

## FLOOD FACTSHEET

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### Preparation

Every goat owner needs a shelter in place and an evacuation plan. These plans need to be written down and practiced. Practice is your chance to get accurate times for things such as loading trailers or grabbing feed and animal health supplies (which may need to be in a chiller bag with cold freezer bricks). Ideally all goats should be identifiable by ear tag, tattoo, microchip (if allowed under legislation). You also need a secondary identification such as a luggage label for their collars ready to attach or for large goats your name and mobile number sprayed onto their sides. Also have a file of relevant goat information e.g. your PIC number, blood tests, certificates, ready to easily find and take with you.

If the higher area your goats have been moved into does not have enough shelter, consider adding petroleum jelly or paraffin oil to their backlines to try and prevent the bacterial infection, dermatophilosis, also called rain rot. Unlike sheep and cattle, goats do not have lanolin on their coats, so rain does not run off their coats as easily. Goats are also easily chilled especially if transported in open trucks or trailers. A goat's normal body temperature is 39.5 plus or minus 0.5 degrees C. Smaller goats are more susceptible to cold stress. Affected cold goats need to be warmed and encouraged to eat. In an emergency, goats can be placed in plastic garbage bags as makeshift rugs.

If you get enough notice that the flood is coming, put all hay onto wooden pallets and as high as possible. Don't put plastic directly over hay bales as it will make it sweat and more likely to grow moulds. Instead put some timber over the hay then the plastic or use sheets of roofing iron. Make sure the grain bags or contents are inside water proof drums and will stay dry.

### During the Flood

Calmly implement the relevant plan. Goats, like all ruminants, can swim as they have a large gas filled rumen inside their abdomen that acts as a floatation device. If goats have been in flood water hose them down with clean water as flood waters are contaminated with chemicals and sewage. If not enough water, at least wash down the udders of doe raising kids or in milk.

Goats will need around 1.5% to 2% of their body weight in hay spread over the day. If you don't have enough hay supplement with edible shrubs and branches. The roughage will help to keep them warm as well as they fill the rumen and generate heat as the rumen microbes break them down.

### After the flood

Examine all your goats all over especially for cuts and abrasions and don't forget to check the eyes. Wash the goats or the legs if only walked through flood water, unless already done so. Check your fences for breaks and also for any erosion that may allow goats to squeeze underneath. Remove any sharp debris from pastures. You can sprinkle hydrated lime over pastures and yards to kill bacteria brought in by flood water contaminated by sewage. Ideally leave pastures a week before grazing.

Also look at the goats' feed including hay. Hopefully the hay was well off the ground. If some hay bales are wet then pull them out and use as mulch for your garden. Removing wet bales early will stop mould spreading to the bales that were dry. Check all feeders to remove wet feed and scrub any plastic feeders with freshly made diluted bleach solution (1 teaspoon per 250mls or use this calculator <https://www.health.vic.gov.au/infectious-diseases/chlorine-dilutions-calculator> ) and leave on for 10 minutes then rinse off. Check for any dead animals like mice or birds in the feed stores and remove any carcasses as they can cause botulism. Take care as snakes may be sheltering from floods in goats sheds and paddocks.

Any mouldy feed must be removed  
and disposed of carefully.  
  
If in doubt, through it out.

Don't let goats graze pastures that were covered with flood water as they will be contaminated. Sewage can contain bacteria such as *Salmonella spp* and *E. coli* and parasites such as Giardia. Wait until they have been rinsed clean by a heavy shower. Fortunately goats eat grasses from the top down so less likely to eat at ground level. If pasture are very lush then make sure they have been vaccinated for enterotoxaemia within the last 6 months. Sewage can also affect water supplies, either piped or dams, so goats should be checked to ensure they are actually drinking the water provided and are not dehydrated. The eyes of dehydrated goats sink back down inside the goats' skull as the cushions that the eyeballs sit on shrink as it loses water.

Vaccination with Glanvac 3 also protects against tetanus as well. In 2 weeks inspect your pastures for any weeds or poisonous plants and pull or spray them out. Pastures that are rapidly growing can be low in minerals and high in water content. This may mean that the goats may suffer from conditions such as grass tetany or "big head" (calcium deficiency with resultant weak facial bones with soft tissue swelling). Goats will appreciate some besser blocks to stand on and this will help with their hooves. Trim hooves when soft and look for any injuries or infections. Zinc sulphate foot baths (10%) or Betadine or similar iodine preparation for small localized injuries can help with goats' feet.

Worms will be an issue in the weeks following the flood. Goats will need to be closely watched for the key signs of worms i.e.

- Loss of condition
- Poor dull coat
- Scouring or clumped faecal pellets
- Pale mucous membranes
- Bottle- jaw

Ideally more faecal samples should be sent for worm egg counts and this should start 3 weeks after the flood. Stressed animals would be more susceptible to worms than goats under normal situations.

### Conditions due to floods that may need vet attentions

Condition	Clinical signs	First aid
Cuts and abrasions due to branches or fencing wire hidden under water	Generally obvious. However check all over and the hooves.	Clean, bandage and see vet. Tetanus antitoxin and Glanvac 3.
Skin infections e.g. dermatophilosis (called rain rot in horses)	Hair loss, hard scabs which when removed leave red raw areas. Backline and feet likely sites	Spray with 10% Betadine® and leave for 10 minutes then rinse. See vet for antibiotics or special shampoos
Fly strike	While flystrike normally only affects sheep, goats with long coats or Angoras can become fly stuck. Observe carefully for maggots. Affected areas smell and often have flies over them.	Fly strike treatment for sheep applied to the area as prescribed by your vet.
Tetanus	Still upright tail, third eyelid partly across the eye.	Vet treatment as early as possible. Poor prognosis
Botulism – associated with wet feed, rotting pastures & dead animals	Nervous signs, sudden death	Vet treatment as early as possible. Poor prognosis
Melioidosis	In tropical & sub-tropical areas. Variable e.g. nervous signs, lameness, coughing, sudden death with internal abscesses. Your local vet will know if the area is likely to be affected.	None. Zoonotic. Blood test are available to confirm a diagnosis.
Leptospirosis	Rare in goats. Can have abortions or red urine.	Vet to treat with antibiotics and also to identify the species so the correct vaccine can be used.
Aflatoxins from mouldy feed	Loss of appetite, depressed, yellow mucous membranes (jaundice)	Keep in the shade. Vet treatment
Listeriosis	Nervous signs, neck to one side and can't straighten, tongue to 1 side, facial paralysis. See <a href="https://www.youtube.com/shorts/OKSISyO4ciY">https://www.youtube.com/shorts/OKSISyO4ciY</a>	Immediate vet attention with a long course of antibiotics ideally intravenously
Mosquitoes in weeks following the flood	Goats irritated and distressed. Mosquitoes, sand-flies and insects can spread viral diseases. Akabane virus can cause deformed kids if the pregnant doe is not already immune. Check goats at night to see how bad the mosquitoes are.	Use rugs and insect repellents registered for horses can be prescribed by a vet.
Johne's disease – Flood water can deposit manure from dairy farms up stream that could have Johne's disease bacteria	Johne's disease can may take years to show up. Wasting	None. Hopefully annual tests will pick up any case very early, so it can be confirmed then culled to protect the rest of the herd.



Dermatophilosis on a goat's backline after severe wet weather.



Jaundice showing in a goat's eye mucous membranes due to fungal toxins in feed

## Further Reading

Bringing animals home after a natural disaster

- [https://www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/rural-disaster-recovery/disaster-recovery-livestock/animal-welfare/animals-home?fbclid=IwAR37scpRqfUCevqKATiSHjTIEV\\_j9Gm-2HVA3Lfe68UVGIP\\_5GFNgdZ3H0g](https://www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/rural-disaster-recovery/disaster-recovery-livestock/animal-welfare/animals-home?fbclid=IwAR37scpRqfUCevqKATiSHjTIEV_j9Gm-2HVA3Lfe68UVGIP_5GFNgdZ3H0g)

Looking after yourself after a flood

- <https://www.qld.gov.au/community/disasters-emergencies/disasters/phys-health-wellbeing>