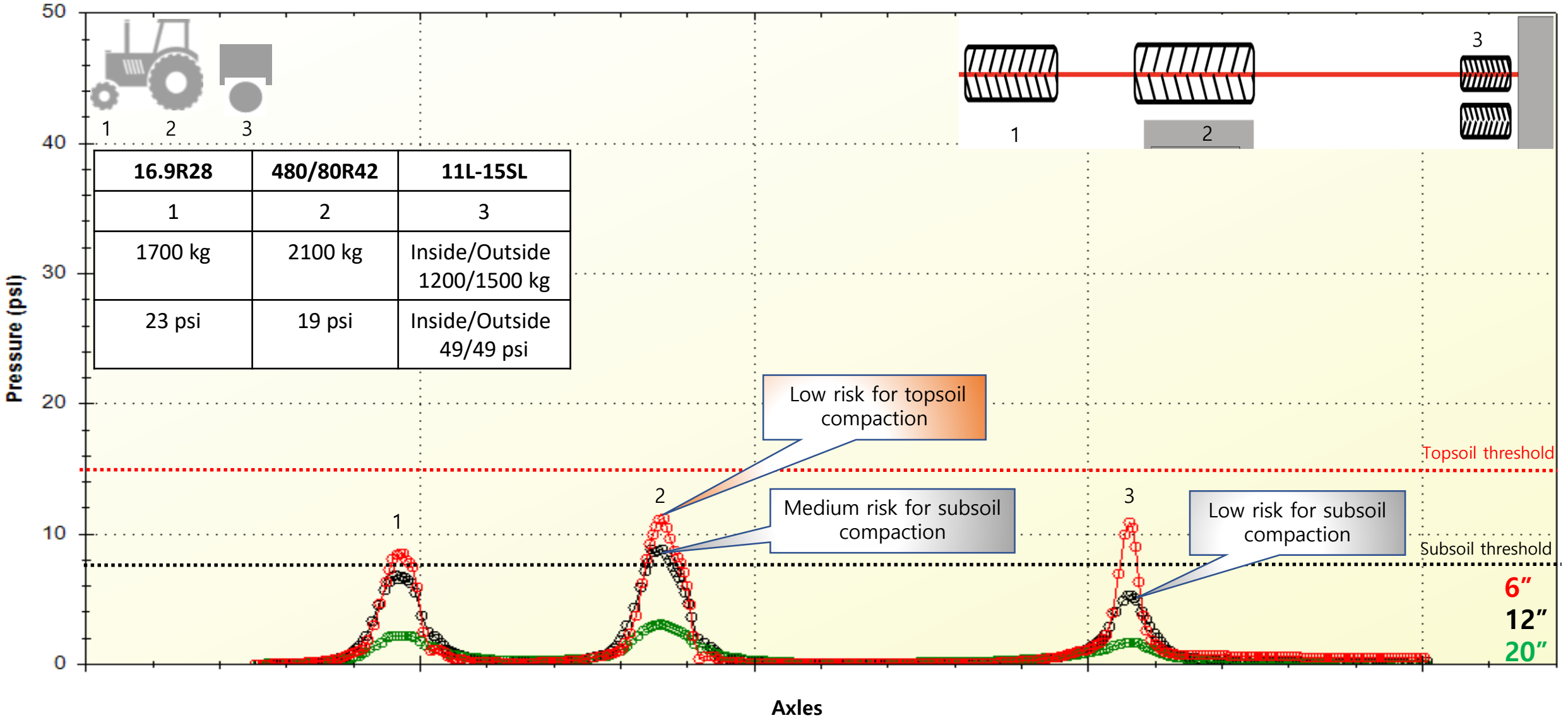


8A.PRWL

**X:** Off sensor, not measured.

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# 8B. Mid HP Row Crop Tractor with Grain Drill



8B.PRMM

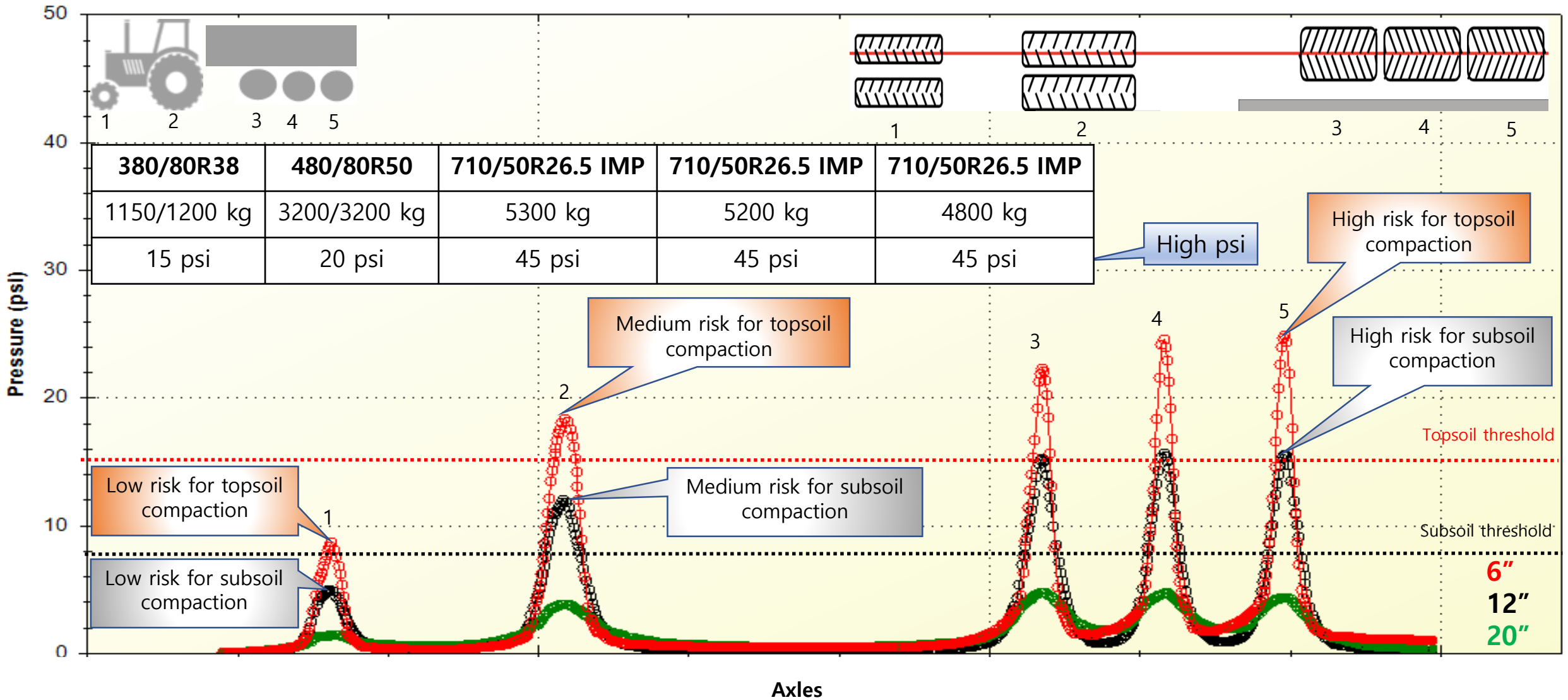
8B.IRNH

**X**: Off sensor, not measured.

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# 9A. High HP Row Crop Tractor with Tri Axle Box Manure Spreader with Inflation System High PSI



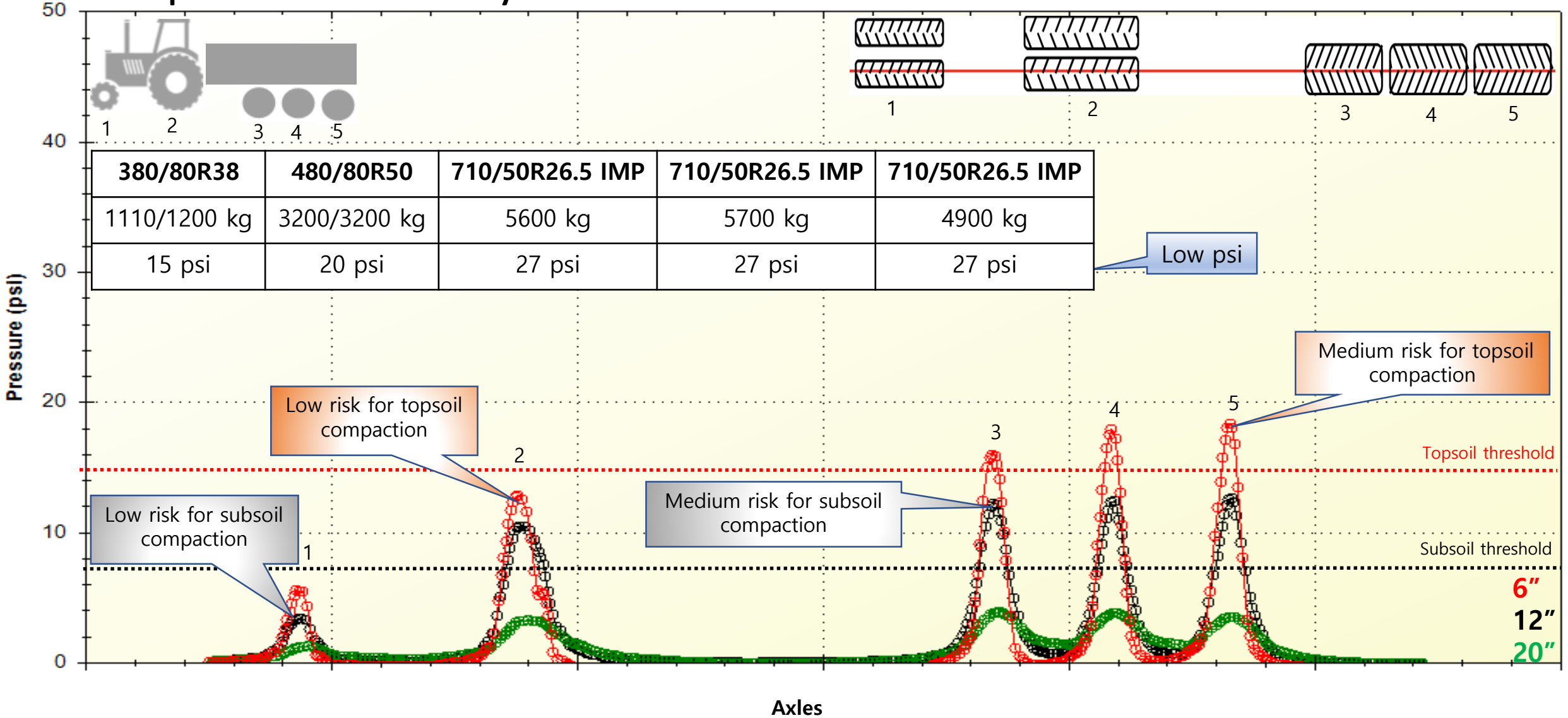
9A.PRWH  
9A.PIMH

**X**: Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)



# 9A. High HP Row Crop Tractor with Tri Axle Box Manure Spreader with Inflation System Low PSI

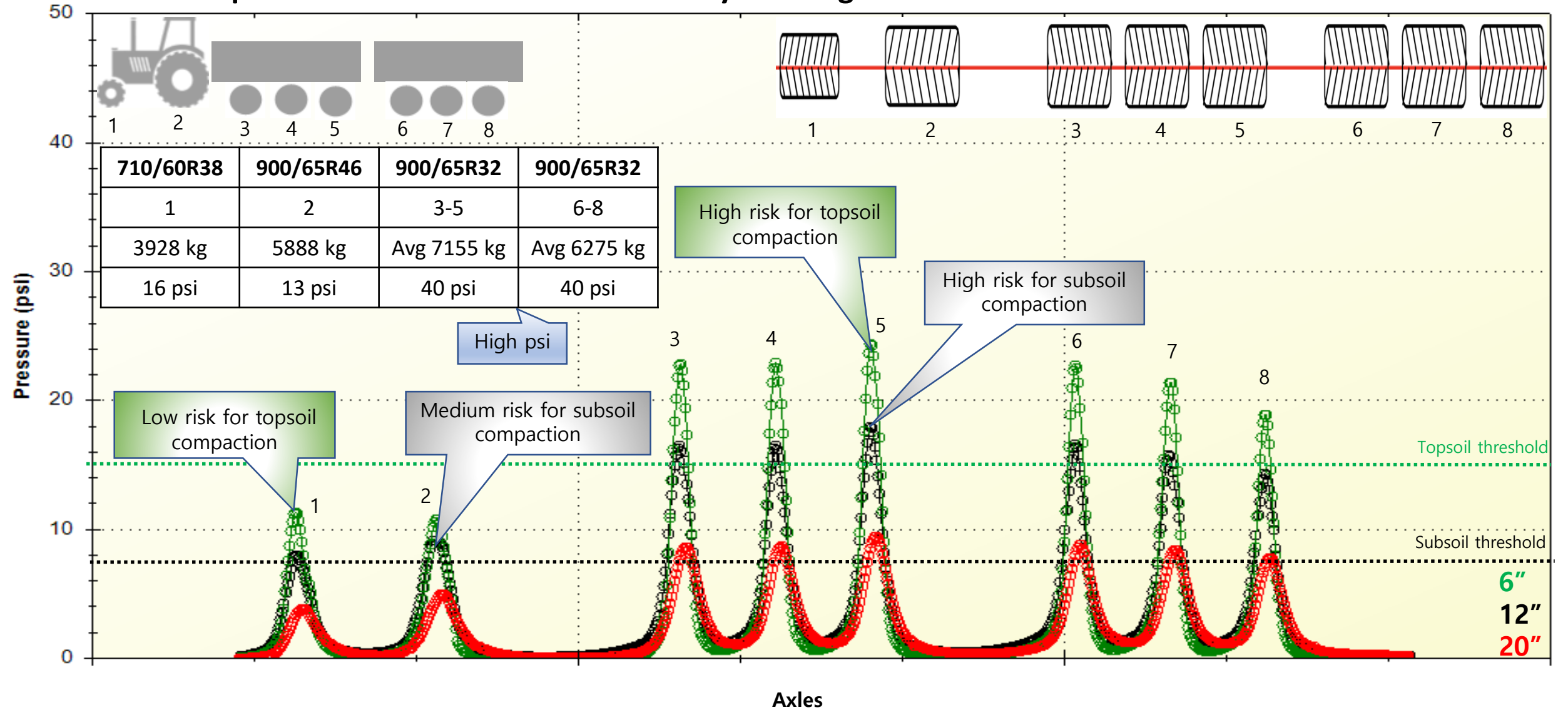


9A.PRWL  
9A.ILMH

**X:** Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 10A. High HP Row Crop Tractor with Singles and Quad Steer Dual Liquid Manure Tanker with Inflation System High PSI



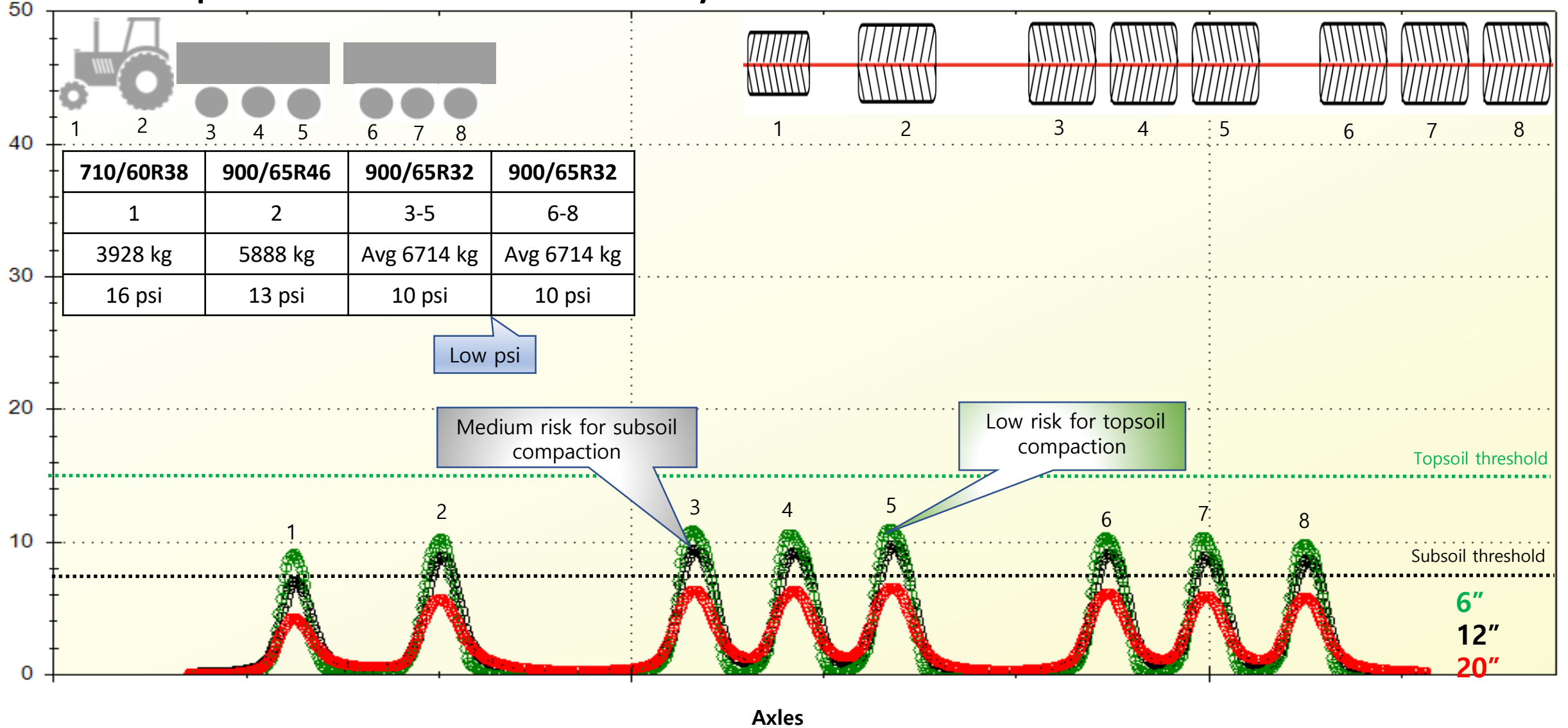
10A.PLWL

10A.ILWL

**X**: Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

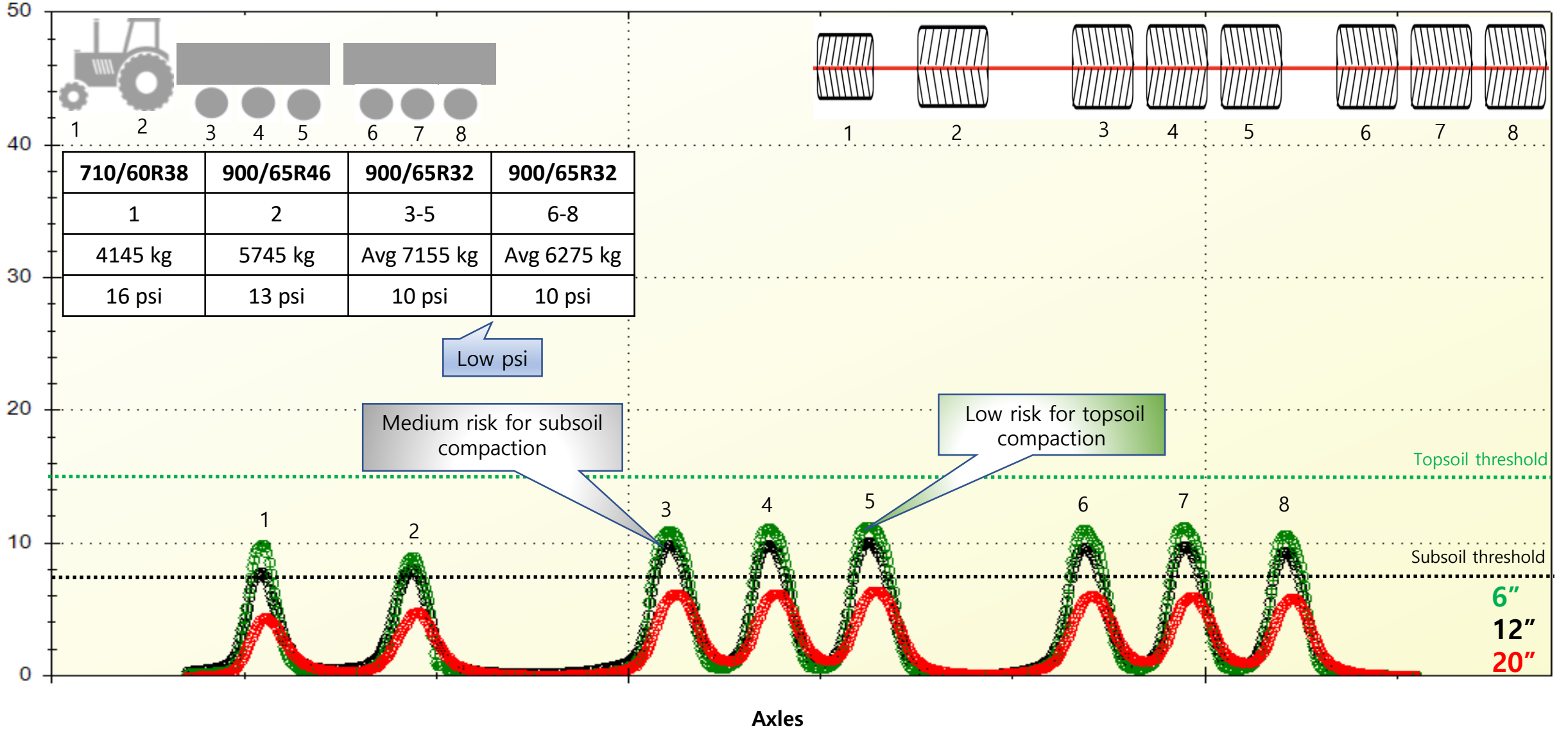
# 10A. High HP Row Crop Tractor with Singles and Quad Steer Dual Liquid Manure Tanker with Inflation System Low PSI



10A.PRWL

10A.IRWL

# 10A. High HP Row Crop Tractor w Singles and Quad Steer Dual Liquid Manure Tanker w Inflation System Low PSI w Weight Transfer Engaged



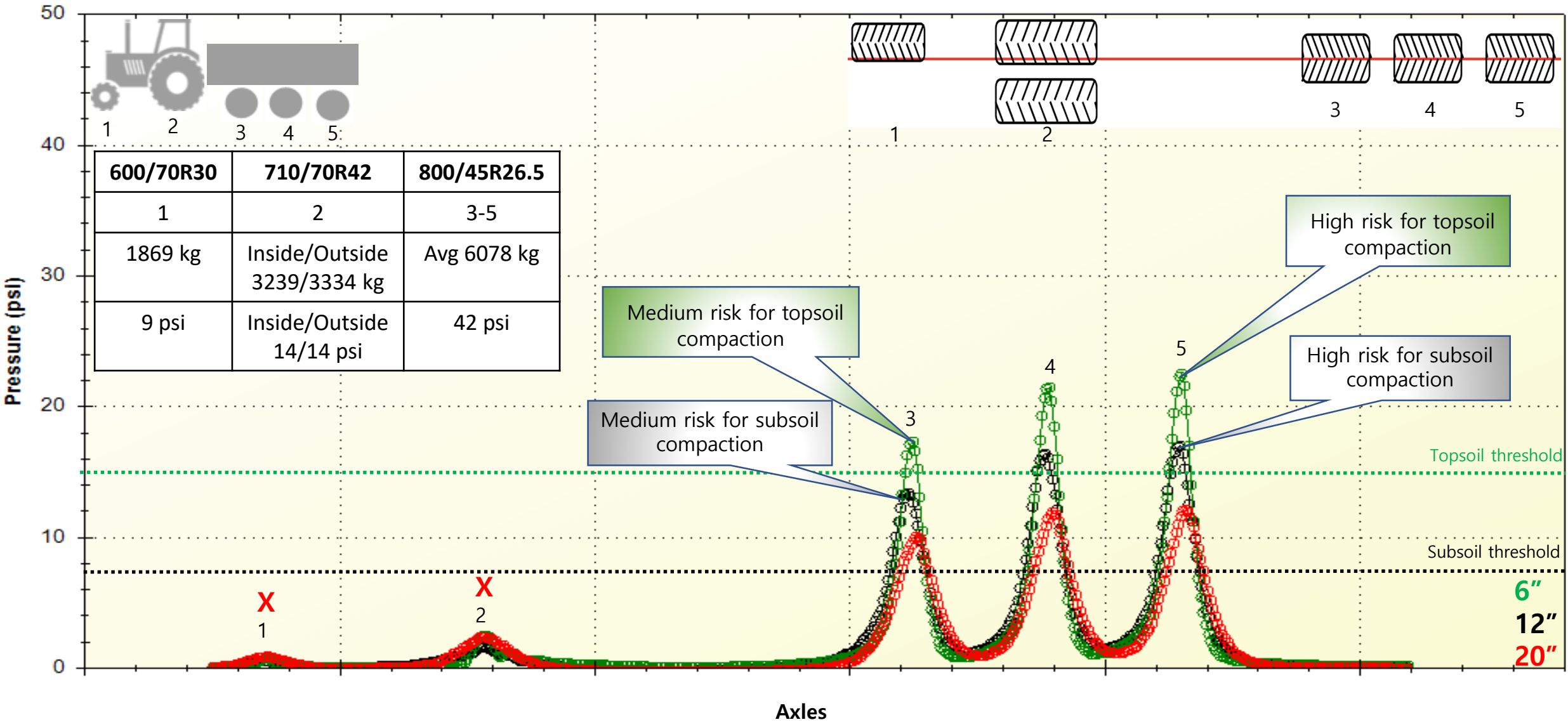
10A.PLWL

10A.ILWL

**X**: Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 12A. Tri Axle Silage Dump Trailer



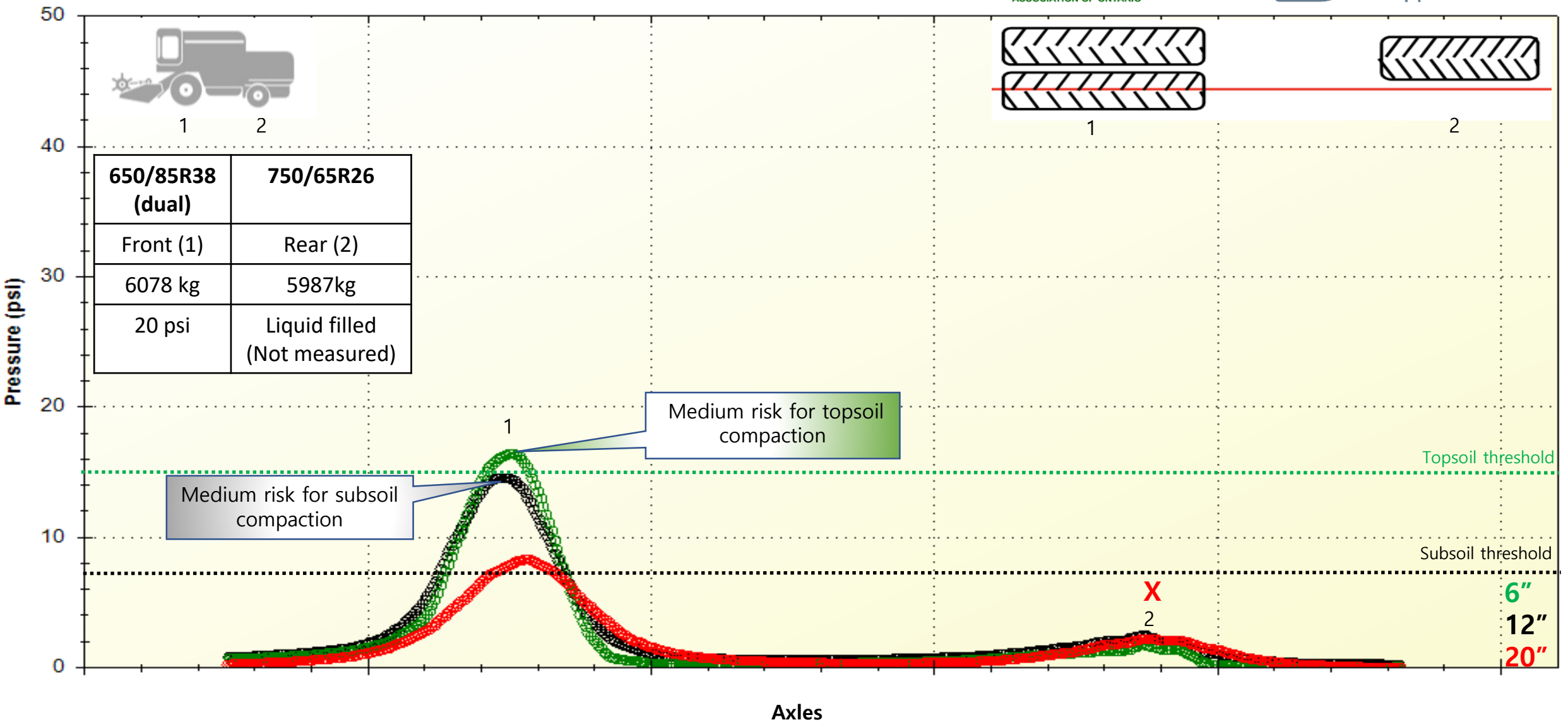
12A.ILWH

**X**: Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)



# 13A. Combine with Duals 20 PSI

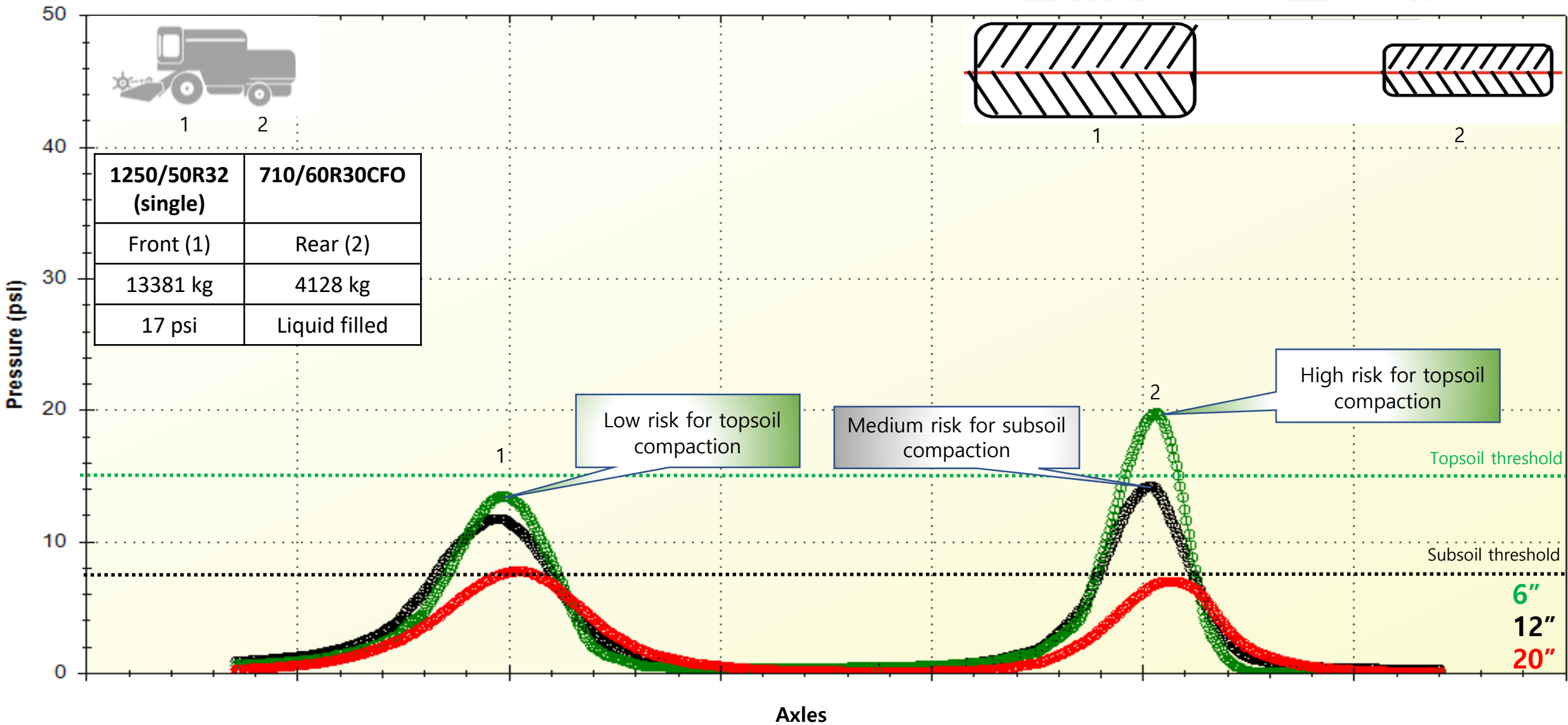


**X:** Off sensor, not measured.

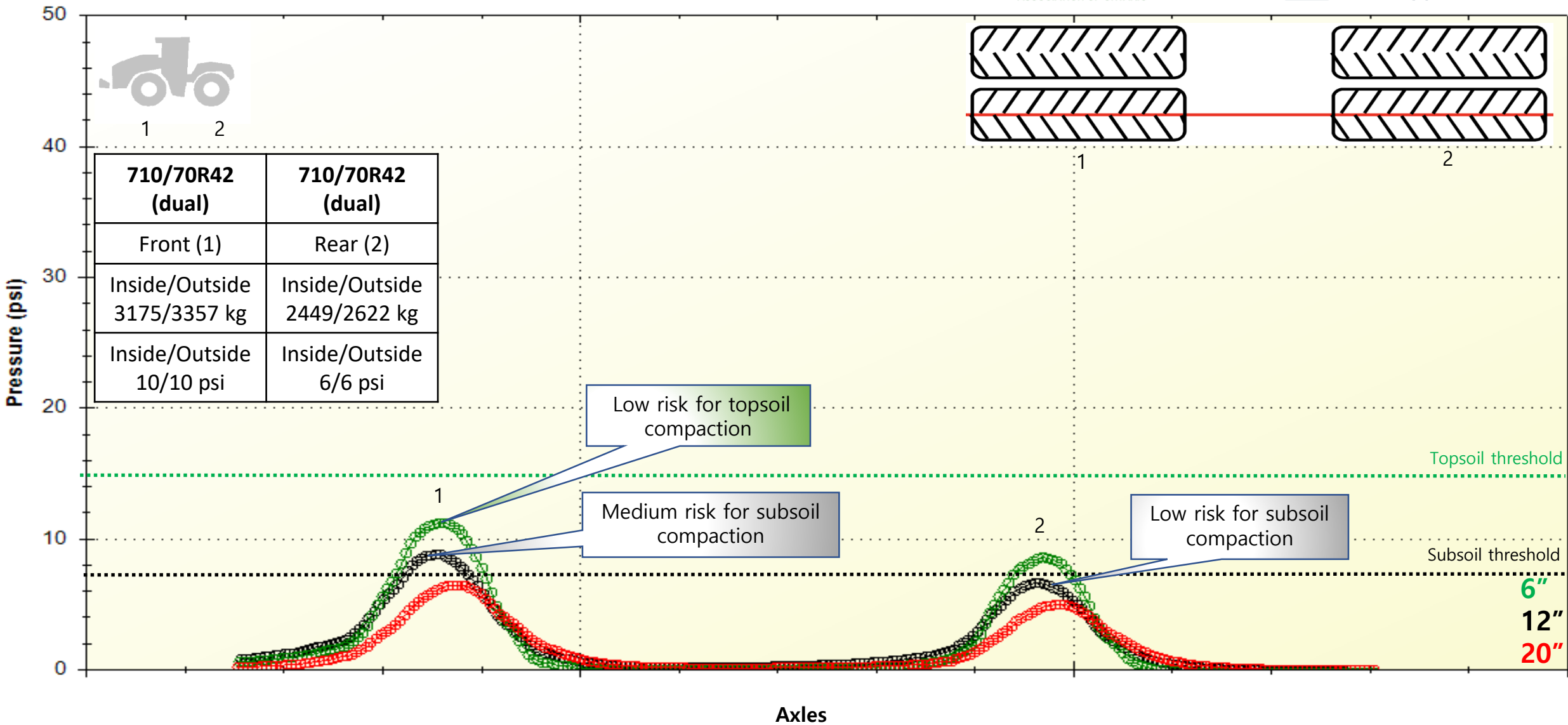
Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)



# 13B. Combine with Big Singles 17 PSI



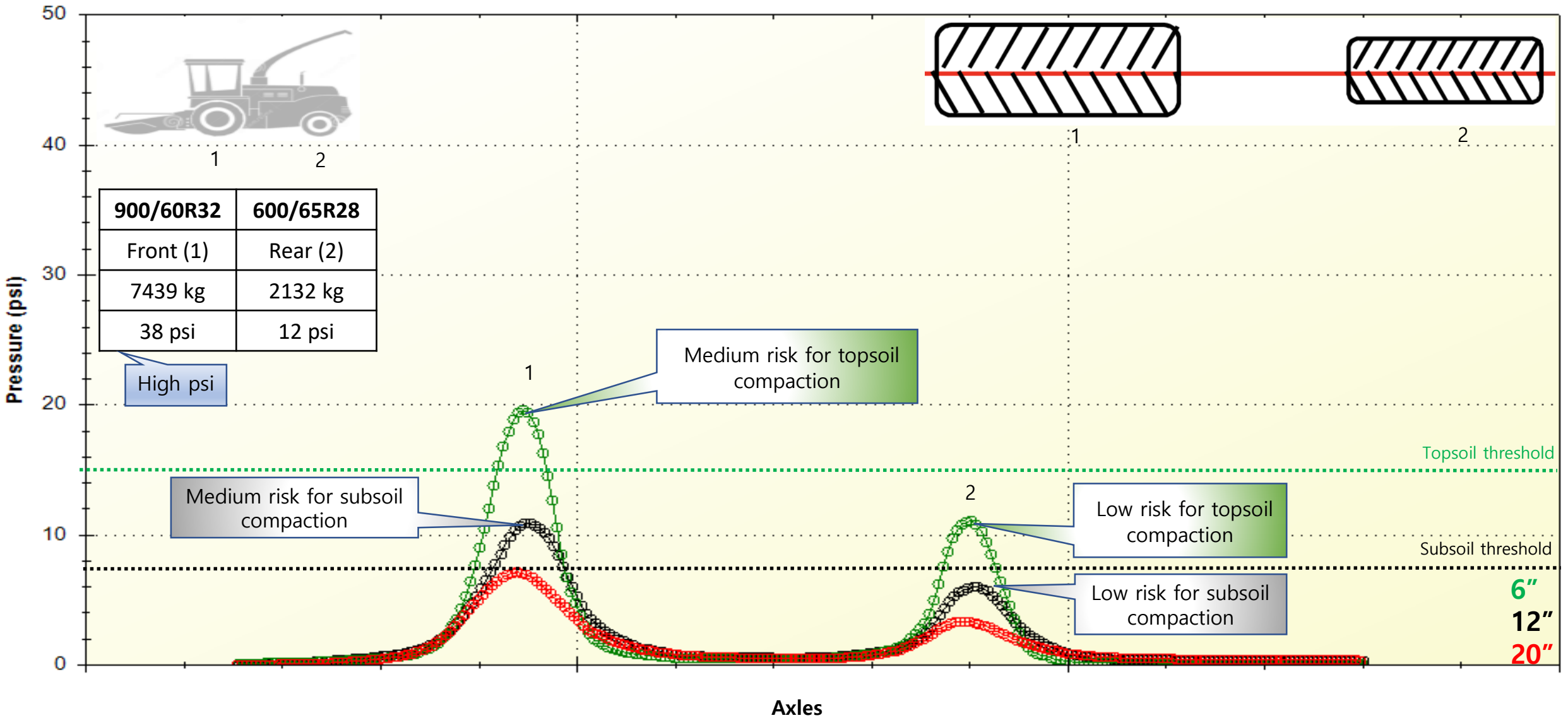
# 14A. Large 4WD Articulating Tractor with Duals Low PSI



# 15. Self Propelled Forage Harvester High PSI



900/60R32	600/65R28
Front (1)	Rear (2)
7439 kg	2132 kg
38 psi	12 psi

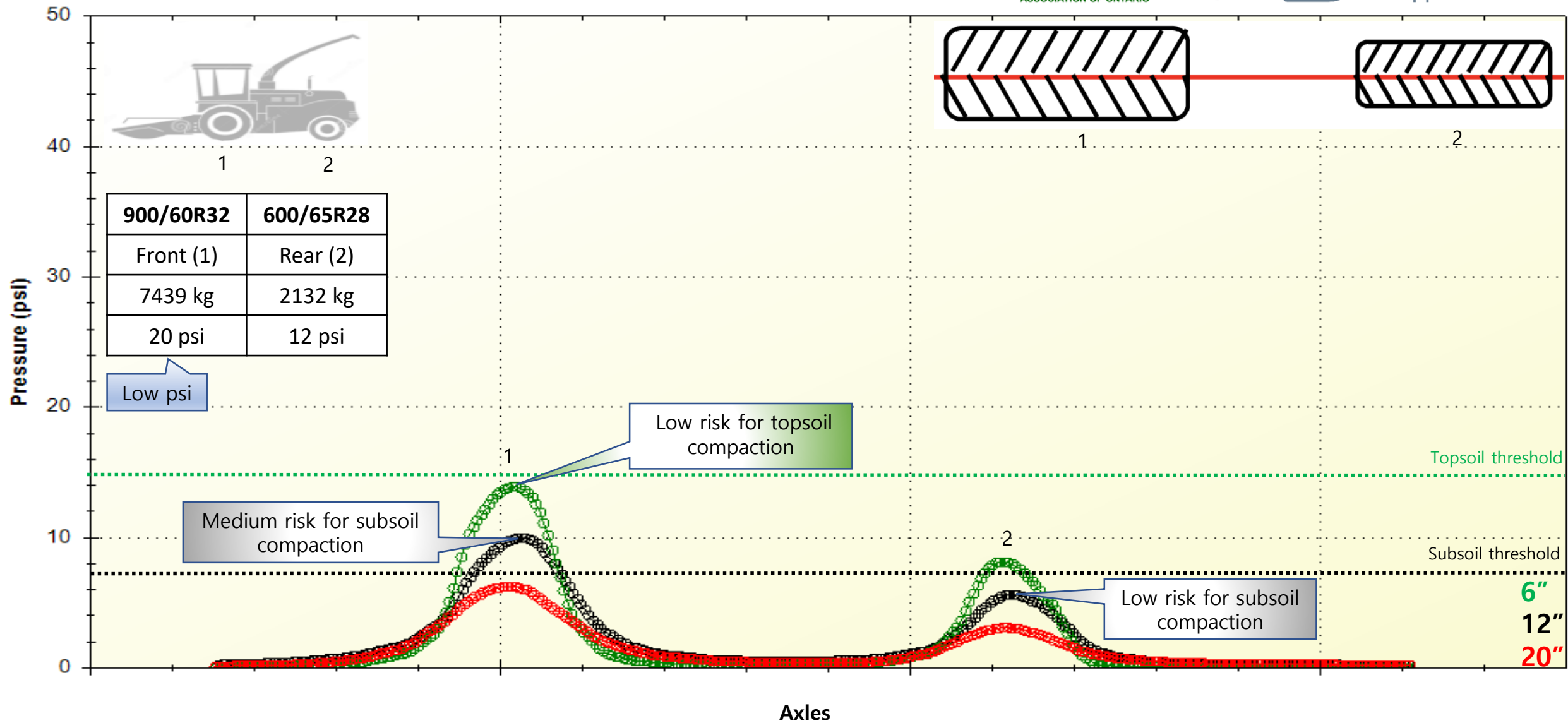


15PRWH

**X:** Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 15. Self Propelled Forage Harvester Low PSI

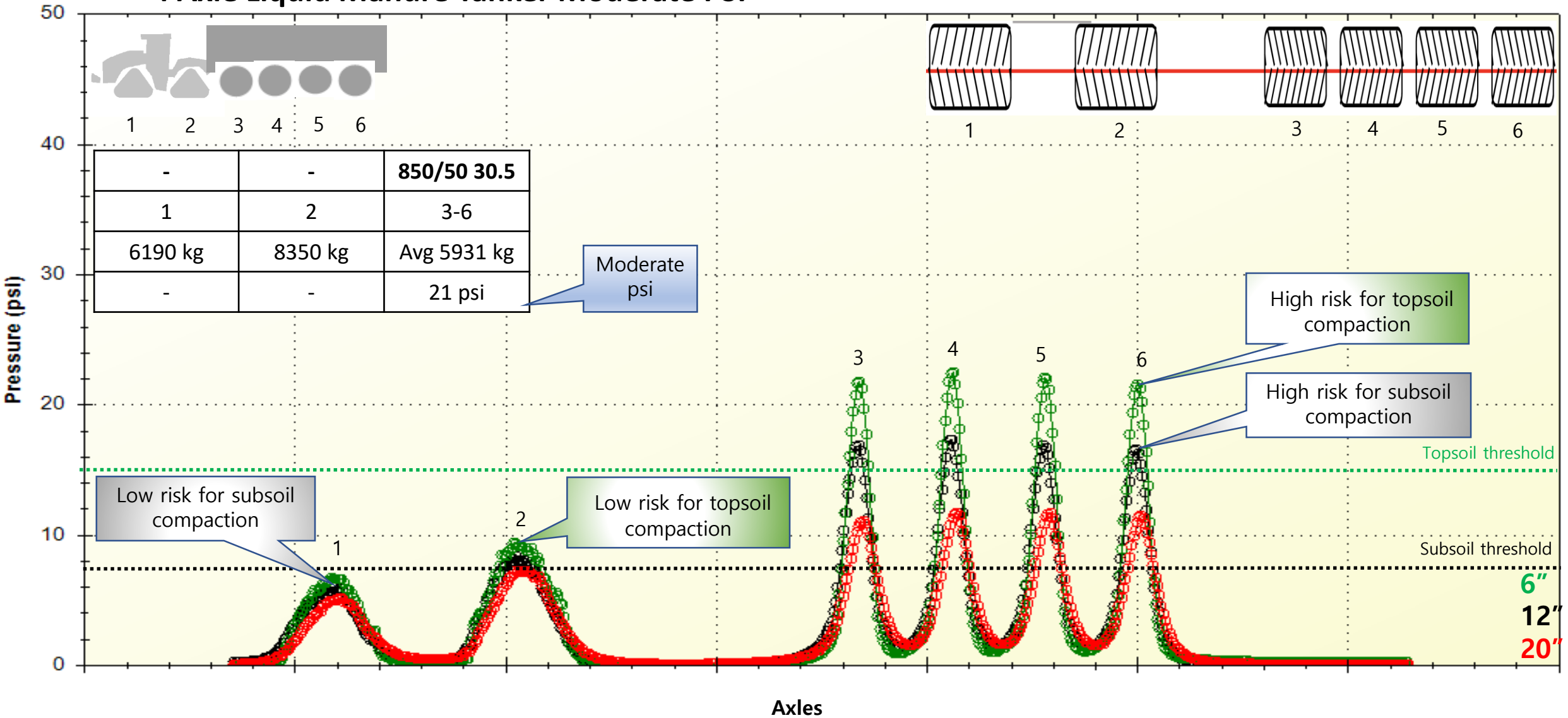


15PRWL

**X**: Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 16. High HP 4WD Articulating Tracked Tractor with 4 Axle Liquid Manure Tanker Moderate PSI

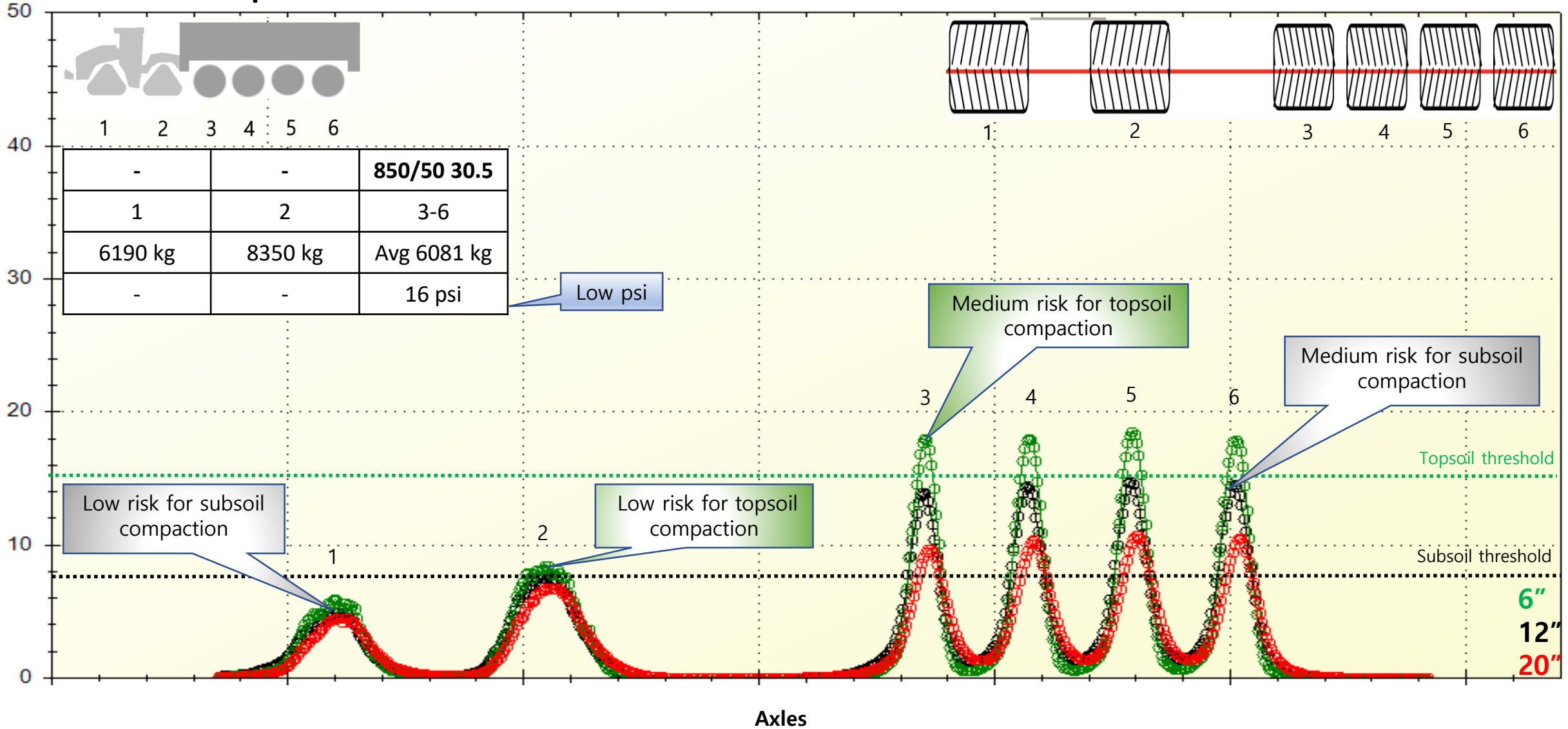


16A.PLWNA  
16B.ILWM

**X**: Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 16. High HP 4WD Articulating Tracked Tractor with 4 Axle Liquid Manure Tanker Low PSI

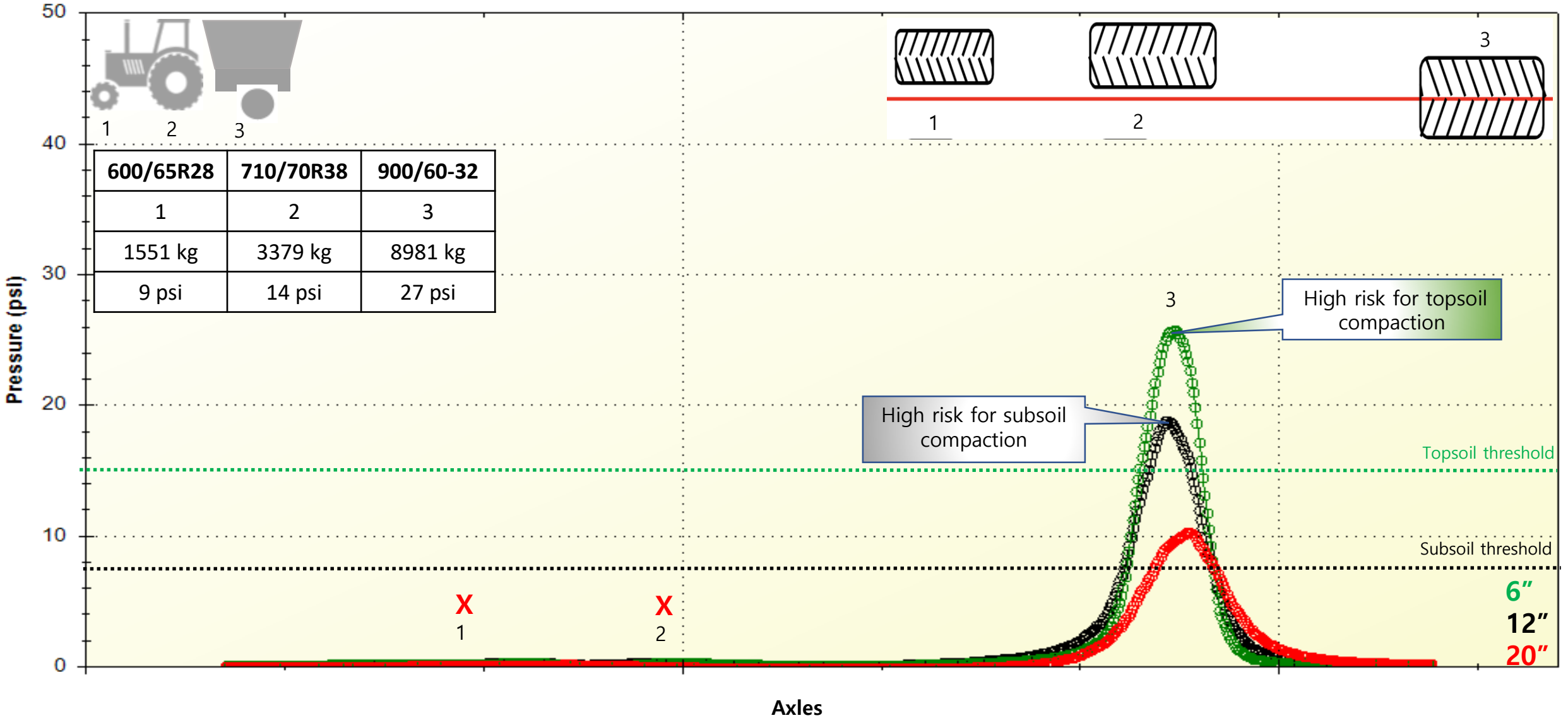


16A.PLWNA  
16B.ILWL

**X**: Off sensor, not measured.  
Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)



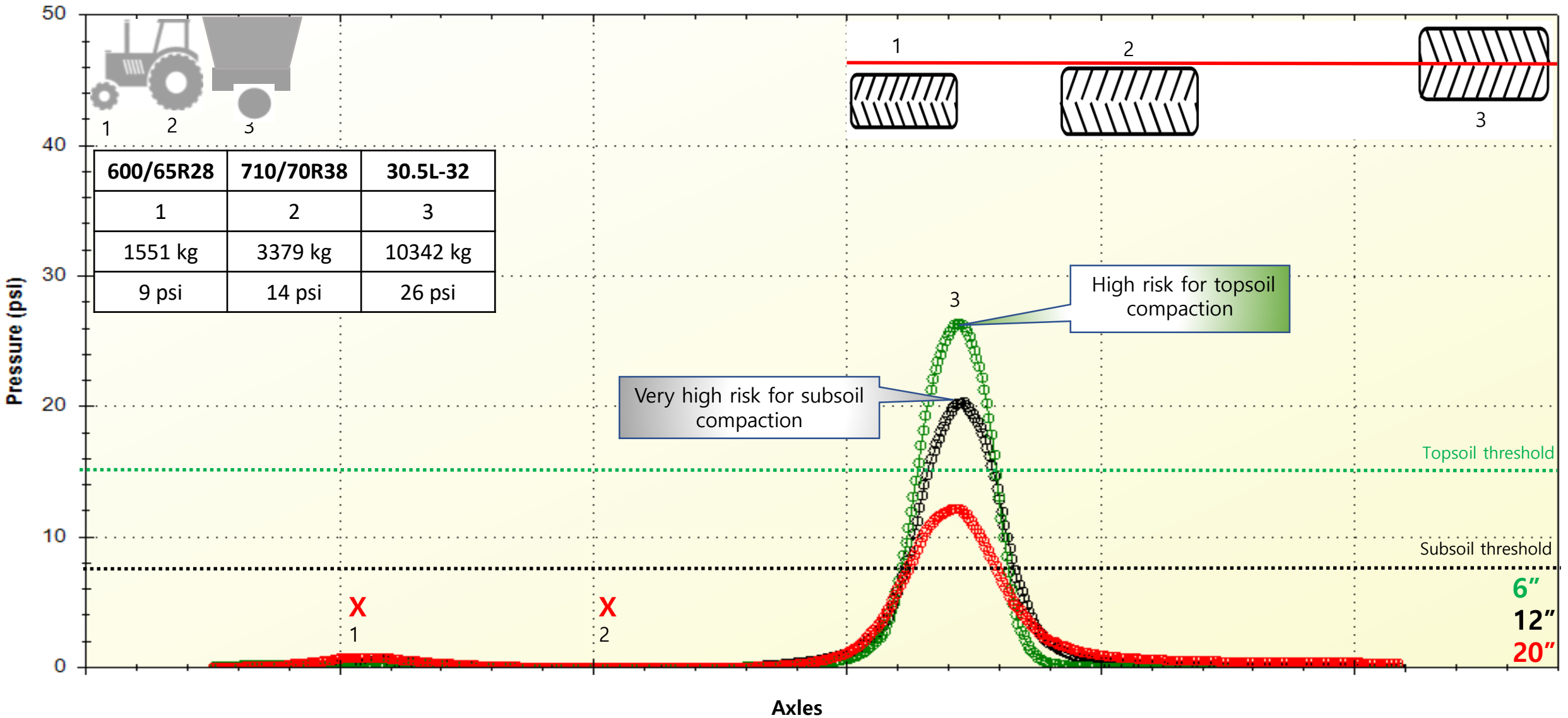
# 17. 750 Bu Grain Buggy w 900/60-32 Tires High PSI



**X**: Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

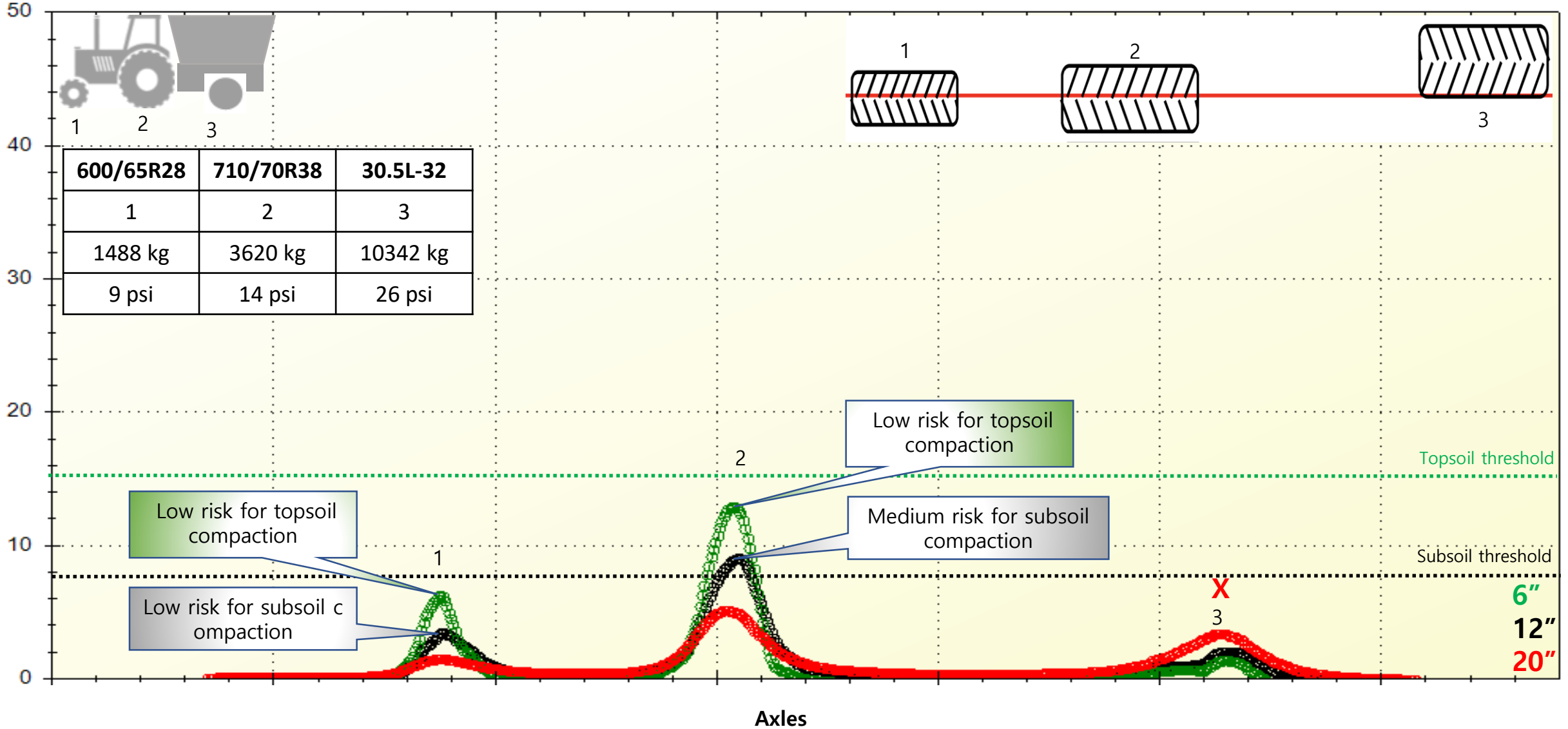
# 17. 750 Bu Grain Buggy w 30.5L-32 Tires High PSI



**X**: Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 17. Mid HP FWD Row Crop Tractor with Singles



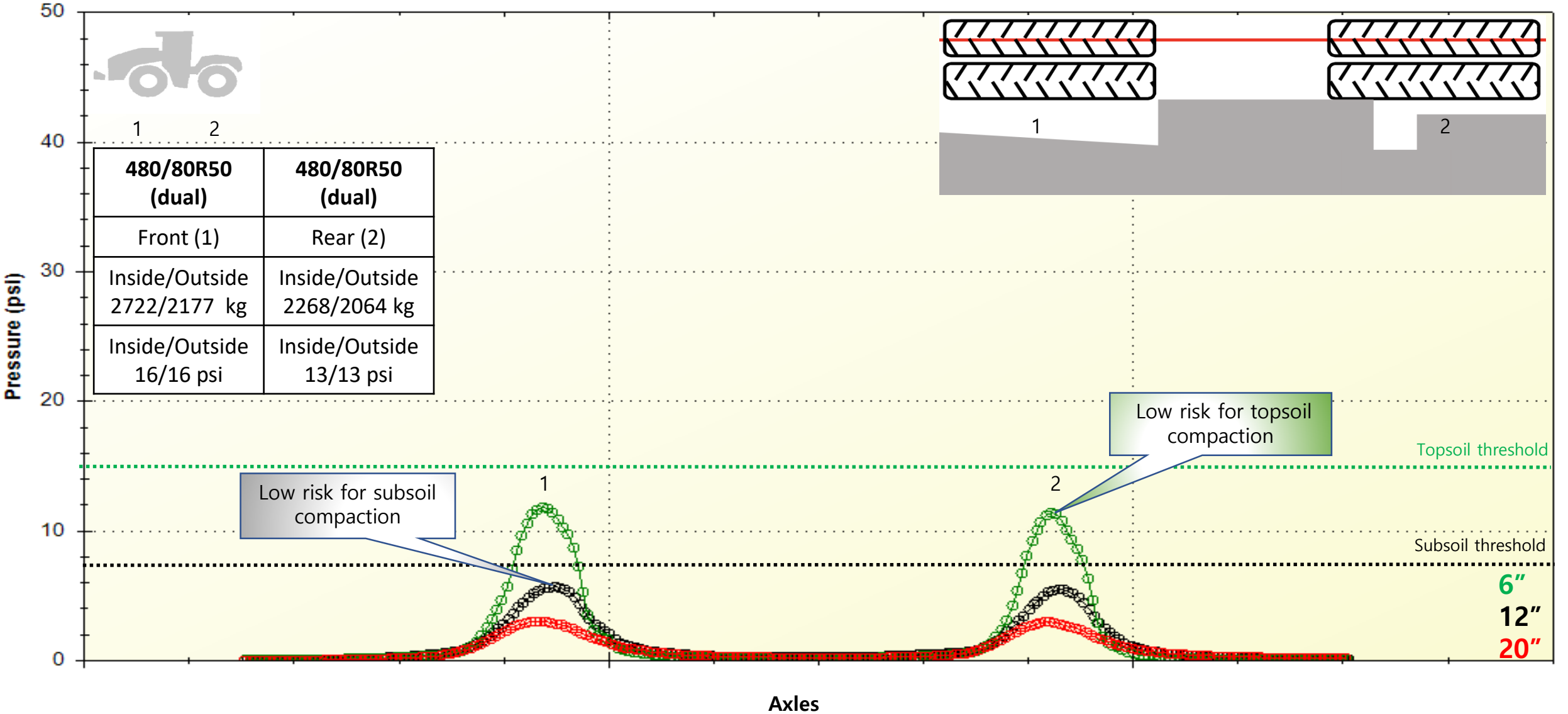
17A.PRWL

**X:** Off sensor, not measured.

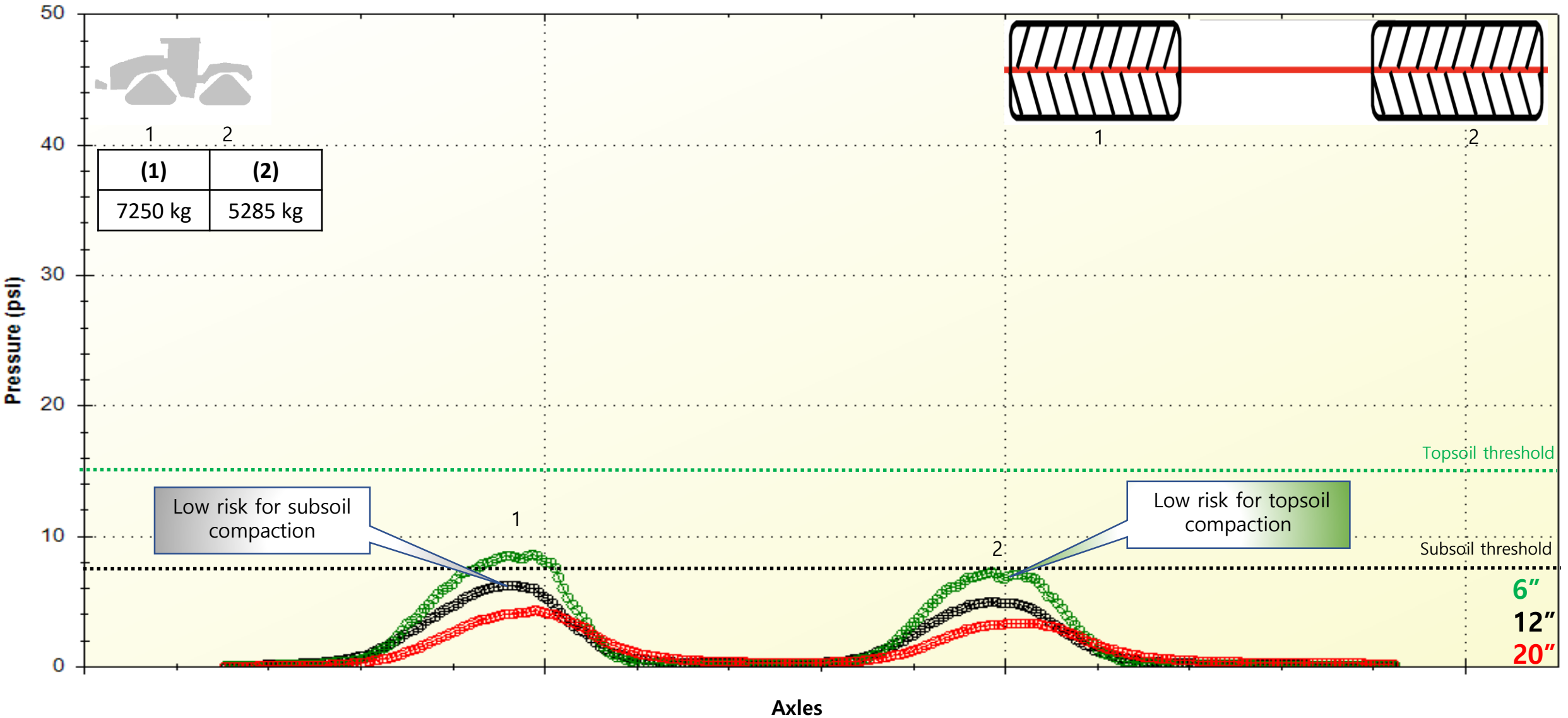
Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 18A. High HP 4WD Articulating Tractor with Duals

## Moderate PSI



# 18A. High HP 4WD Articulating Tractor with Tracks

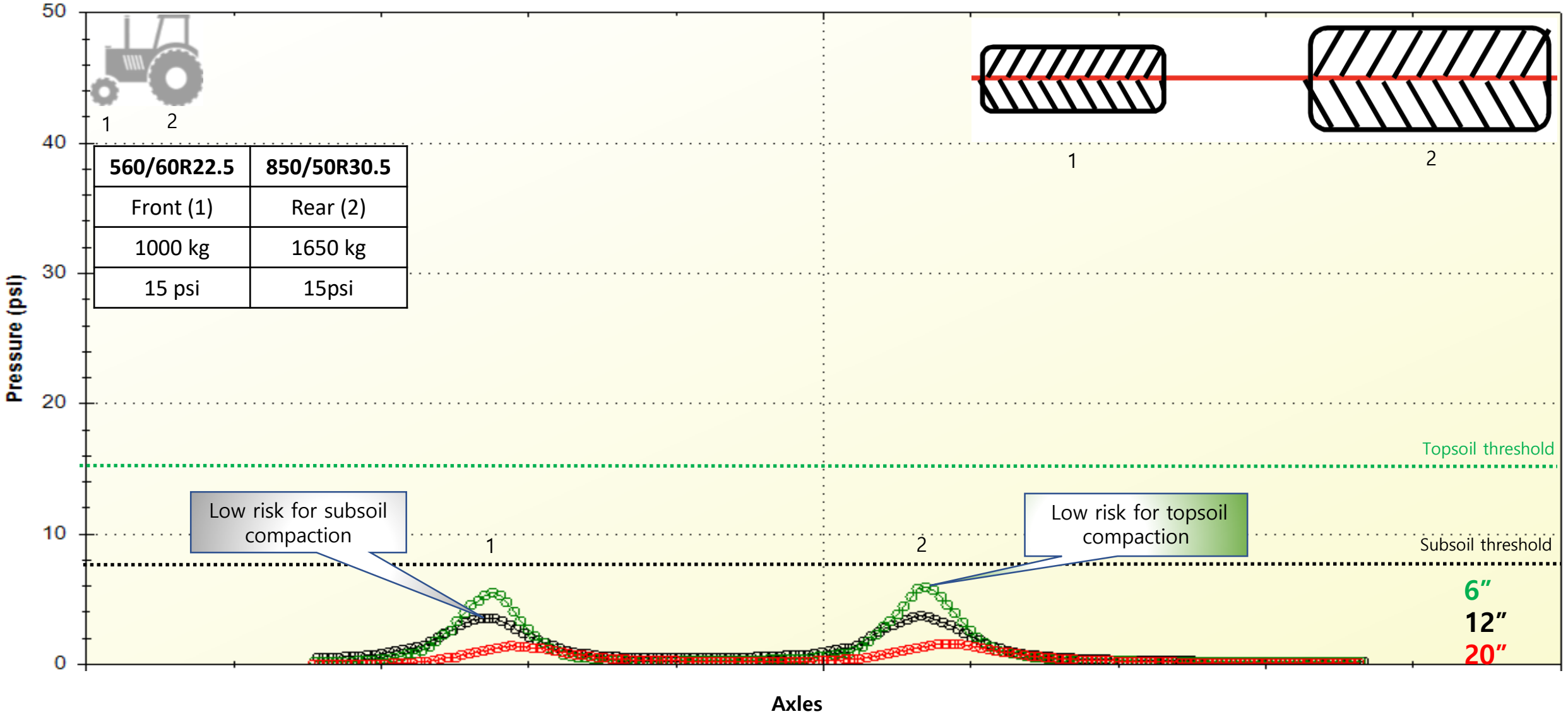


18B.PLWNA

**X**: Off sensor, not measured.

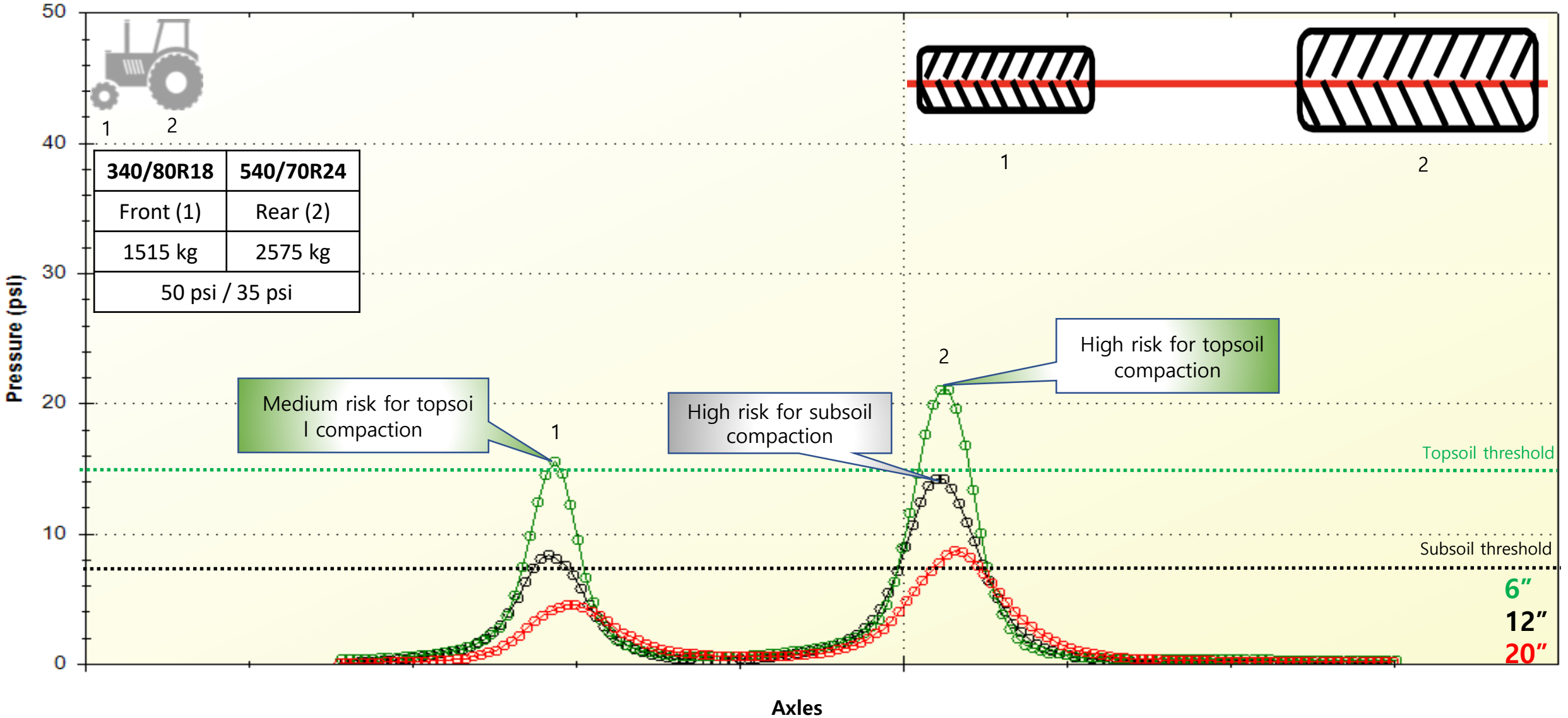
Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 19. Small Row Crop Tractor w Large Tires





# 20B. Backhoe

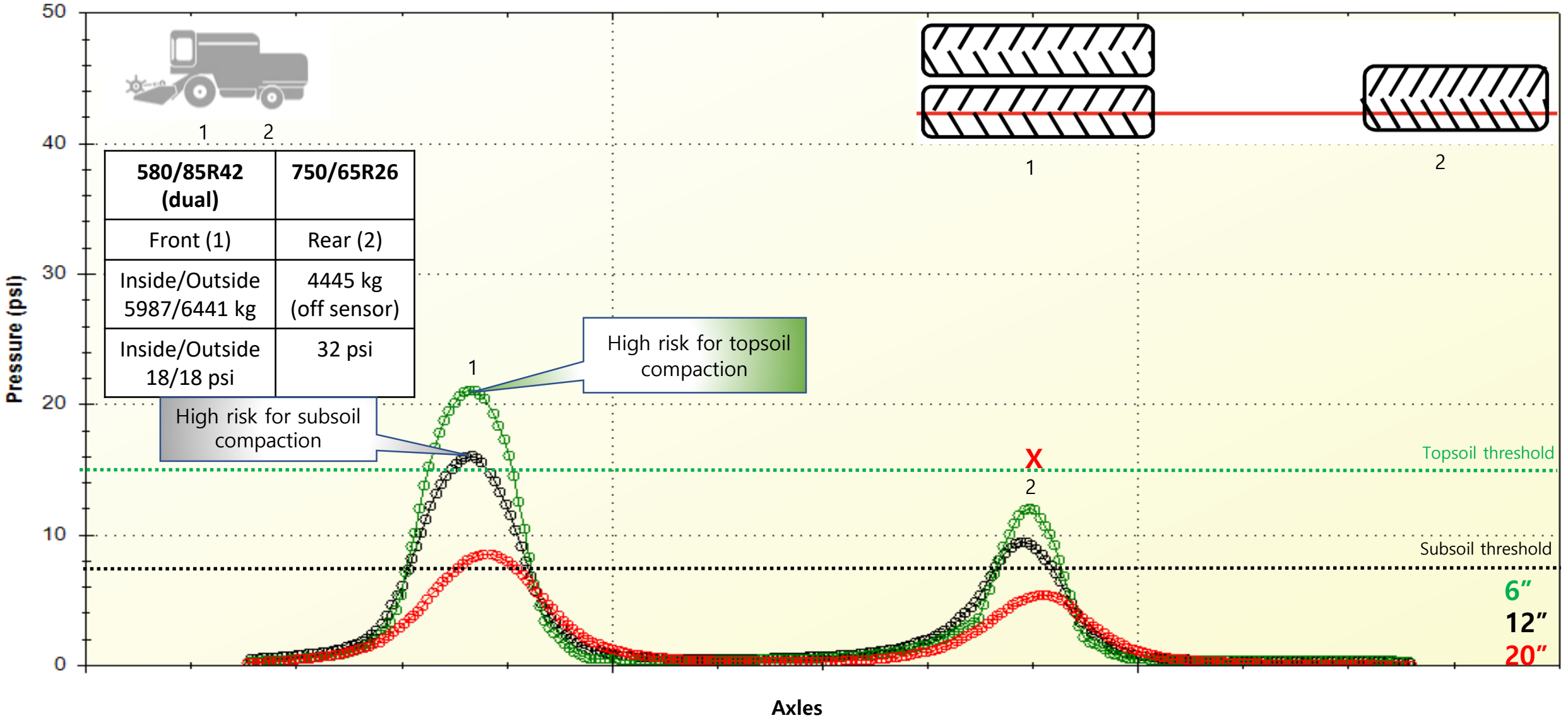


20A.PLM?

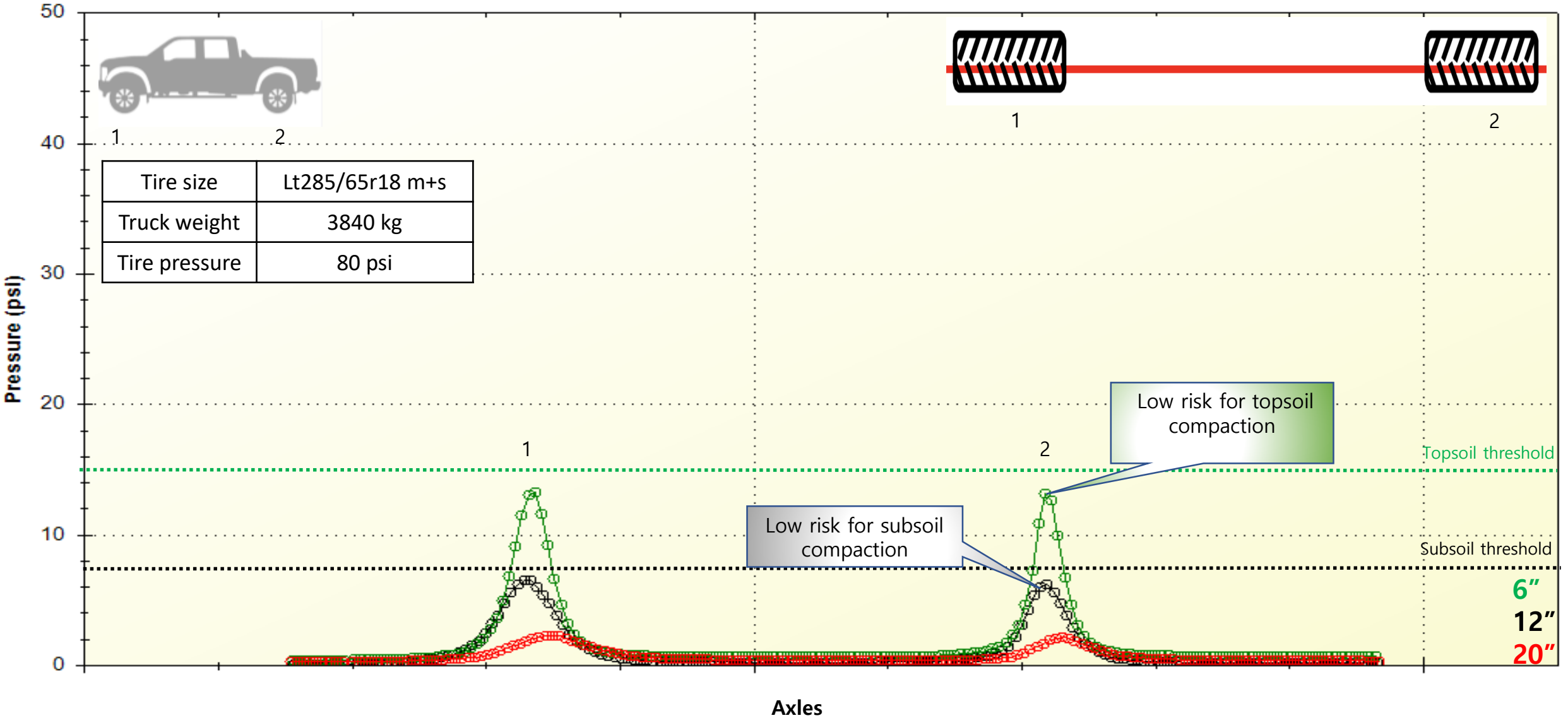
**X**: Off sensor, not measured.

Disclaimer: This is to be used for discussion & comparison purposes only. Videos and info available at [www.ifao.com](http://www.ifao.com)

# 21B. Combine with Duals Moderate PSI



# 24A. 4WD Pickup Truck with Empty High PSI



# 24A. 4WD Pickup Truck with Full Auxiliary Fuel Tank High PSI

