

Practical Use of Manures

A clear solution for farmers



Taw Catchment NVZ Newsletter

Newsletter 3.

January 2008

Welcome to the third in this series of newsletters for farmers in the Taw Catchment.

The main topic of this edition is the impact that increased fertiliser prices has had on the values of manures. Since we did our evening meetings Fertiliser prices have risen by 40%.

We discuss in this newsletter how to get the best value out of your manures and how well planned applications can save you money.

As part of this project we still have planned a series of

NVZ consultation news has not changed since the last newsletter. All responses from the consultation are still being considered with a final version of the new NVZ directive due

We hope you continue to find these newsletters useful and would continue to ask that if you have any queries you either visit the project specific web site via the Creedy site

www.creedyassociates.com

Or contact us at the office on 01363 776162

Value of Manure Continues to Rise

Recent rises in fertiliser prices means that it is now even more worthwhile to make best use of the plant nutrients in slurries and FYM for growing crops. From the end of January onwards is a very good time to spread manures because you are less likely to lose valuable nitrogen through nitrate leaching. However beware not to cause pollution during this time as there is always the risk that slurry will run off into watercourses and result in pollution, and possibly prosecution by the Environment

Common Sense Reminders to Reduce Pollution Risk

- Do not spread on frozen or waterlogged soils
- Take soil and weather conditions into account.
- Take care when spreading on sloping ground
- Do not spread on compacted soil that will not be able to absorb the extra liquid.
- Avoid spreading when heavy rain is forecast.

At the end of the day, we know that you know your farm better than anyone and will be well aware when and where it is safe to spread.



Double Check with your Farm Manure Management Plan before Spreading

Getting to Grips with Soil Indexes

Before you can plan what nutrients need to be applied to your crops first you must determine what is in the soil already.

Where P or K Index = 2 or higher, there is usually sufficient nutrient in the soil to grow the crop without additional fertiliser. Fertiliser is still applied but mainly to maintain levels of nutrient in the soil.

SNS = 0, as assumed in Example 1, is rare in practice but may occur, when soil nitrogen is very depleted following a long run of cereal crops.

Remember, it is important that, for all crops, you do not attempt to supply more than 50-60% of the nitrogen requirements from manure. This is because the nitrogen content of manure on your farm and losses of nitrogen as nitrate and ammonia may be different from those in the standard tables used in the calculations.

By timely applications of dairy cattle slurry to first cut silage and FYM to forage maize you could save an average of £56/acre - turn over to find out how...

www.defra.gov.uk/farm/environment/water/csf

The England Catchment Sensitive Farming Delivery Initiative (ECSFDI) is delivered in partnership by Natural England, the Environment Agency and Defra

How Much Cash can you Save?

Working through the “how much to apply” forms we discussed during the workshops is a good way of planning your fertiliser/manure strategy and for showing significant savings that can be made on purchased fertiliser. We have included a couple of examples in this newsletter similar to those covered during the series of evening meetings that some of you attended. Fertiliser prices have increased by about 40% since we ran these meetings so we have adjusted the figures accordingly.

EXAMPLE 1: Dairy Cow Slurry for 1st cut Silage

Here we are assuming that the soil SNS is moderate, P Index = 2 and K Index = 2-.

We are going to apply 6% dry matter (“medium soup”) dairy cow slurry spread on the surface in Spring (Feb onwards). Fertiliser prices have been calculated as follows:

Nitrogen	= 38p/unit
P ₂ O ₅	= 35p/unit
K ₂ O	= 24p/unit

Adding up the values in step 1 gives the cost of fertiliser without slurry as £63.10/ac compared with only £25.50/ac when slurry is used.

A saving of about £37/ac.

The surplus potash in step 8 can be taken into account in working out fertiliser requirements for a second cut; and save a further £9.60/ac.

	N	P ₂ O ₅	K ₂ O
1. Crop fertiliser recommendations (units/ac)	96	32	64
Cost (£)	36.50	11.20	15.40
2. TOTAL nutrient content of slurry (units/1000 gallons)	27.0	11.0	29.0
3. AVAILABILITY of nutrients (% of total)	35	50	90
4. AVAILABLE nutrient content of slurry (units/1000 gallons)	9.5	5.5	26.1
5. SPREADING RATE (gallons per acre)	4,000	4,000	4,000
6. AVAILABLE nutrients applied (units/ac)	38	22	104
7. Bag fertiliser required (units/ac)	58	10	0
Cost (£)	22.00	3.50	0.00
8. Surplus nutrients (units/ac)	0	0	40

What Difference Does Application Method Make?

In Example 1 we assumed slurry was applied by a splash plate to the surface of the grass. Can the value of your manure be increased by different methods of application such as injection or incorporation? The following table takes the same application of slurry but shows that if it were injected instead of surface applied you could save an additional £8 in fertiliser costs.

Application Method	Units of Available Nutrient Applied per acre			Value of Nutrients Per acre			Total Value of slurry / acre
	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	
Surface Applied	38	22	104	14.44	7.70	24.96	£ 47.10
Trailing Shoe	52	22	104	19.76	7.70	24.96	52.42
Deep Injection	59	22	104	22.42	7.70	24.96	55.08
Ploughed in within 2 hrs	57	22	104	21.66	7.70	24.96	54.32
Ploughed in a week later	38	22	104	14.44	7.70	24.96	47.10

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EXAMPLE 2: Farm Yard Manure for Forage Maize

Here we are assuming that FYM is applied to the field at 15T/acre and ploughed in the same day. This as shown in the application method table increases the amount of nitrogen captured by reducing nitrogen losses as ammonia gas. Here we have assumed SNS = 0 and P & K indices = 1.

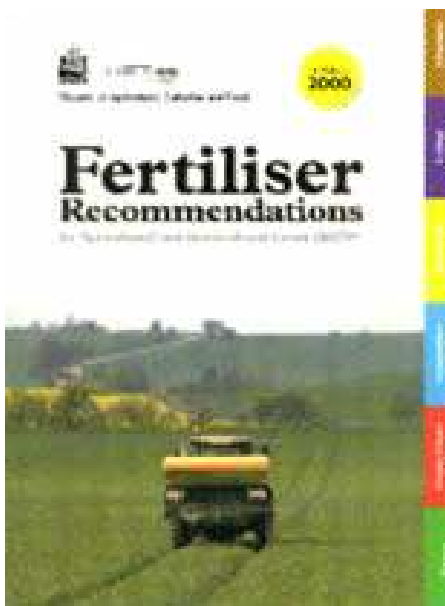
Step 1 works out that the total cost of bagged fertiliser without FYM is £99.70/ac compared with only £24.60/ac with manure.

A saving of about £75/acre

As we mentioned SNS =) is rare so in more typical circumstances fertiliser recommendations for maize would, therefore be lower than in this example.

	N	P ₂ O ₅	K ₂ O
1. Crop fertiliser recommendations (units/ac)	96	68	164
Cost (£)	36.5	23.8	39.4
2. TOTAL nutrient content of FYM (units/ton)	12.0	7.0	16.0
3. AVAILABILITY of nutrients (% of total)	20	60	90
4. AVAILABLE nutrient content of FYM (units/ton)	2.4	4.2	14.4
5. SPREADING RATE (ton/ac)	15		
6. AVAILABLE nutrients applied (units/ac)	36	63	216
7. Bag fertiliser required (units/ac)	60	5	0
Cost (£)	22.8	1.8	0

Further Considerations.....



The figures in both examples will be different for different crop fertilisers, which in turn will differ with different SNS and P & K indices. If unsure refer to “RB209 Fertiliser Recommendations for Agricultural and Horticultural Crops” or ask your agronomist / consultant.

In Example 1 where P Index = 2 it would be reasonable to use “total” rather than “available” slurry phosphate content to work out how much was supplied by the slurry as..... Therefore at step 6 there would have been 44 units / acre P₂O₅ from the slurry instead of 22 so no need to apply any bag fertiliser.

If unsure - look it up in “RB209”