



Fact Sheet 6:

Managing Storage Levels

Key messages

In summary:

- Plenty of storage means more management flexibility and better pasture responses,
- Minimise effluent volumes,
- Keep the pond low,
- Never allow effluent to enter a waterway, and
- Increase storage to avoid winter and spring irrigation.

Effluent storage ponds offer flexibility, allowing farmers to store effluent when paddocks don't need any more water and plants can't use the nutrients that would be applied. However, a full pond has no storage capacity and can become a liability if there is wet weather on the way.

- Ideally, there should be enough effluent storage to cope with all of the effluent generated during the months when rainfall is greater than evapotranspiration. Aim to have the pond empty by the middle or end of autumn depending on your annual rainfall distribution, and expect that it will be getting near full towards the middle of spring during a wet year. Some farmers like to build larger storage ponds to get them through the entire non-irrigation period, and other very busy times of the year. The smaller the pond's storage capacity, the more frequently it must be managed.
- Keep the pond low, by reducing any unnecessary water entering the pond from leaks and water wastage. Do a water audit to identify any potential water savings. Recycling effluent water for flood washing feed pads, and using rubber scrapers are ways of reducing the amount of effluent entering the pond.



- Irrigate from the pond any day when soil conditions are suitable, especially if you are still in the storage period and the pond is getting full. Spreading ‘small amounts and often’ will also help to ‘keep the pond low’. (See box below for more information)
- If irrigating small amounts often is not looking like it will prevent the pond from overflowing, it is still better to spread it in the paddock as lightly as possible, than let the pond overflow. Choose the most freely draining paddocks available or those furthest from waterways. It is illegal to allow effluent to enter a waterway.
- Managing pond levels through winter and spring is hard work as it’s muddy and cold, and won’t provide the best agronomic return from the nutrients in the effluent. As soon as conditions allow, consider ways of increasing your storage capacity to avoid this situation.

The best approach is to keep the pond level low, and get ready to go when conditions are right to apply effluent.



Know your soil moisture ‘trigger’ point and draw down some effluent whenever conditions are suitable – the ‘small amounts and often’ approach. Your trigger to apply effluent is when the root zone depletion is larger than the minimum application depth of your effluent irrigator. With soil moisture levels close to field capacity, it is reasonable to use daily evapotranspiration data to track your root zone depletion (www.bom.gov.au/watl/eto/). For example, if the minimum application depth for your irrigator is 10mm, that’s your trigger point and in the following table, you should be able to apply effluent without run-off on the 4th day after rain.

| Days after rain | Rain (mm) | Evapotranspiration ETo (mm) | Crop Evapotranspiration* ETc (mm) | Root Zone Depletion (mm) |
|-----------------|-----------|-----------------------------|-----------------------------------|--------------------------|
| 0 | 18 | 1.6 | 1.7 | 0 (field capacity) |
| 1 | 0 | 3.2 | 3.4 | 3.4 |
| 2 | 0 | 2.5 | 2.6 | 6.0 |
| 3 | 0 | 3 | 3.1 | 9.1 |
| 4 | 0 | 3.3 | 3.5 | 12.6 |

*ETc = ETo x Kc (using a crop factor Kc = 1.05 for rye grass)

References:

[View Managing effluent storage levels on dairy farms video](#)

Further information:

Dairy Australia’s Farm Productivity & Delivery Team
 Level 5, IBM Centre, 60 City Road
 Southbank Victoria 3006 Australia
 T + 61 3 9694 3777 F + 61 3 9694 3833
 E cphelps@dairyaustralia.com.au
www.dairyaustralia.com.au