

# **RICE VARIETIES AND SEED- RELATED PRACTICES IN FARMERS' FIELDS**

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# Objectives

- Provide updates of adoption of selected seed- and crop establishment-related practices/ technologies
  - Variety planted
  - Sources of seeds
  - Seed class
  - Seeding rate
  - Crop establishment

# Rice varieties released in the Philippines, 1968-2011.

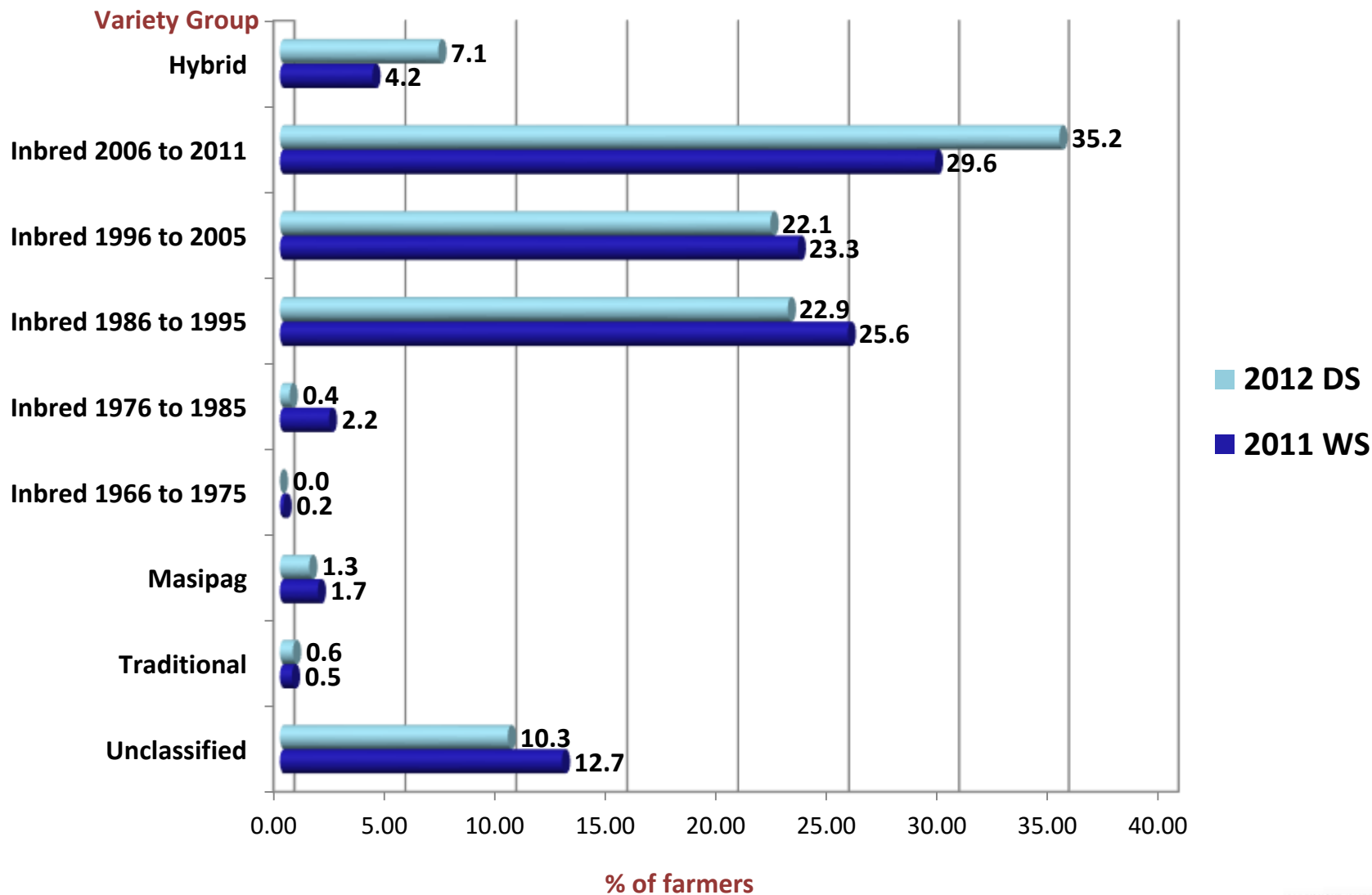
Period	Irrigated-Lowland (Inbred) <sup>b</sup>	Irrigated-Lowland (Hybrid)	Rainfed-Lowland <sup>c</sup>	Upland	Cool-elevated	Saline-prone	Total No. of varieties released
1966-1975	15		1	1			17
1976-1985	21		3	6			30
1986-1995	18	1	8	1			32
1996-2005	25	7	7	5	6	8	54
2006-2011	26	36	11			9	82
<b>Total</b>	<b>105</b>	<b>44</b>	<b>30</b>	<b>13</b>	<b>6</b>	<b>17</b>	<b>215</b>

<sup>a</sup> Varieties officially released by the National Seed Industry Council, previously the Philippine Seed Board

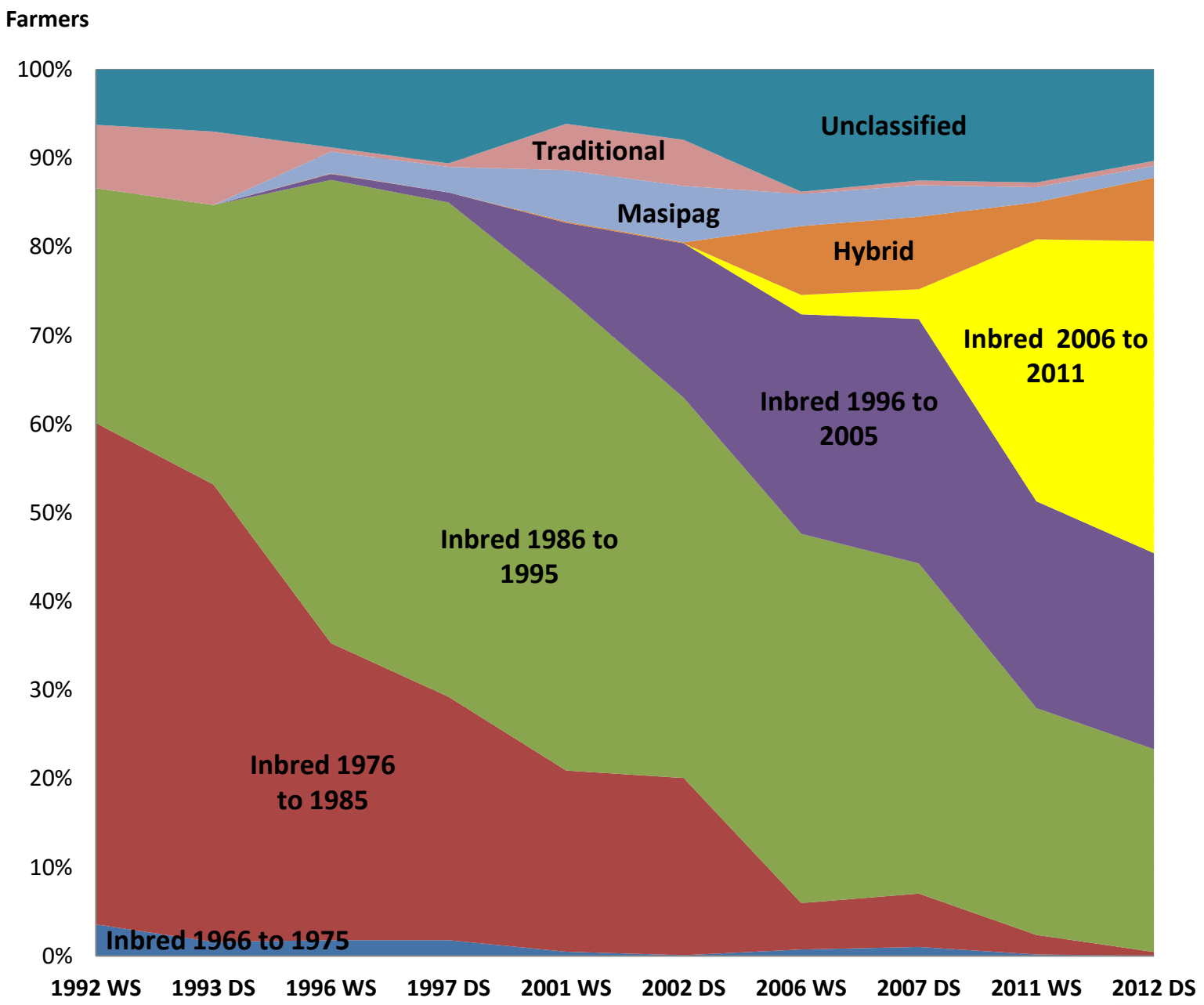
<sup>b</sup> Includes 10 glutinous rice

<sup>c</sup> From 1985, releases for rainfed-lowland were specified for transplanted, direct-seeded, drought-prone or flood-prone; Most are released for transplanted; 7 varieties were released for dry-seeded; 1 drought-prone; and 1 for flood-prone ecosystem

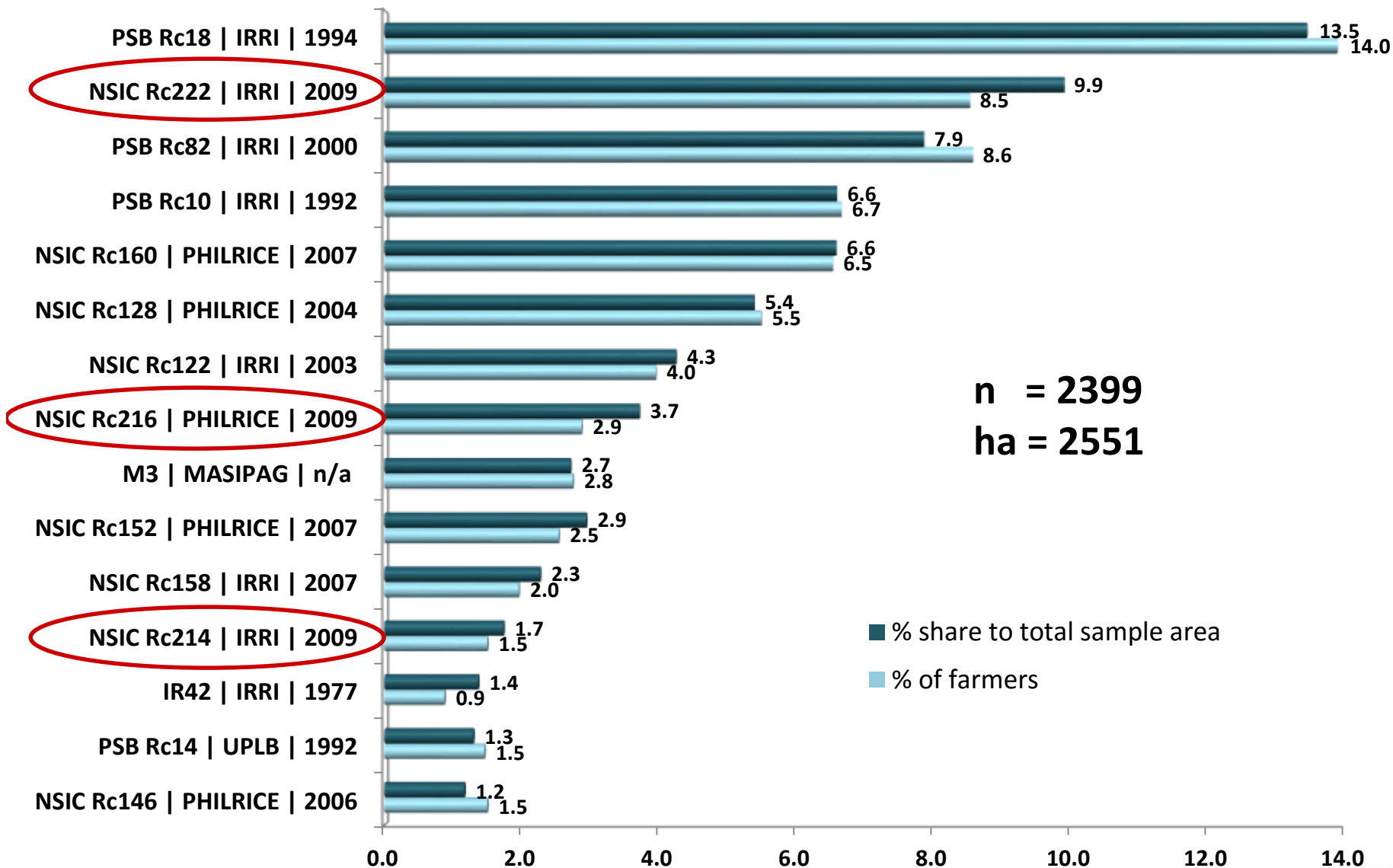
# Adoption Rate, By Variety Group, 2011 WS and 2012 DS



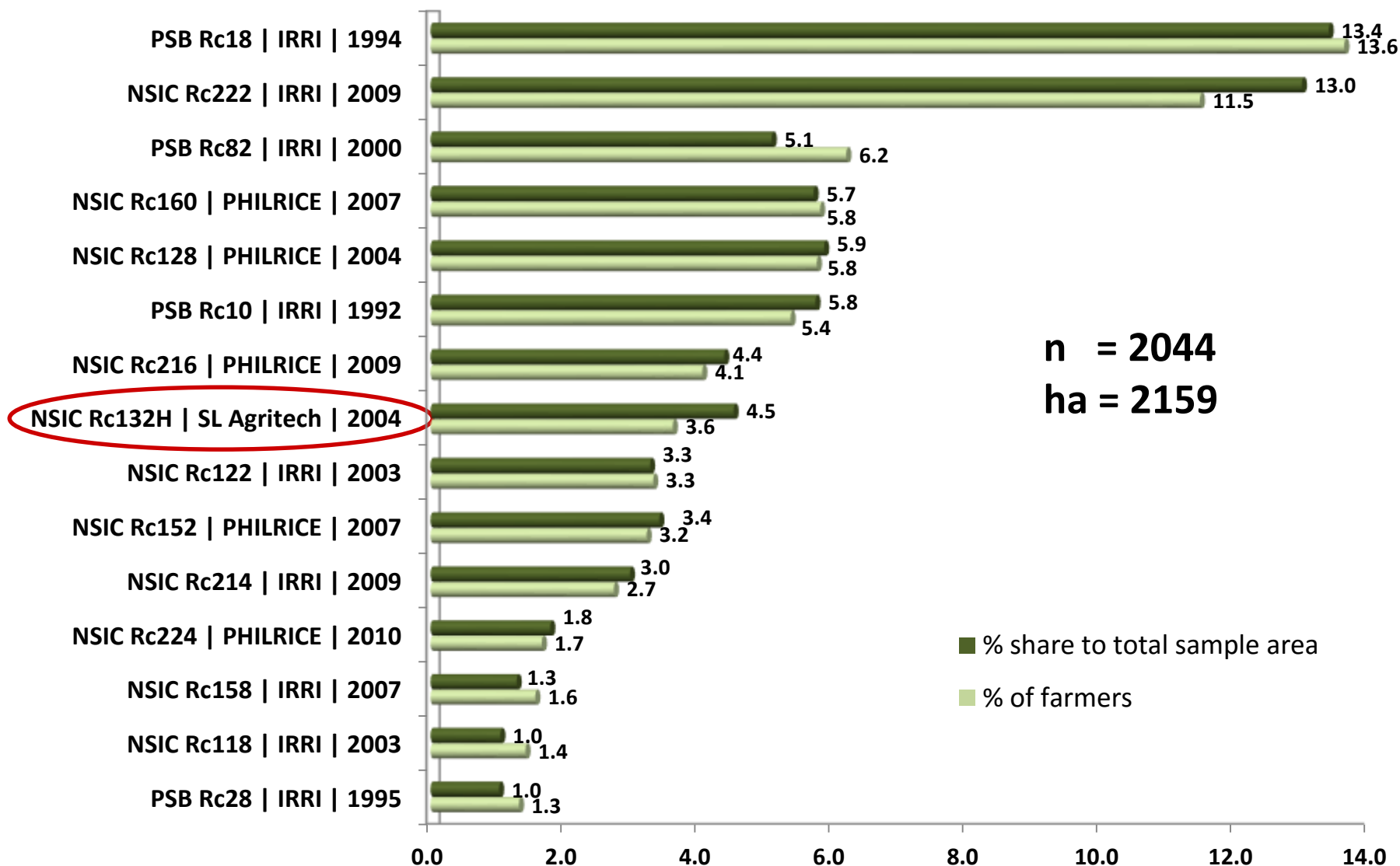
# Trends in Variety Group Share



# Top rice varieties planted, 2011 Wet Season

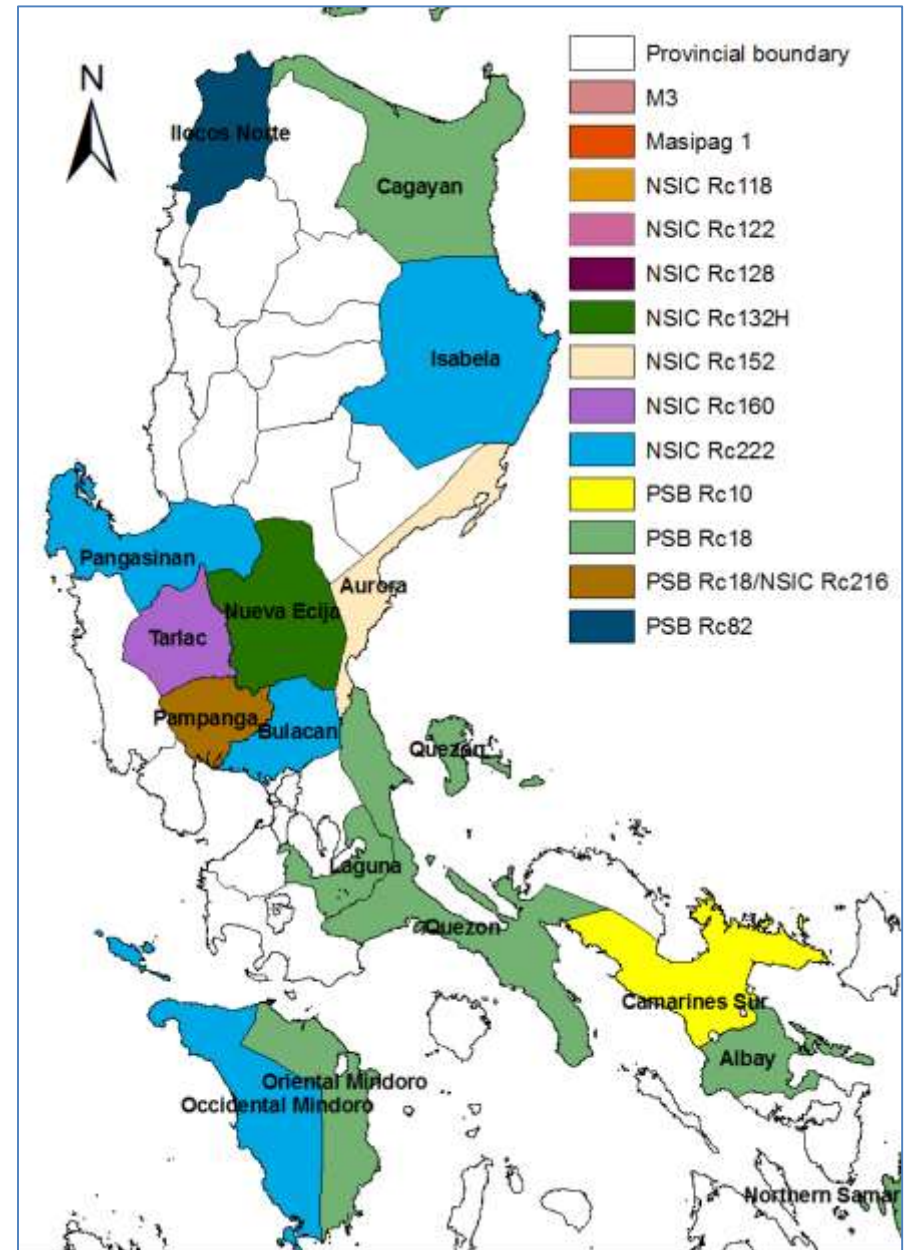
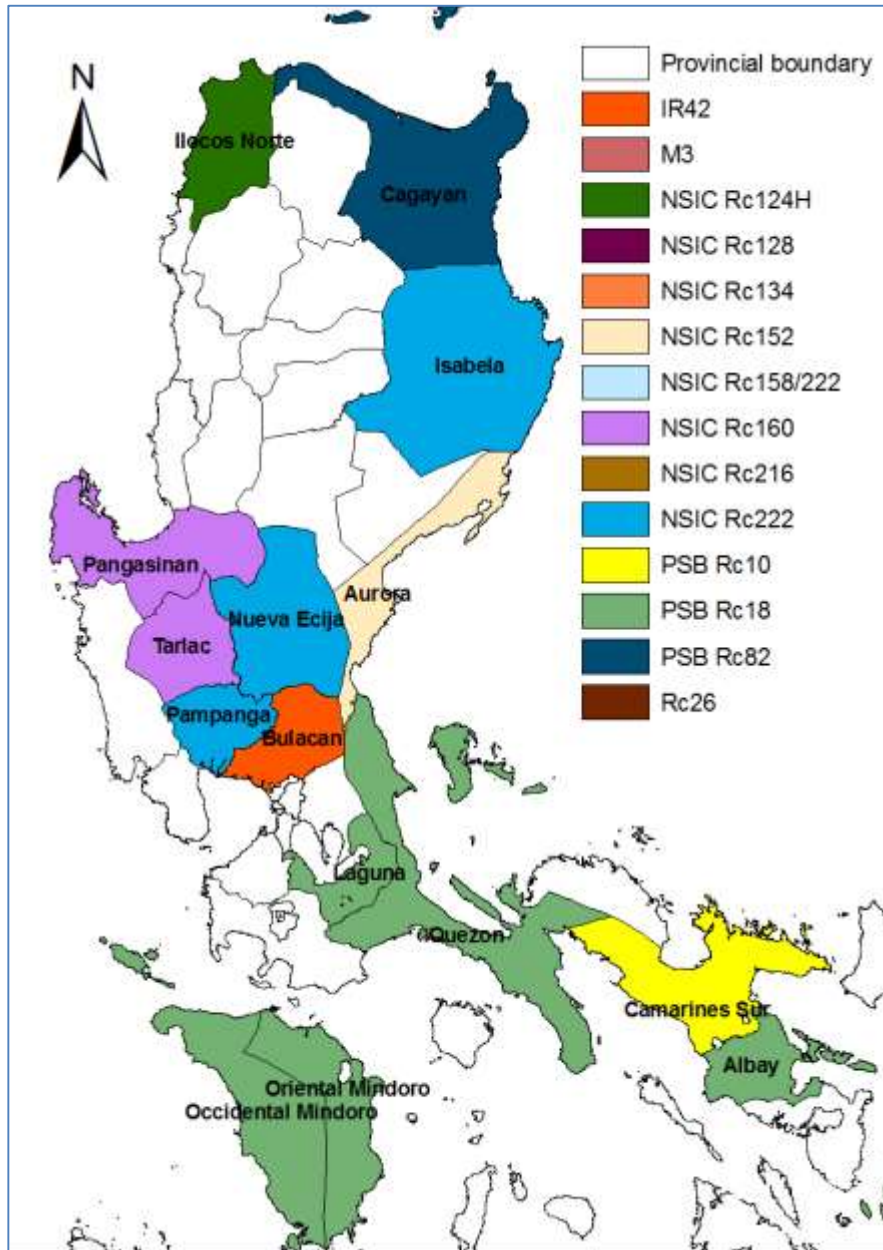


# Top rice varieties planted, 2012 Dry Season



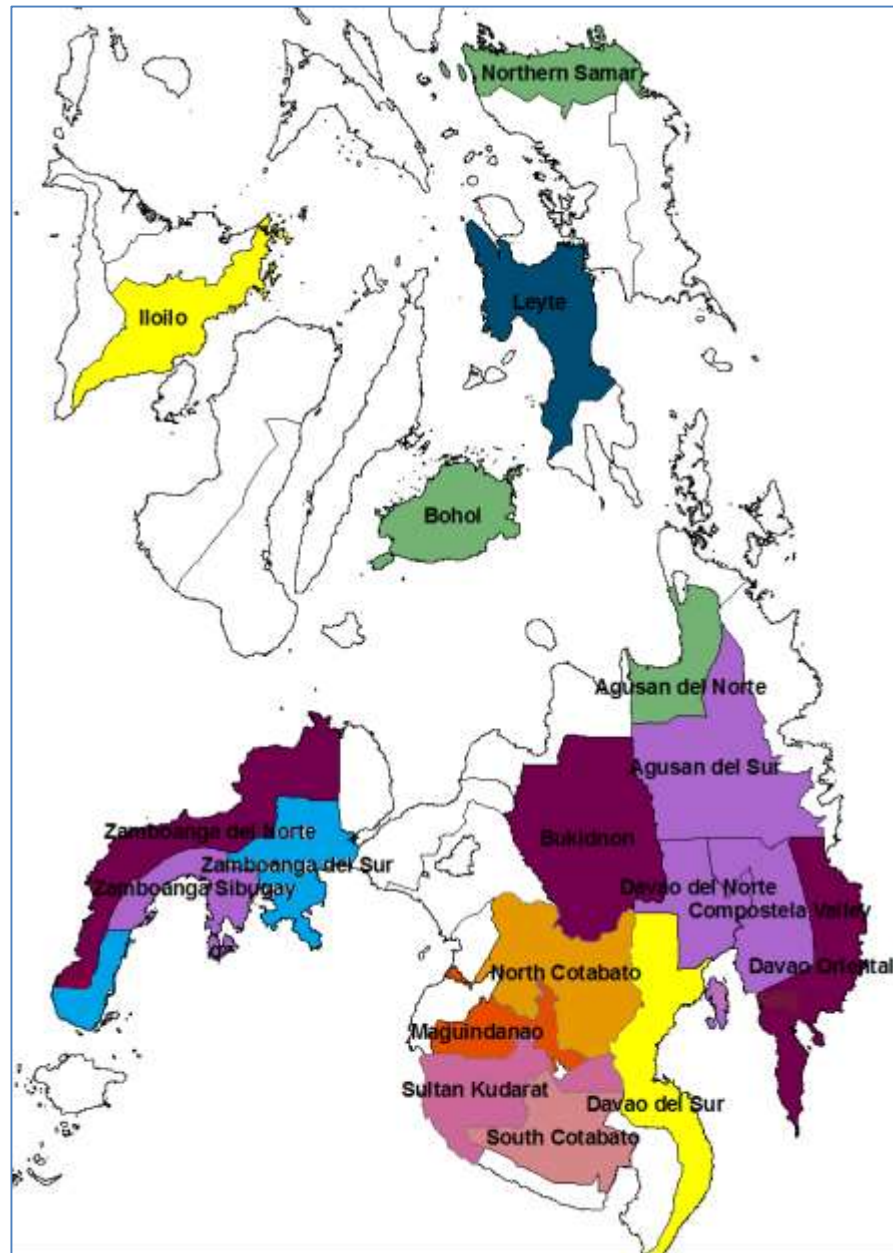
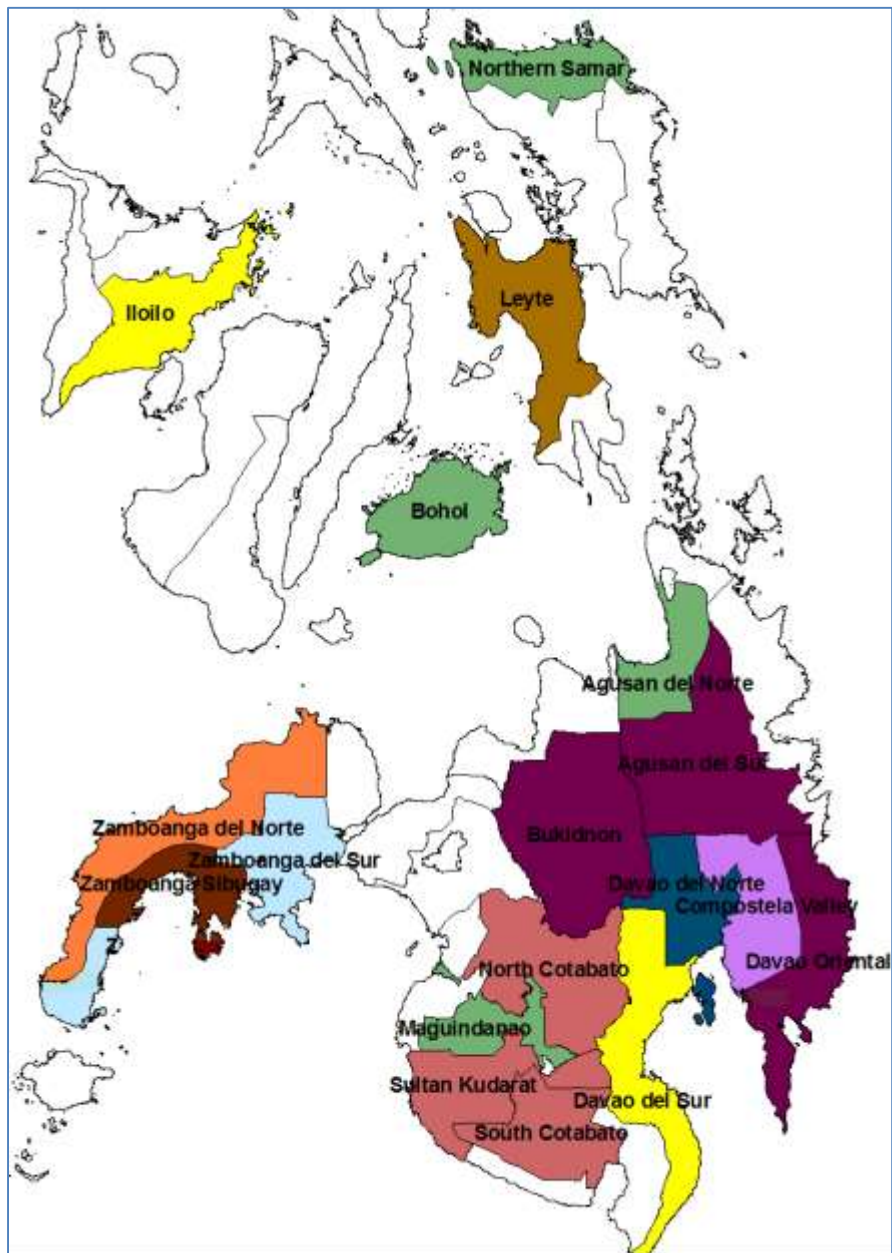
■ % share to total sample area  
■ % of farmers

# Top Variety Planted, by province, 2011 WS and 2012 DS





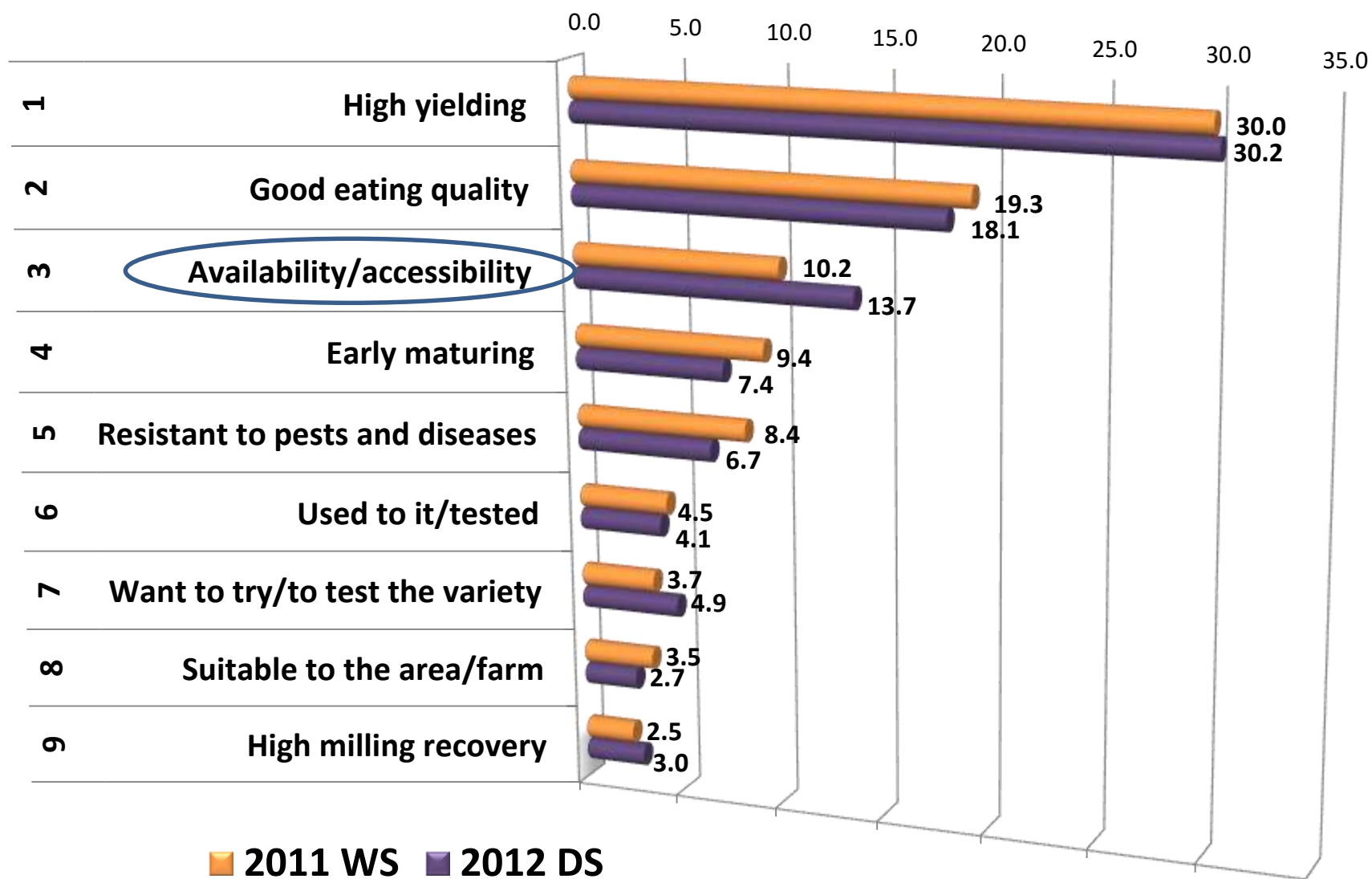
# Top Variety Planted, by province, 2011 WS and 2012 DS



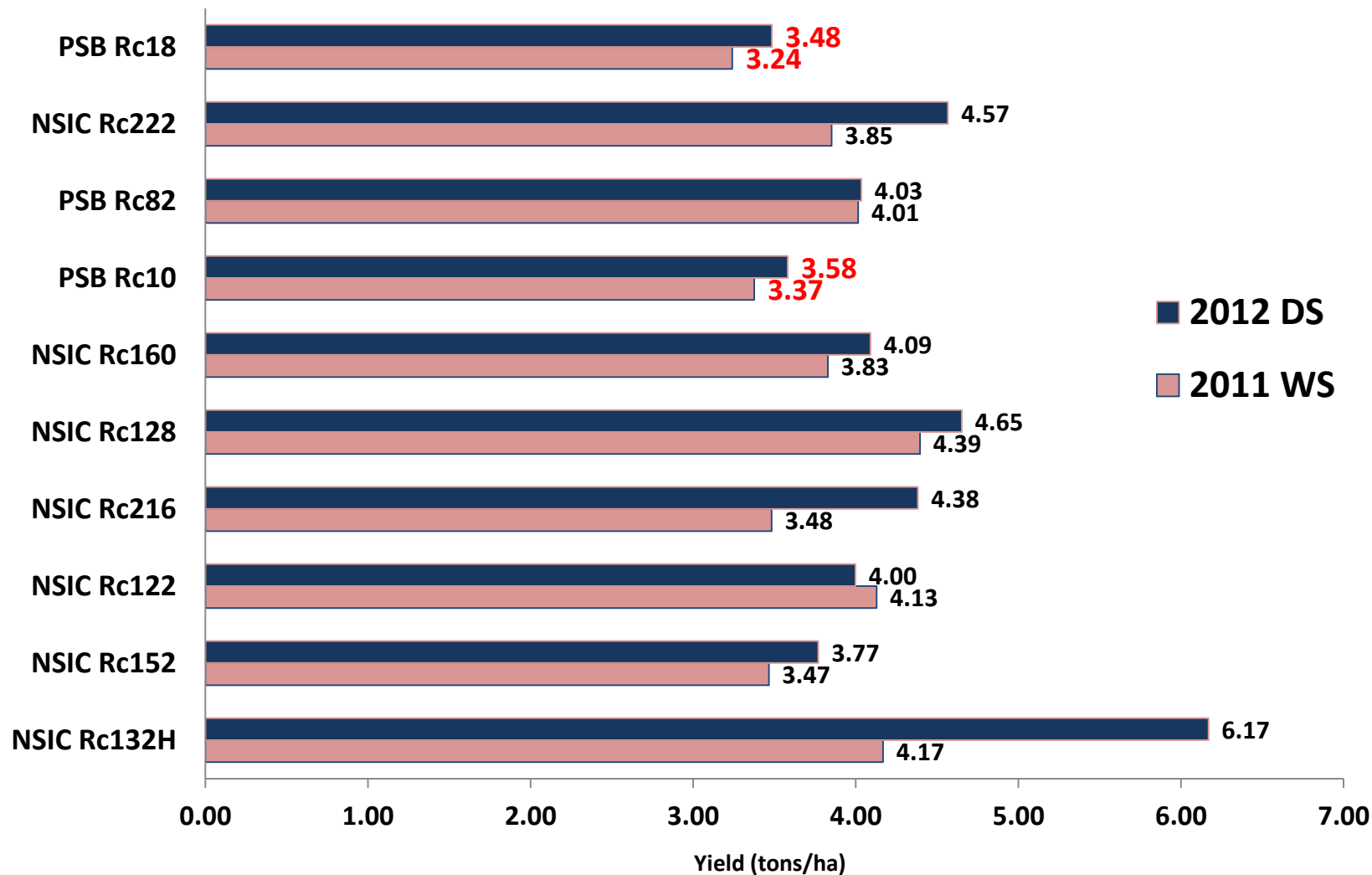
## Variety and Yield (tons/ha) by Ecosystem

Variety	WS2011				DS2012			
	Irrigated		Rainfed		Irrigated		Rainfed	
	%	Yield	%	Yield	%	Yield	%	Yield
Cool Elevated	0.60	4.65	0.54	1.35	0.67	5.15	2.75	1.87
Irrigated Lowland	79.05	3.89	74.46	3.05	77.92	4.36	74.75	2.79
Irrigated Lowland (Hybrid)	4.33	4.50	2.54	3.63	8.09	5.82	3.50	3.50
Rainfed Lowland	-	-	-	-	0.06	2.47	-	-
Rainfed Lowland (Dry Seeded)	0.49	3.12	1.27	1.46	0.85	4.42	1.50	2.41
Rainfed Lowland (Transplanted)	1.95	3.25	1.45	3.22	1.34	4.29	2.25	2.17
Saline Prone Irrigated Lowland	0.38	4.03	-	-	0.30	3.31	0.25	6.63
UPLAND	0.05	1.50	-	-	0.06	2.50	-	-
Unclassified	13.16	3.75	19.75	2.70	10.71	4.11	15.00	2.88

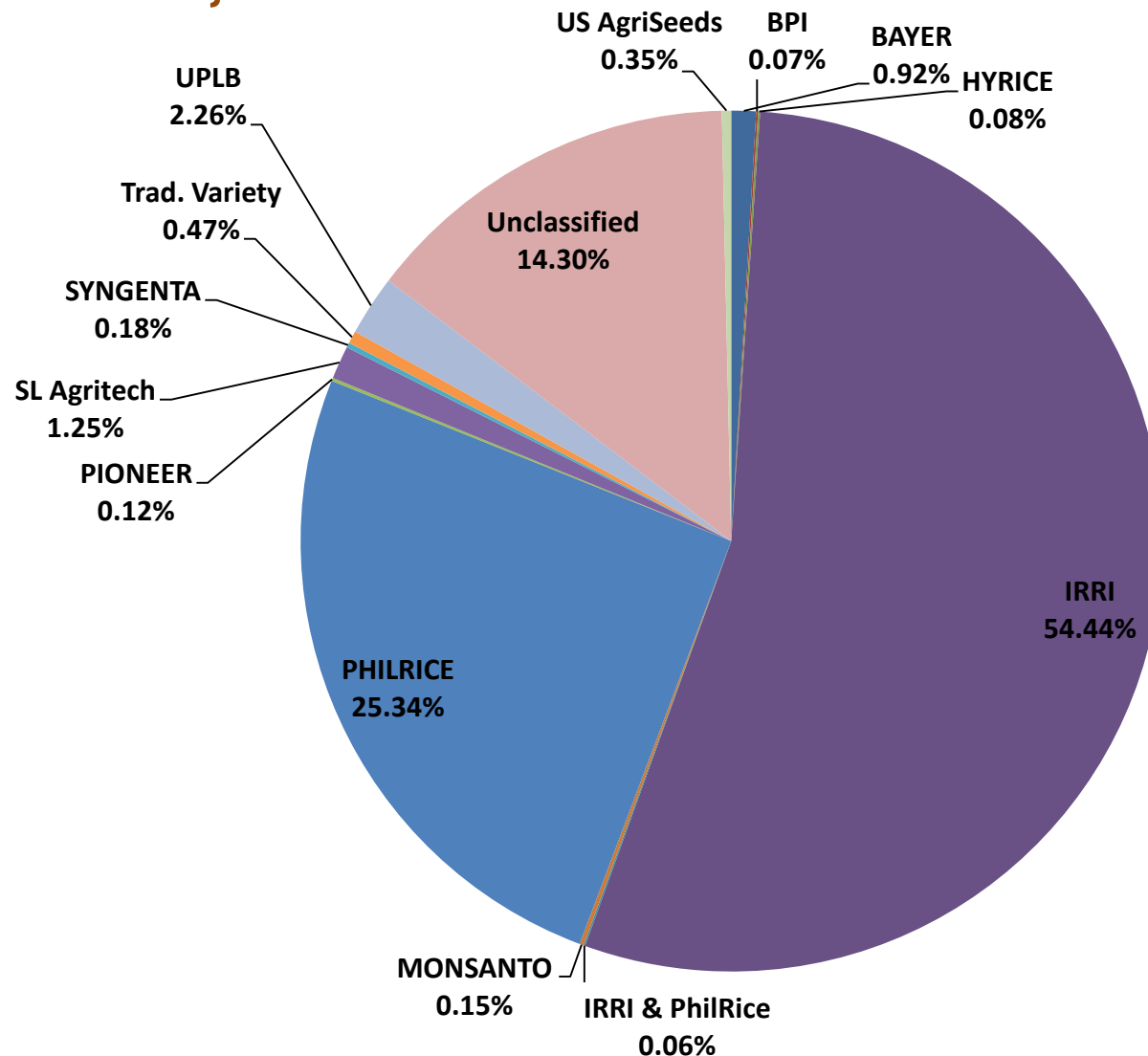
# Top Reasons for Choosing Variety Planted



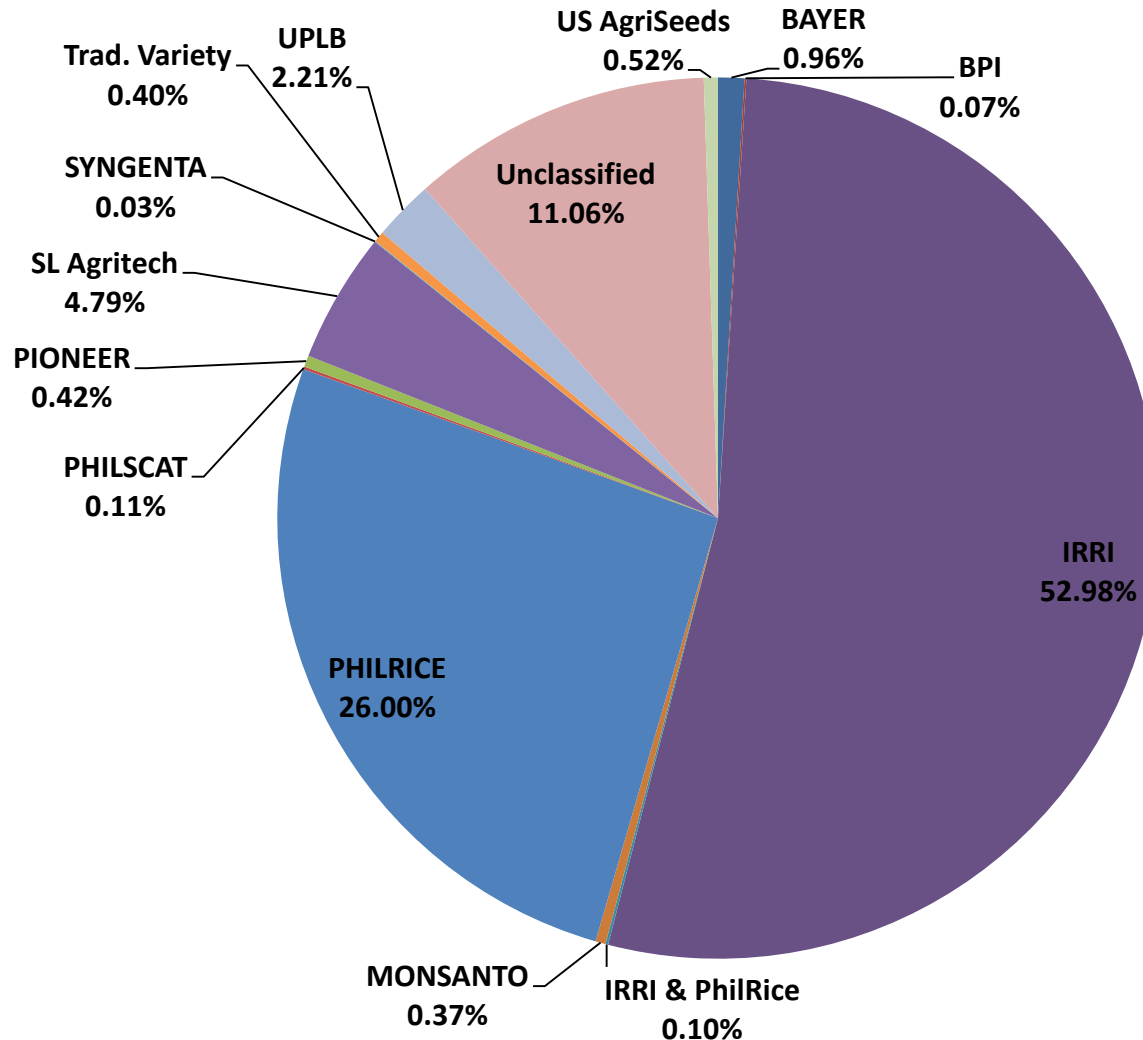
# Top Varieties Planted and Yield



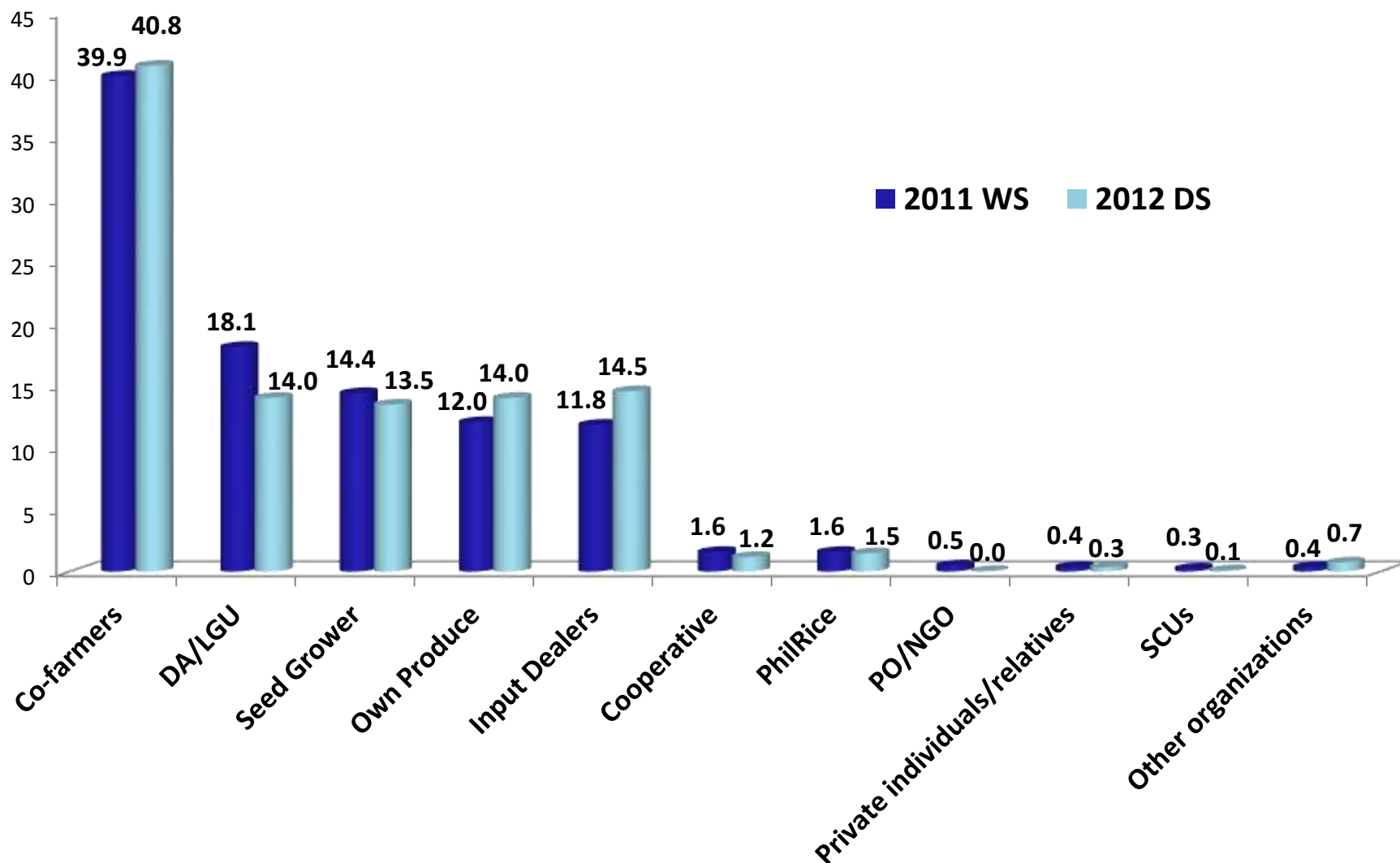
# Estimated % share in area planted, by breeding institution, 2011 WS



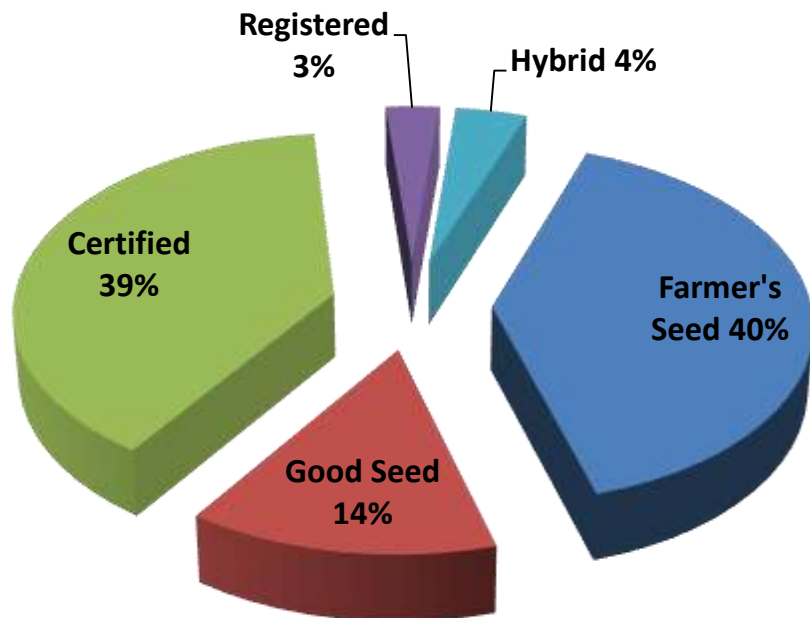
# Estimated % share in area planted, by breeding institution, 2012 DS



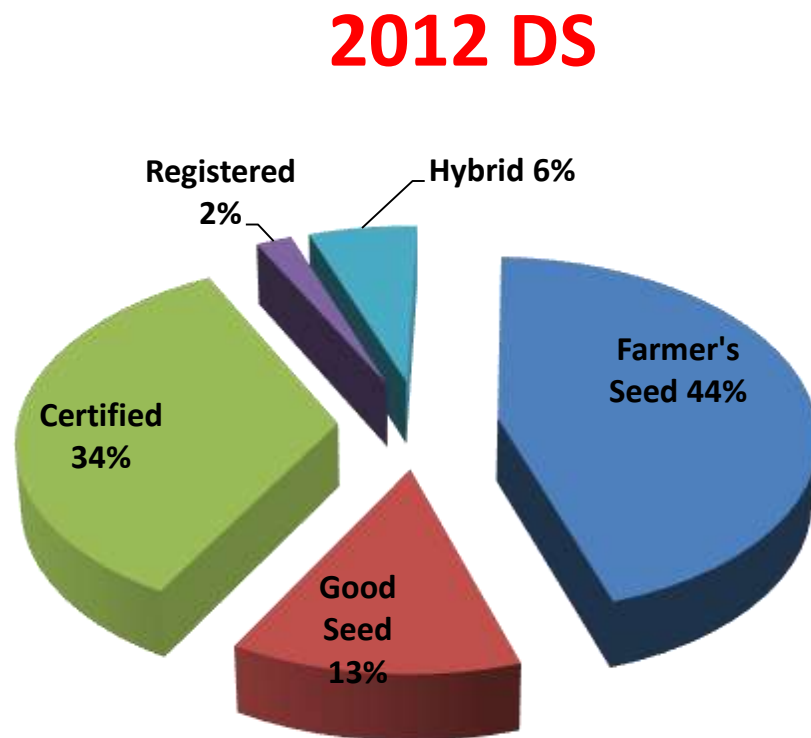
# Sources of Seeds, 2011 WS & 2012 DS



## Seed class-used (% of farmers), 2011 WS & 2012 DS

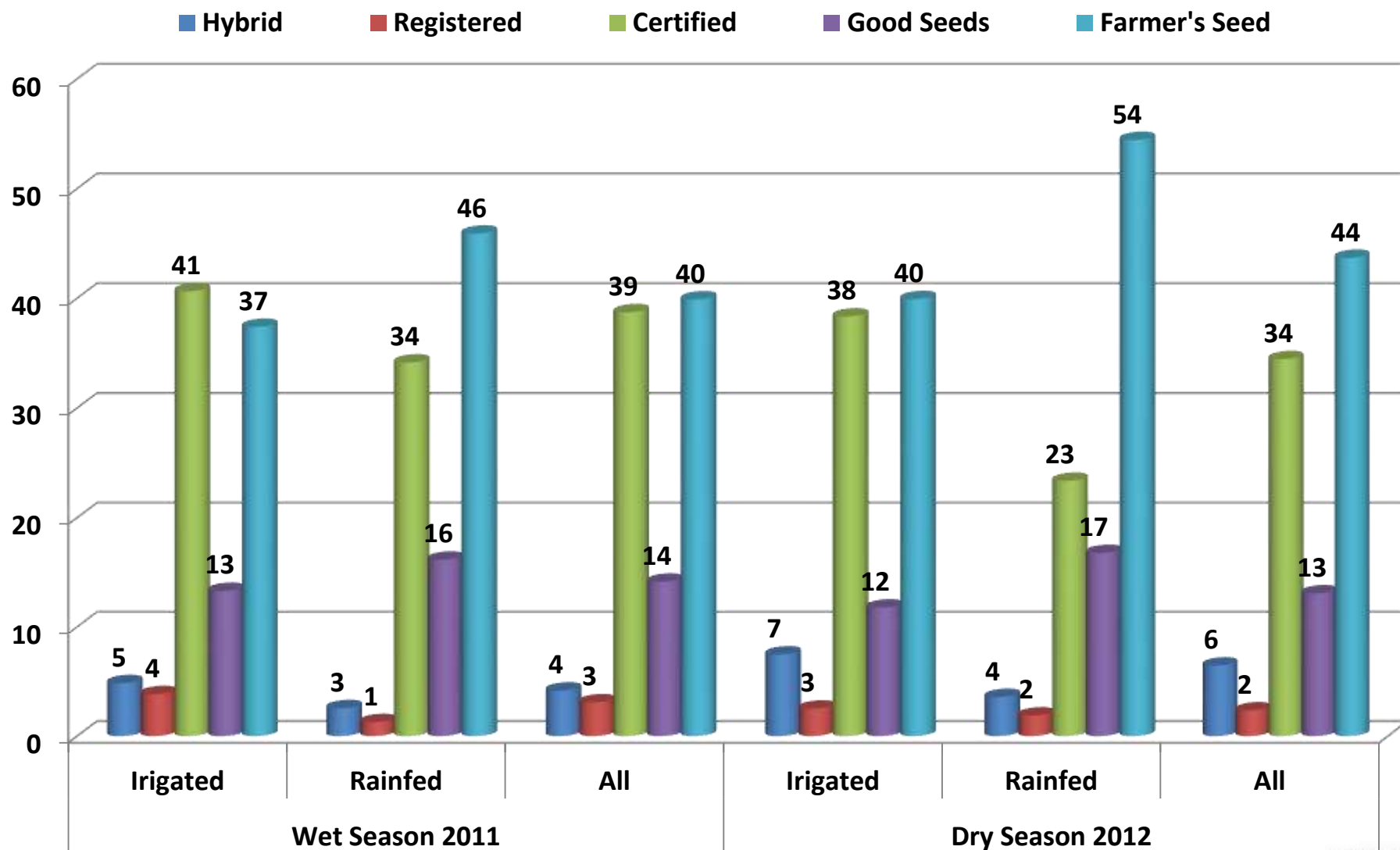


**2011 WS**

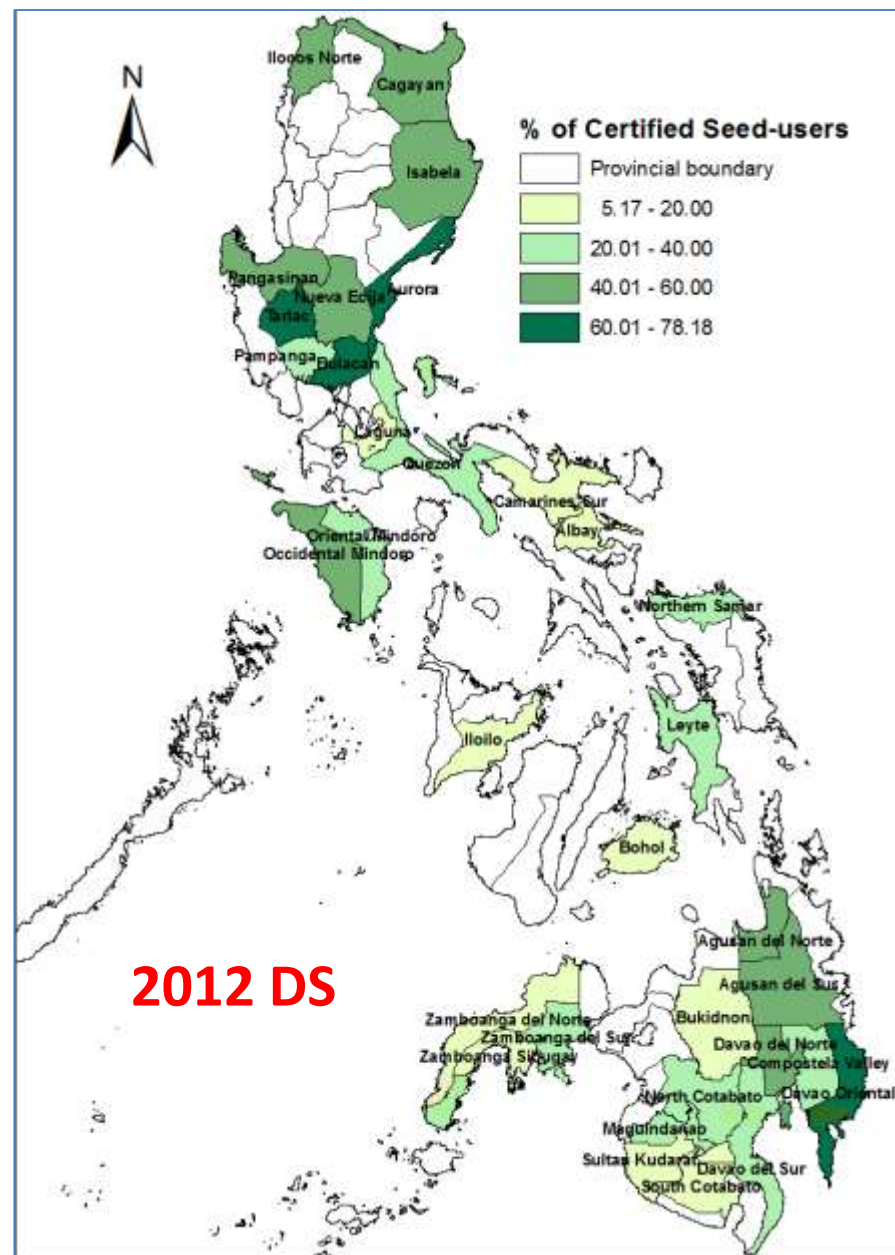
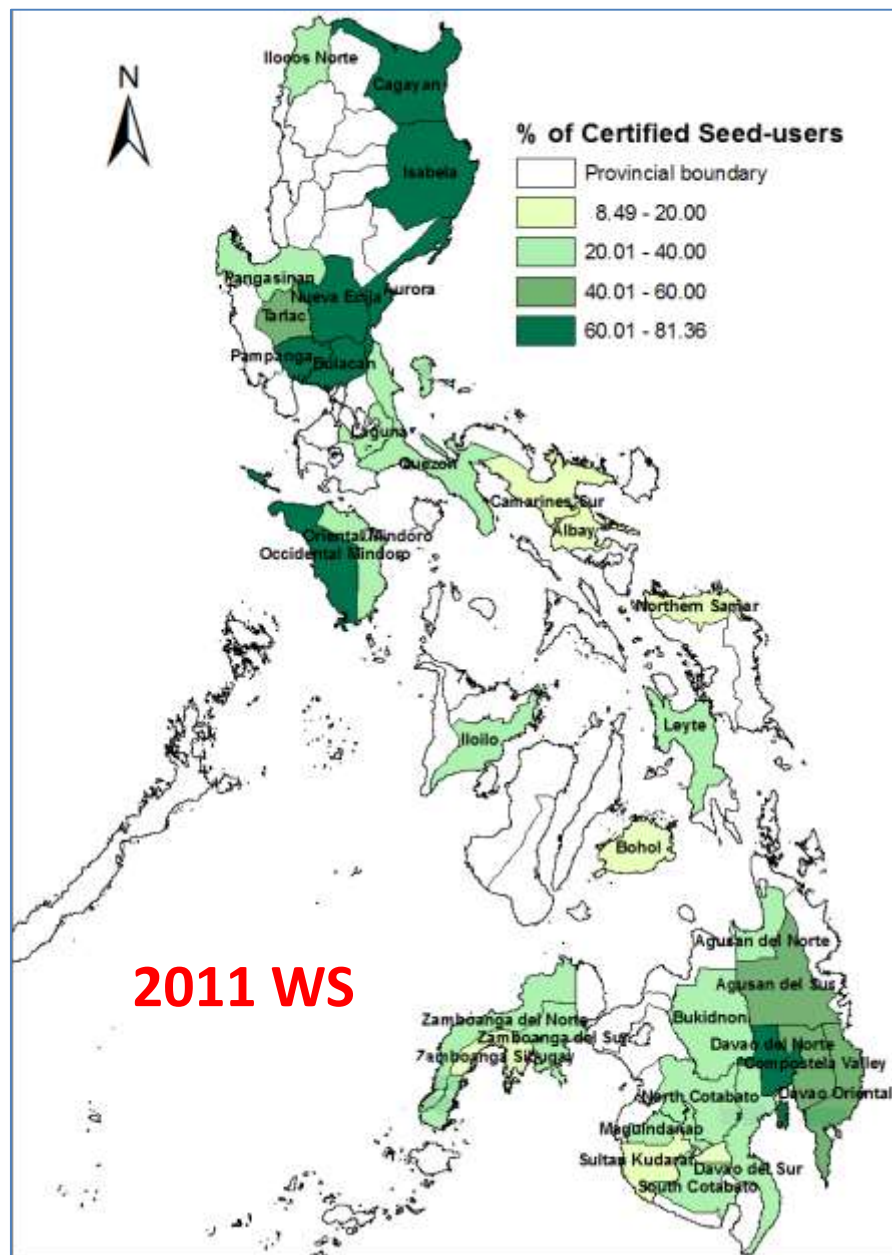




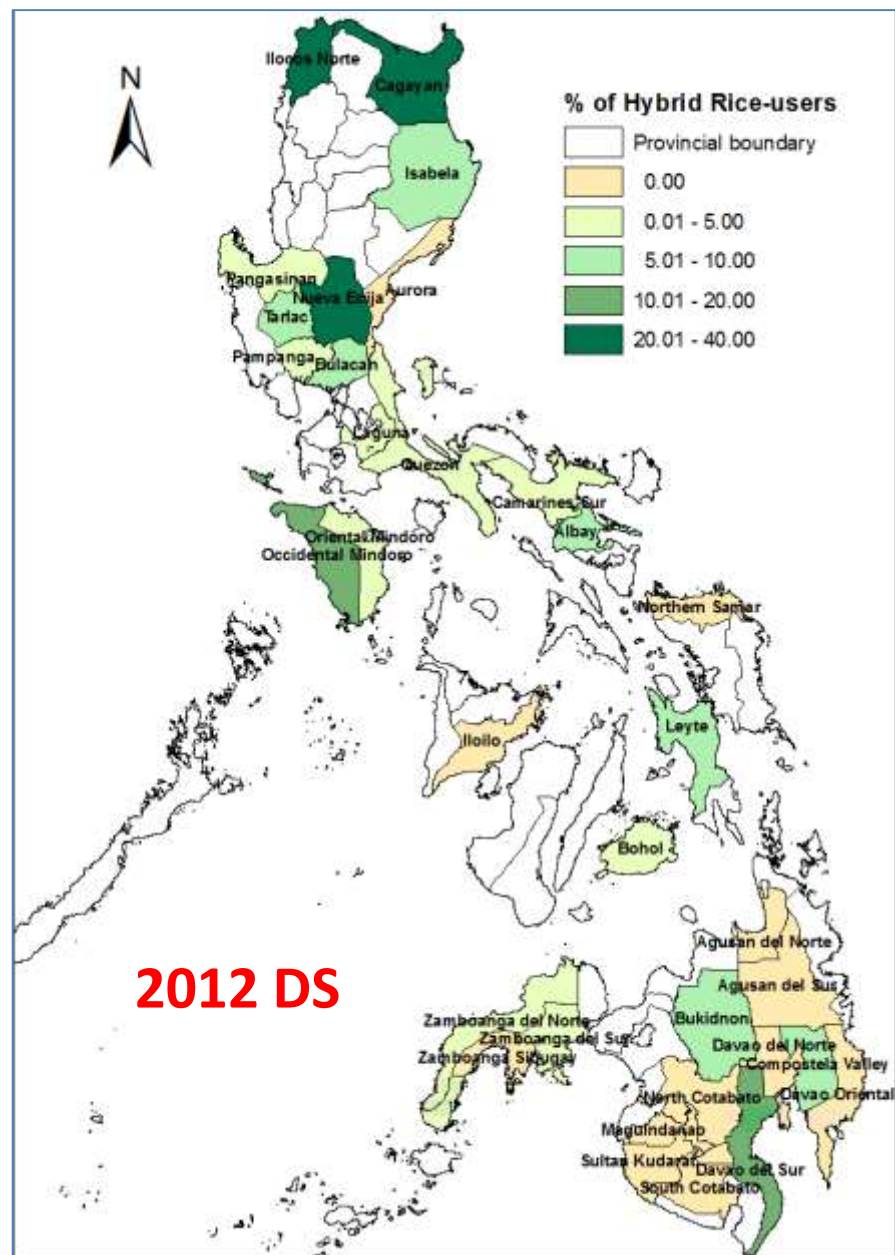
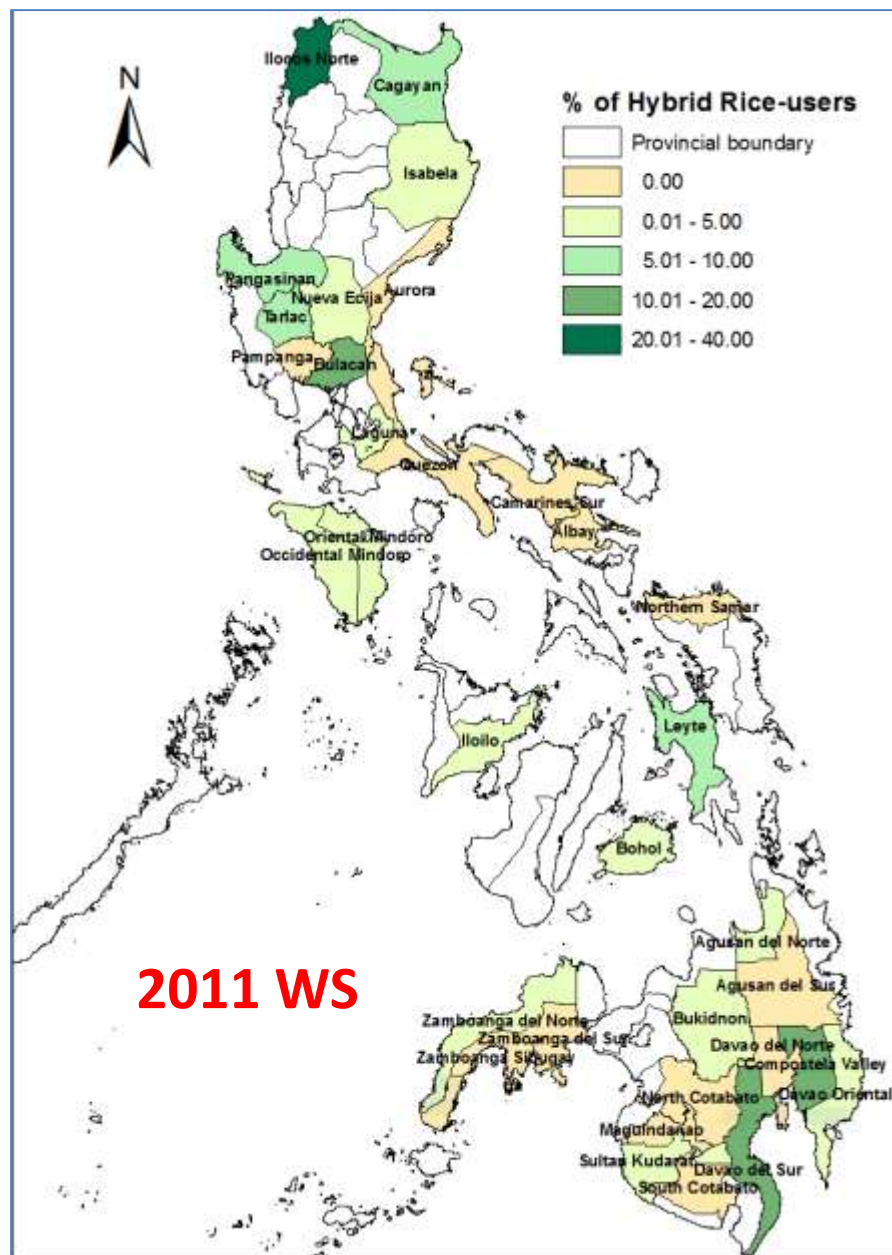
# Seed class-used (% of farmers), 2011 WS & 2022 DS



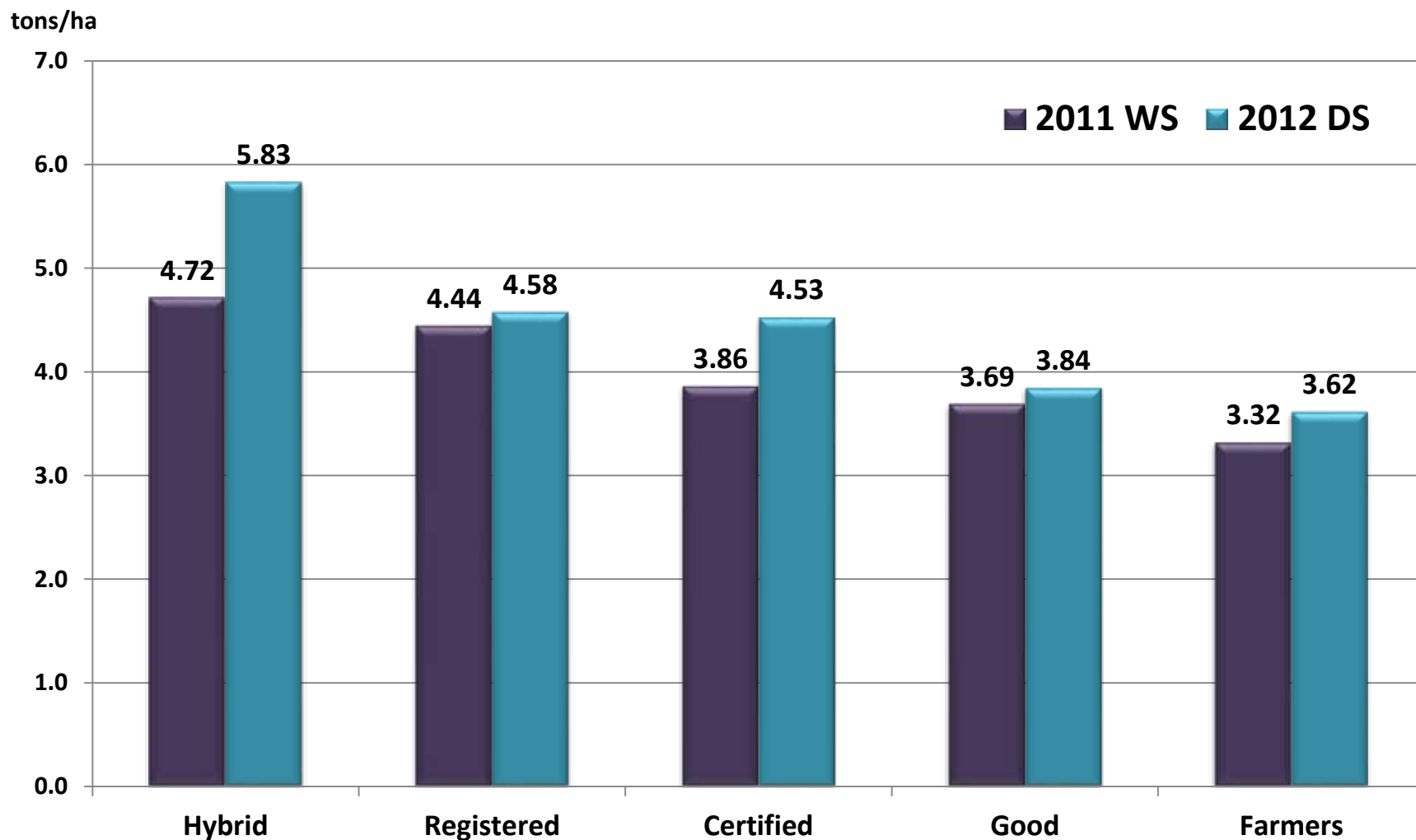
# Certified seed adoption rate, by Province



# Hybrid rice variety adoption rate, by Province



# Mean yield (tons/ha), by seed class used, 2011 WS & 2012 DS



# Mean yield difference by seed class-used, 2011 WS

	Hybrid		Registered		Certified		Good	
Hybrid								
Registered	0.27	ns						
Certified	0.86	***	0.58	**				
Good	1.03	***	0.75	***	0.17	*		
Farmers	1.40	***	1.12	***	0.54	***	0.37	***

\*\*\* significant at 1%

\*\* significant at 5%

\* significant at 10%

# Mean yield difference by seed class-used, 2012 DS

	Hybrid		Registered		Certified		Good	
Hybrid								
Registered	1.25	***						
Certified	1.30	***	0.05	ns				
Good	1.98	***	0.73	**	0.68	***		
Farmers	2.21	***	0.96	****	0.91	***	0.23	**

\*\*\* significant at 1%

\*\* significant at 5%

\* significant at 10%



# Mean yield difference by seed class-used, by season

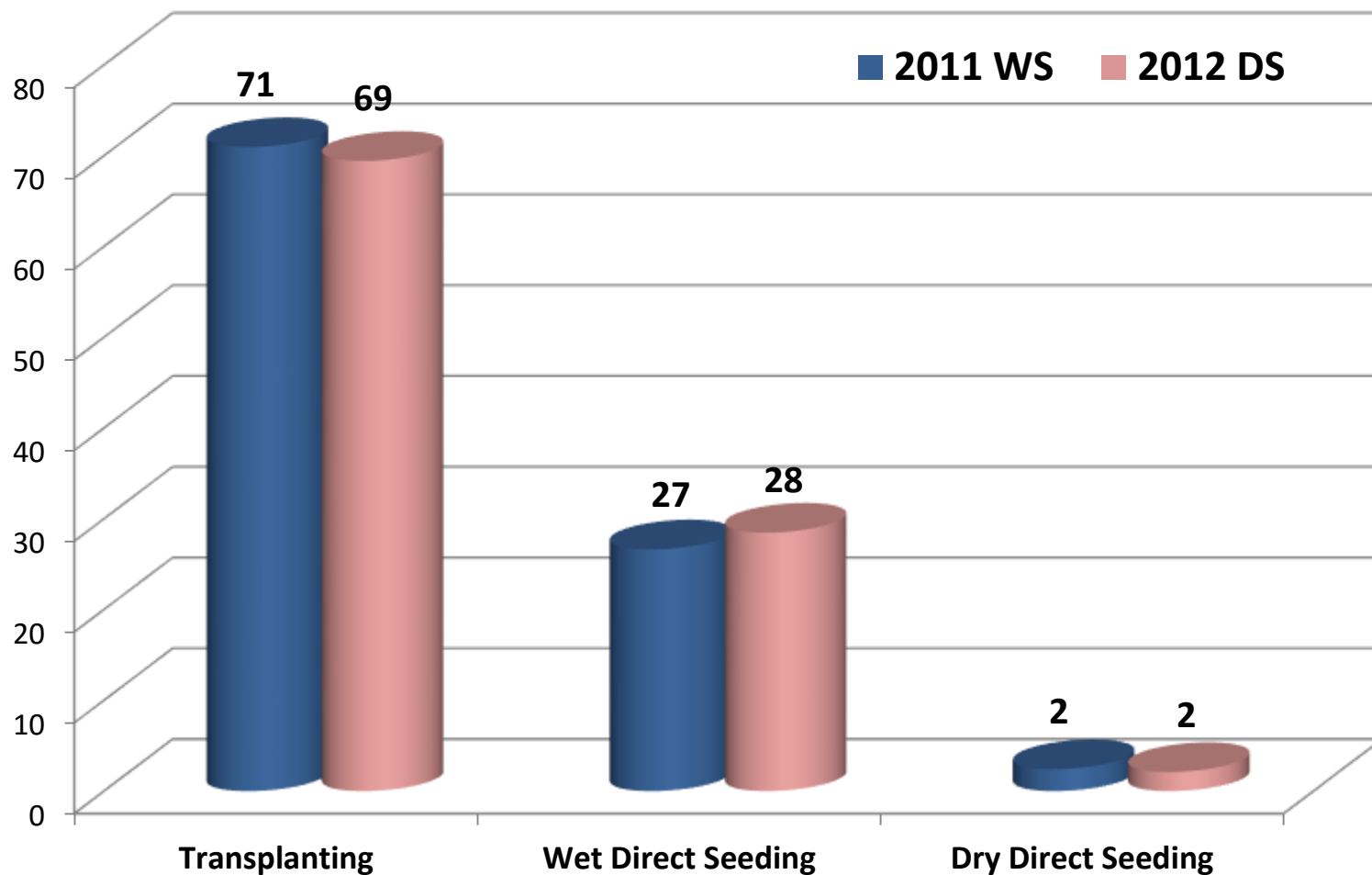
Seed Class	2011 WS	2012 DS	Mean Diff	
Hybrid	4.72	5.83	1.11	***
Registered	4.44	4.58	0.13	ns
Certified	3.86	4.53	0.67	***
Good	3.69	3.84	0.16	ns
Farmers	3.32	3.62	0.30	***

\*\*\* significant at 1%

\*\* significant at 5%

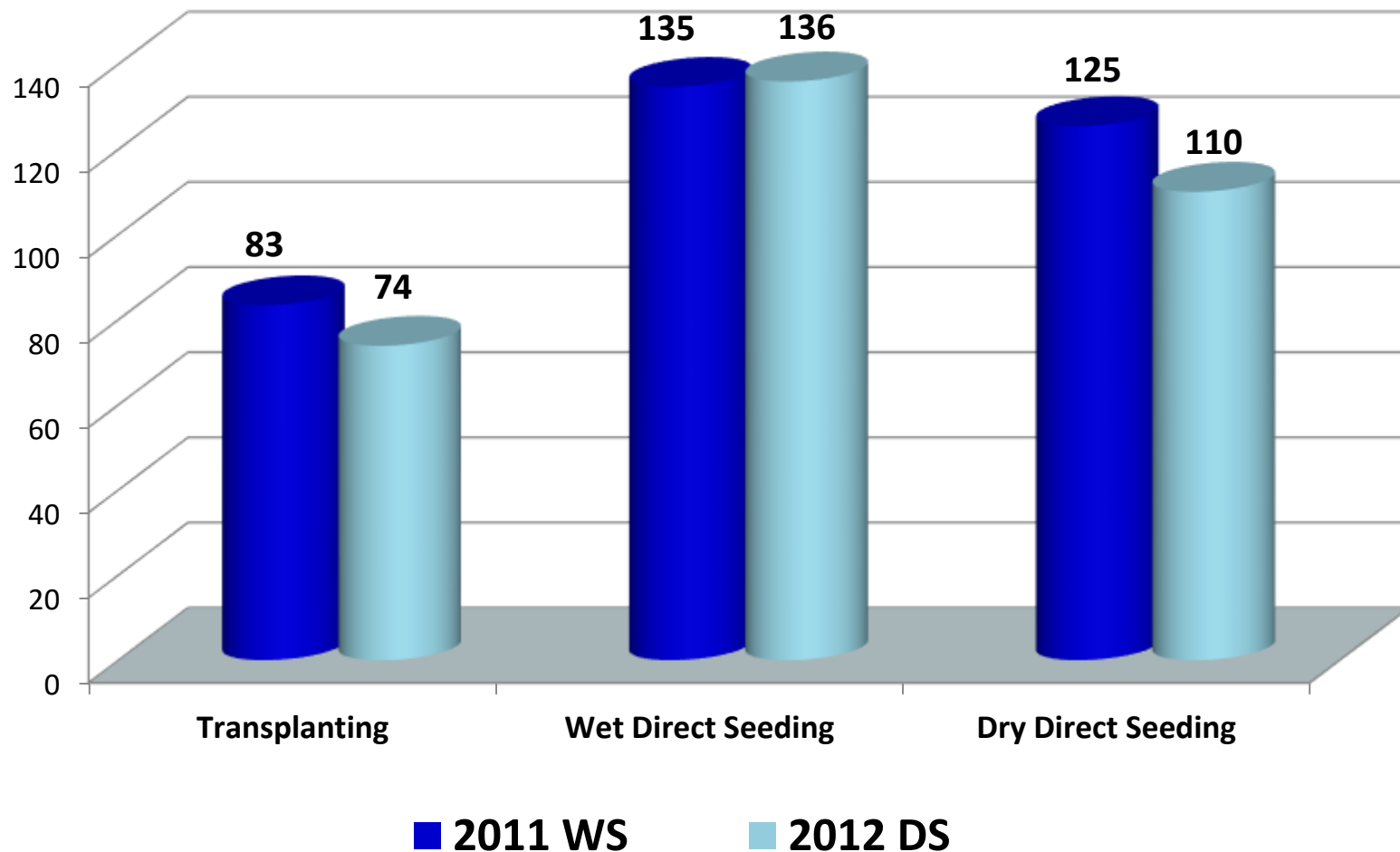
\* significant at 10%

# Method of Crop Establishment, 2011 WS & 2012 DS

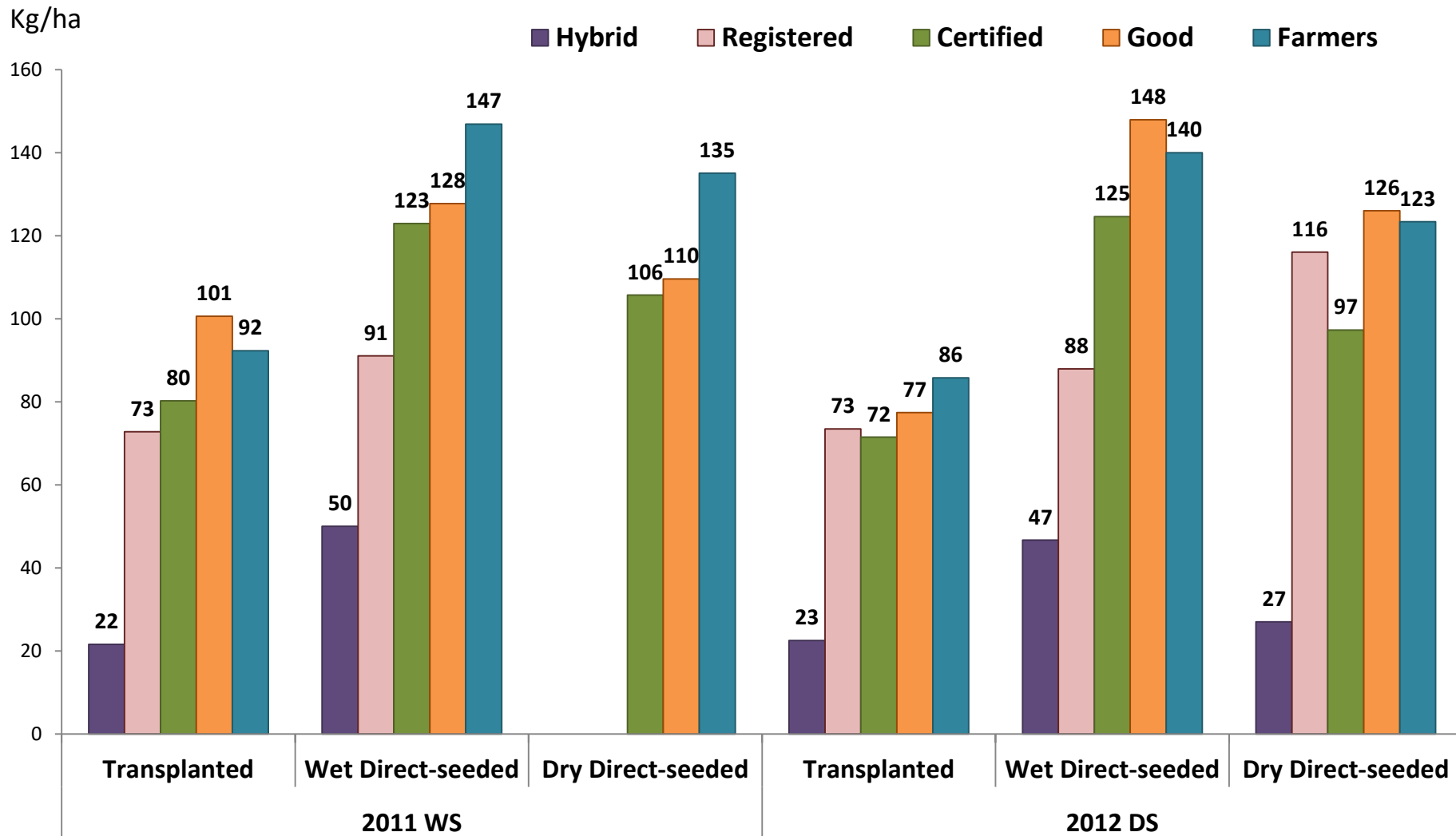




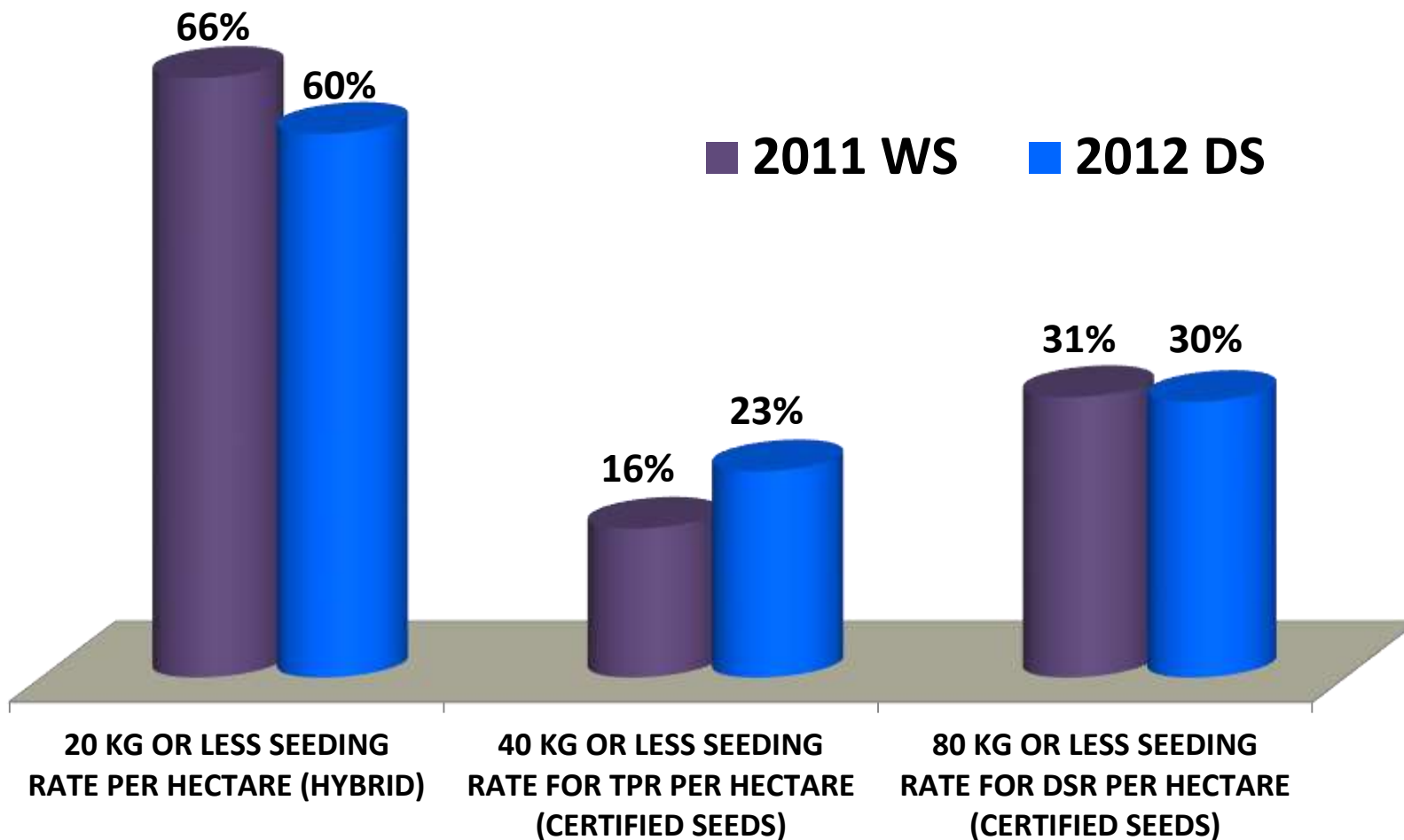
## Mean seeding rate (kg/ha), by crop establishment



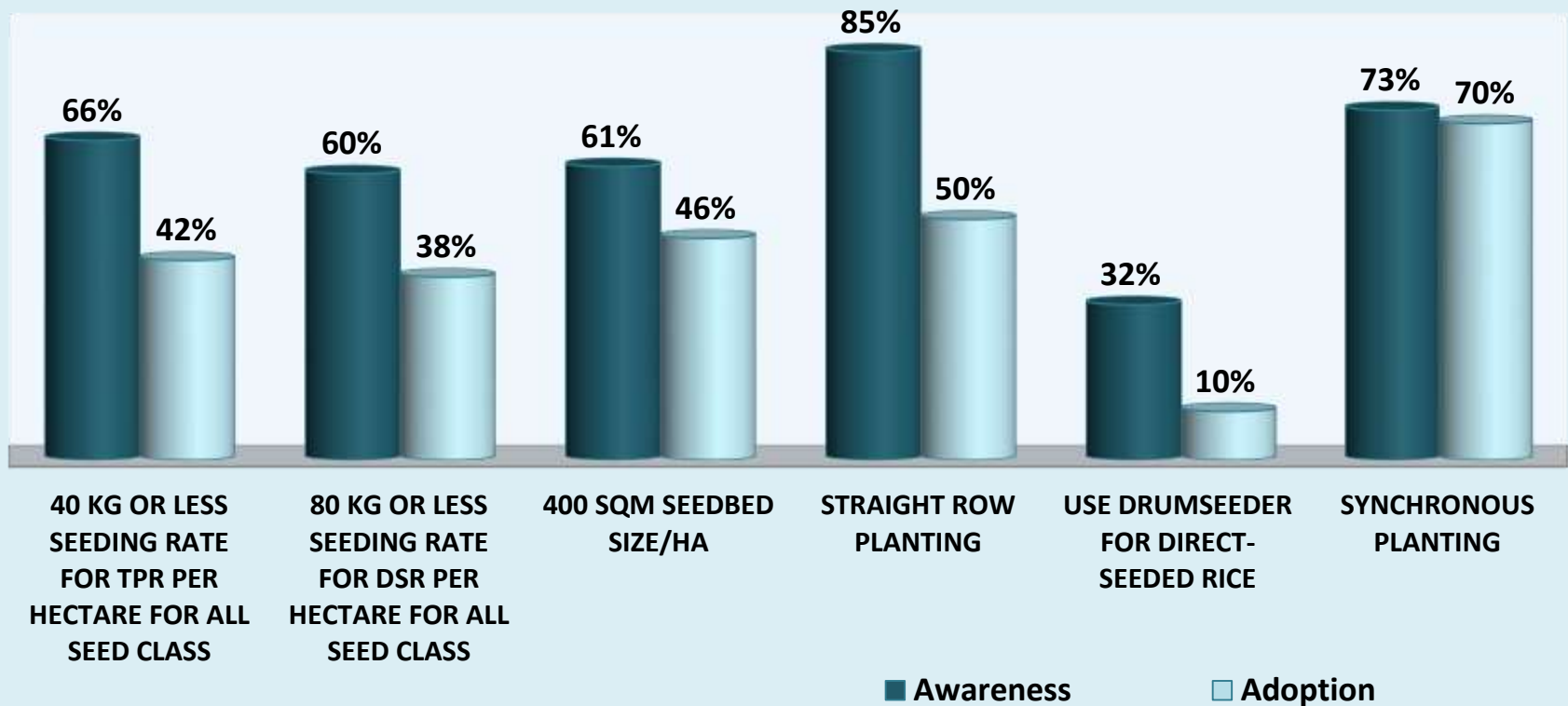
# Mean seeding rate (kg/ha), by seed class and method of crop establishment



# Adoption of Recommended Seeding Rate



# Technology Awareness and Adoption



## Crop Establishment Practices

# SUMMARY

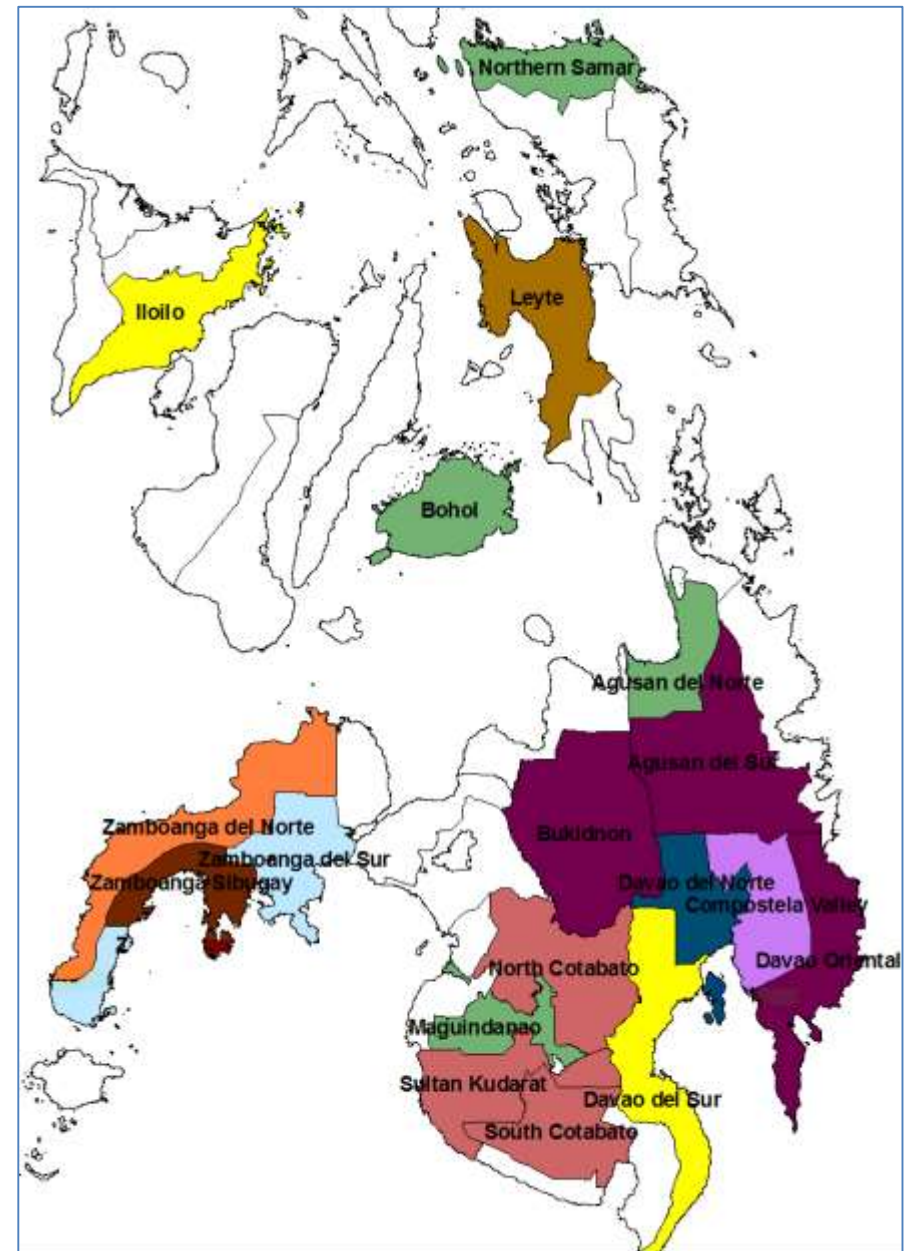
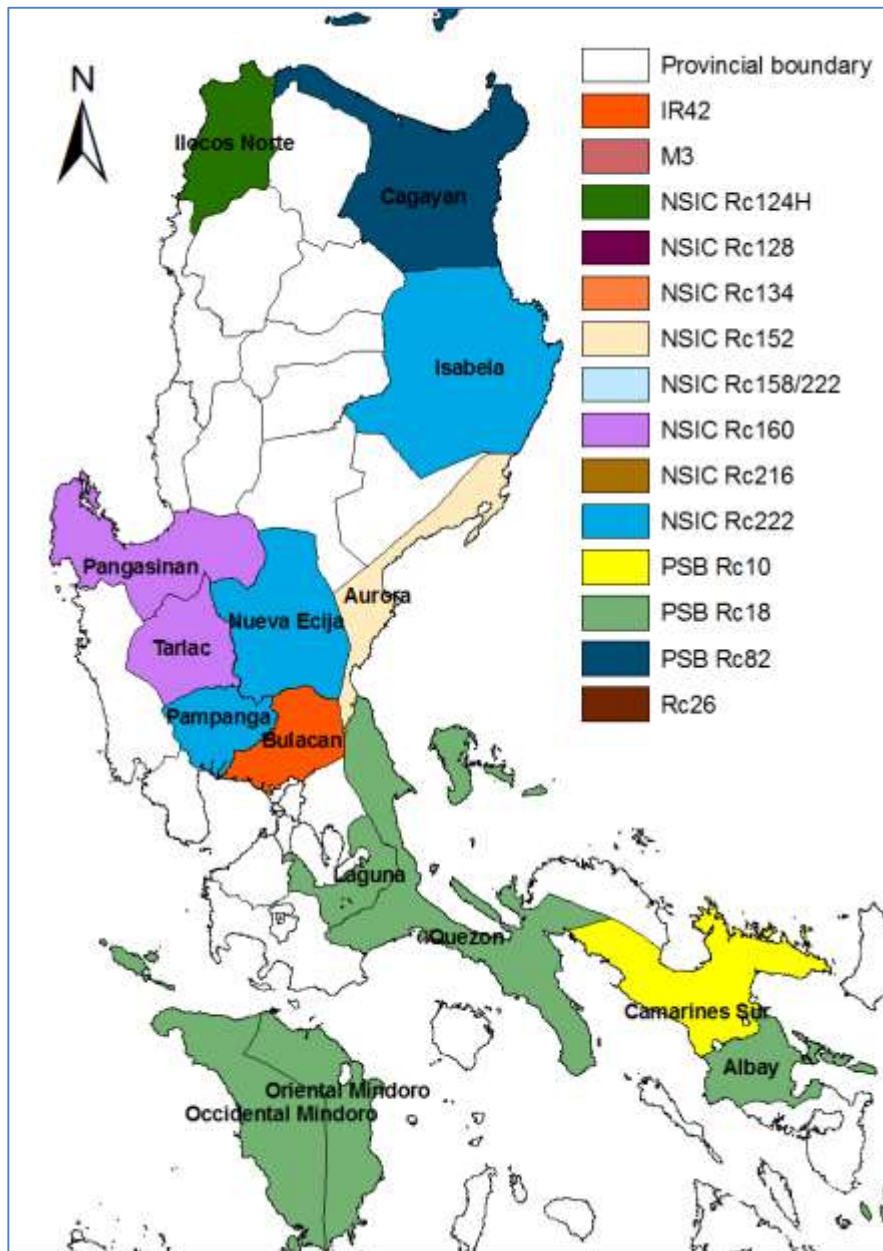
- 29% to 34% of total area planted was estimated to be planted to recent varieties suggesting returns to variety development.
- Yield is still the top criteria for farmers, followed by good eating quality. Other preferred characteristics are: resistance to pests and diseases, early-maturing. Farmers also consider the availability and accessibility of seeds.
- Low certified- seed usage and used of “old varieties” can be observed in island provinces of Bohol, Iloilo, Northern Samar, and Leyte and some provinces in Mindanao.
- Adoption of hybrid rice variety is relatively higher in Luzon provinces than Visayas and Mindanao.
- There is a significant difference in the yield of hybrid over certified, good and farmers’ seeds and so with the certified seeds over good and farmers’ seeds.

# SUMMARY

- Seeding rate for transplanted inbred is around 80 kg/ha and around 120 kg/ha for direct seeded.
- Adoption to recommended seeding rates for transplanted and direct seeded is still low even for the certified seed users.

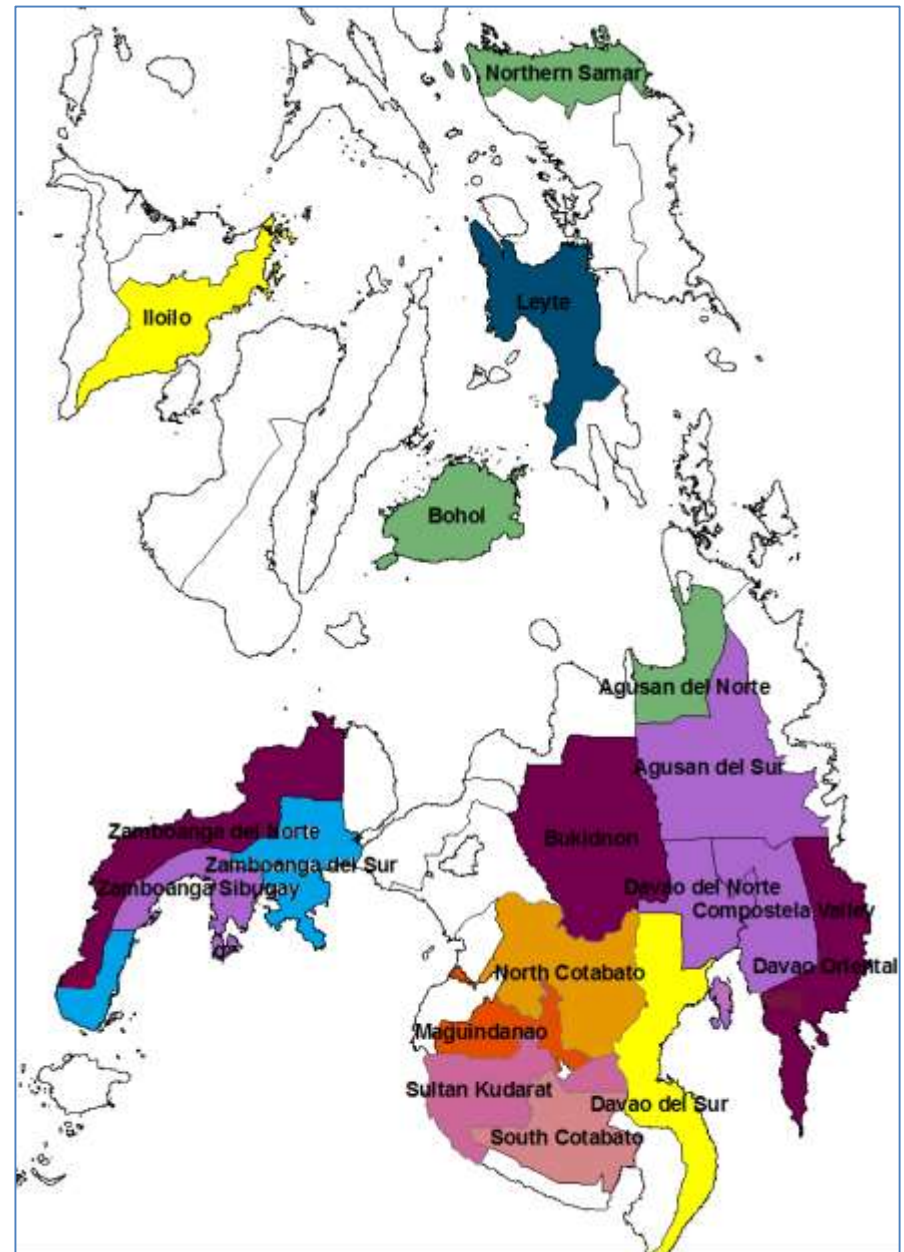
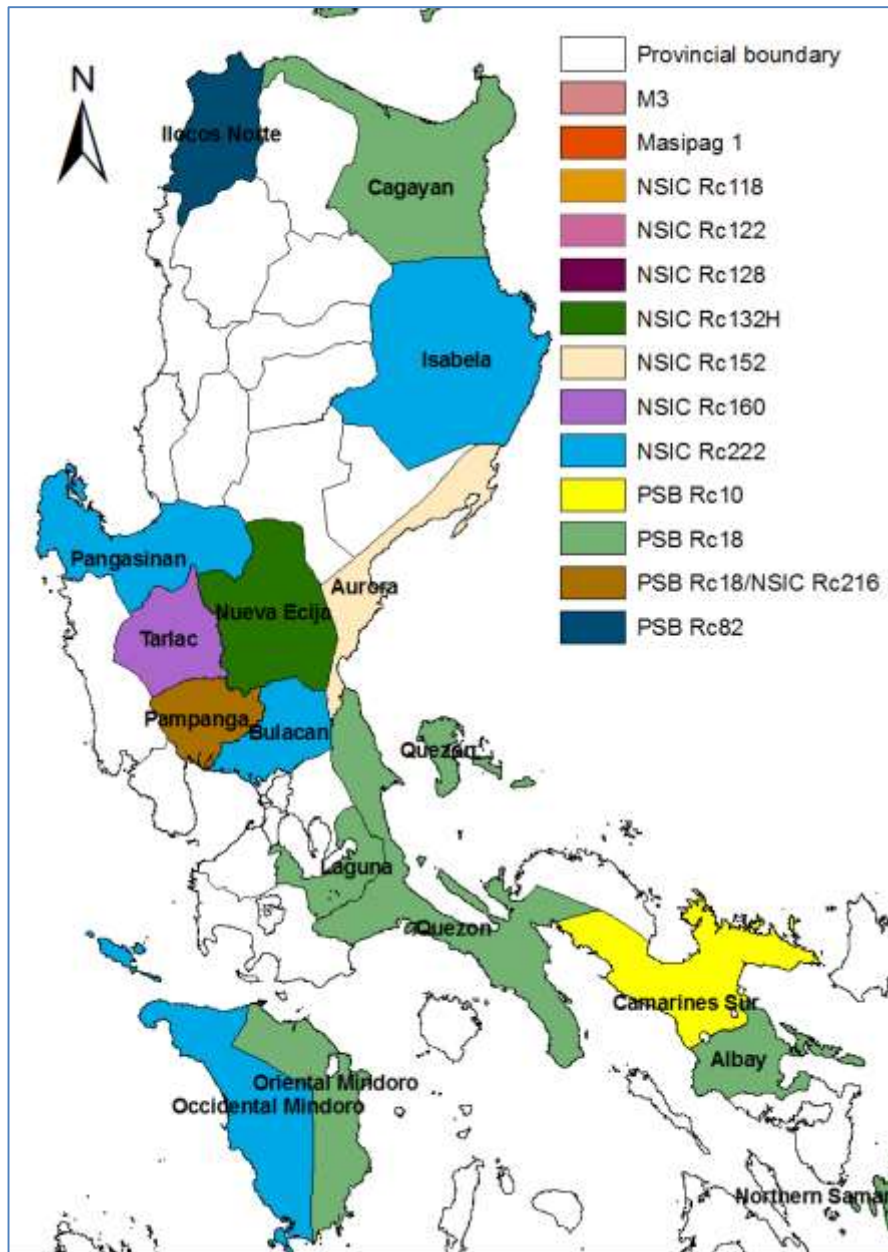
# end of presentation

# Top Variety Planted, by province, 2011 WS





# Top Variety Planted, by province, 2012 DS



# Mean yield difference by seed class-used

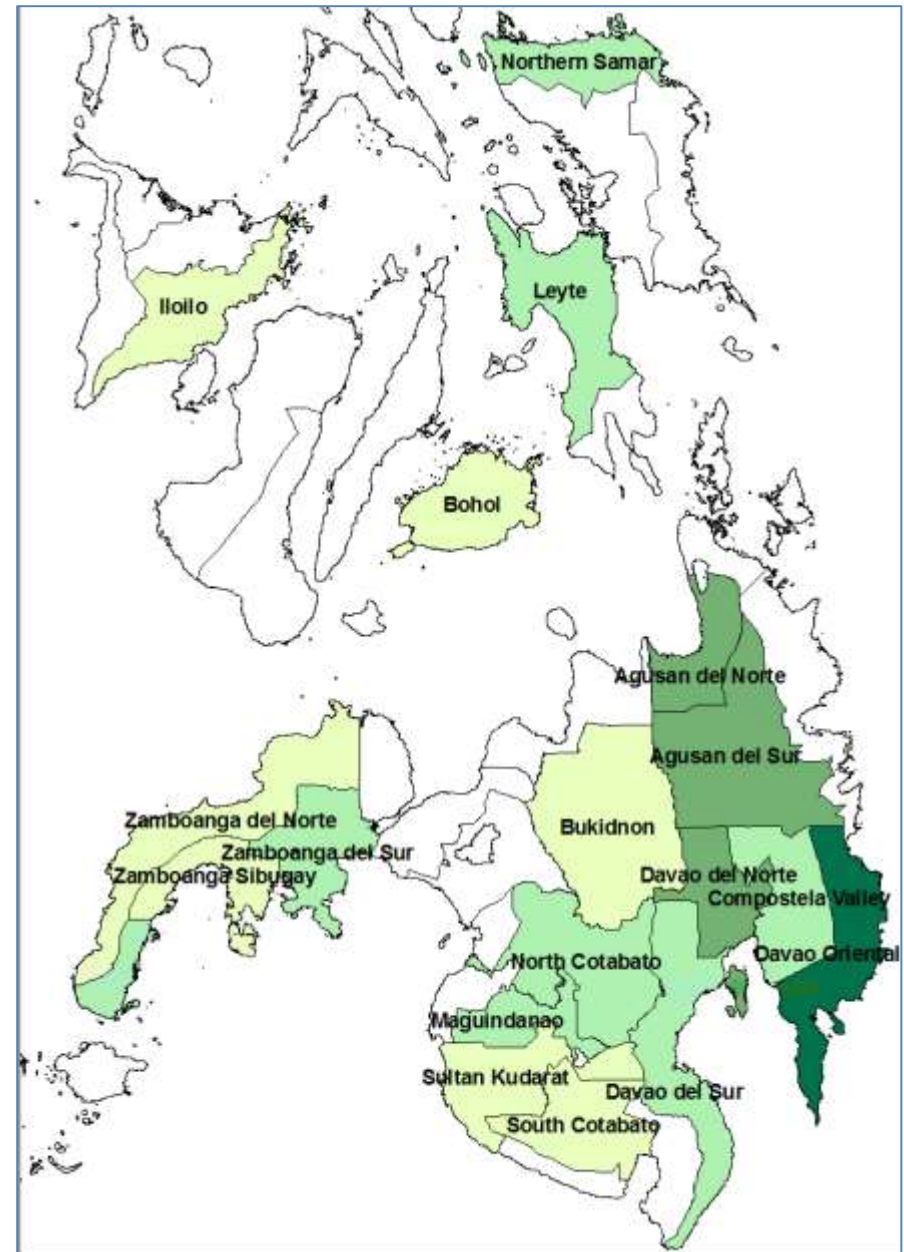
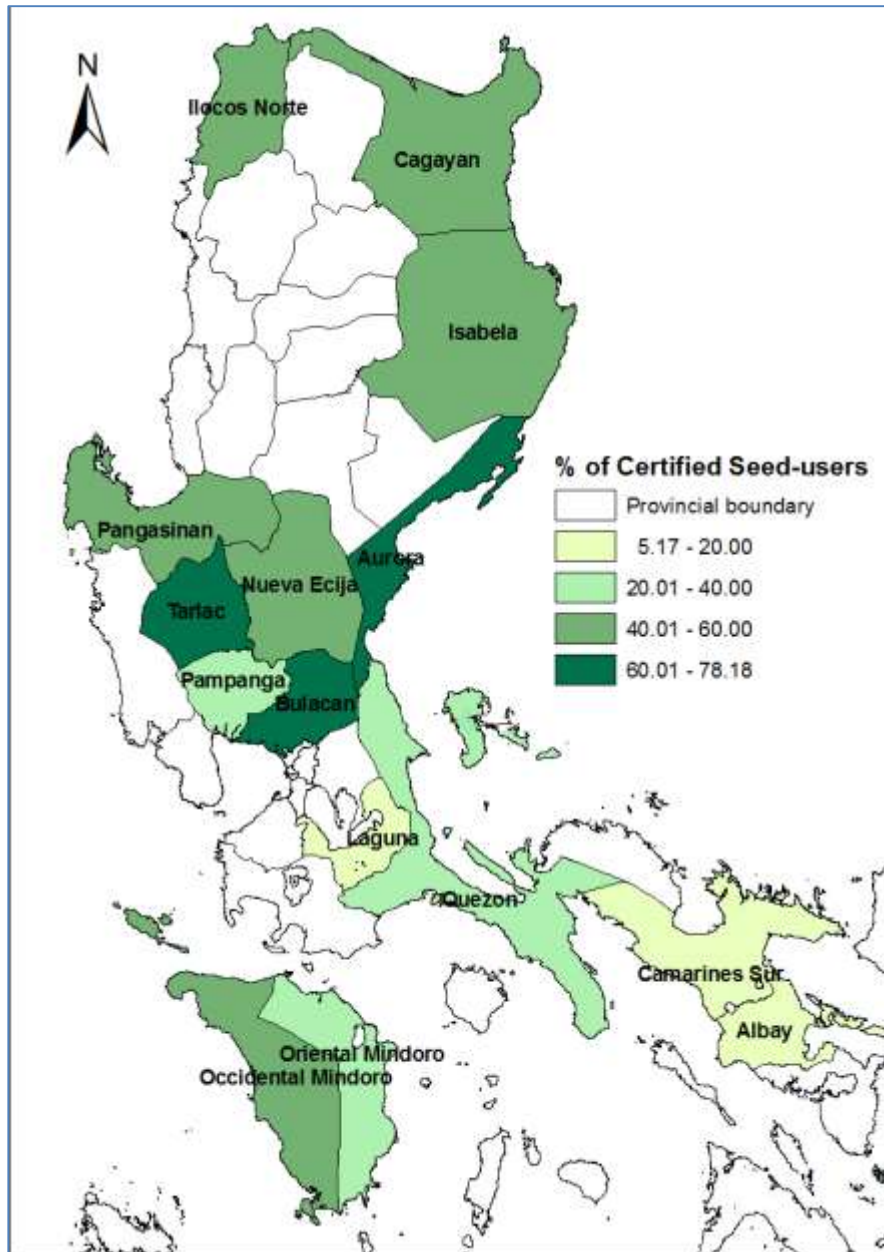
	2011 Wet Season								2012 Dry Season							
	Hybrid		Registered		Certified		Good		Hybrid		Registered		Certified		Good	
Hybrid																
Registered	0.27	ns							1.25	***						
Certified	0.86	***	0.58	**					1.30	***	0.05	ns				
Good	1.03	***	0.75	***	0.17	*			1.98	***	0.73	**	0.68	***		
Farmers	1.40	***	1.12	***	0.54	***	0.37	***	2.21	***	0.96	****	0.91	***	0.23	**

\*\*\* significant at 1%

\*\* significant at 5%

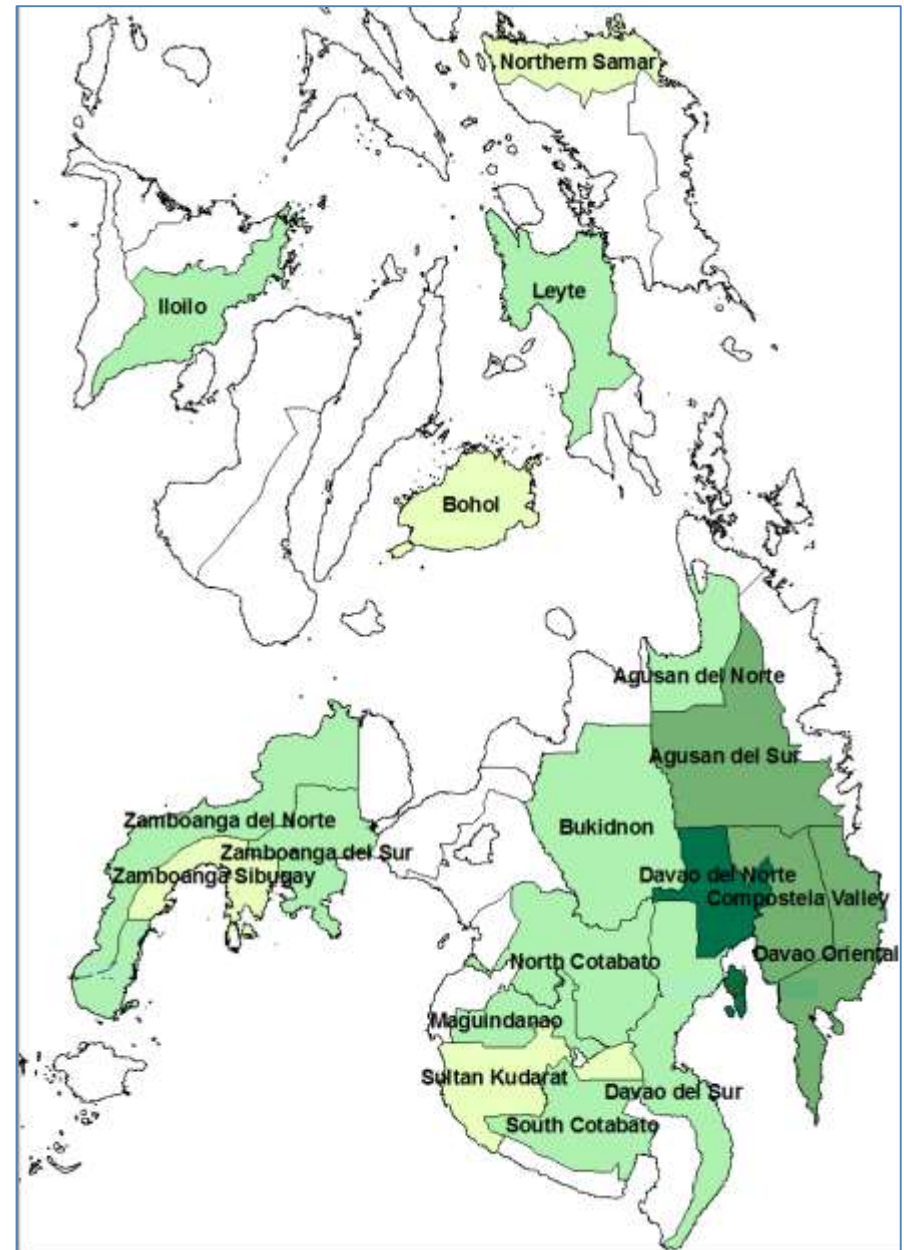
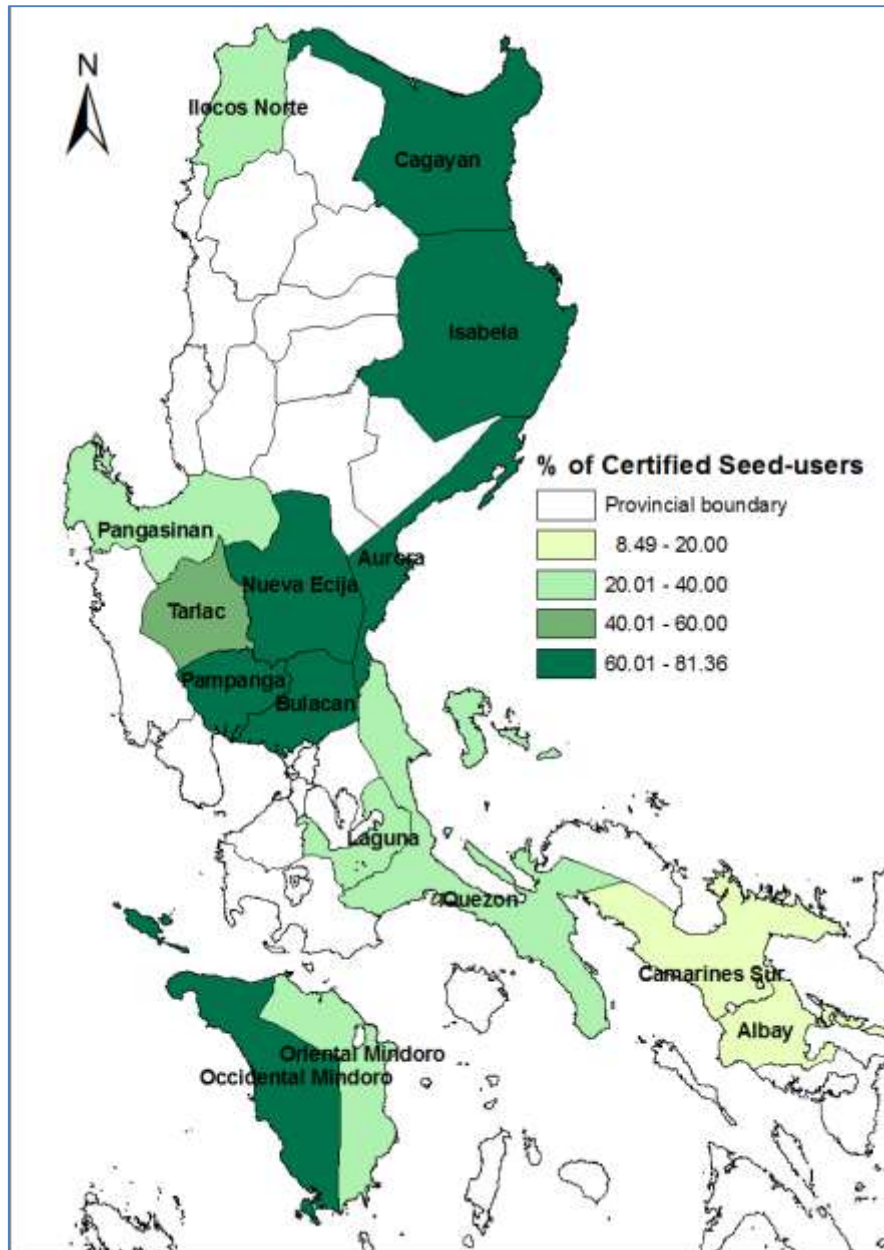
\* significant at 10%

# Certified seed adoption rate, by Province, 2012 DS

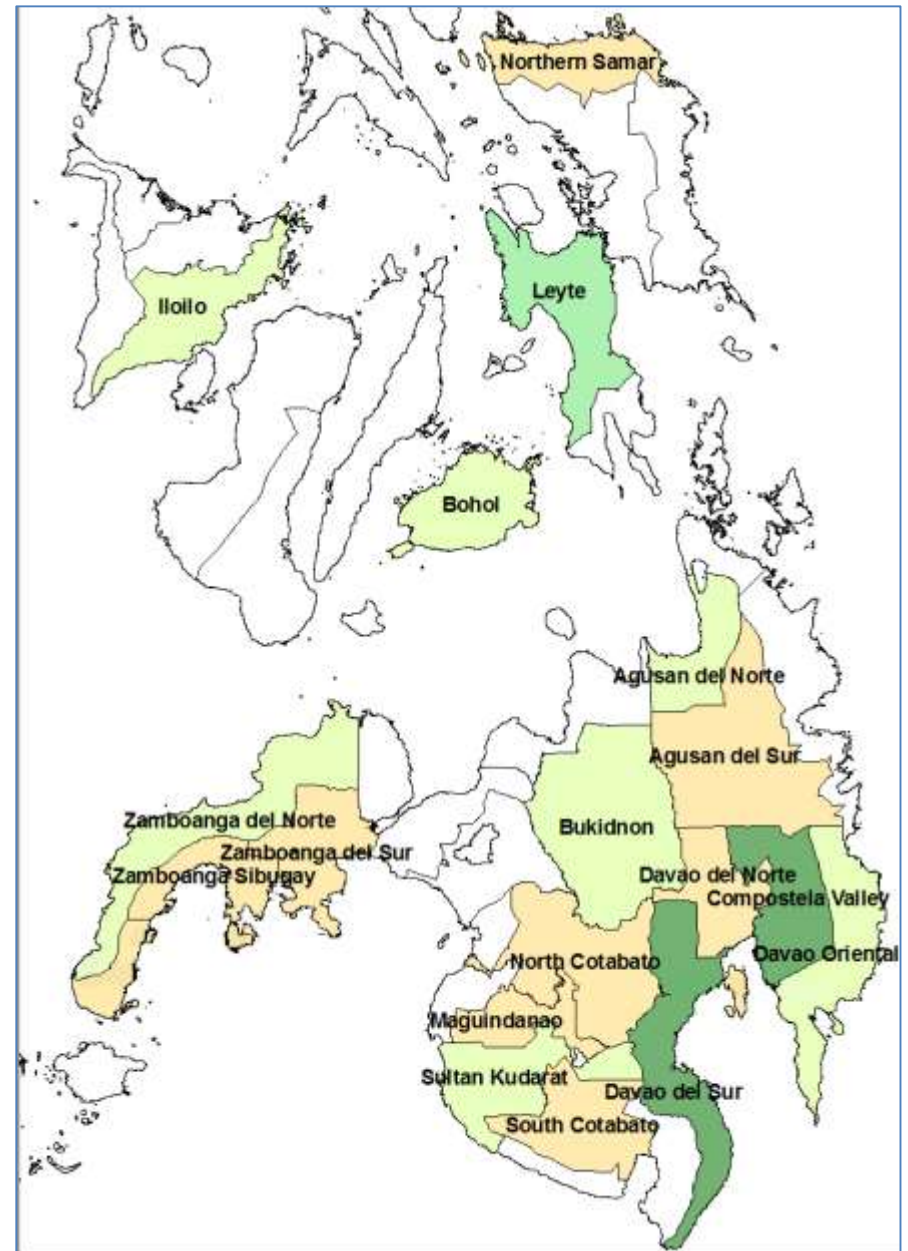
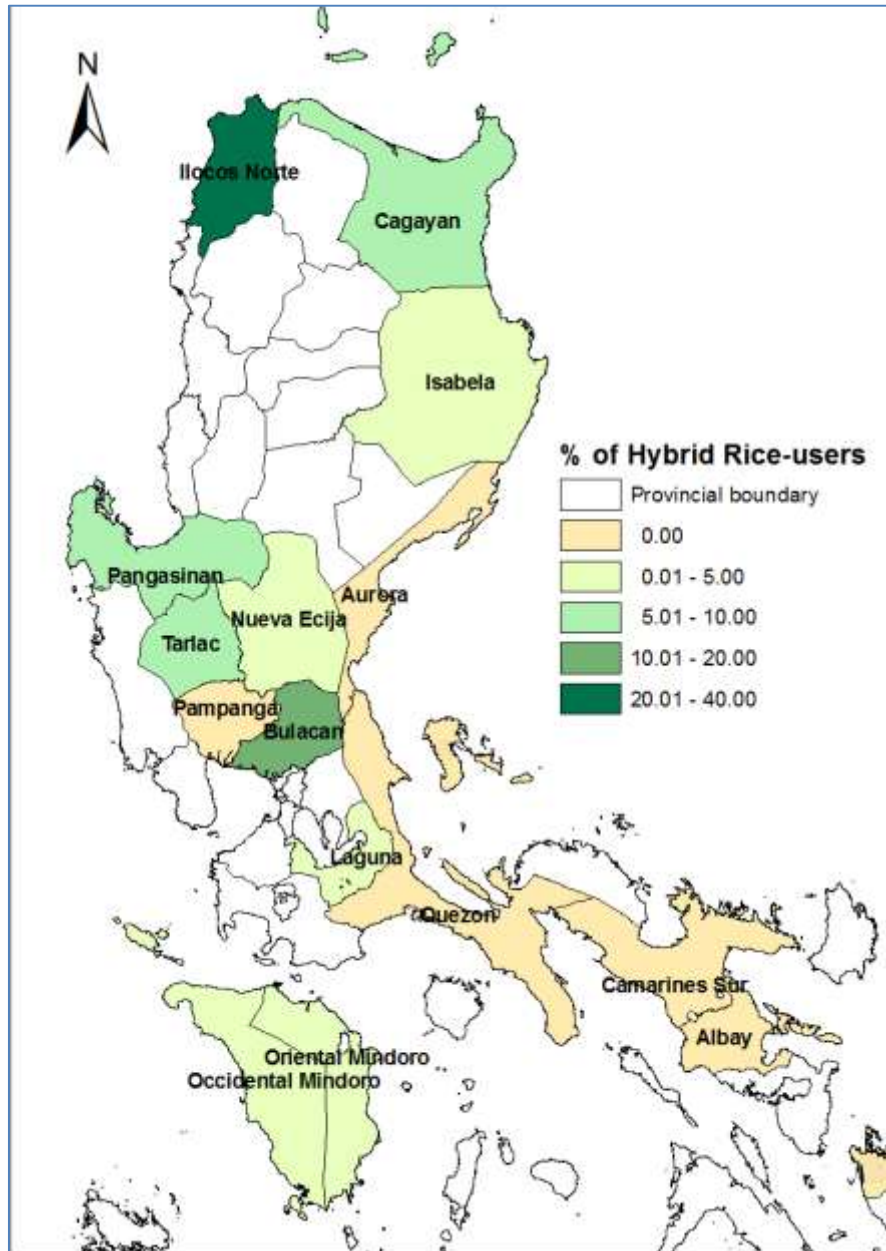




# Certified seed adoption rate, by Province, 2011 WS

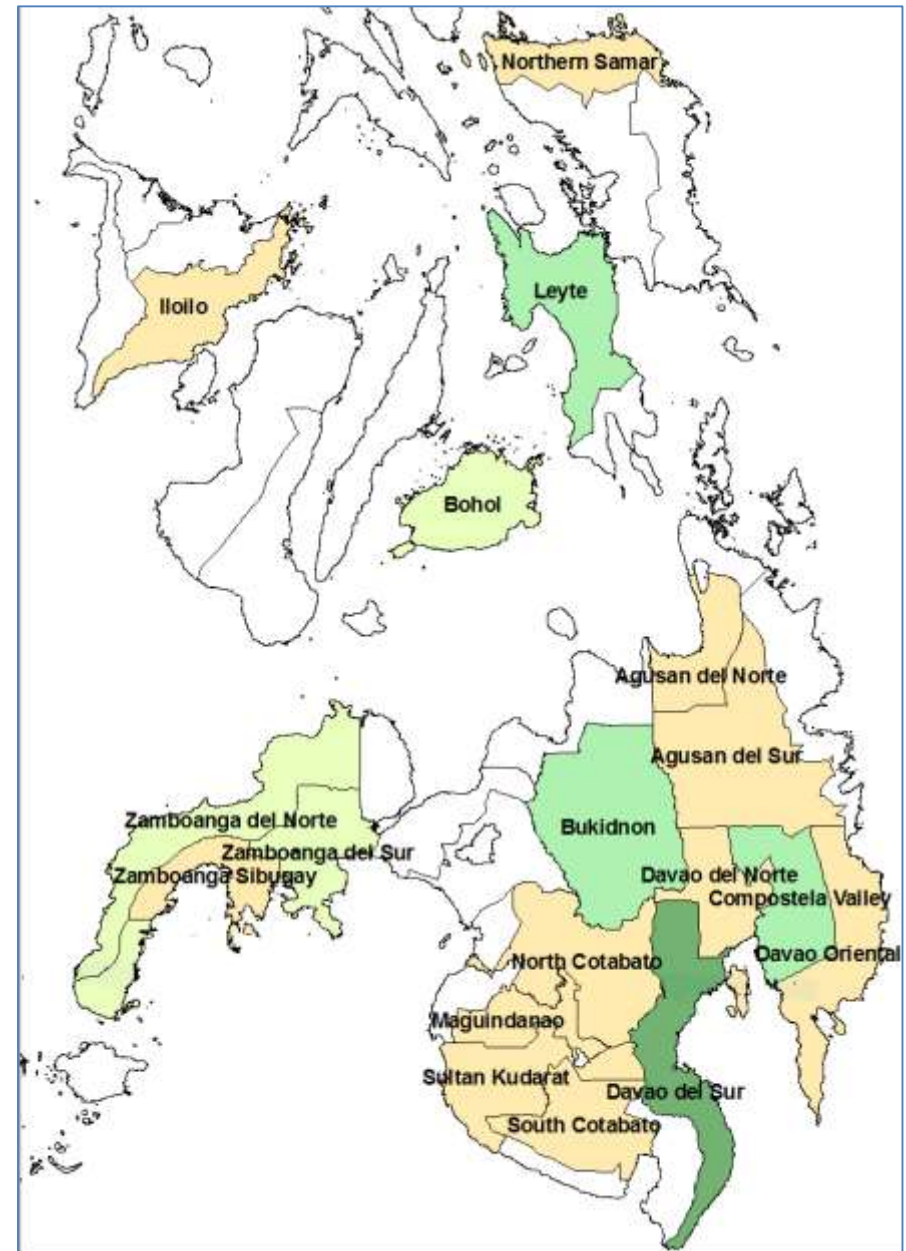
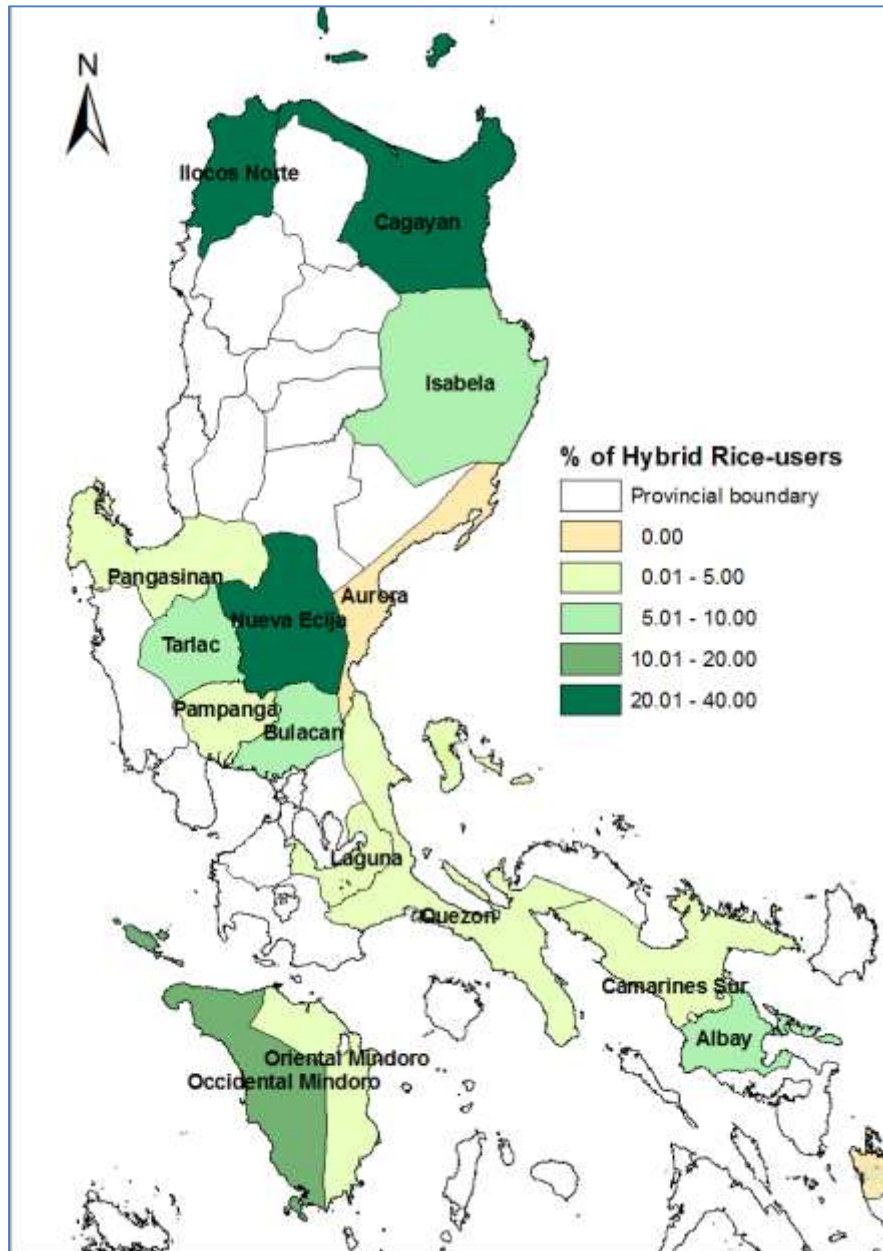


# Hybrid rice variety adoption rate, by Province, 2012 WS

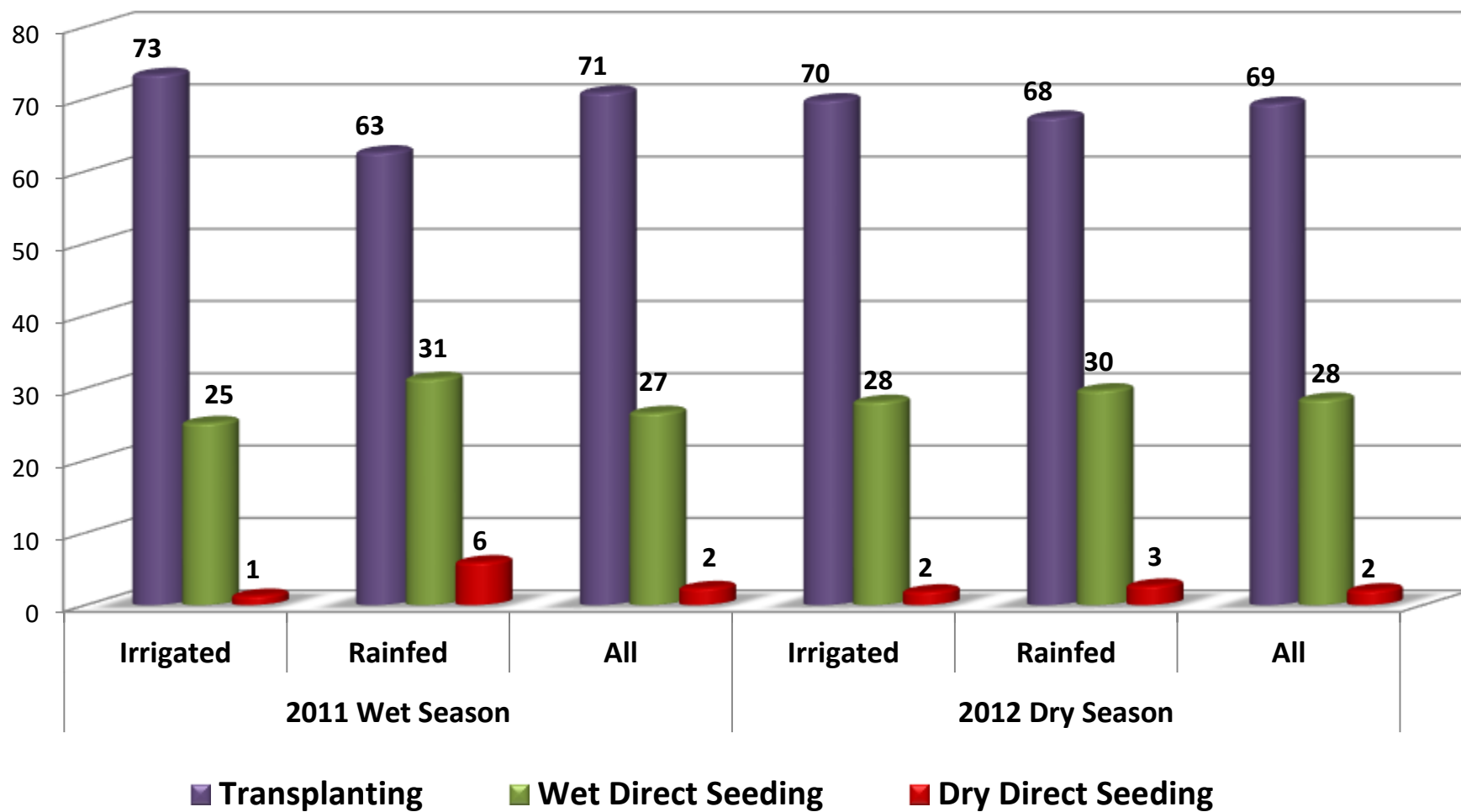




# Hybrid rice variety adoption rate, by Province, 2012 DS

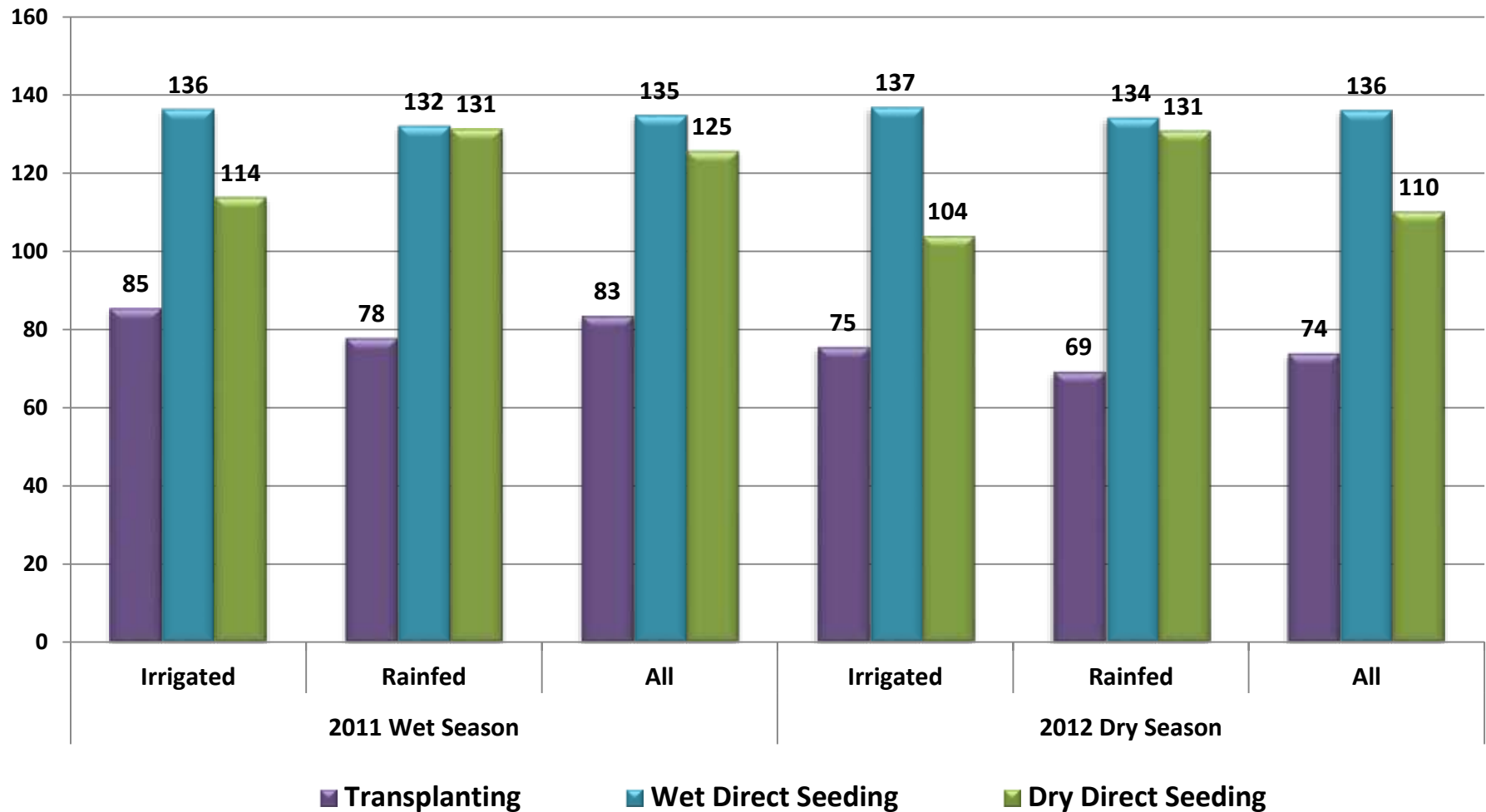


# Method of Crop Establishment, 2011 WS & 2012 DS



# Mean seeding rate (kg/ha), by crop establishment

Seeding rate  
(kg/ha)





## PhilRice-bred varieties planted, 2011 WS and 2012 DS

2011 Wet Season			2012 Dry Season		
Variety	% of farmers	% share to total area	Variety	% of farmers	% share to total area
NSIC Rc160	6.46	6.52	NSIC Rc160	5.80	5.69
NSIC Rc128	5.48	5.35	NSIC Rc128	5.75	5.85
NSIC Rc216	2.94	3.69	NSIC Rc216	4.09	4.44
NSIC Rc152	2.49	2.89	NSIC Rc152	3.22	3.40
NSIC Rc146	1.51	1.22	NSIC Rc224	1.66	1.78
NSIC Rc134	0.98	0.73	NSIC Rc130	1.07	0.97
NSIC Rc150	0.82	1.00	NSIC Rc146	0.73	0.74
NSIC Rc130	0.65	0.56	NSIC Rc150	0.58	0.73
NSIC Rc138	0.61	0.57	NSIC Rc138	0.54	0.35
NSIC Rc224	0.49	0.70	PSB Rc42	0.39	0.54