

Flood recovery - pasture

Dairy pasture and crop recovery from summer floods in northern Victoria

Major flood events will vary in the degree of impact on pastures and crops. This will depend on how the flood proceeded across the land, the soil types involved, water table levels, historic salt issues, and a range of other factors.

What affect does flooding have on pastures and crops?

Flooding will affect pastures in different ways depending on the flow rate of water, the duration of inundation, the amount of silt and debris, and the pasture species.

Duration of Inundation - Water cover by itself is not the only determinant of degree of pasture damage. A combination of factors including soil texture (drainage), speed of water flow, the water quality, and water depth all contribute to varying levels of pasture damage. However, the longer the pasture/crop is under water the greater the potential for water logging damage.

Soil Texture - Light textured soils that drain freely will allow a speedy pasture recovery. Heavy soils hold the water for a longer period after the flood has receded and extend the period of water logging.

Speed of Flow - Providing the soil has not eroded, the quicker the water flow rates the better the pasture recovery. The slower the water, the more sedimentation and the slower the pasture recovery. Higher flows may have a greater erosion potential, causing implications including uneven flood irrigation into the future.

Water Quality (temperature and turbidity) - Flowing water appears to provide more oxygen (a more aerobic condition for the pasture) and is often at a lower temperature than stagnant or slow moving water. Stagnant or slow moving water can rapidly heat-up in the summer, particularly if it is shallow, with scalding and rapid decay of the pasture resulting.

Pastures that have cool, highly turbid and constantly flowing water covering them for 10 days will often make a better recovery than pastures with stagnant, warm, low turbidity water covering them for only half this time.

Water Depth - Generally, the deeper the water over the pasture, the slower the flow rate and longer period of inundation. This means a greater chance of silt and mud deposition leading to a slower pasture recovery.

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Key points to consider:

When flood waters have receded, assess the damage and work with trusted advisors to develop a practical plan for recovery. This may include the following six steps:

1. Assess damage to infrastructure including irrigation, drainage, fencing and access. Prioritise areas for immediate action, and list those requiring attention in the future. NOTE: Rural Finance has a \$25,000 Clean up and Restoration Grant available to flood affected businesses. Your local Council can link you with volunteers to assist with fencing and other on-farm works.
2. Determine if the floodwaters have affected the soil structure, fertility or health of your land. Any issues can significantly impact on germination and future growth. This will have a bearing on what and when you will sow.
3. Assess the survival and health of flood affected pastures and crops. Whilst some growth in the coming months will provide useful feed, a long term approach will need to be considered when assessing the paddocks. Thin pastures will allow weeds to invade and the seed bank of desirable species will have been reduced.
4. Refresh productive paddocks ready for grazing by topping to remove any rank growth and/or sediment to improve palatability. A fresh application of fertiliser may be warranted to replace leached nutrients (especially nitrogen and sulphur).
5. Using all of the above information, work with a trusted advisor to develop an appropriate forage plan for your farm. There are a range of options on offer so make sure you consider your whole farm system so your feeding doesn't get out of balance or too costly in the future.
6. Once you have a plan, paddocks can be prepared for reestablishment by removing any trash, controlling weeds and preparing a suitable seedbed.

Get everything ready and put a plan in place so when temperatures have cooled enough in early autumn, re-sowing can begin. Focus on getting the better areas up and going first as some more affected paddocks may take a while to get back into production.