



# Check Sheet for Fertiliser Use

Input of nutrients as mineral fertilisers is a cornerstone for the production of high yielding, quality crops to satisfy the increasing global demand for food. However nitrogen and phosphate carry environmental concerns when lost from the soil to water and the atmosphere.

Nitrogen is lost by leaching down through the profile, or runoff the surface, to water or as gasses to the atmosphere. Phosphate is generally lost from agriculture by soil erosion to surface waters leading to eutrophication (nutrient enrichment), algal blooms and loss of biodiversity.

**Feeding crops to achieve the economic optimum return, taking into account nutrient supplies from all sources and potential crop requirements for each field, will optimize fertiliser input costs and reduce potential environmental damage**

The following questions may aid, or remind, you of management practices to help minimise the potential for losses of nutrients to the environment. Use this with the Check Sheets on manure and soil management.

**PLANNING: Do you or others on your land review your fertiliser management? In order to do this do you.....?**

		YES	NO	ACTION
A 1	Complete a Nutrient Management Plan each year for each crop for each field and update as the season progresses (NVZ requirement)? → PLANET software and Tried & Tested sheets are freely available to aid this; use with The AHDB Nutrient Management Guide (RB209) and/or consult a FACTS adviser			
A 2	Test your soils in each field every 3-5 years for P, K, Mg and pH and avoid over applications which would raise soil levels above target indices (especially for phosphate)?			
A 3	Take into account the nutrients which may be supplied from organic manures and soil supply (previous crops)?			
A 4	Calculate the N max compliance before applying any N fertiliser to a crop if in a Nitrate Vulnerable Zone (NVZ)?			
A 5	Service the fertilizer spreader and tray test (for evenness of spreading) at least annually? Calibrate the spreader or check calibration (for rate of application) in spring and whenever fertiliser product changes?			
A 6	Consider changes to the rotation, fertiliser timing and organic manures to reduce fertiliser use and nutrient losses?			
A 7	Maintain a good soil structure to optimize root growth and nutrient use? → A soil organic matter content of at least 3% on non-sandy soils (2% on sands) will help retain water and nutrients → Reduced cultivations and retention of surface trash reduces potential losses to water through runoff			
A 8	Have a map of all your fields detailing no spread areas for fertilisers, where relevant? i.e. next to watercourses, drains, boreholes, wells, springs, SSSIs? (see B8 below)			
A 9	Measure soil pH and lime requirement regularly to maximise utilisation of nutrients by crops?			
A 10	Consider efficiency improvements to reduce fertiliser need and nutrient losses? → Combination drilling, fertiliser placement or variable rate applications			
A 11	Ensure operators are properly trained in setting and using the spreader?			
A 12	If using liquid fertiliser, check the condition of tanks and pipe work annually and assess what bunding is advisable/required for storage tanks?			
A 13	Assess your fertiliser store to check suitability for materials to be stored (especially ammonium nitrate) and that relevant signs are in place? → Comply with the '5 point plan' for fertiliser storage			

The **right fertiliser**, at the **right time**, applied at the **right rate**, under the **right conditions** summarises the aims for all fertiliser applications. This will maximise fertiliser efficiency and minimise losses.

**PREPARING: Before starting any fertiliser applications will you or others managing the land...**

		YES	NO	ACTION
B 1	Assess whether field conditions are suitable for application today - do not apply if the ground is water logged or frozen			
B 2	Check that the crop is at the correct growth stage to respond?			
B 3	Choose fertiliser product(s) and application rate(s) which match crop need as closely as possible?			
B 4	Check that the proposed application is suitable for the crop condition and crop quality response desired?			
B 5	Check that the spreader is calibrated for the fertiliser to be used?			
B 6	Check the fertiliser quality to ensure accurate spreading and minimum problems during spreading?			
B 7	Avoid any spills no matter how small? → Have spillage kit ready and clear up spills of fertiliser. → NEVER wash spills into drains. → Are precautions taken to catch any liquid fertiliser drips? (e.g. a wide bucket)?			
B 8	Avoid the use of field entrance as a filling point if it is adjacent to a watercourse or any area, such as a road, track or other feature, which could channel run-off water to a watercourse?			
B 9	Identify methods of storing and recycling empty bags and containers?			
B 10	Store empty bags, prior to disposal following emptying, safely to avoid water contamination?.			

**Careful monitoring of field conditions and spread patterns will ensure that the fertiliser will reach the intended target to ensure optimum crop returns and low losses. Care during washing out of the spreader will avoid any losses of N & P to ground and surface waters**

**FIELD WORK: During and after fertiliser applications, do you or others on your land...**

		YES	NO	ACTION
C 1	Ensure <b>NO SPREADING will occur</b> if field conditions or heavy rainfall may lead to losses to drains or watercourses?			
C 2	Ensure that you DO NOT overspread on buffer zones and watercourses? Take extra care when spreading in field corners and on uneven boundaries? <b>USE BORDER DISCS, HEADLAND BOUT LIMITERS, etc and look where granules/prills reach – especially if windy?</b>			
C 3	Enter the field at the top of any slope whenever possible and be careful to avoid spilling fertiliser if going up steep field entrances, with a full hopper or bouncing along a road?			
C 4	Continuously monitor spreader height to help maintain accuracy?			
C 5	Check flow rates from hopper to ensure even application? → Blockages can occur in damp weather especially with dusty product or urea.			
C 6	Avoid spreading in windy conditions – especially if product is of lower quality?			
C 7	Consider if soil and environmental conditions will lead to increased fertiliser losses <b>e.g. solid urea on hot days with moist drying soils?</b>			
C 8	Spread headlands last to avoid driving over fertilised areas and carrying contaminated soil from fields?			
C 9	Wash the outside of the spreader before leaving the field, or on an area of growing crop, or where washings can be collected and disposed of safely to an unfertilised crop? Ensure any cleaning activities take place at least 10m away from watercourses/with no runoff to drains?			

**How good is your fertiliser management?**

Every **NO** answered has a potential cost and/or environmental consequence. Consider actions to address these areas for future fertiliser management.

**Further information and advice:**

**Agriculture and Horticulture Development Board (AHDB):**

[www.ahdb.org.uk](http://www.ahdb.org.uk)

**Agricultural Industries Confederation (AIC) - Fertiliser Industry**

Assurance Scheme: <https://www.aictradeassurance.org.uk/fias/>

**Defra - Nitrate Vulnerable Zone (NVZ) information:**

<https://www.gov.uk/guidance/nutrient-management-nitrate-vulnerable-zones>

**Environment Agency - [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)**

**FACTS** - consult a FACTS qualified adviser for nutrient management advice: [www.basis-reg.com](http://www.basis-reg.com)

**Farming Advice Service (FAS)** - cross compliance and nutrient management advice:

<https://www.gov.uk/government/groups/farming-advice-service>

**Health and Safety Executive** - storing and handling ammonium nitrate: <http://www.hse.gov.uk/agriculture/faqs.htm#c5>

**National Association of Agricultural Contractors (NAAC):** [www.naac.co.uk](http://www.naac.co.uk)

**Natural England** - [www.naturalengland.org.uk](http://www.naturalengland.org.uk)

**NCTSO** Five Point Plan to Secure your Fertiliser: [www.secureyourfertiliser.gov.uk/10points.htm](http://www.secureyourfertiliser.gov.uk/10points.htm)

Nutrient management planning software tools: **PLANET** and **MANNER NPK** [www.planet4farmers.co.uk](http://www.planet4farmers.co.uk)

**Tried & Tested** nutrient management planning tools and advice including a paper based plan: [www.nutrientmanagement.org](http://www.nutrientmanagement.org)