

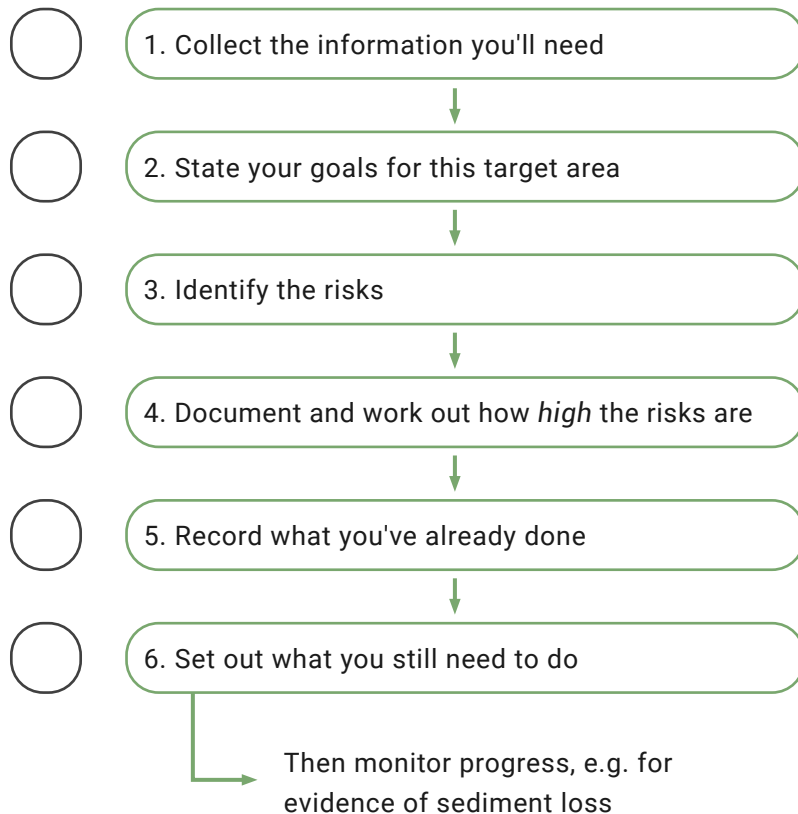
ACTION PLAN: WINTER FORAGE CROPS



01 What information will I need?

- The risk map you created as part of the Risk Assessment unit
- Farm map showing this year's crops and pasture renewal
- Blank farm map
- Local council rules restricting intensive winter grazing (e.g. requirements for a consent)

Tick these off as you go



There's a template to fill these in at the end of the document



02 Goals

Start by setting simple overall goals for winter forage cropping. **Here are some examples:**

My goals for winter forage cropping are:

1. *I want to reduce soil damage in crop paddocks*

2. *I want to reduce sediment loss from my forage crop paddocks.*

3. *I want to reduce the area put into forage crops each year and use more all-grass wintering*



Go to the template at the end of this document to fill in your goals and the other parts of your Action Plan.



03 What are the risks from winter forage crops?



DID YOU KNOW...

Winter forage crop risks
.....

Forage crops grazed in winter are a risk for:

- bacterial contamination
- phosphorus and sediment loss
- nitrogen leaching
- animal welfare

Winter forage crop risks
cont.

The risk is made higher by:

- wet and cold weather
- cultivation (bare soil)
- high stocking rates
- lack of vegetation cover on grazed areas.

Winter grazing on forage crops causes damage and nutrient losses by:

- concentrating deposits of dung and urine that can run off into waterways
- leading to pugging and higher runoff, especially with heavy stock (stags, etc.) on vulnerable soils
- increasing flow of nutrients and bacteria into waterways via mole and tile drains or novalflow
- reduced nutrient uptake by plants in cooler regions leading to increased nitrogen leaching.





04 How high are the risks from winter forage crops?

Record the risks from winter forage crops. **We've started with some examples below.** Tailor this to your situation using the template at the end. See the "Risk Assessment" module for how to assess level of risk:

| Activity/location examples | Risk assessment | Comment (make a note of anything specific to your place) |
|--|-----------------|--|
| <i>Pugging and soil damage</i> | ○ ○ ● | <i>Applies in heavier soil areas only</i> |
| <i>Sediment loss from crop paddocks</i> | ○ ● ○ | <i>Not so bad in low-slope paddocks.</i> |
| <i>Nutrient runoff (nitrogen, phosphorus) and E. coli runoff into surface or subsurface drains, creeks</i> | ○ ○ ● | <i>Wet winters normal here so high likelihood of runoff</i> |
| <i>Soil damage and runoff around water troughs and gateways</i> | ○ ● ○ | <i>Bottom gate is the worst where they are regularly running through</i> |



HANDY HINTS

Risk from forage crops can be managed by:
.....

- careful selection of paddocks for winter crops
- avoiding waterways, steep slopes and vulnerable soils
- avoiding use of paddocks that are heavily covered in sub-surface drains or building sediment traps to capture flow from the tiles drains before it enters the creek (where practical to do so)
- keeping critical source areas (typically swales and gullies) in grass and not in crop to act as a buffer to slow runoff to waterways
- avoiding back fencing and giving reasonably generous breaks of a week or more (council rules about back fencing vary, so check local conditions)
- careful placement of troughs and bale feeders to avoid soil damage
- giving stock a new break in wet conditions.





Consent
.....

Check whether winter forage crops will need a consent in your area.



DID YOU KNOW

NZFAP+ and
crops
.....

Are you aiming for New Zealand Farm Assurance Plan Plus (NZFAP+) accreditation? [Check their standards here](#). The work you're doing for the Deer Farmers' Environmental Manual on forage crops will get you well on the way to accreditation.



HANDY HINTS

Making a plan
.....

Create a winter plan that lists the good forage crop practices you will do. Include this in your farm plan. This will include strategic grazing, adverse weather event planning, animal health and a plan for cultivation (or direct drilling) in spring. Do this 12 months in advance to fit in with longer-term strategies for feeding systems, pasture renewal and environmental mitigation work (e.g. development of sediment traps, subdivision).

Consider the following when you're doing your plan:

- Select paddocks (or parts of paddocks) carefully, e.g. not too steep, preferably on free-draining soils and away from waterways. Do this the previous year and link the choices with your pasture renewal programme.
- Include a wide grass buffer strip at the bottom of the slope.



*A generous grass buffer between the crop at the bottom of the slope and the ephemeral waterway.
Photo: Nicola McGrouther*

- Carefully manage stock around waterways, drains and critical source areas.
- Have dry stand-off areas that are not prone to pugging available where supplementary feed (e.g. baleage) and troughs can be placed.

Making a plan cont.

- If using fodder beet consider lifting it and taking it to deer in a low-risk paddock to help reduce the risk of pugging and soil damage/loss.
- Check paddocks regularly.
- Have a contingency plan for shifting stock if there is pugging damage or significant bad weather is coming. For example, take stock off the crop and move to a pine block as a “living barn” until weather improves. If stock are staying on the crop, giving them a new break during wet conditions is a good option to give them somewhere dryer to sit. You might keep a sheltered part of the paddock for those winter storms.
- Build sediment traps downslope from crop paddocks to reduce flows and phosphorus loss, and let sediment settle out. These are ideally built in swales, before the runoff gets to creeks.



Sediment trap at the bottom of a swale.



Sediment trap below a crop paddock.

Making a plan cont.

- Have straw bales available as an emergency measure to reduce overland flows and catch sediment.



- Consider wintering barns to help eliminate stock damage to paddocks with vulnerable soils for 8–12 weeks over cold, wet winters.



- Plant catch crops to mop up excess nutrients.
- After winter, get crops back into the ground as soon as conditions allow (check any rules affecting timing). Also improve compacted paddocks and sacrifice paddocks.



05 Actions on risks from winter forage crops

Write down (a) what you've already done to reduce risks from forage cropping and then (b) what you have got planned. Link these back to your goals and risk assessment (above). Include timing and who's responsible. **Here are some examples.** Record your own completed actions and planned actions in the template at the end.

| Goal | Risk identified | Risk level | Action | Measure and monitor | Date initiated | Who |
|------------------|--|------------|---|--|------------------|----------------|
| Soils management | Excessive phosphorus and sediment loss from crops | ○ ○ ● | Avoid planting crop and grazing gullies and swales Use straw bales in low areas to slow run off Maintain at least 5m between the crop and the waterway (check my local regulations for distance required) | Visual inspection: low areas protected with straw bales | Underway/ongoing | Me, farm staff |
| | Excessive nitrogen loss from crops | ○ ○ ● | Plant catch crops once the winter crop is finished, to mop up excess nutrients before replanting in late spring/early summer | Visual inspection: Catch crop growing after main crop defoliated | Underway/ongoing | Me, farm staff |
| | Soil damage; excessive phosphorus & sediment loss from crops in really wet weather | ○ ● ○ | Wet weather back up plan: take stock off the crop and move to the centre pines block as "living barn" until weather improves | Visual inspection: Stock not on crops during really wet or muddy periods | Underway/ongoing | Me, farm staff |



HANDY HINTS

Animal welfare considerations

The Winter Grazing Action Group guidelines provide guidance for farmers for all stock – sheep, beef, dairy or deer – on managing animal welfare in winter. The seven outcomes expected of farmers are:

1. We ensure our animals give birth in the right environment
2. We are prepared for all weather conditions
3. Our animals can easily access acceptable drinking water
4. We plan for successful winter feeding
5. Our animals can lie down comfortably
6. We work together to provide care to our animals during winter
7. We find opportunities to improve



FOR FURTHER INFORMATION

Deer Industry Environmental Code of Practice: [Pages 33–34](#)

Deer Fact: [Intensive winter feeding](#)

Deer Fact: [Fodder crops for winter feed](#)

Winter grazing plan templates:

- **MPI winter grazing plan:** www.mpi.govt.nz/dmsdocument/44863-20212022-Intensive-Winter-Grazing-Module-Template
- **Beef and Lamb forage cropping:** beeflambnz.com/farmplan (scroll down to Chapter 6: Forage cropping templates)

TEMPLATE: WINTER FORAGE CROPS

Fill out your Action Plan for Winter Forage Crops here.



02 Goals

My goals for Winter Forage Crops are:



03 How high are the risks from Winter Forage Crops?

See the "Risk Assessment" module for how to assess level of risk:

| Activity/location | Risk assessment (low/medium/high) | Comment (make a note of anything specific to your place) |
|-------------------|--------------------------------------|--|
| | ○ ○ ○ | |
| | ○ ○ ○ | |
| | ○ ○ ○ | |
| | ○ ○ ○ | |
| | ○ ○ ○ | |
| | ○ ○ ○ | |
| | ○ ○ ○ | |
| | ○ ○ ○ | |
| | ○ ○ ○ | |

 **Actions: What I've already done to protect against nutrient and sediment losses from forage crops**

Write down what you've already done to protect against excessive sediment and nutrient losses. Link it back to your goals and risk assessment (above). Include timing and who's responsible.

| Goal | Risk identified | Risk level | Action | Measure and monitor | Date initiated | Who |
|------|-----------------|------------|--------|---------------------|----------------|-----|
| | | ○ ○ ○ | | | | |
| | | ○ ○ ○ | | | | |
| | | ○ ○ ○ | | | | |
| | | ○ ○ ○ | | | | |
| | | ○ ○ ○ | | | | |
| | | ○ ○ ○ | | | | |
| | | ○ ○ ○ | | | | |



Actions: How I will protect against nutrient and sediment losses from forage crops

Write down what you've still got planned to protect against nutrient and sediment losses from forage crops. Link it back to your goals and risk assessment (above). Include timing and who's responsible.

| Goal | Risk identified | Risk level | Action | Measure and monitor | Date initiated | Who |
|------|-----------------|------------|--------|---------------------|----------------|-----|
| | | ○ ○ ○ | | | | |
| | | ○ ○ ○ | | | | |
| | | ○ ○ ○ | | | | |
| | | ○ ○ ○ | | | | |
| | | ○ ○ ○ | | | | |
| | | ○ ○ ○ | | | | |
| | | ○ ○ ○ | | | | |

When you've completed this template, save this document onto your computer. You can amend it later if you need to.

Low

Medium

High