Managing Cattle Slurry Efficiently

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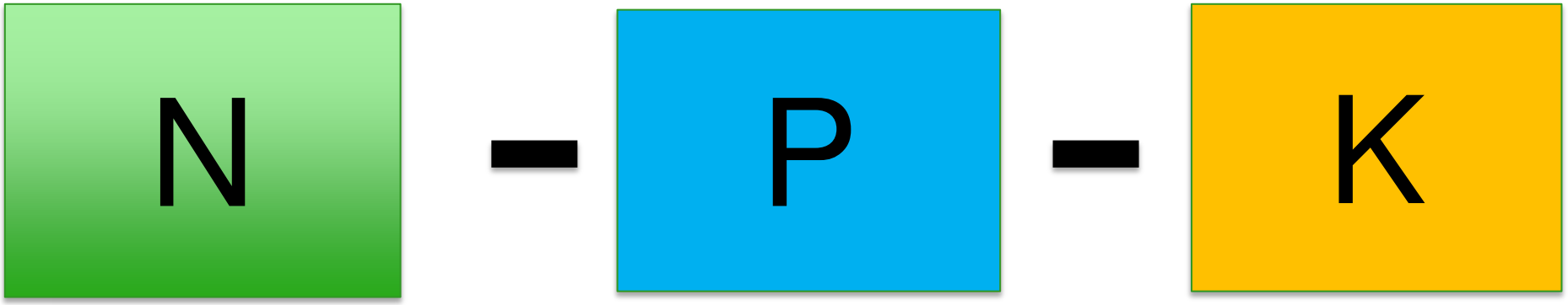
Utilising Major Cattle Slurry Nutrients



Organic fertilisers generated on farms can effectively replace a proportion of chemical fertilisers

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Fertiliser Replacement Values

Available Nutrient Values

Nutrient	kg/m³	*units/ 1,000gals*
N	**1.0**	*9*
P	**0.5**	*5*
K	**3.5**	*32*
DM%	**6.3**	*6.3*

Factors to Consider

- ✓Slurry dilution with water?
- ✓Slurry DM$ - *10 fold variation*
- ✓Testing slurry nutrient levels

$DM, dry matter %

Slurry Dilution vs. N-P-K Value

The effect of slurry DM on the N, P & K Values of cattle slurry			
DM %	**N kg/m³** *(units/1,000 gals)*	**P kg/m³** *(units/1,000 gals)*	**K kg/m³** *(units/1,000 gals)*
2	0.4 *(4)*	0.21 *(2)*	1.4 *(13)*
4	0.7 *(6)*	0.35 *(3)*	2.3 *(21)*
6	1.0 *(9)*	0.5 *(5)*	3.5 *(32)*
7	1.1 *(10)*	0.6 *(6)*	4.0 (36)

Example: Cattle Slurry @ 33m³/ha - First Cut Grass Silage			
Nutrients	**Crop Req. (kg/ha)**	**Nutrients applied**	
		4% DM Slurry	**7% DM Slurry**
P	20	12 (-40%)	20
K	125	76 (-50%)	120 (-4%)

Nitrogen (N) in slurry

Organic N

- 50% Organic N
- Not immediately plant available
- Becomes available over time through N mineralization in the soil

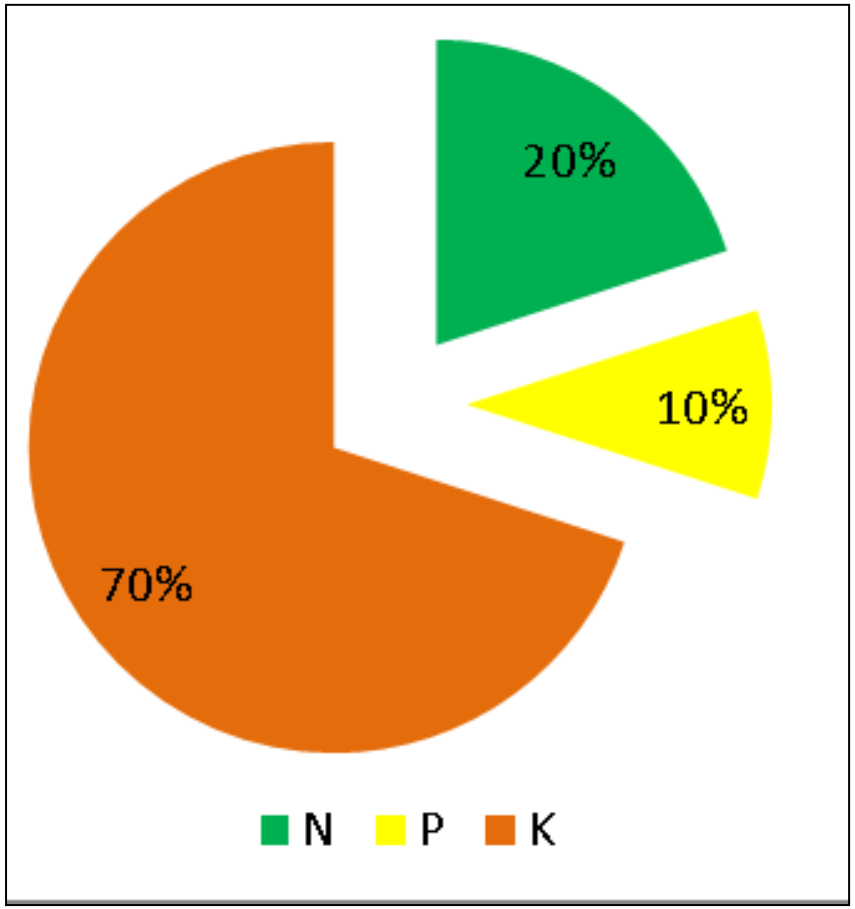
Mineral N

- 50% Ammonium N
- Plant Available N in season of application
- Risk of loss depends on:
  - Timing of application
  - Weather conditions
  - Application Method
- N recovery 15 to 40%

Where should I spread slurry?

Where can I best maximise the value of slurry nutrients?

Nutrient Profile



Crop P & K Needs

- Soil Analysis
- Fertiliser Plan
- Crops
  - Grass Silage
  - Slurry - Balanced Fertiliser
  - Adjust slurry application rate based on slurry DM

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Reducing slurry N losses

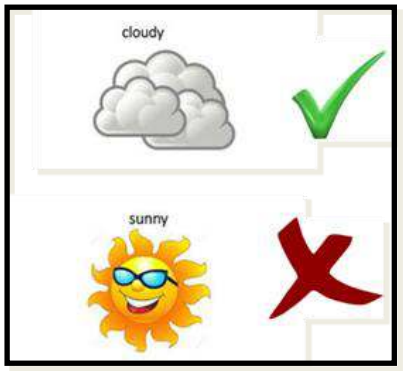
Best practice for reducing ammonia-N volatilisation loss

Timing of App.

- Application in Spring
- High crop N demand
- Maximise N recovery
- Aim to have 75% slurry applied by end of April

Weather

- Apply slurry during
  - Cool, damp, overcast or even misty conditions
- Avoid slurry application
  - Warm, dry, sunny weather



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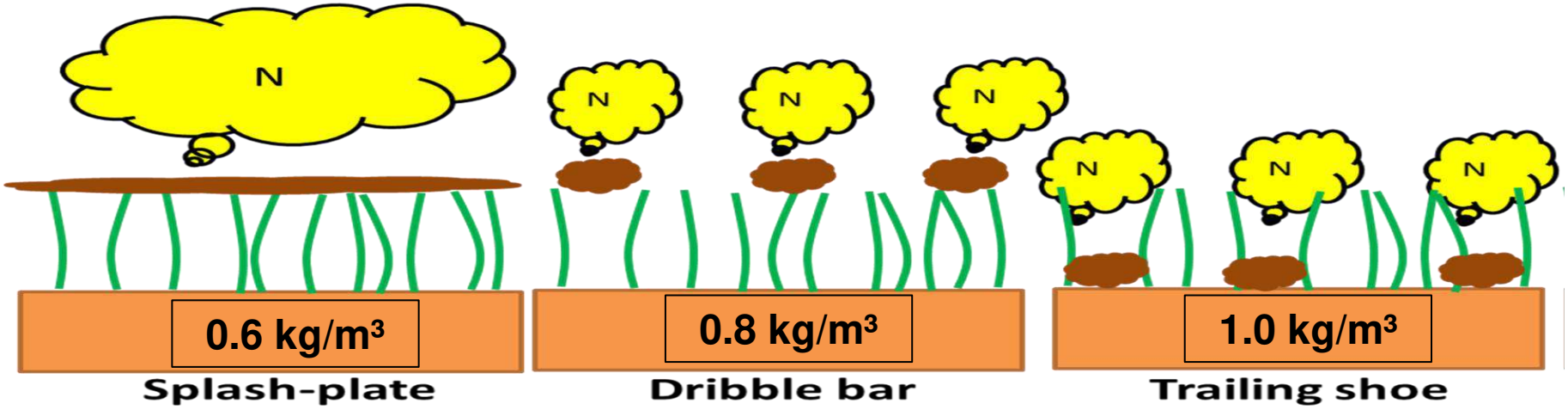
Reducing slurry N losses

N value with different slurry application methods



Dribbler Bar / Trailing Shoe Benefits

- Less grass contamination / More precise app. of nutrients
- Increased Flexibility -Spread on higher grass covers
- Wider window of application / better soil condition

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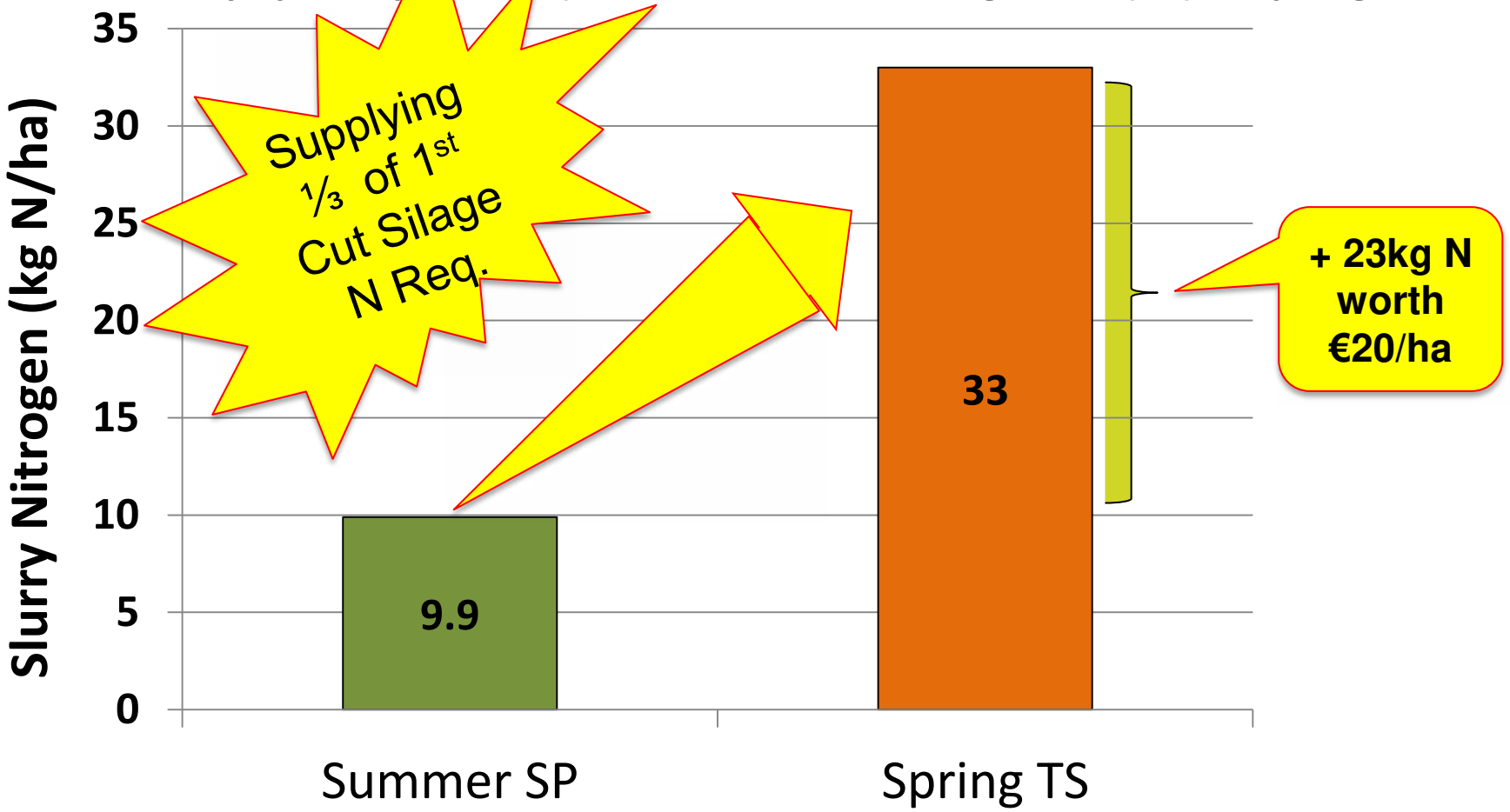
Fertiliser replacement value?

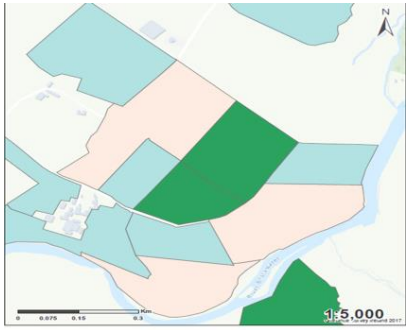
Maximising the value of slurry N

Cattle slurry applied at 33 m³/ha

by splash-plate (SP) in summer vs. trailing shoe (TS) in spring



Planning Slurry Applications

Where ?	When ?	How ?	Rate?
 • Crop P & K requirements • Target fields with highest nutrient need 	• Spring better than summer • Cool, Damp Conditions   	• Use LESS application method  	 • Adjust slurry application rates based on DM%