



## LOWLAND GRAZING FARM, Kingston Deverill sub-catchment



Hampshire Avon  
Demonstration Test Catchment

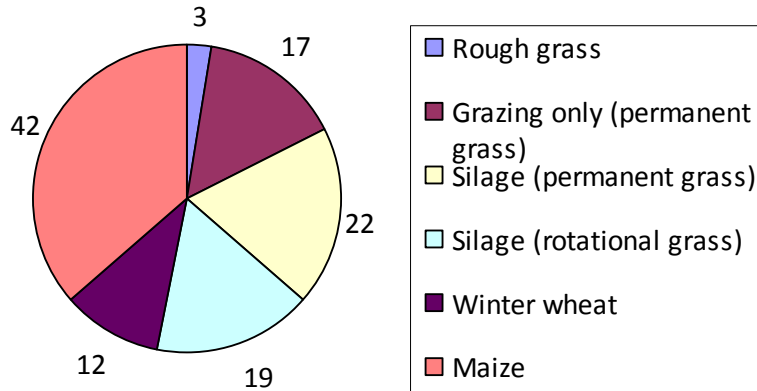
Farm size: 115 Ha  
 Business structure: Partnership  
 Diversified activities: None  
 Soil types: Greensand, chalk, brash  
 Schemes: NVZ



**Average beef herd: 43**  
**Average dairy herd: 83**



### Land use (Ha):



### Mitigation measures:



#### Land use change options:

**Present use –** None

**Future use –**

Unlikely: Convert arable land to unfertilised grass  
 Arable reversion to low fertiliser input extensive grazing  
 Grow biomass crops

Never: Establish permanent woodlands



#### Soil management options:

**Present use –**

Cultivate land for crops in spring rather than autumn  
 Adopt reduced cultivation systems  
 Cultivate and drill across slope  
 Leave autumn seedbed rough  
 Manage over-winter tramlines to reduce runoff  
 Maintain and enhance soil organic matter levels  
 Establish in-field grass buffer strips  
 Maintain field drainage systems  
 Ditch management

**Future use –**

Very likely: Loosen compacted soil layers in grassland fields  
 Establish riparian buffer strips

Likely: Establish cover crops in autumn  
 Early harvesting/establishment in autumn  
 Cultivate compacted tillage soils



### **Fertiliser management options:**

#### **Present use –**

- Use plants with improved nitrogen use efficiency
- Fertiliser spreader calibration
- Use a fertiliser recommendation system
- Integrated fertiliser and manure nutrient supply
- Do not apply fertiliser to high-risk areas
- Avoid spreading fertiliser to fields at high-risk times
- Use fertiliser placement technologies

#### **Future use –**

- Likely:** Use nitrification inhibitors
- Unlikely:** Reduce fertiliser application rates
- Replace urea fertiliser with another nitrogen form (e.g. ammonium)
- Incorporate a urease inhibitor with urea fertiliser
- Use clover in place of grass
- Do not apply P fertiliser to high P index soils



### **Livestock management options:**

#### **Present use –**

- Make use of improved genetic resources
- Reduce dietary N and P intakes
- Reduce field stocking rates when soils are wet
- Construct troughs with a firm but permeable base

#### **Future use –**

- Likely:** Reduce the length of the grazing day/grazing season
- Move feeders at regular intervals
- Improved feed characterisation (nutrition)
- Unlikely:** Adopt phase feeding of livestock
- Extend the grazing season for cattle
- Use of hormones and increased milking frequency
- Modification of rumen microbial fermentation (ionophores)
- Reduce overall stocking rates on livestock farms
- Increase scraping frequency in dairy cow cubicle housing
- Additional targeted straw-bedding for cattle housing
- Washing down of dairy cow collecting yards
- Out-wintering of cattle on woodchip stand-off pads



### **Farm infrastructure options:**

#### **Present use –**

- Fence off rivers and streams from livestock
- Construct bridges for livestock crossing
- Re-site gateways away from high-risk areas
- Farm track management

#### **Future use –**

- Unlikely:** Establish new hedges
- Establish and maintain artificial wetlands
- Irrigate crops to achieve maximum yield
- Establish tree shelter belts around livestock housing and slurry storage



**Manure management options:**

**Present use –**

- Increase capacity of slurry stores to improve timing of slurry applications
- Allow cattle slurry stores to develop a natural crust
- Minimise the volume of dirty water and slurry produced
- Use slurry injection application techniques
- Incorporate manure into the soil
- Transport manure to neighbouring farms

**Future use –**

- Likely: Install covers on slurry stores
- Unlikely: Adopt batch storage of slurry
- Use anaerobic digestion for farm manures
- Adopt field heap storage of solid manure
- Compost solid manure
- Site solid manure heaps away from watercourses/field drains
- Store solid manure heaps on concrete and collect effluent
- Cover solid manure stores with sheeting
- Use liquid/solid manure separation techniques
- Use manure additives (e.g. Alum)
- Change from a slurry to solid manure handling system
- Change from a solid manure to slurry handling system
- Manure spreader calibration
- Do not apply manure to high-risk areas
- Do not spread slurry or poultry manure at high-risk times
- Use slurry band spreading application techniques (e.g. dribble bars)
- Do not spread FYM to fields at high-risk times

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The Hampshire Avon DTC is being led by Professor Adrian Collins from ADAS. The first phase of the project runs until 31st March 2014. For further details please contact:

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If you would like to join the Hampshire Avon DTC and be part of this project, please get in touch. Your local knowledge, experience, expertise and advice will be invaluable in helping to develop the right catchment and farm management solutions for reducing pollution in the Hampshire Avon catchment.

