Dairy Farmer Response to Storm and Floods 2021/22

From devastation to “more prepared” within 12 months

Overview

- *Impact of unprecedented 2021 Manning River floods drives change and adaptation.*
- *Creating a short-term “hospital-herd”, focusing on pasture restoration and supportive peer and professional network assist recovery.*
- *Increasing feed system flexibility with new concrete feed pad and increased byproduct use reduces risk associated with increased stocking rate and inevitability of future droughts and flooding.*

“Boondabah Holsteins”

Like many of the lower Manning dairy farmers on the New South Wales, Mid-North Coast, Sam and Rachel Nicholson are the first to admit they were underprepared for the devastating floods of 2021. Situated on low-lying alluvial flats between two tidal tributaries of the lower Manning, a lack of reliable real-time flood prediction information and no formal on farm flood-planning left the enterprise fully exposed to the impacts of the sudden record-breaking east coast low event. The entire property was under up to 2 meters of water with access to the Pacific Highway (that bisects the farm) cut off for 8 days. The dairy shed was inundated with

rapidly rising waters preventing milking for 2 days while the herd stood in shallow water on a small ridge.

Stores of baled silage were damaged or swept away in flood waters and water stood on paddocks for up to 10 days during the critical autumn sowing period. Access to calves and heifers was extremely challenging and losses were significant and devastating to the Nicholson's who were working to grow their herd of mixed Holstein and cross-bred cows.

Working together to get back on their feet

As flood waters gradually subsided the Nicholson's began to grapple with the challenges of assessing the damage and re-establishing their enterprise. When the milking herd was accessible, they were gathered and relocated to the highest part of the farm (their springer paddock) where, despite the saturated conditions, the herd could also be offered hay and silage. With the pit in their herringbone dairy still flooded, milking and feeding the herd in the dairy recommenced on the second day following the initial flood peak.

The interruption to milking and feeding caused milk production to drop and cell counts to rise, particularly impacting cows in late lactation. Mastitis and lameness became a major problem. Sam decided to dry off lower producing cows and set up a dedicated "hospital herd" for cows that needed treatment. This created a group of sound, productive cows to focus feeding efforts on in the hope of maintaining their production until conditions improved.

As water receded, the amount of infrastructure and farm damage was overwhelming. Other dairy farmers came to assist in clean up and help with day-to-day operations. The extreme gratitude Sam and Rachel have for the support they received from them and their local community in the clean-up is difficult for them to express.

The Nicholson's contribute much of their successful recovery from the 2021 event to the support from their staff and network. Consultants, vets, industry service providers and their farming friends all provided important sounding boards during the most challenging times that Sam and Rachel had encountered. With the highway cut off, staff could not get to the farm, however, Sam's parents live on the farm and were critical to maintaining day-to-day operations.

"We learnt a lot and knew that if we want to farm here changes were needed"

Luckily, when the "big wet" east coast of 2022 hit, the Nicholson's had already made some key changes that reduced the impact. They had already devised a formal flood plan to increase efficiency in responding to flood warnings and had established a designated temporary relocation spot for calves above the flood line. A gravel mound with hay racks

Impact of the 2021 storms and floods from left to right: isolated milking herd in the height of the floods, cows maintained in the dairy yards with floating silage, inundated dairy shed.

had been constructed near the dairy as a feeding area to decrease waste and keep cows in less mud, and a generator was installed for the dairy along with a larger vat. The heavy focus on paddock recovery in the wake of the 2021 floods not only assisted with production and recovering cashflow, but it also saw good accumulation of stocks of high-quality silage.

While the impact of the 2022 floods was less than in 2021, the persistent wet provided new challenges. The highly pasture-reliant herd could not access paddocks for nearly 6 months and Sam had to be more patient with getting paddocks sown. Unlike some farmers in the area who rushed to resow paddocks for winter with helicopters (with very mixed results), Sam decided to wait till paddocks were trafficable and could be properly prepared so he could ensure a good result and get the herd back onto high-quality pastures as soon as possible.

By supporting the herd's nutrition with good quality forage (Sam used feed tested hay and his own silage) and increasing feed by a couple of kilos in the dairy, production held up reasonably. However, the deficiencies of the hay and silage-based system on the simple gravel mounds and hay racks became apparent with challenges keeping the area clean, ongoing wastage and costs associated with sourcing appropriate quality hay to support feeding.

With conditions eventually improving, the late spring and early summer delivered good pasture-growing conditions, the herd was back producing well within 6 months of the start of the event.

Impact of floods and persistent wet on milk solid production and milk quality

The March 2021 flood saw milk production immediately drop by over 20% when compared to the same time period the year before. With production slowly recovering over the next 5 months. In response to the growing herd and Sam's focus on pasture recovery made the most

Prioritising paddock recovery- keeping cows and machinery off the paddocks and restoring fertility as waterlogging subsided paying dividends.

out of a good spring with the subsequent 12 months seeing a cumulative increase in total milk solids of 21%.

Despite the challenging wet conditions and minimal paddock access, more experience and planning, improved feeding and increasing the herd size reduced the impact of the 2022 wet winter. Once again, big jumps in production were seen as paddocks dried out and came back into production later in spring.

"Setting up our hospital herd in 2021 allowed us to keep our cell count in premium band." While there were a few challenges keeping the count low in the following summer, the improved feeding area and attention to detail with their milking team helped keep milk quality at a satisfactory level during the 2022 wet weather.

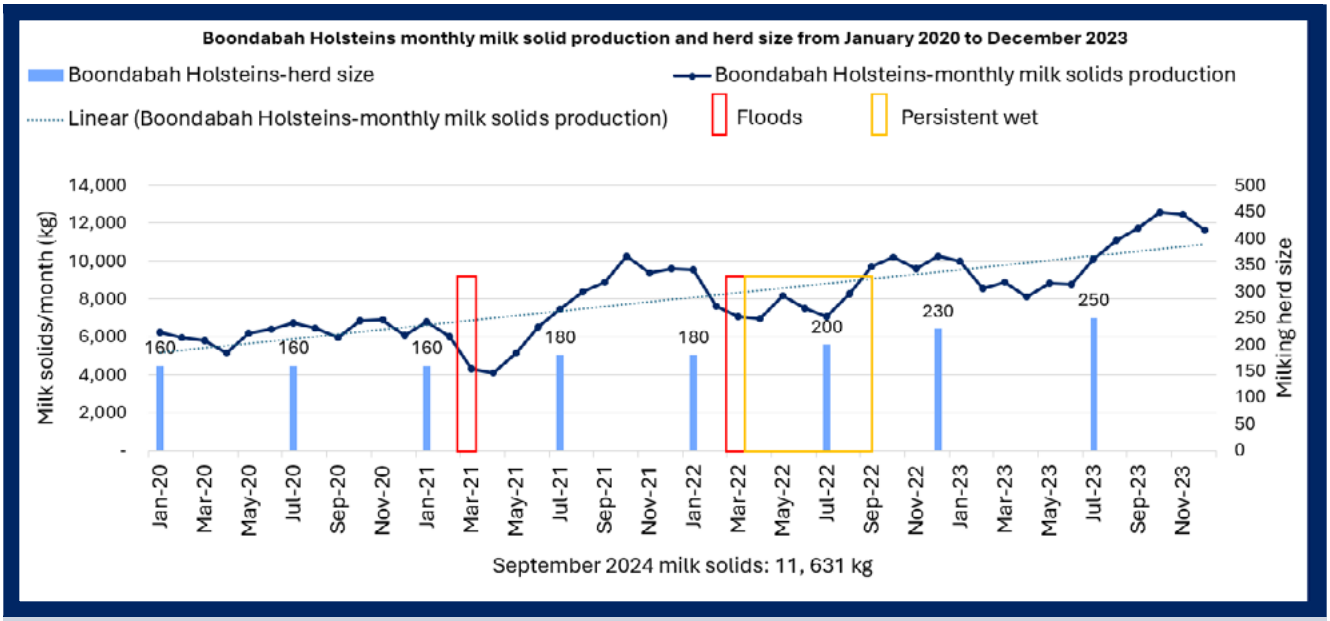

Figure 1 Graph of Boondabah Holsteins monthly milk solid production and herd size.

"We are open to feedback because we can always do better."-Rachel Nicholson

Rachel and Sam are committed to dairying on their farm on Jones Island. Production has now fully recovered, and they feel optimistic about their future in the dairy industry. They understand they are in a flood and drought prone area and need to make the most of good seasons with their focus on pasture productivity while also being prepared for the inevitable weather challenges of coastal dairying.

To sustain their enterprise into their future they have increased their stocking rate from 3 cow/ha to 4.8 cows/ha and improved per cow productivity. However, this has brought with it increased risk when it comes to both wet weather events and drought. Since the 2021 floods, they have invested heavily in extensive upgrades to farm infrastructure and management.

Key improvements made on the farm include:

1. **Washable feed pad to give the herd greater feeding flexibility.** While planning had already begun after 2021, the final touches were put on a concrete feed pad in December 2022 and is situated on the highest ridge of the property. Sam now utilises a variety of byproducts, silage and hay in a partial mixed ration to support the herd during seasonal pasture deficits

Evolution of a flexible feeding system- from gravel mounds and hay racks to concrete feed pad in 18 months.

and during periods of adverse weather. “While pasture is still our focus, our feed pad has already proven itself with the wet autumn of 2024 and we are seeing production up overall by 4 to 5 litres per cow.”

2. **Created a flood plan with defined, clear roles and responsibilities.** Rachel relates that “the losses from 2021 were devastating- we were definitely caught off guard”. Sharing this plan with their growing workforce has been a huge priority.
3. **Investing in staff development** has given Sam relief from milking and calf rearing allowing more focus on paddock management, nutrition, business decisions, and “headspace” to prioritise jobs during more difficult times. Sam feels that their investment in farm infrastructure and people has made the farm more labour and feed efficient and productive with his general risk management greatly improved.
4. **Plans to develop a new calf facility.** Calf losses were one of the most distressing aspects of 2021 and there is a need to keep up with the growing herd and a step up from the successful flood retreat area employed in 2022. This will combine with work already done on reinforcing fencing and reforming laneways to greatly improve the enterprise’s resilience.

Needless to say, the Nicholson’s aren’t sitting still. Their herd and business are growing, and their preparedness and resilience is increasing with it.

From left to right: calf area inundated during the 2021 storms and floods, relocation of calves during the 2022 storms and floods.

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