# SunRice Research & Development Update July 2014





## **RICE R&D UPDATE**

- GIS Benefits for growers
- Varieties Latest advances
- Improving efficiency
- Future technology





### GIS

- Stage 1: 66% grower crop surveys
- Stage 2: Target 100% crop surveys, yield data and NDVI availability for all growers
- Stage 3: Add logistics component for full traceability and improved AGS efficiency
- NOW: HELP GROWERS LEARN –
   SunRice GS & RGA extension support



## Farm, paddock and crop on GIS



- 1. Grower enters paddock boundaries
  - Gets printed map of farm and paddocks with labels
  - Gets digital view of farm
  - Provides basis for recording planting details and sprays etc.
- 2. Growers select blocks that will grow rice



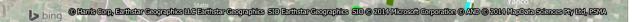
- Grower records crop details of rice plantings using paddock data
  - Get recommendations from agronomists
  - Get NDVI image for rice paddies

| Crop I | Details                        |                             |  |
|--------|--------------------------------|-----------------------------|--|
|        | -                              | Crop Details                | · Salestante · January Charles   |
|        | 9/12/2013                      | 15 4:05 PM 🛊 🔇              | Contraction of the second seco |
| То     | <d mm="" yyyy=""></d>          | 15                          |  |
| 0      | Current Crop Rice              |                             |  |
| 501    | VING                           |                             |  |
| Clas   | s                              | Paddy                       | 1  |
| If Se  | eed, Please Specify Generation | -                           |  |
| Vari   | ety Sown                       | Sherpa                      |  |
| Date   | e Sown                         | 19/10/2013 15 12:00 AM 🛊 🕓  |  |
| Sow    | ing Rate (kg/ha)               | 185                         |  |
| Sow    | ing method                     | Aerial (Pregerminated Seed) |  |
| Hect   | ares Re-Sown                   |                             |  |
| Reso   | own Variety                    |                             |  |
| Last   | Resown Date                    | <d mm="" yyyy=""></d>       |  |
| Re-s   | owing Rate(kg/ha)              |                             |  |
| Hect   | ares to be Harvested           | 8                           |  |
| Pote   | ntial Yield (t/ha)             |                             |  |
| Estir  | mated Pest Loss (%)            |                             |  |
| See    | dling Number (per sq/M)        |                             | bing   |
| % C    | rop with Holes                 |                             |  |
| % C    | rop with Weak/Thin Areas       |                             | 💌 Pick a paddock 🥢 Draw a point 📌 Draw a line 🔊 Draw an area 🌍   |
| Date   | Modified 9/12/2013 3:08:04 F   | M                           |  |

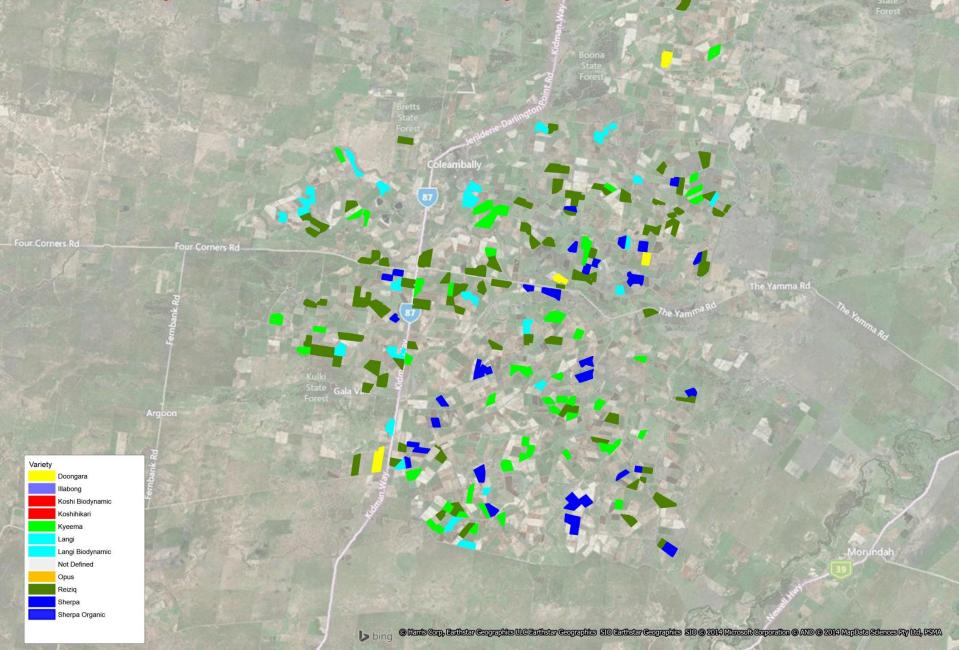
Modified By efondacaro

## Variety Map Murrumbidgee

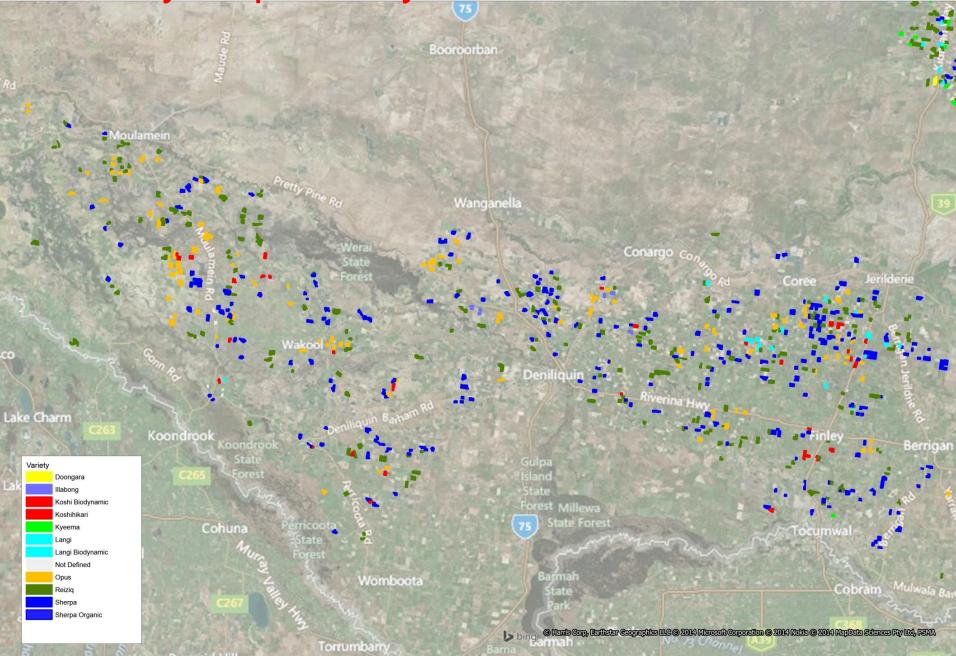


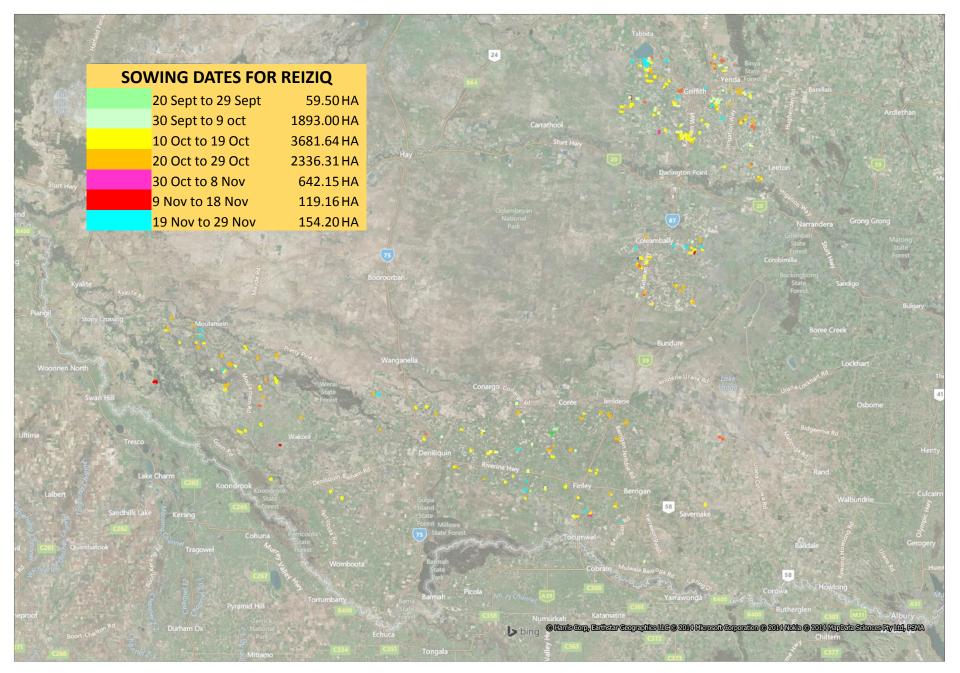


## Variety Map Coleambally



## Variety Map Murray





#### Hectares sown by Variety by Date

## KEY MESSAGE – SOW WITHIN WINDOW FOR VARIETY AND LOCATION

| SOW DATES/VARIETY            | Doongara | Illabong | Koshihikari | Kyeema | Langi  | Opus    | Reiziq  | Sherpa  |
|------------------------------|----------|----------|-------------|--------|--------|---------|---------|---------|
| 21st to 30th September       |          |          |             |        |        | 300.65  | 59.49   | 35.36   |
| 1st to 10th October          |          |          | 101.69      | 142.56 | 137.2  | 588.35  | 1893.06 | 450.66  |
| 11th to 20th October         | 177.04   |          | 167.05      | 698.88 | 917.25 | 960.47  | 3681.64 | 1351.34 |
| 21st to 30th October         |          | 92.3     | 66.44       | 765.33 | 669.17 | 1162.79 | 2336.31 | 2681.24 |
| 31st October to 9th November |          | 40.62    | 72.71       | 115.13 | 168.81 | 259.72  | 642.15  | 1751.81 |
| 10th - 19th November         |          |          | 56.39       |        | 123.55 |         | 119.16  | 414.43  |
| 20th - 29th November         |          |          | 53.85       | 29.06  | 172.33 |         | 154.2   | 79.85   |





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## **Spray Records**

 Spray Diary will cover legislative requirements for chemical applications

| SPRAY D             | DIAR  | Y               |                 |                                  |                         |                           |                    |                     |                        |                      |                    | Sun       |  |
|---------------------|---|-----------------|-----------------|----------------------------------|-------------------------|---------------------------|--------------------|---------------------|------------------------|----------------------|--------------------|-----------|--|
| Report for period b | etween                                      | 01/01/20        | 014 ar          | nd 16/07/2014                    |                         |                           |                    |                     |                        |                      |                    |           |  |
| I/We declare that   | his diary                                   | is a true       | and corr        | ect record of chemicals          | applied.                |                           |                    |                     |                        | Signed               |                    | Date      |  |
| Farm: 78293         | Farm: 7829370 - Rice Research Australia P_L |                 |                 |                                  |                         |                           |                    |                     |                        |                      |                    |           |  |
| Paddock: W11        |   |                 | Vari            | ety: Koshi                       |                         |                           |                    |                     |                        |                      |                    |           |  |
| Application<br>Date | Area<br>(ha)                                | Water<br>(I/ha) |                 | Chemical<br>(Registered Product) |                         | Target<br>Pest/Disease    |                    | Active<br>Ingredier | nt                     | Actual Ra<br>Applied | te APVMA           |           |  |
| 11/06/2014          | 41.58                                       | 100             |                 |                                  |                         |                           |                    |                     |                        |                      |                    |           |  |
|                     |   |                 |                 | Aura                             |                         | Arrowhead, Si             | lvertop            | Profoxdin           | n 200g/I               | 0.2 l/ha             | 63432/5-20L/100    | 08        |  |
|                     |   |                 |                 | Nufarm Chlorpyrifos 500          | )EC                     | Bloodworm                 |                    | Chloropy            | ifos 500g/l            | 150 ml/ha            | 32902/0809         |           |  |
| Strategy : Whole    | e Block                                     | Tíme:           | Mid<br>morning  | Surfactant : Yes                 | Application<br>Method : | Fixed<br>Wing<br>Aircraft | Wind Speed : 4 - 8 | 3 knots             | <i>Operator</i> : Adam | Power                | Temperature C : 22 | Comment : |  |
| 16/05/2014          | 41.58                                       | 100             |                 |                                  |                         |                           |                    |                     |                        |                      |                    |           |  |
|                     |   |                 |                 | Barnstorm                        |                         | Barnyard Gras             | S                  | Cyhalofor           | o 285 g/l              | 1 l/ha               | 58613/51146        |           |  |
| Strategy : Whole    | e Block                                     | Time:           | Late<br>Afterno | on Surfactant : Yes              | Application<br>Method : | Fixed<br>Wing<br>Aircraft | Wind Speed : 2 - : | 3 knots             | Operator : Rob C       | Crossley             | Temperature C : 24 | Comment : |  |
|                     |   |                 |                 |                                  |                         |                           |                    |                     |                        |                      |                    |           |  |





### Future Benefits – NDVI on time



| Farm (1)               |                                       |   | Start      | Area (hi | Name | Variety | Hectare | Date So | Sowing | Hectare | Sowing | Resown | Date La: | Hectare | Yield Es | Estimate | Yield Ad | Prev H |
|------------------------|---------------------------------------|---|------------|----------|------|---------|---------|---------|--------|---------|--------|--------|----------|---------|----------|----------|----------|--------|
| RICE (43)              |                                       |   | 18/07/2014 | 17.96    | SW1  |         | 0.00    |         |        | 0.0     | 0.0    | D      |          | 0.00    | 0.00     | 0.00     | 0.00     | D      |
| RICE (43)              |                                       |   | 18/07/2014 | 6.58     | SW3  |         | 0.00    |         |        | 0.0     | 0.0    | D      |          | 0.00    | 0.00     | 0.00     | 0.00     | D      |
| Harvest Operations (0) | E 🖸 🖉 🚳                               |   | 18/07/2014 | 33.01    | K10  |         | 0.00    | )       |        | 0.0     | 0.0    | þ      |          | 0.00    | 0.00     | 0.00     | 0.00     | D      |
|                        |                                       |   | 18/07/2014 | 22.32    | К8   |         | 0.00    | )       |        | 0.0     | 0.0    | D      |          | 0.00    | 0.00     | 0.00     | 0.00     | D      |
|                        |                                       |   | 18/07/2014 | 25.27    | W17  |         | 0.00    | )       |        | 0.0     | 0.0    | þ      |          | 0.00    | 0.00     | 0.00     | 0.00     | D      |
|                        | · · · · · · · · · · · · · · · · · · · |   | 18/07/2014 | 12.64    | EN1  |         | 0.00    | )       |        | 0.0     | 0.0    | D      |          | 0.00    | 0.00     | 0.00     | 0.00     | D      |
|                        |                                       |   | 18/07/2014 | 11.03    | W16  |         | 0.00    |         |        | 0.0     | 0.0    | þ      |          | 0.00    | 0.00     | 0.00     | 0.00     | D      |
|                        |                                       |   | 18/07/2014 | 19.17    | K13  |         | 0.00    |         |        | 0.0     | 0.0    | D      |          | 0.00    | 0.00     | 0.00     | 0.00     | D      |
|                        |                                       |   | 18/07/2014 | 14.71    | K15  |         | 0.00    |         |        | 0.0     | 0.0    | þ      |          | 0.00    | 0.00     | 0.00     | 0.00     | D      |
| Crop Details (0)       | 😻 💽 🖉                                 |   | 18/07/2014 | 6.58     | W14  |         | 0.00    |         |        | 0.0     | 0.0    | D      |          | 0.00    | 0.00     | 0.00     | 0.00     | D      |
|                        |                                       | 1 |            |          |      |         |         | ·       |        |         |        |        |          |         |          |          |          |        |



### **Benefits to Growers and SunRice**

| Benefits To Grower  | Benefits To SunRice  |
|---|--|
| <ul> <li>Gets printed map of farm and paddocks</li> <li>Gets digital copy of farm</li> <li>Provides basis for further data<br/>recording -planting details and spray<br/>dairy etc.</li> <li>Get recommendations from<br/>agronomists</li> <li>Get NDVI image for rice paddies</li> <li>Record on the web or phone</li> <li>Reduced data entry</li> <li>Benchmarking Reports</li> <li>Targeted Research</li> <li>Help communication with agronomists</li> <li>Gross Margins</li> <li>Resistance Management</li> </ul> | <ul> <li>Traceability         <ul> <li>Increasingly important in<br/>higher value markets</li> </ul> </li> <li>Harvest Management &amp; Logistics         <ul> <li>Yield Estimates</li> <li>Harvest Progress</li> <li>Efficient Site Operations</li> </ul> </li> </ul> |

### **Rice Varietal Improvement – What's New**

- YRF209 Fragrance and Agronomic
- Short season Short Grains
  - Double Cropping Option
  - -Agronomic
- Cold Tolerant Reiziq
  - -Improved Yield Stability
  - -Grain Quality

#### Sensory attributes driving purchase intent - YRF209

- Driver analysis

Sun Rice was competitive on Glossiness, Flavour and Sweetness.

| Strengt<br>of drive |    |                            | AUS Jasmine<br>YRF209 | Golden<br>Elephant<br>(Thai) | Sun Rice<br>100% Pure<br>Australian | Supreme<br>(Vietnamese) |     |
|---------------------|----|----------------------------|-----------------------|------------------------------|-------------------------------------|-------------------------|-----|
| 20                  | 1  | Chewiness                  | 22                    | 24                           | 12                                  | 9                       | JR  |
| 15                  | 2  | Taste                      | 52                    | 51                           | 43                                  | 31                      | ТЗВ |
| 11                  | 3  | Texture                    | 40                    | 54                           | 42                                  | 16                      | JR  |
| 11                  | 4  | Appearance                 | 35                    | 21                           | 18                                  | 9                       | ТЗВ |
| 10                  | 5  | Glossiness                 | 26                    | 37                           | 35                                  | 24                      | JR  |
| 7                   | 6  | Flavour strength           | 34                    | 32                           | 31                                  | 27                      | JR  |
| 7                   | 7  | Sweetness                  | 31                    | 27                           | 29                                  | 22                      | JR  |
| 6                   | 8  | Aroma/ Fragrance           | 51                    | 54                           | 46                                  | 40                      | ТЗВ |
|                     | JR | = Just right T3B = Top 3 b | ox score              |                              | Best performing b                   | rand                    |     |



Jasmine Rice Cooked Sample

## **RRAPL** – Key attributes





- Continue to improve the farming system
- Develop high
   value varieties
   for specific
   markets
- Use location and provenance to encourage buyers
- Latest technologies to improve efficiencies

