Crop Establishment On Eyre Peninsula in the Late-Breaking 2024 and 2025 Seasons

Summary report: key learnings from landholder surveys

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Executive Summary

Eight Eyre Peninsula landholders were interviewed to capture practical lessons from establishing crops after the late seasonal breaks of 2024 and 2025. The survey was qualitative and should be interpreted as a structured summary of grower experience rather than a statistically representative dataset. Where percentages are used, they refer to the eight surveyed growers.

The central finding was that successful establishment in dry starts was less about dry sowing alone and more about paddock preparation. Surface cover, weed control history, soil type, seed placement, machinery set-up and the timing of follow-up rainfall all influenced whether crops established successfully.

At A Glance

- Seasonal set-up: the two years had similar late breaks, but different profiles: useful stored subsoil moisture in 2024 compared with very dry surface and subsurface layers in 2025.
- Paddock condition: good surface cover and strong weed control history were the most consistent risk reducers across districts, soil types and seeding systems.
- Seedbed moisture: the main establishment risk was not simply dry soil, but marginal moisture: enough for germination, but not enough for emergence.
- Soil type: light textured soils often responded to small rainfall events; loamier soils were more variable and could either establish well, or suffer poor emergence where moisture was marginal.
- Machinery: no single seeder system was preferred in all circumstances. The practical issue was matching disturbance, depth control and residue handling to paddock and seasonal conditions.
- Management response: growers reported increased confidence in dry sowing, but this confidence was conditional on paddock set-up, seed placement, herbicide choice and rainfall outlook.

Key Points

- Late breaks occurred in both seasons, with opening rain generally not received until the last week of May in 2024 and the first week of June in 2025.
- The seasonal set-up differed: 2024 generally had useful stored subsoil moisture from summer rain, while 2025 profiles were dry to well below the surface before opening rain.
- Paddocks with strong surface cover and good grass weed control history were consistently reported as lower risk for dry sowing.
- Several growers described seed germinating but failing to emerge where moisture was marginal. This grower-described condition is referred to in this report as “malting”.
- Persistent strong wind events in late June and July 2025 damaged some emerging crops, especially where soil cover was low or newly ameliorated soils were exposed.
- Most growers reported being more confident to dry sow after 2024 and 2025, but this confidence was conditional and paddock-specific.

Introduction

Extended dry autumn conditions across Eyre Peninsula created significant crop establishment challenges in both 2024 and 2025. In 2024, summer rainfall left useful subsoil moisture in many paddocks, although the surface soil was often dry by seeding. In 2025, both surface and subsurface soil layers were dry before the break, with very limited germination until rain arrived in early June.

The two seasons therefore provided a useful contrast. In 2024, the main opportunity was whether stored moisture could be accessed by seed placement. In 2025, the main issue was how long dry-sown seed would remain ungerminated before enough rainfall arrived to establish the crop.

Survey Methodology And Interpretation

Eight landholders were interviewed from across the region: four from Upper EP, including Charra, Yaninee, Cootra and Kimba, and four from Lower EP, including two at Wharminda and two from the Kapinnie/Mt Hope area.

Figure 1. Distribution of landholder survey participants across Upper and Lower EP.

The interview questions covered seasonal conditions, soil moisture, sowing order, crop type, seeder configuration, sowing depth, soil type, amelioration, herbicide considerations and changes to seeding practice following the two seasons.

Limitations

- The survey sample was small and deliberately experience-based. Findings should be read as recurring themes and practical observations, not as statistically significant regional estimates.
- Percentages are retained where useful for transparency, but are reported alongside grower numbers, for example 3 of 8 growers (38%).
- Some findings, especially around herbicide efficacy after extended dry surface exposure, reflect grower observations and would require product-specific evidence before being treated as general technical recommendations.

Definition: “malting”

Several growers used the term “malting” to describe seed that had germinated and begun to grow, but did not have enough moisture to emerge. In this report, the term is retained because it captures an important practical distinction: the risk was not only dry soil, but marginal soil moisture that started germination without sustaining emergence.

Results And Discussion

1. Seasonal Conditions And Dry Sowing Extent

In 2024, summer rainfall meant many paddocks had stored subsoil moisture within reach, often around 8-10 cm from the surface. In 2025, profiles were generally dry until opening rain arrived around 6 June, followed by further rain 7-10 days later in many districts.

Four of the eight growers (50%) sowed 90-100% of their program dry. Two growers (25%) sowed 60-75% dry, while the remaining two waited until after opening rain for most of their cropping program. This range highlights that dry sowing decisions were shaped by soil type, rotation, district rainfall, risk tolerance and machinery capability.

2. Main Establishment Lessons

Three of eight growers (38%) said the most surprising result was how much crop established given the dry starts. A further two growers (25%) were surprised by how much moisture some soils retained between rainfall events.

Across the survey, the two most consistent drivers of lower-risk establishment were good surface cover and a strong weed control history. Seven of eight growers (88%) raised these factors as important. Cover reduced the exposure of dry-sown paddocks to wind and evaporation, while good weed control history provided flexibility when there was limited opportunity for an early knockdown.

Where moisture was present at depth in 2024, some growers successfully sowed deeper and effectively created their own break. This was only successful where the seeder could place seed into reliable moisture and where seedlings could emerge before the seedbed dried out.

3. Crop Type, Rotation And Sowing Order

Seven of eight growers (88%) reported that most crops established well once sufficient rainfall was received. However, establishment was not uniform across paddocks. Poorer establishment was more commonly

associated with low surface cover, marginal moisture, wind damage, water repellence, or soil types that were slow to wet up.

Barley was noted by some growers as surprisingly capable of establishing on relatively low rainfall, although it was also considered prone to germinating without emerging under marginal moisture. Some growers delayed lentil sowing closer to the break because of concern about inoculum survival under extended dry conditions, instead sowing early wheat first.

Growers used different sowing order strategies. Some prioritised paddocks with the best chance of establishment based on soil type and moisture. Others stayed closer to their normal rotation where profiles were dry, sowing canola and pulses early where early biomass and canopy closure were important, followed by barley and wheat.

4. Seeder Configuration

Seeder systems varied across the group. Three growers (38%) used hybrid disc systems, two (25%) used knifepoint and press wheel parallelogram configurations, two (25%) used both knifepoint and disc machines, and one used a K-Hart triple disc seeder as the sole machine.

The survey did not identify a single best seeding system. Instead, growers described trade-offs. Disc systems were valued for reduced soil disturbance, retaining stubble cover and reducing furrow drying, particularly for lentils and narrow-row systems. Challenges included hair-pinning on heavier soils, depth control limitations in some dry conditions and the need to balance soil throw for herbicide safety. Tyned systems provided more flexibility to chase deeper moisture, but higher disturbance could increase furrow drying or move water repellent soil back into the seed row.

- Reduced disturbance was useful where retaining cover and limiting furrow drying were priorities.
- Depth control became critical where growers were trying to place seed into stored moisture.
- Splitter boots on tyned systems were reported by one grower to perform poorly under marginal moisture where seed was placed into the side of the furrow and small rainfall events moved past the seed.
- The practical objective across systems was to retain enough surface cover while placing seed into a moisture environment that could support emergence.

5. Sowing Depth

Typical target depths were 40-60 mm for cereals, 15-25 mm for canola and 25-30 mm for lentils. In 2024, several growers sowed deeper, around 60-100 mm, to chase stored moisture. This was generally successful where seed was placed into moisture, but risky where moisture was marginal.

In 2025, because profiles were much drier, several growers reflected that shallower sowing may have been the better strategy. In that situation, seed could remain dry and ungerminated until enough rainfall arrived, rather than starting to germinate in marginal moisture and failing to emerge.

6. Soil Type And Moisture Behaviour

Light textured sandy soils generally established well in both years where there was good surface cover. In 2024, some Lower and Eastern EP growers reported good establishment where crops could be sown deeper into stored moisture on sandy soils. In 2025, these soils often responded quickly once rainfall arrived.

Loamier soils were more variable. Some grey calcareous loams had excellent establishment where moisture was adequate, but poor establishment where seed germinated into marginal moisture and failed to emerge.

Heavier soils and dry saline areas took longer to wet up and, in some cases, did not establish well until more substantial opening rainfall was received.

Water repellence on sandy surface soils appeared to be exacerbated in some Central and Lower EP paddocks. Growers suggested that extended dry conditions may have contributed to uneven wetting and preferential flow, leaving parts of the seedbed slow to wet.

7. Ameliorated Soils

Five of eight growers (63%) reported better establishment on ameliorated soils than on unameliorated soils. Two growers specifically described large growth and yield differences where ripping or other amelioration had improved water infiltration, root access to stored moisture and the effective soil water "bucket".

However, the establishment risk on newly ameliorated soils remained important. Growers raised concerns about wind erosion, furrow infill, sandblasting, uneven sowing depth and low surface cover. Where ameliorated paddocks had adequate stubble cover, establishment problems were generally reduced.

8. Herbicide Considerations

Herbicide residues and pre-emergent herbicide behaviour were raised by most growers. Several growers were concerned about crop safety following dry conditions, and two used bioassays to guide rotation decisions. Others adjusted crop or variety choice to manage possible residue risk.

A recurring uncertainty was how long different pre-emergent herbicides retain efficacy when applied to dry soil for 4-6 weeks before rainfall activates them. Growers became more confident through 2025 that some products could retain useful activity after delayed activation, but they also remained cautious about products more vulnerable to surface loss or delayed incorporation. This issue would benefit from product-specific guidance because persistence, volatility, photodegradation and incorporation requirements differ between herbicides.

9. Changes To Practice

Three of eight growers (38%) discussed spreading establishment risk by placing seed at different depths where seedbed moisture was marginal. Two growers (25%) had purchased or modified seeders following the 2024 and 2025 experiences, including a double-boot system for split seed placement and double-disc modules to reduce soil disturbance and furrow drying.

A small number of growers also used long-season wheat earlier to spread frost risk and provide non-lentil or non-Clearfield options for in-crop weed control. Growers noted that 2026 was a very different start, with better early moisture and strong establishment, although wind damage continued to affect some newly ameliorated soils.

Implications For Future Late Breaks

The survey suggests that dry sowing decisions should be made at paddock scale, not simply as a whole-farm rule. The most useful question is not "should we dry sow?" but "which paddocks are set up well enough to dry sow, and which should wait?"

Decision Guide For The Next Late Break

- **Dry sowing:** Is the paddock genuinely dry, or is moisture marginal? Dry seed can wait. Marginal moisture can create germination without emergence, particularly if follow-up rain is delayed.
- **Sowing depth:** Is there stored moisture worth chasing? In 2024, deeper sowing was useful where seed could be placed into moisture. In 2025, shallow placement was often the lower-risk approach.
- **Surface cover:** Will the seedbed be protected if the break is delayed? Cover reduced stress around dry sowing and helped protect emerging crops from wind erosion, furrow infill and sandblasting.
- **Weed and herbicide risk:** Can the rotation tolerate delayed rain and limited knockdown opportunity? Paddocks with good weed history gave growers more flexibility. Herbicide choice may need to consider dry surface exposure and delayed activation.
- **Ameliorated soils:** Is the soil consolidated and protected enough to establish quickly? Amelioration improved establishment and growth where it addressed water repellence or compaction, but newly ameliorated soils remained vulnerable to wind and uneven seed depth.

Overall, the strongest technical message is that late-break establishment risk can be reduced before seeding begins. Retained cover, weed control history, robust rotations, knowledge of soil moisture location and careful seed placement all increased growers' confidence and flexibility.

Conclusion

The 2024 and 2025 seasons showed that crops can be successfully established on Eyre Peninsula under very dry starts, but the risk profile differs sharply depending on stored moisture, soil type, surface cover and machinery capability.

Growers came out of the two seasons more confident in dry sowing, but also more aware of its limits. Dry sowing was most reliable where paddocks had good cover, good weed control history, appropriate crop and herbicide choices, and seeding equipment capable of placing seed accurately. Where moisture was marginal, the risk of germination without emergence was a key failure point.

For future late breaks, the main recommendation is to treat dry sowing as a flexible, paddock-specific strategy supported by soil inspection, machinery checks and realistic assessment of follow-up rainfall risk.

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Appendix 1. Survey Template

EPLB Crop Establishment Landholder Survey - Response Summary Template

Prologue: Under the EPLB Sustainable Agriculture project, this survey was developed to capture landholder experiences and learnings from establishing crops under dry conditions in 2024 and 2025.

1. What surprised you about crop establishment in 2024 and 2025?
2. What have been your biggest learnings about crop establishment in the last two years?
3. What was soil moisture like prior to opening rainfall? Where in the profile was the moisture, if any, in 2024 and 2025?
4. What was the date of the opening rain? How much rain did you receive? Did you consider this the seasonal break?
5. How much of your program did you sow dry? How much after opening rains?
6. What crops established well? What crops established poorly?
7. How did you decide the order in which you sowed different crop types in 2024 and 2025?
8. What factors influenced that decision, for example soil moisture, crop type, risk or paddock conditions?
9. What sort of seeder or seeding configuration do you use?
10. What sowing depth do you target, and do you think you achieved this in 2024 and 2025?
11. Did you notice anything about the seeder or tyne configuration that might influence crop establishment?
12. Was crop establishment better on certain soil types compared with others?
13. Did ameliorated soils perform better, worse or the same as unameliorated soils? Why?
14. What influence did herbicide residues or pre-emergent herbicides have on crop establishment?
15. What are you doing differently to improve crop establishment based on your observations from the last two seasons?
16. Is there anything else that you observed or learnt that should be captured?