

	treatment detailed name	treatment codes
1	Control	Control
2	on row sowing with no amendments	OnRow
3	SE14 (wetter) banded 8cm	SE14.band_8
4	Bi Agra (wetter) surface and banded 8cm	Bi_Agra.surface+band_8
5	lucerne applied surface	Luc.surface
6	chicken litter applied surface	ChickL.surface
7	chicken litter at 2.5t/ha applied surface in years 2018, 2019, 2020	ChickL@2.5.surface_Yr18,19,20
8	chicken litter at 3t/ha incorporated 8cm	ChickL@3.incorp_8
9	chicken litter at 5t/ha incorporated 8cm	ChickL@5.incorp_8
10	chicken litter at 5t/ha incorporated 8cm and fertiliser applied at surface	ChickL@5.incorp_8.Fert.surface
11	chicken litter at 5t/ha and clay incorporated 8cm	ChickL@5.incorp_8.Clay.incorp_8
12	chicken litter at 5t/ha and fertiliser and clay incorporated 8cm	ChickL@5.incorp_8.Fert.surface.Clay.incorp_8
13	chicken litter at 7.5t/ha applied surface	ChickL@7.5.surface
14	chicken litter at 20t/ha incorporated 8cm	ChickL@20.incorp_8
15	chicken litter at 20t/ha and fertiliser applied at surface	ChickL@20.incorp_8.Fert.surface
16	chicken litter at 20t/ha and clay incorporated 8cm	ChickL@20.incorp_8.Clay.incorp_8
17	chicken litter at 20t/ha and fertiliser and clay incorporated 8cm	ChickL@20.incorp_8.Fert.surface.Clay.incorp_8
18	fertiliser applied to foliar	Fert.foliar
19	fertiliser applied surface	Fert.surface
20	fertiliser incorporated 8cm	Fert.incorp_8
21	fertiliser banded 8cm	Fert.band_8
22	potassium applied surface	K_added.surface
23	fertiliser banded 30cm	Fert.band_30
24	fertiliser and clay incorporated 8cm	Fert.surface.Clay.incorp_8
25	fertiliser banded 30cm and clay incorporated 10cm	Fert.band_30.Clay.incorp_10
26	clay incorporated 8cm	Clay.incorp_8
27	clay incorporated 10cm	Clay.incorp_10
28	growers standard fertiliser to surface with no additional amendments	Fert.surface
29	Pre drill to depth 20cm with growers standard fertiliser to 7.5cm with no additional amendments	Pre_drill_20+7.5
30	Pre drill to depth 20cm with growers standard fertiliser to 7.5cm with no additional amendments annually	Pre_drill_20+7.5_annual
31	Pre drill to depth 20cm with growers standard fertiliser to 20cm with no additional amendments	Pre_drill_20+20
32	Pre drill to depth 20cm with growers standard fertiliser to 20cm with no additional amendments performed annually	Pre_drill_20+20_annual
33	Pre drill to depth 20cm with growers standard fertiliser to 20cm with fertiliser banded at 20cm	Pre_drill_20+20_Fert.banded_20
34	Pre drill to depth 20cm with growers standard fertiliser to 20cm with fertiliser banded at 20cm annually	Pre_drill_20+20_Fert.banded_20_annual
35	spade 30cm with no amendments	Spade.30
36	spade 30cm with lucerne at 1t/ha incorporated 30cm	Spade.30_Luc@1.incorp_30
37	spade 30cm with lucerne at 2t/ha incorporated 30cm	Spade.30_Luc@2.incorp_30
38	spade 30cm with lucerne at 4t/ha incorporated 30cm	Spade.30_Luc@4.incorp_30
39	spade 30cm with lucerne at 6t/ha incorporated 30cm	Spade.30_Luc@6.incorp_30
40	spade 30cm with lucerne at 8t/ha incorporated 30cm	Spade.30_Luc@8.incorp_30

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41	spade 30cm with lucerne at 10t/ha incorporated 30cm	Spade.30_Luc@10.incorp_30
42	spade 30cm with lucerne at 15t/ha incorporated 30cm	Spade.30_Luc@15.incorp_30
43	spade 30cm with lucerne at 20t/ha incorporated 30cm	Spade.30_Luc@20.incorp_30
44	spade 30cm with lucerne at 1t/ha incorporated 30cm and potassium applied at surface	Spade.30_Luc@1.incorp_30.K_added.surface
45	spade 30cm with lucerne at 2t/ha incorporated 30cm and potassium applied at surface	Spade.30_Luc@2.incorp_30.K_added.surface
46	spade 30cm with lucerne at 4t/ha incorporated 30cm and potassium applied at surface	Spade.30_Luc@4.incorp_30.K_added.surface
47	spade 30cm with lucerne at 6t/ha incorporated 30cm and potassium applied at surface	Spade.30_Luc@6.incorp_30.K_added.surface
48	spade 30cm with lucerne at 8t/ha incorporated 30cm and potassium applied at surface	Spade.30_Luc@8.incorp_30.K_added.surface
49	spade 30cm with lucerne at 10t/ha incorporated 30cm and potassium applied at surface	Spade.30_Luc@10.incorp_30.K_added.surface
50	spade 30cm with lucerne at 15t/ha incorporated 30cm and potassium applied at surface	Spade.30_Luc@15.incorp_30.K_added.surface
51	spade 30cm with lucerne at 20t/ha incorporated 30cm and potassium applied at surface	Spade.30_Luc@20.incorp_30.K_added.surface
52	spade 30cm with lucerne incorporated 30cm	Spade.30_Luc.incorp_30
53	spade 30cm with lucerne and fertiliser incorporated 30cm	Spade.30_Luc.incorp_30.Fert.incorp_30
54	spade 30cm with lucerne and clay incorporated 30cm	Spade.30_Luc.incorp_30.Clay.incorp_30
55	spade 30cm with ulcerous and fertiliser and clay incorporated 30cm	Spade.30_Luc.incorp_30.Fert.incorp_30.Clay.incorp_30
56	spade 30cm with chicken litter incorporated 30cm	Spade.30_ChickL.incorp_30
57	spade 30cm with chicken litter and gypsum incorporated 30cm	Spade.30_ChickL.incorp_30.Gypsum.incorp_30
58	spade 30cm with fertiliser and clay incorporated 30cm	Spade.30_Fert.incorp_30.Clay.incorp_30
59	spade 30cm with compost incorporated 30cm	Spade.30_Com.incorp_30
60	spade 30cm with cereal incorporated 30cm	Spade.30_Cereal.incorp_30
61	spade 30cm with vetch incorporated 30cm	Spade.30_Vetch.incorp_30
62	spade 30cm with vetch and cereal incorporated 30cm	Spade.30_Vet_Cer.incorp_30
63	spade 30cm with vetch and cereal and inoculant incorporated 30cm	Spade.30_Vet_Cer_In.incorp_30
64	spade 30cm with potassium applied at surface	Spade.30_K_added.surface
65	spade 30cm with fertiliser incorporated 30cm	Spade.30_Fert.incorp_30
66	spade 30cm with fertiliser and potassium incorporated 30cm	Spade.30_Fert.incorp_30.K_added.incorp_30
67	spade 30cm with clay at 250t/ha	Spade.30_Clay@250.incorp_30
68	spade 30cm with clay at 250t/ha in years 2007 and 2020	Spade.30_Clay@500.incorp_30_Yr07,20
69	spade 30cm with clay incorporated 30cm	Spade.30_Clay.incorp_30
70	spade 30cm with gypsum incorporated 30cm	Spade.30_Gypsum.incorp_30
71	Ripping to 30cm with no amendments	Rip.30
72	Ripping to 35cm with no amendments	Rip.35
73	Ripping to 30cm with chicken litter applied at surface	Rip.30_ChickL.surface
74	Ripping to 30cm with chicken litter @ 7.5t/ha applied at surface	Rip.30_ChickL@7.5.surface
75	Ripping to 30cm with chicken litter banded at 30cm	Rip.30_ChickL.band_30
76	Ripping to 30cm with chicken litter @ 7.5t/ha banded at 30cm	Rip.30_ChickL@7.5.band_30
77	Ripping to 30cm with lucerne incorporated 30cm	Rip.30_Luc.incorp_30
78	Ripping to 30cm with lucerne banded 30cm	Rip.30_Luc.band_30
79	Ripping to 30cm with fertiliser applied at surface	Rip.30_Fert.surface
80	Ripping to 30cm with fertiliser incorporated 30cm	Rip.30_Fert.incorp_30

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81	Ripping to 30cm with fertiliser banded at 8cm	Rip.30_Fert.band_8
82	Ripping to 30cm with fertiliser banded at 30cm	Rip.30_Fert.band_30
83	Ripping to 30cm and inclusion with no amendments	Rip.30IncRip
84	Ripping to 30cm and 60cm with no amendments	Rip.30+60
85	Ripping to 30cm and inclusion with Gypsum incorporated 30cm	Rip.30IncRip_Gypsum.incorp_30
86	Ripping to 30cm and 60cm with lucerne banded 30cm and 60cm	Rip.30+60_Luc.band_30+60
87	Ripping to 30cm with growers standard fertiliser to 7.5cm with no amendments	Rip_30+7.5
88	Ripping to 30cm with growers standard fertiliser to 7.5cm with no amendments annually	Rip_30+7.5_annual
89	Ripping to 30cm and 30cm with no amendments annually	Rip_30+30
90	Ripping to 30cm with growers standard fertiliser to 30cm with no amendments annually	Rip_30+30_annual
91	Ripping to 30cm with growers standard fertiliser to 30cm with fertiliser banded 30cm	Rip_30+30_Fert.banded_30
92	Ripping to 30cm with growers standard fertiliser to 30cm with fertiliser banded 30cm annually	Rip_30+30_Fert.banded_30_annual
93	sweep 30cm with no amendments	Sweep.30
94	sweep 30cm with chicken litter at 3t/ha incorporated 30cm	Sweep.30_ChickL@3.incorp_30
95	sweep 30cm with chicken litter at 6t/ha incorporated 30cm	Sweep.30_ChickL@6.incorp_30
96	sweep 30cm with chicken litter at 9t/ha incorporated 30cm	Sweep.30_ChickL@9.incorp_30
97	sweep 30cm with chicken litter at 9t/ha incorporated 30cm applied 2017, 2018, 2019	Sweep.30_ChickL@9.incorp_30_Yr17,18,19
98	sweep 30cm with lime incorporated 30cm	Sweep.30_Lime.incorp_30
99	sweep 30cm with chicken litter at 3t/ha incorporated 30cm and lime incorporated 8cm	Sweep.30_ChickL@3.incorp_30.Lime.incorp_8
100	Ripping to 40cm with no amendments	Rip.40
101	Ripping to 40cm and inclusion with no amendments	Rip.40IncRip
102	Ripping to 40cm and inclusion with chicken litter incorporated 40cm	Rip.40IncRip_Luc.incorp_40
103	Ripping to 40cm with lucerne incorporated 40cm	Rip.40_Luc.incorp_40
104	Ripping to 40cm with fertiliser incorporated 40cm	Rip.40_Fert.incorp_40
105	Ripping to 45cm with no amendments	Rip.45
106	Ripping to 45cm and inclusion with no amendments	Rip.45IncRip
107	Ripping to 45cm and inclusion and spading 30cm with no amendments	Rip.45IncRip+Spade.30
108	Ripping to 45cm and inclusion with fertiliser banded 45cm	Rip.45IncRip_Fert.incorp_45
109	Ripping to 45cm and inclusion with fertiliser (low rate) banded 45cm	Rip.45IncRip_Fert_Low.band_45
110	Ripping to 45cm and inclusion with fertiliser (high rate) banded 45cm	Rip.45IncRip_Fert_High.band_45
111	Ripping to 45cm and inclusion with fertiliser (app) banded 45cm	Rip.45IncRip_Fert_APP.band_45
112	Ripping to 50cm with no amendments	Rip.50
113	Ripping to 50cm with chicken litter applied surface	Rip.50_ChickL.surface
114	Ripping to 50cm with chicken litter at 2.5t/ha applied at surface in years 2018, 2019, 2020	Rip.50_ChickL@2.5.surface_Yr18,19,20
115	Ripping to 50cm with chicken litter at 7.5t/ha applied at surface	Rip.50_ChickL@7.5.surface
116	Ripping to 50cm with chicken litter at 5t/ha incorporated 20 cm	Rip.50_ChickL@5.incorp_20
117	Ripping to 50cm with chicken litter at 7.5t/ha banded 50cm	Rip.50_ChickL@7.5.band_50
118	Ripping to 50cm with chicken litter at 20t/ha incorporated 20 cm	Rip.50_ChickL@20.incorp_20
119	Ripping to 50cm with chicken litter at 5t/ha incorporated 20 cm and fertiliser applied at surface	Rip.50_ChickL@5.incorp_20.Fert.surface
120	Ripping to 50cm with chicken litter at 5t/ha incorporated 20 cm and clay incorporated 20cm	Rip.50_ChickL@5.incorp_20.Clay.incorp_20

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121	Ripping to 50cm with chicken litter at 5t/ha incorporated 20 cm and fertiliser applied at surface and clay incorporated 20cm	Rip.50_ChickL@5.incorp_20.Fert.surface.Clay.incorp_20
122	Ripping to 50cm with chicken litter at 20t/ha incorporated 20 cm and fertiliser applied at surface	Rip.50_ChickL@20.incorp_20.Fert.surface
123	Ripping to 50cm with chicken litter at 20t/ha incorporated 20 cm and clay incorporated 20cm	Rip.50_ChickL@20.incorp_20.Clay.incorp_20
124	Ripping to 50cm with chicken litter at 20t/ha incorporated 20 cm and fertiliser applied at surface and clay incorporated 20cm	Rip.50_ChickL@20.incorp_20.Fert.surface.Clay.incorp_20
125	Ripping to 50cm with fertiliser applied at surface	Rip.50_Fert.surface
126	Ripping to 50cm with clay incorporated 20cm	Rip.50_Clay.incorp_20
127	Ripping to 50cm with fertiliser applied at surface and clay incorporated 20cm	Rip.50_Fert.surface.Clay.incorp_20
128	Ripping to 50cm and spading 30cm with no amendments	Rip.50Spade.30
129	Ripping to 50cm and inclusion with no amendments	Rip.50IncRip
130	Ripping to 50cm and inclusion with chicken litter applied surface	Rip.50IncRip_ChickL.surface
131	Ripping to 50cm and inclusion with chicken litter incorporated 50cm	Rip.50IncRip_ChickL@7.5.incorp_50
132	Ripping to 60cm with no amendments	Rip.60
133	Ripping to 60cm with chicken litter applied at surface	Rip.60_ChickL.surface
134	Ripping to 60cm with chicken litter banded 60cm	Rip.60_ChickL.band_60
135	Ripping to 60cm with lucerne banded 60cm	Rip.60_Luc.band_60
136	Ripping to 60cm with fertiliser banded 8cm	Rip.60_Fert.band_8
137	Ripping to 60cm with fertiliser banded 60cm	Rip.60_Fert.band_60
138	Ripping to 30cm and spading 30cm with no amendments	Rip.60Spade.30
139	Ripping to 60cm and spading 30cm with lucerne incorporated 30cm and banded 60cm	Rip.60Spade.30_Luc.incorp_30+band_60
140	Ripping to 60cm and inclusion with no amendments	Rip.60IncRip
141	Ripping to 60cm and inclusion and spading 30cm with no amendments	Rip.60IncRip+Spade.30
142	deep tillage 18cm with no amendments	DeepTill.18
143	deep tillage 18cm with SE14 (wetter) banded 8cm	DeepTill.18_SE14.band_8
144	Disc inversion to 30cm with no amendments	Ploughing.30