

	treatment codes	treatment detailed name
1	Control	Control
2	Unmodified+OnRow_none	on row sowing with no amendments
3	Unmodified_SE14.band_8	SE14 (wetter) banded 8cm
4	Unmodified_Bi_Agra.surface+band_8	Bi Agra (wetter) surface and banded 8cm
5	Unmodified_Lc.surface	lucerne applied surface
6	Unmodified_Cl.surface	chicken litter applied surface
7	Unmodified_Cl@2.5.surface_Yr18,19,20	chicken litter at 2.5t/ha applied surface in years 2018, 2019, 2020
8	Unmodified_Cl@3.incorp_8	chicken litter at 3t/ha incorporated 8cm
9	Unmodified_Cl@5.incorp_8	chicken litter at 5t/ha incorporated 8cm
10	Unmodified_Cl@5.incorp_8.Fert.surface	chicken litter at 5t/ha incorporated 8cm and fertiliser applied at surface
11	Unmodified_Cl@5.incorp_8.Clay.incorp_8	chicken litter at 5t/ha and clay incorporated 8cm
12	Unmodified_Cl@5.incorp_8.Fert.surface.Clay.incorp_8	chicken litter at 5t/ha and fertiliser and clay incorporated 8cm
13	Unmodified_Cl@7.5.surface	chicken litter at 7.5t/ha applied surface
14	Unmodified_Cl@20.incorp_8	chicken litter at 20t/ha incorporated 8cm
15	Unmodified_Cl@20.incorp_8.Fert.surface	chicken litter at 20t/ha and fertiliser applied at surface
16	Unmodified_Cl@20.incorp_8.Clay.incorp_8	chicken litter at 20t/ha and clay incorporated 8cm
17	Unmodified_Cl@20.incorp_8.Fert.surface.Clay.incorp_8	chicken litter at 20t/ha and fertiliser and clay incorporated 8cm
18	Unmodified_Fert.foliar	fertiliser applied to foliar
19	Unmodified_Fert.surface	fertiliser applied surface
20	Unmodified_Fert.incorp_8	fertiliser incorporated 8cm
21	Unmodified_Fert.band_8	fertiliser banded 8cm
22	Unmodified_K_added.surface	potassium applied surface
23	Unmodified_Fert.band_30	fertiliser banded 30cm
24	Unmodified_Fert.surface.Clay.incorp_8	fertiliser and clay incorporated 8cm
25	Unmodified_Fert.band_30.Clay.incorp_10	fertiliser banded 30cm and clay incorporated 10cm
26	Unmodified_Clay.incorp_8	clay incorporated 8cm
27	Unmodified_Clay.incorp_10	clay incorporated 10cm
28	Unmodified_none.Fert.surface	growers standard fertiliser to surface with no additional amendments
29	Pre_drill_20+7.5_none	Pre drill to depth 20cm with growers standard fertiliser to 7.5cm with no additional amendments
30	Pre_drill_20+7.5_none_annual	Pre drill to depth 20cm with growers standard fertiliser to 7.5cm with no additional amendments annually
31	Pre_drill_20+20_none	Pre drill to depth 20cm with growers standard fertiliser to 20cm with no additional amendments
32	Pre_drill_20+20_none_annual	Pre drill to depth 20cm with growers standard fertiliser to 20cm with no additional amendments performed annually
33	Pre_drill_20+20_Fert.banded_20	Pre drill to depth 20cm with growers standard fertiliser to 20cm with fertiliser banded at 20cm
34	Pre_drill_20+20_Fert.banded_20_annual	Pre drill to depth 20cm with growers standard fertiliser to 20cm with fertiliser banded at 20cm annually
35	Spade.30_none	spade 30cm with no amendments
36	Spade.30_Lc@1.incorp_30	spade 30cm with lucerne at 1t/ha incorporated 30cm
37	Spade.30_Lc@2.incorp_30	spade 30cm with lucerne at 2t/ha incorporated 30cm
38	Spade.30_Lc@4.incorp_30	spade 30cm with lucerne at 4t/ha incorporated 30cm
39	Spade.30_Lc@6.incorp_30	spade 30cm with lucerne at 6t/ha incorporated 30cm
40	Spade.30_Lc@8.incorp_30	spade 30cm with lucerne at 8t/ha incorporated 30cm

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

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

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