

KINGSHAY FERTILISER WORKSHEET FOR 1ST CUT SILAGE – acres and units

STEP 1 - CROP REQUIREMENT – Enter the total nutrients required in Box A depending of the type of grass ley.

Crop type	Crop Requirement (units per acre)		
	N	P	K
Italian Ryegrass	120	40	70
Perennial Ryegrass	96	32	56
Permanent Pasture	90	32	56

Box A

Crop type	Crop Requirement (units per acre)		
	N	P	K
<i>eg Hill Field - PRG ley</i>	96	32	56

STEP 2 - NUTRIENTS available FROM MANURES

Estimate the amount of manures (FYM and slurry) applied and calculate the nutrients available to the crop.

COW SLURRY Jan - Feb applied	DM%	Units per 1000 gallons		
		N	P	K
Undiluted	10%	7	9	41
Diluted	6%	9	5	29
Oct - Dec applied (on sandy/shallow soils, halve the N)				
Undiluted	10%	5	9	41
Diluted	6%	4	5	29

- Write the total amount used per acre in **Box B**
- Multiply the "amount" applied, by the "nutrients available"
- Typically **only half of the N will be available for first cut*** and the remainder will be available for second cut.

Box B

FYM Winter Applied	DM%	Units per 10 tonnes		
		N	P	K
	25%	12	42	144

Manures (per acre)			
Amount	N*	P	K
<i>eg 2000 galls of dilute slurry applied Feb</i>	9	10	58
Total NPK from Manures			

STEP 3 – NUTRIENTS FROM THE SOIL – adjust for natural soil fertility.

Nitrogen N	Phosphate & Potash		
	Index	P	K
Low Fertility: increase by 24units	0	Add 40 units	Add 56 units
Medium Fertility: no reduction	1	Add 20 units	Add 32 units
	2	no adjustment	no adjustment
High fertility: no reduction	3	reduce 16 units	reduce 32 units
	4	No P required	No K required

Soil Analysis	P index	K index

- Use your knowledge of field fertility for the N
- Use soil analysis for available P and K

Box C

Soil Supply		
N	P	K
<i>eg Medium N fertility PK soil index 2, 1</i>	0	32
Total NPK from Soil		

STEP 4 – TOTAL FERTILISER REQUIRED

Example Fertiliser requirements (from Box A) Less nutrients from Manures (Box B) Plus adjustment for soil supply (Box C) Net Fertiliser Required	Nutrients Required		
	N	P	K
	96	32	56
	9	10	58
	0	0	32
	87	22	30

Your Field Fertiliser requirements (from Box A) Less nutrient from manures (Box B) Plus adjustment for soil supply (Box C) Net fertiliser required	Nutrients Required		
	N	P	K

STEP 5 – FERTILISER PROGRAMME

- Match up the nutrients required with the fertiliser products you have in stock or can buy in.

*First Application
Top dress*

Typical Fertilisers used for 1st cut

High N	Urea 46N	AN 34.5N	27:5:5
Med N	25:0:16	25:4:13	22:8:14
	21:8:11	20:14:14	20:10:10
Low N	17:17:17	15:15:20	12:15:20

Product	Rate			Fertilisers		
N	P	K	kg / acre	N	P	K
21	8	11	125	52.5	20	27.5
34.5	0	0	50	34.5	0	0
Total nutrients supplied				87	20	27.5

example total nutrients supplied

KINGSHAY FERTILISER WORKSHEET FOR 1ST CUT SILAGE – hectares and Kg

STEP 1 - CROP REQUIREMENT – Enter the total nutrients required in Box A depending of the type of grass ley.

Crop type	Crop Requirement (Kg's per Ha)		
	N	P	K
Italian Ryegrass	150	50	88
Perennial Ryegrass	120	40	70
Permanent Pasture	113	40	70

Box A

Crop type	Crop Requirement (Kg's per Ha)		
	N	P	K
<i>eg Hill Field - PRG ley</i>	120	40	70

STEP 2 - NUTRIENTS available FROM MANURES

Estimate the amount of manures (FYM and slurry) applied and calculate the nutrients available to the crop.

COW SLURRY		Kg's per 1000 gallons		
Spring Applied	DM%	N	P	K
Undiluted	10%	4	5	21
Diluted	6%	5	3	15

- Write the total amount used per acre in **Box B**
- Multiply the "amount" applied, by the "nutrients available"
- Typically **only half of the N will be available for first cut*** and the remainder will be available for second cut.

Box B

Winter Applied		(on sandy/shallow soils, halve the N)		
Undiluted	10%	3	5	21
Diluted	6%	2	3	15

Manures (per hectare)			
Amount	N*	P	K
<i>eg 5000 gallons of dilute slurry applied Jan</i>	13	15	75
Total NPK from Manures			

FYM		Kg's per 10 tonnes		
Winter Applied	25%	6	21	72

STEP 3 – NUTRIENTS FROM THE SOIL

– adjust for natural soil fertility.

Nitrogen	Phosphate & Potash		
N	Index	P	K
Low Fertility: increase by 30kg/ha	0	Add 50 kg/ha	Add 70 kg/ha
Medium Fertility: no reduction	1	Add 25 kg/ha	Add 40 kg/ha
High fertility: no reduction	2	no adjustment	no adjustment
	3	Add 20 kg/ha	reduce 40 kg/ha
	4	No P required	No K required

Soil Analysis	P index	K index

- Use your knowledge of field fertility for the N
- Use soil analysis for available P and K

Box C

Soil Supply			
N	P	K	
<i>eg Medium N fertility PK soil index 2,1</i>	0	0	40
Total NPK from Soil			

STEP 4 – TOTAL FERTILISER REQUIRED

	<i>Example</i>										
<i>Fertiliser requirements (from Box A)</i>		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="background-color: #d9ead3;">Nutrients Required</th> </tr> <tr> <th style="background-color: #d9ead3;">N</th> <th style="background-color: #d9ead3;">P</th> <th style="background-color: #d9ead3;">K</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">120</td> <td style="text-align: center;">40</td> <td style="text-align: center;">70</td> </tr> </tbody> </table>	Nutrients Required			N	P	K	120	40	70
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Net Fertiliser Required		<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="text-align: center;">107</td> <td style="text-align: center;">25</td> <td style="text-align: center;">35</td> </tr> </tbody> </table>	107	25	35						
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	<i>Your Field</i>										
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STEP 5 – FERTILISER PROGRAMME

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	21:8:11	20:14:14	20:10:10
Low N	17:17:17	15:15:20	12:15:20

Product			Rate		Fertilisers		
N	P	K	Kg/ha		N	P	K
21	8	11	310		65	25	34
34.5	0	0	125		43	0	0
<i>example total nutrients supplied</i>					108	25	34
Total nutrients supplied							