

# “Delayed Transplanting of Aged Farmer-bred Rice (JUN 3) Seedlings Cause no Significant Yield Reduction”

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- I am Diego “Jun” Dela Cruz, a proud organic farmer from Sta. Josefa, Agusan Del Sur since 1996
- I am a rice breeder with 150 bred lines
- I am maintaining a total of 350 traditional varieties and farmer-bred lines
- My presentation debunks several technologies on rice farming taught in the universities for decades and practiced in the formal research institutions

# Context of the Study

- Conventional agriculture recommended early transplanting stating that young seedling (18-20 days after sowing) can perform will compare to the older seedling.
- However, this technology is very susceptible to the damages cause by Golden Apple Snail and weeds, which push farmers to buy pesticides and herbicides
- **Moreover, this technology is found very appropriate in addressing drought brought about by climate change**





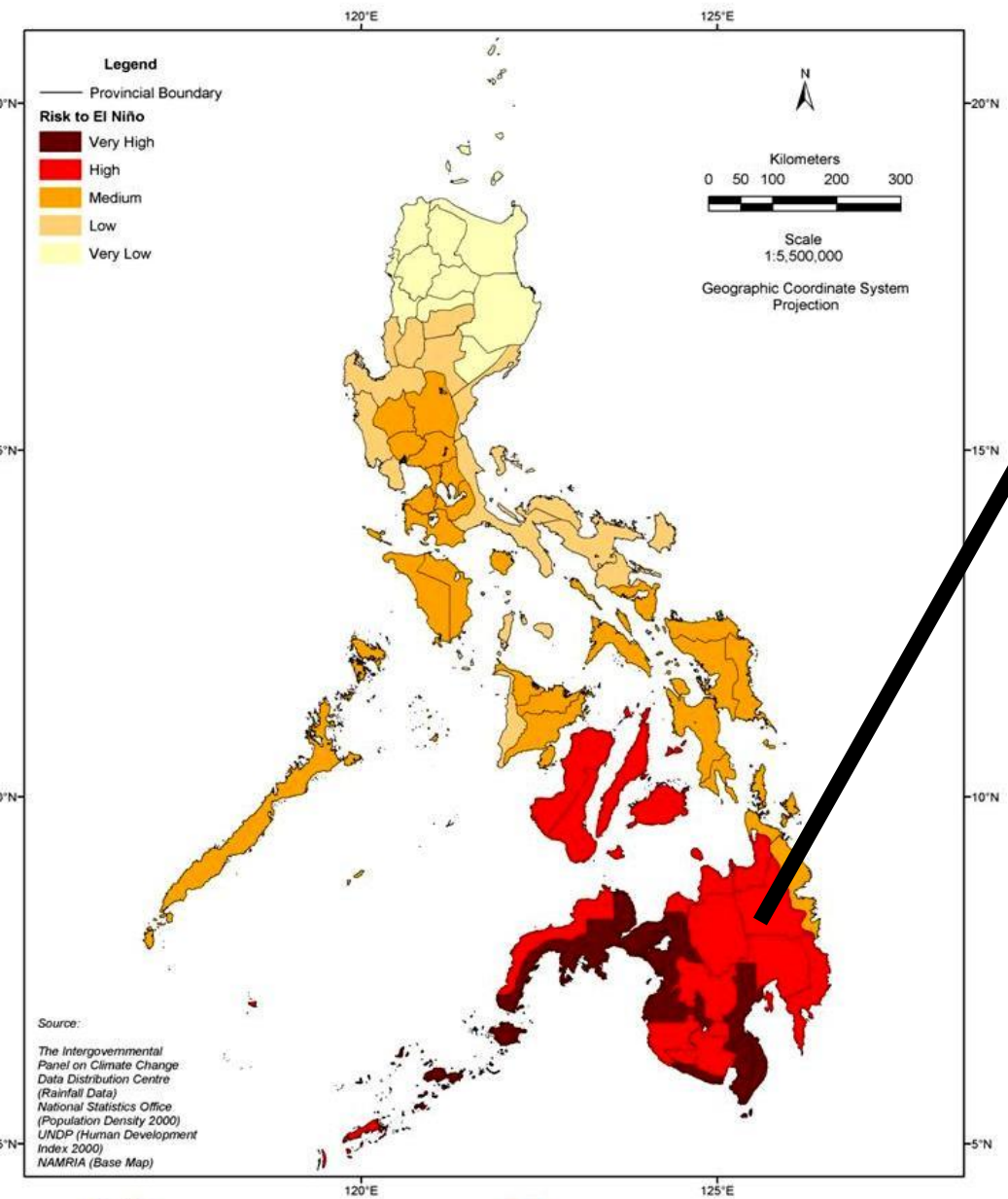
AGRO-ECO Philippines, Inc. farmers are trained to do scientific researches in our own farm in order for us to:

- ✓ Discover
- ✓ Innovate for more
- ✓ And make technologies more appropriate to our farming environment and economic status

About my study

- Old seedlings (30-80 DAS) were planted to explore what will happen. Unexpectedly, older seedling gave a good yield.
- To measure the difference on the growth and yield performance of rice seedling transplanted young and old, this study was conducted.

### Risk to El Niño



### Site of the Study:

Barangay Sayon, Sta. Josefa, Agusan Del Sur  
(approximately 70 kms away from Bislig)





## STUDY DETAILS

- I. Location of the Study: Sayon, Sta. Josefa, Agusan del Sur
- II. Study Duration: January – April 2018
- III. Planting Distance: 25x25 cm
- IV. Statistical Designed: Randomized Complete Block Designed (RCBD)
- V. Treatment:
  - T1= 18 Days After Sowing (DAS)
  - T2= 30 Days After Sowing (DAS)
  - T3= 40 Days After Sowing (DAS)
  - T4= 50 Days After Sowing (DAS)
  - T5= 60 Days After Sowing (DAS)
- VI. Replication: 3

# Table 1. Yield Performance

Treatment	Yield/ sq.m. (g)			Yield Per sq.m. (g)	Yield per Hectare (Tons)
	1	2	3		
T1= 18 DAS	350	350	470	390	3.90
T2= 30 DAS	1000	775	900	891	8.91*
T3= 40 DAS	950	700	775	808	8.08*
T4= 50 DAS	750	800	775	775	7.75*
T5= 60 DAS	1000	1250	800	1,000	10.00*

- ❑ Yield of 18 DAS seedlings achieved lower yield (3.9 tons/ hectare), because Golden Apple Snail Damage the seedlings after transplanting. Treatment 2 to 4, the older seedlings, are comparatively higher to Treatment 1 which is the control.



# Table 2. Tillering Capacity

Treatment	Productive Tiller			Total	Mean
	1	2	3		
T1= 18 DAS	12	16	12	40	13.3
T2= 30 DAS	26	22	31	79	26.3*
T3= 40 DAS	13	13	15	41	13.6ns
T4= 50 DAS	13	15	12	40	13.3ns
T5= 60 DAS	17	16	16	49	16.3ns

- ❑ The tillering capacity between Treatment 1 (18DAS), Treatment 3 (40DAS), Treatment 4 (50DAS) and Treatment 5 (60DAS) shows no significant differences. However, Treatment 2 (30 DAS) is highly significant to Treatment 1.



# Table 3. Length of Panicle

Treatment	Length of Panicle (cm)			Total	Mean
	1	2	3		
T1= 18 DAS	22	23	23	68	22.7
T2= 30 DAS	35	36	36	107	35.7**
T3= 40 DAS	20	23	22	65	21.7ns
T4= 50 DAS	21	24	22	67	22.3ns
T5= 60 DAS	21	20	21	62	20.7ns

□ The length of panicle between Treatment 1 (18DAS), Treatment 3 (40DAS), Treatment 4 (50DAS) and Treatment 5 (60DAS) shows no significant differences. However, Treatment 2 (30 DAS) is highly significant to Treatment 1.



# Discussions

- The result of this study debunked the theory that young seedling is superior than older one in producing optimum yield. As shown in the Table 1, difference in yield ranges from 4.0 tons to 6.0 tons per hectare between young and old seedlings
- Maybe, younger seedling can compete to older seedling when damage have been prevented through introducing pest management practice, but this entails additional cost.
- Out of this finding, a technology can be developed which is very much appropriate especially in rainy days, in areas where water cannot be drained and rainfed areas.



# Discussion

The result of this study also strengthens AGRO-ECO Philippine farmers in pursuing and discover more about this technology. Table below shows the actual yield performance of seedling planted older.

CULTIVARS	AGE TO TRANSPLANTING (DAS)	LOCATION	AREA (HA)	ACTUAL YIELD (TON)	YIELD/ HAS (TON)
M45	30	Alegria, Surigao del Norte	0.75	8.2	10.9
Sampaguita	30	-do-	1.0	7.5	7.5
JDC 3-2-B	40	-do-	1.0	8.5	8.5
Red V10	45	-do-	1.0	7.3	7.3
JDC 1-4	30	Molave, Zamboanga del Sur	0.95	6.3	6.6
JDC 1-4	30	-do-	0.65	4.7	7.2

# Recommendations

- Further study will be needed to know further the physiological differences between seedling transplanted young and seedlings transplanted old.
- Further study using different rice cultivars and further studies are recommended to be conducted in different locations.
- When adapting this technology, it is recommended to verify first the technique before applying it in a wider area.



# Tangible Impacts

Small-scale organic farmers like me and many of us here have found an effective way how to be more resilient to drought and how to reduce the cost of production.



Thank you so much!

**Go! Go! Go Organic**