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## Increasing the Yield, Quality and Preservation of Fodder with Location Specific Improved Forages in Ethiopia

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## OUTLINE

- Background
- Overview of Project Activities
- Implementation Approaches
- Achievements/Results
- Next step



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## BACKGROUND

### Why feed intervention necessary in Ethiopia?

#### Ethiopia

- Largest livestock population in Africa
  - Critical elements of FS and base of livelihood
- Diverse agro-ecologies
- High human population

# **The performance** of the livestock sub-sector is not impressive



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## BACKGROUND...

- A number of constraints that need technical solutions and policy interventions
- Feed shortage both in **quantity and quality** is the most limiting factor
- Unless feed availability and quality is improved, livestock development goals will not be realized



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## OVERALL PROJECT OBJECTIVES

- To assess and validate the potential of location-appropriate, productive and high quality cultivated forages to reduce the feed gap and examine the extent to which they can improve milk production by dairy cows
- To compare forage preservation and crop residue improvement strategies for bridging the feed gap and increasing milk production



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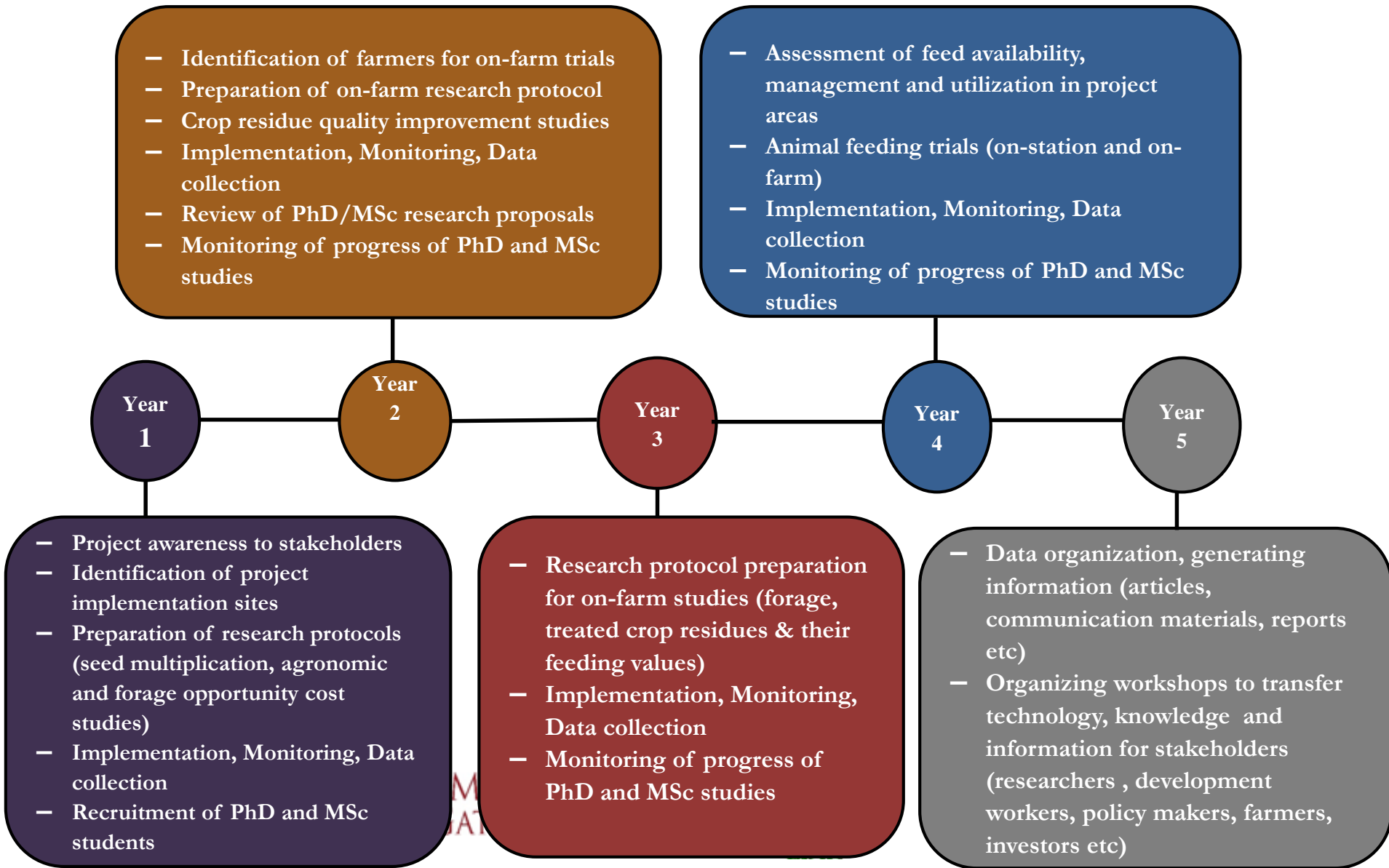
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## Overview of Project activities





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## Approaches

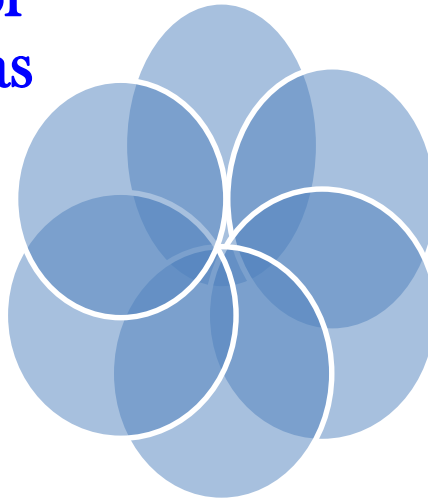
Focus on major  
dairy-shed areas

Focus on on-farm  
level interventions

Attachment of  
MSc and PhD  
students

On-station back-up  
research where  
appropriate

Involvement of  
multidisciplinary  
research team and  
relevant stakeholders





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## ACHIEVEMENTS

1. Multiplication of seeds/vegetative planting materials from different forage crops  
[Inputs for next on-farm activities]



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No.	Crop Type	Variety	Seed Produced (kg) <b>#5000</b>		
			Planned	Achieved	Achievement (%)
1	Oats	CI-2291	1800	<b>1647</b>	92
2	Oats	CI-8251	1400	<b>1530</b>	109
3	Oats	CI-2806	1500	<b>1055</b>	70
4	Vetch	<i>V. dasycarpa</i> cv. lana	600	<b>400</b>	67
5	Vetch	<i>V. villosa</i>	600	<b>10</b>	2
6	Tree lucern	MoA	30	<b>42</b>	140
7	Fodder beet	Kulumsa	75	<b>25</b>	33
8	Rhodes grass	Massaba	200	<b>150</b>	75



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N o.	Grass type	Variety	Number of Root Splits		Remark
			Planned	Achieved	
1	Napier grass	16791/Zihone 02	32,000	50,000	Actual number of root splits will be known in June 2019
2	Napier grass	16819/ Zihone 03	30,000	50,000	
3	Pennisetum hybrid	Maralfalfa	25,000	50,000	
4	Desho grass	Areka/DZF 590	25,000	75,000	
5	Desho grass	Kulumsa/DZF 592	25,000	100,000	





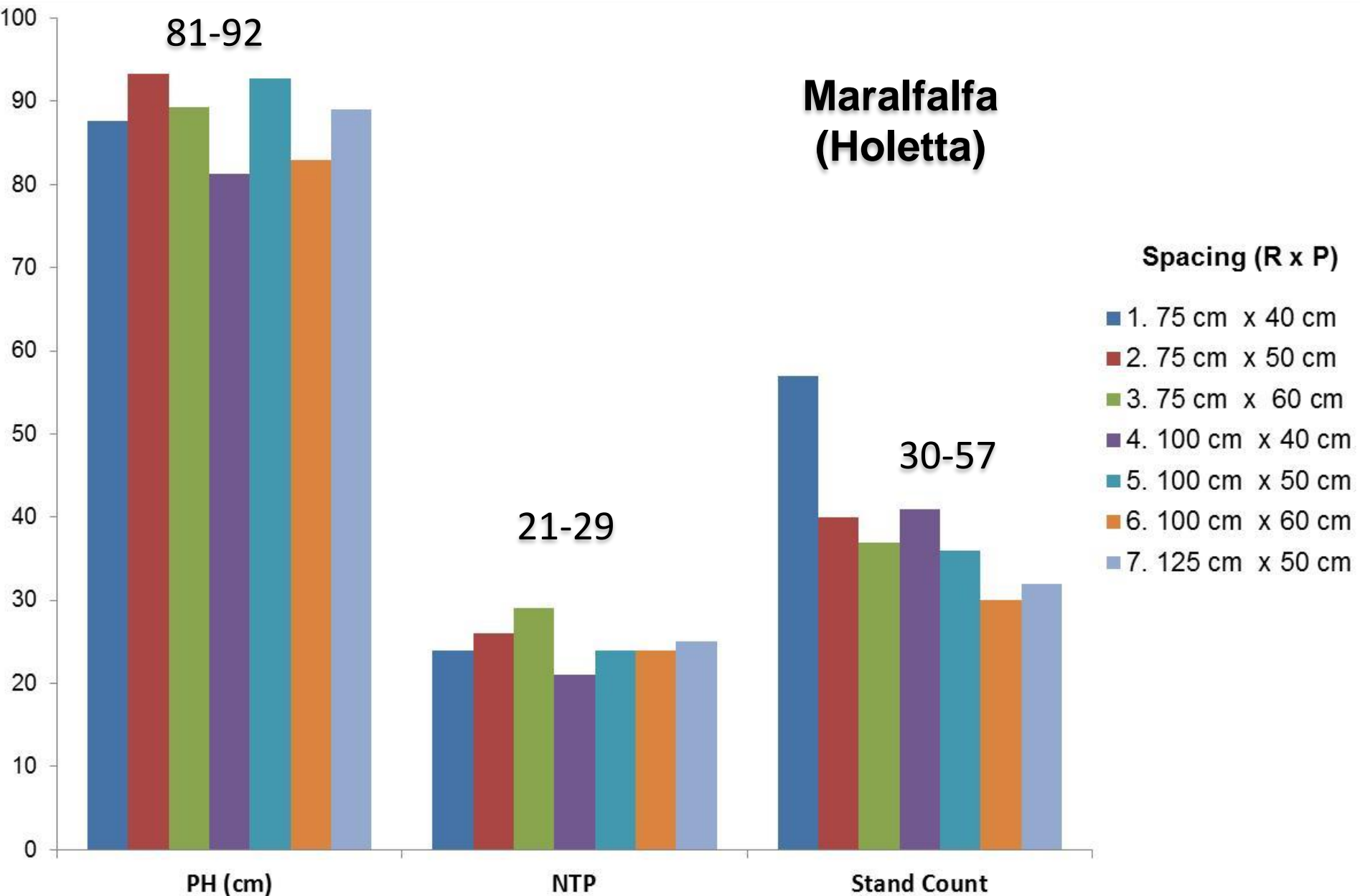
## **2. Research Progress**

- 2.1. Effect of Planting Density and Harvesting Height on Morphological Characteristics, Biomass Yield and Quality of *Desho* and Maralfalfa Grasses in the Ethiopian Highlands**
- 2.2. Evaluation of Introduced Forage Genetic Resources for Biomass Yield and Feed Quality in the Central Ethiopian Highlands [Oats, ryegrass & Trifolium]**
- 2.3. Economic Feasibility of Cultivated Forage Crops and Improved Pasture Hay Production in the Central Ethiopian Highlands**



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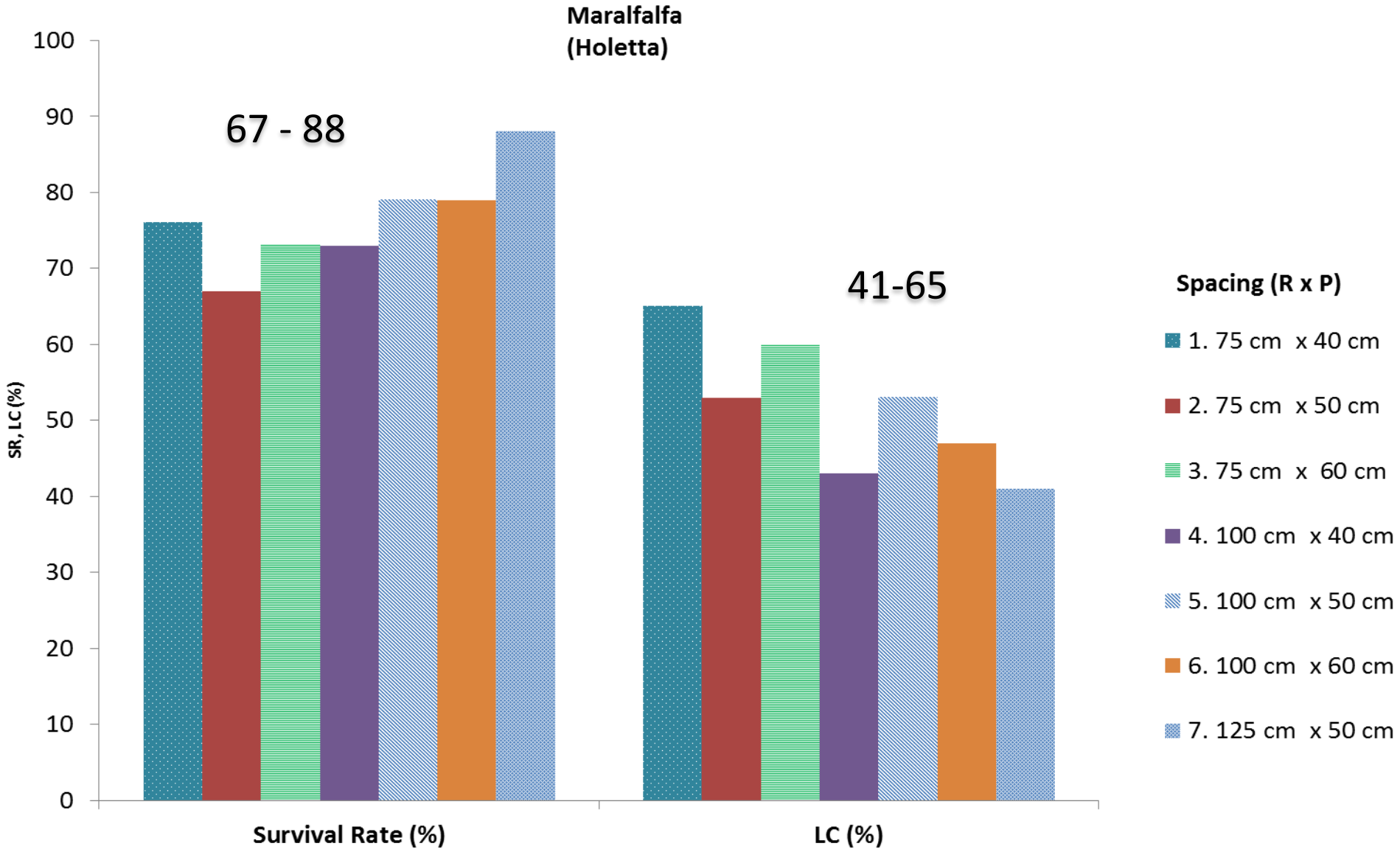
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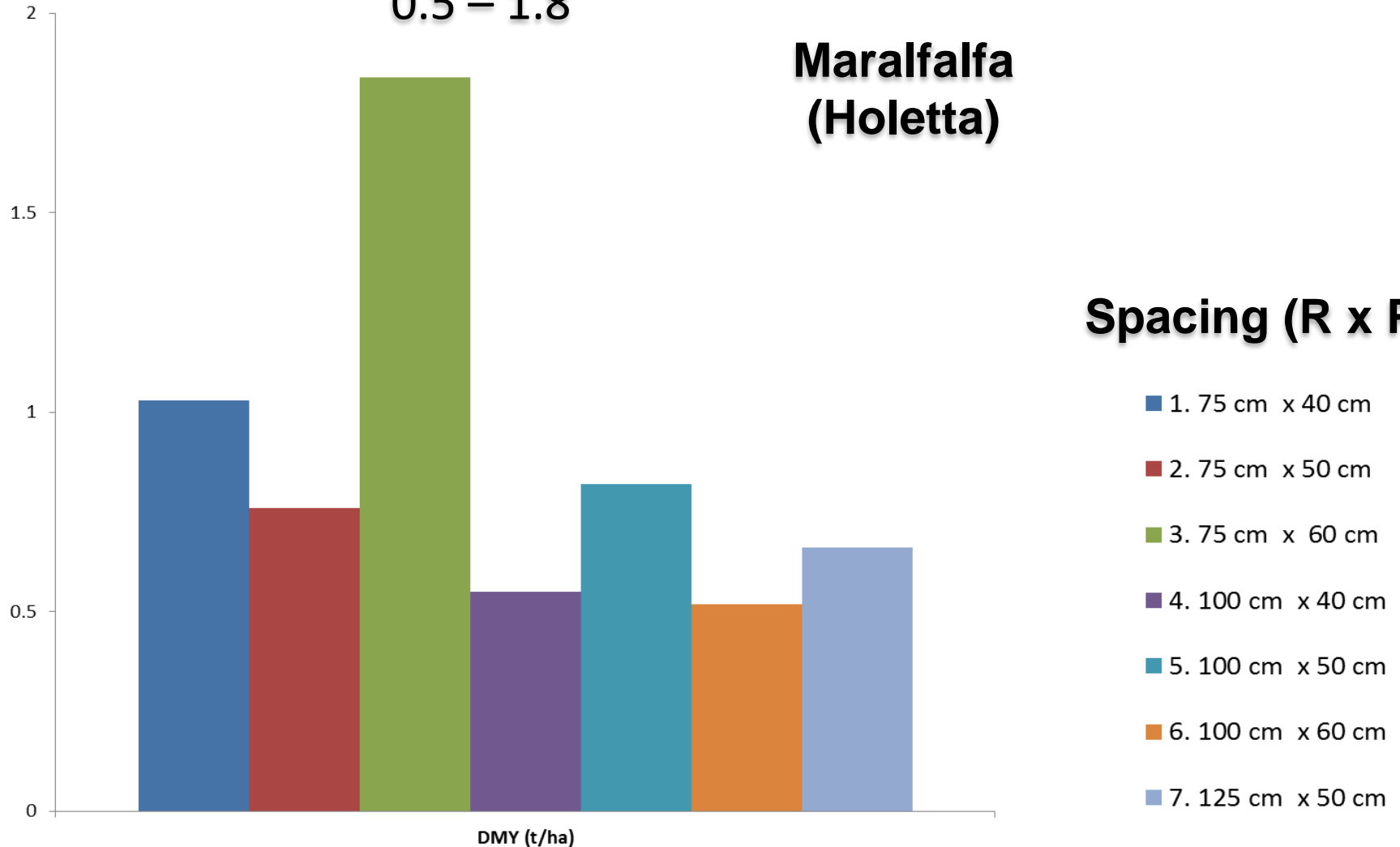
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0.5 – 1.8

## Maralfalfa (Holetta)

### Spacing (R x P)

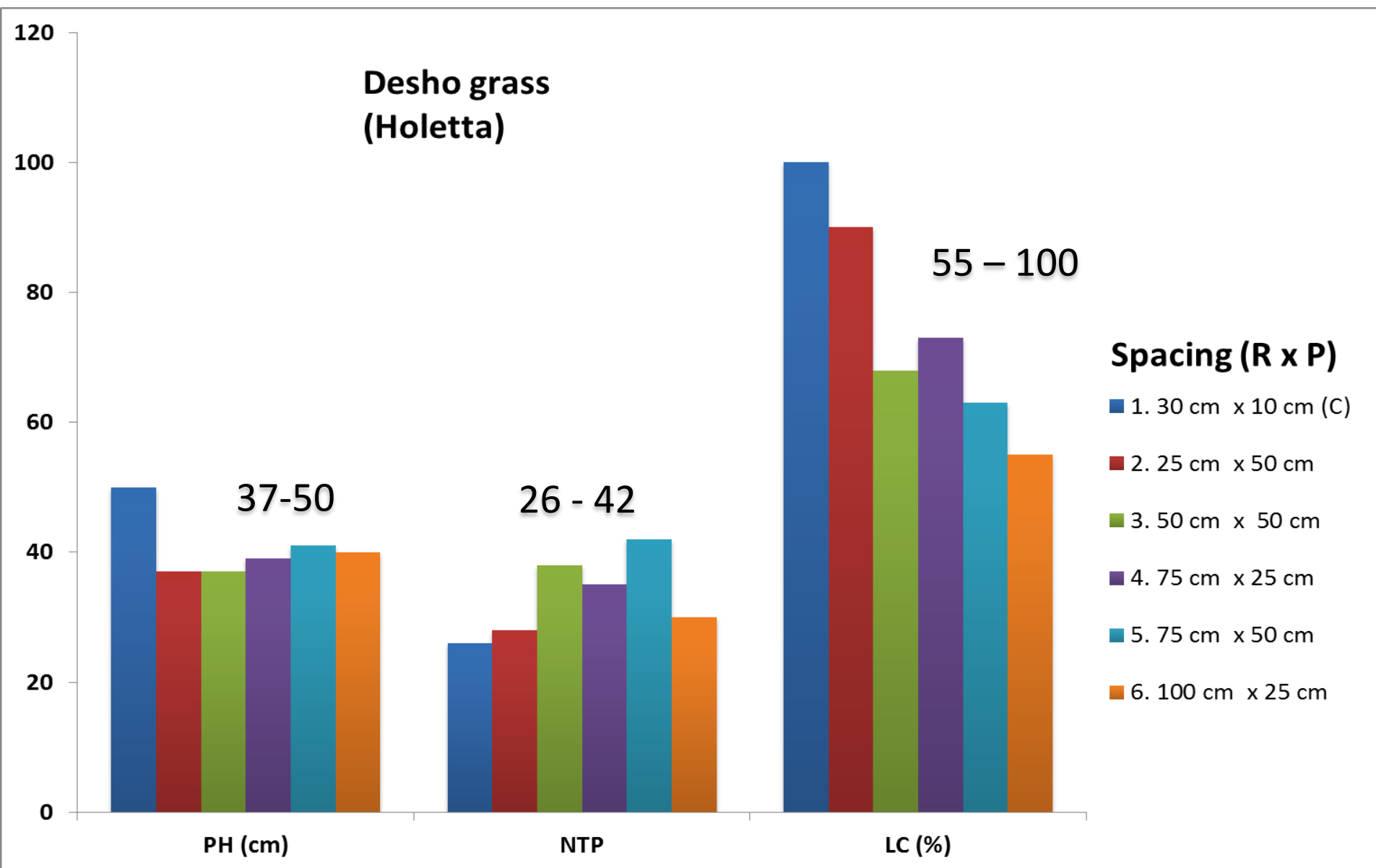






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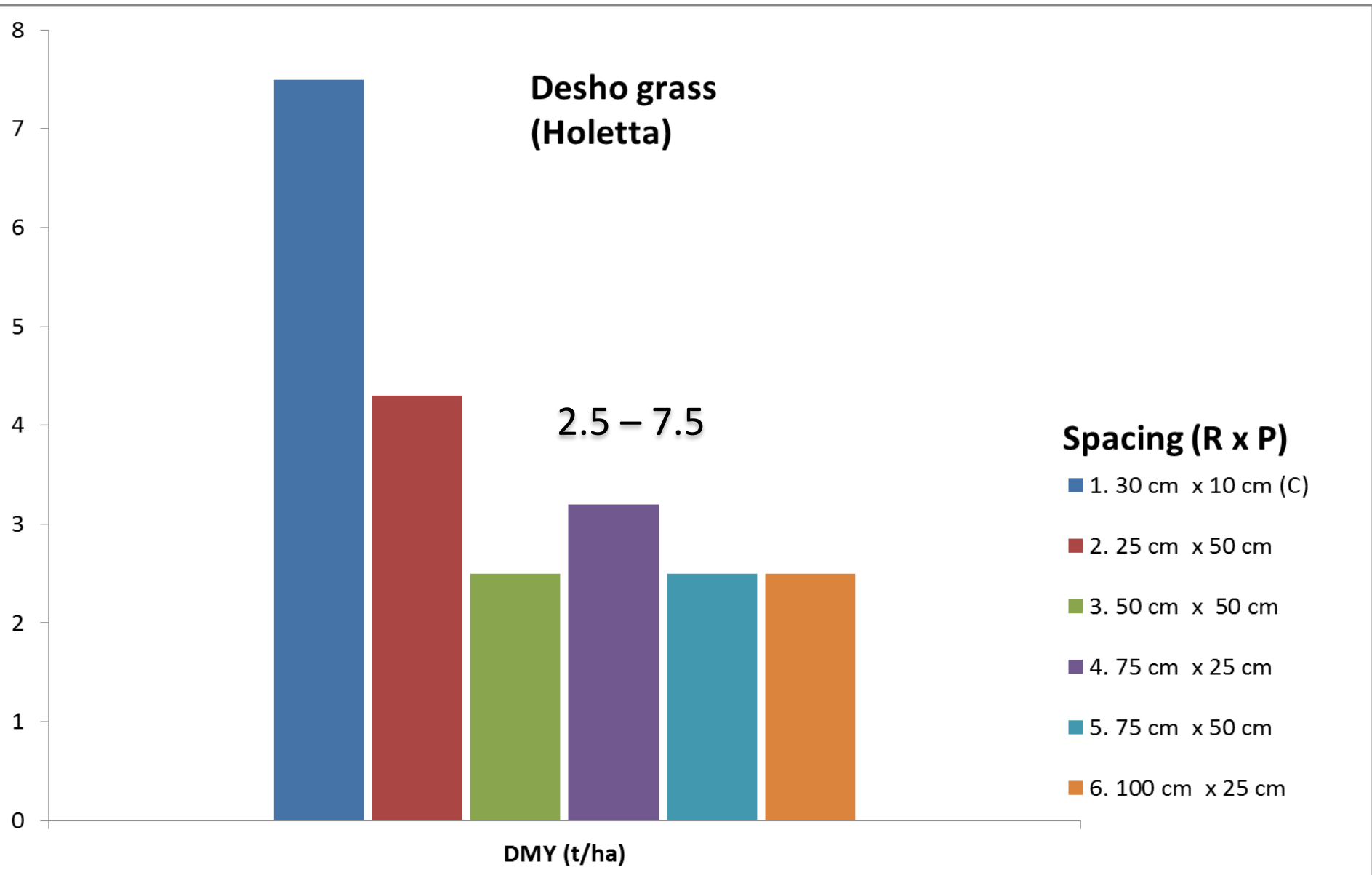
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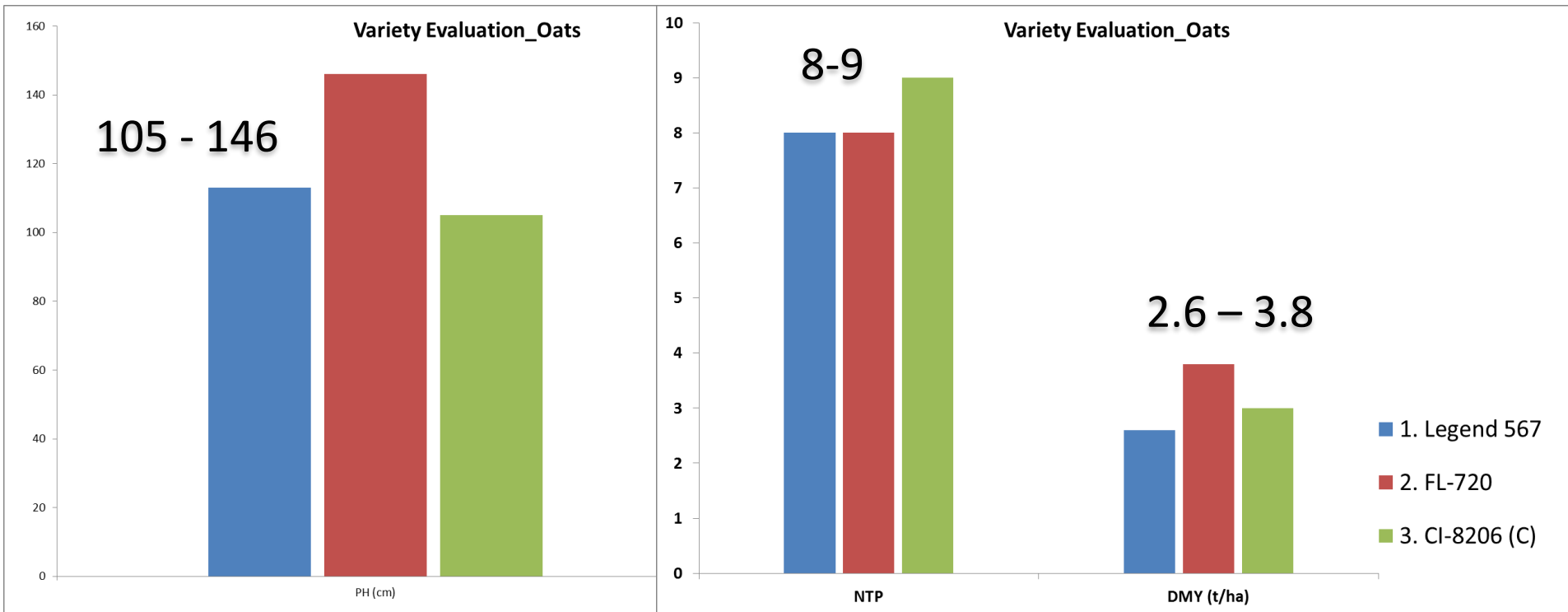






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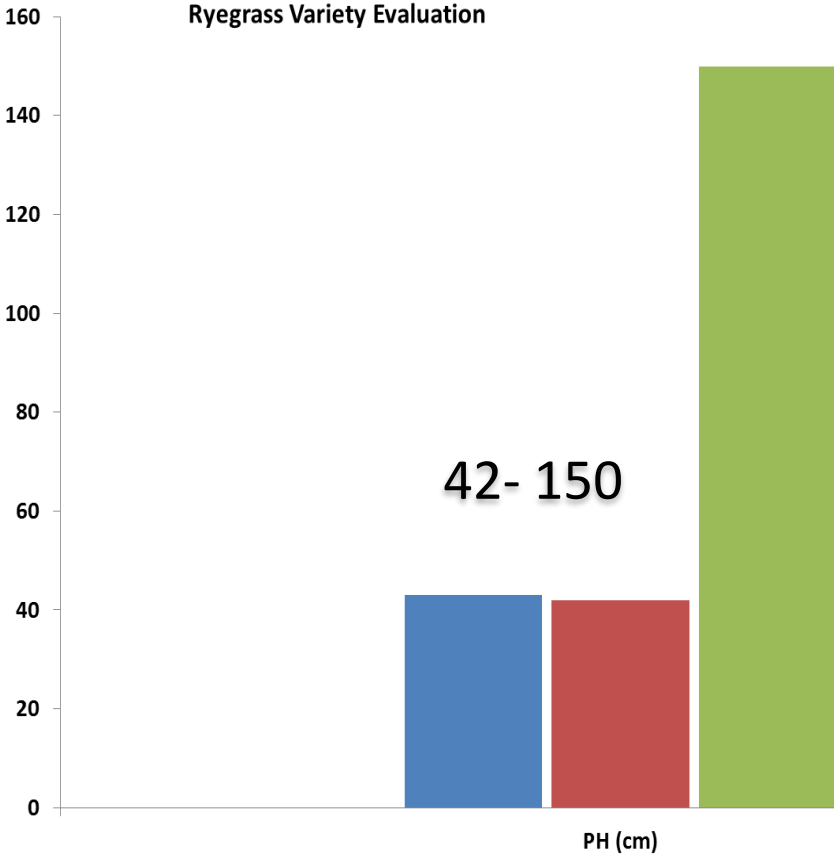
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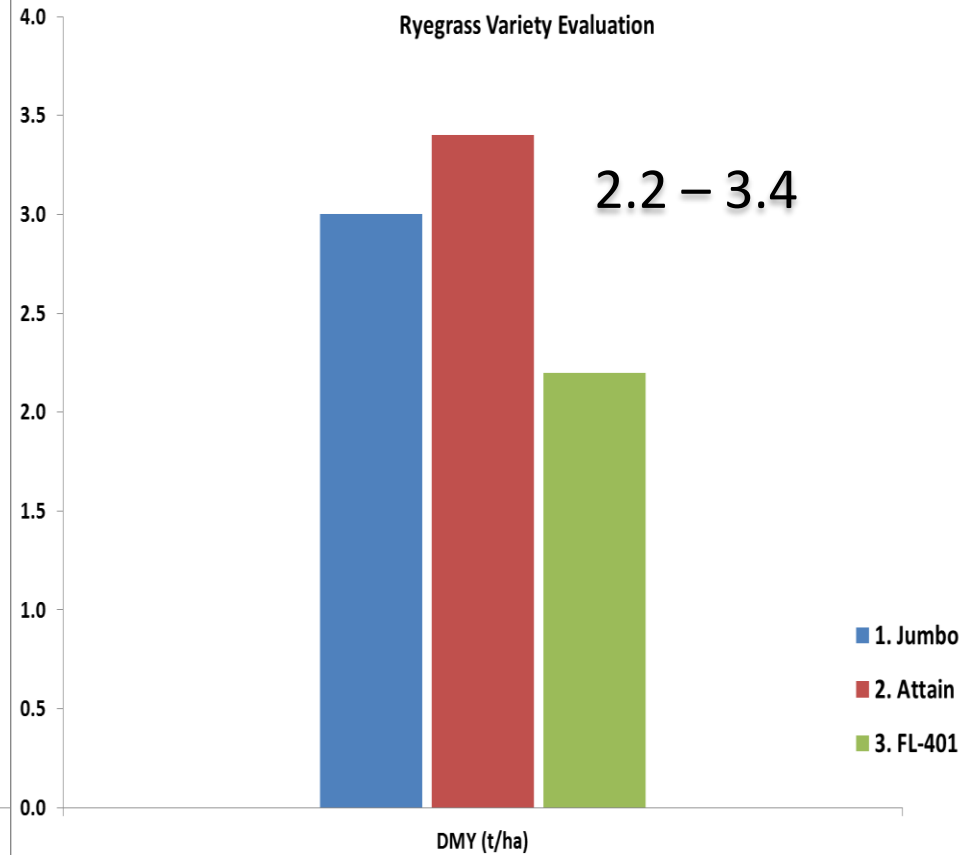
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Ryegrass Variety Evaluation



Ryegrass Variety Evaluation





## RESULTS...

### – Two Promising *Trifolium* species

- *Trifolium incarnatum* cv. Dexie lot#309
- *Trifolium pratense* Lot#166239NCTDS

### – Data collection is underway for the feasibility study of improved forage crops production



## NEXT STEP [YEAR 2]

- Identification of farmers for on-farm trials
- Preparation of on-farm research protocols
- Crop residue quality improvement studies
- Implementation, monitoring and data collection
- Monitoring progress of students engaged in this project





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