

README for '2024_Hydromulch.pdf

Description of data: The different hydromulch formulations were manufactured and tested for physical and mechanical properties in the laboratory. The three fiber materials evaluated were paper (p), wood fiber (w) and hemp hurds (h). The four tackifiers evaluated were camelina meal (CM), guar gum (G), and psyllium husk (PH). The physico-mechanical properties evaluated were density, porosity, puncture resistance, puncture resistance at different moisture levels, rain fastness, soil adhesion, and tensile strength.

Note: Several formulations were not tested for every physical and mechanical property as they were very weak and could not hold together.

These data were collected through conducting

Row headers from top to bottom:

Sample #	Sample Formulation	Date Made	Description of the formulations
1	W6G	10/29/2021	94% wood and 6% Guar gum
2	W4PH	11/18/2021	96% wood 4% Psyllium husk
3	W4G	10/19/2021	96% wood 4% Guar gum
4	W6PH	12/14/2021	94% wood 6% Psyllium husk
5	W2PH	11/29/2021	98% wood 2% Psyllium husk
6	W2G	10/19/2021	98% wood and 2% Guar gum
7	P6G	10/29/2021	94% Paper 6% Guar gum
8	P2G	10/22/2021	98% Paper 2% Guar gum
9	P4G	10/25/2021	96% Paper 4% Guar gum
10	P6PH	11/14/2021	94% Paper 6% Psyllium husk
11	P4PH	11/3/2021	96% Paper 4% Psyllium husk
12	P1PH	10/25/2021	99% Paper 1% Psyllium husk
13	P2PH	10/25/2021	98% Paper 2% Psyllium husk
14	P6G	12/20/2021	94% Paper 6% Guar gum
15	P1G	12/20/2021	94% Paper 1% Guar gum
16	W6PH	12/14/2021	94% wood 6% Psyllium husk
17	P1PH	12/14/2021	99% Paper 1% Psyllium husk
18	P6PH	12/14/2021	94% Paper 6% Psyllium husk
19	P1G	11/3/2021	94% Paper 1% Guar gum
20	W2PH	11/2/2021	98% wood 2% Psyllium husk
21	W1PH	11/2/2021	99% wood 1% Psyllium husk
22	P2PH	11/3/2021	98% Paper 2% Psyllium husk
23	P4G	11/3/2021	96% Paper 4% Guar gum
24	P2G	10/15/2021	98% Paper 2% Guar gum
25	W4PH	10/29/2021	96% wood 4% Psyllium husk
26	W2G	10/14/2021	98% wood and 2% Guar gum

27	W4G	10/14/2021	96% wood 4% Guar gum
28	W1G	1/17/2022	99% wood 1% Guar gum
29	WP50%6G	1/20/2022	50% wood 50% Paper and 6% Guar gum
30	WP50%4G	1/20/2022	50% wood 50% Paper and 4% Guar gum
31	WP50%6PH	1/20/2022	50% wood 50% Paper and 6% Psyllium husk
32	WP50%4PH	1/20/2022	50% wood 50% Paper and 4% Psyllium husk
33	WP50%2PH	1/22/2022	50% wood 50% Paper and 2% Psyllium husk
34	WP50%2G	12/20/2021	50% wood 50% Paper and 2% Guar gum
35	P5C	1/29/2022	95% Paper 5% Camelina meal
36	P10C	1/29/2022	90% Paper 10% Camelina meal
37	PW75/252G	1/29/2022	75% wood 25% Paper and 2% Guar gum
38	PH75/252G	1/29/2022	75% Paper 25% Hemp hurd and 2% Guar gum
39	P15C	2/3/2022	85% Paper 15% Camelina meal
40	PW75/254G	2/3/2022	75% Wood 25% Paper and 4% Guar gum
41	PH75/254G	2/3/2022	75% Paper 25% Hemp hurd and 4% Guar gum
42	P2CM	2/17/2022	98% Paper 2% Camelina meal
43	P4CM	2/17/2022	96% Paper 4% Camelina meal
44	P6CM	2/17/2022	94% Paper 6% Camelina meal
45	PW75/256G	2/17/2022	75% Wood 25% Paper and 6% Guar gum
46	paper	2/21/2022	100% Paper
47	wood	3/24/2022	100% Wood
48	P2G	4/14/2022	98% Paper 2% Guar gum
49	P4PH	4/14/2022	96% Paper 4% Psyllium husk
50	P2CM	4/14/2022	98% Paper 2% Camelina meal
51	P4CM	5/3/2022	96% Paper 4% Camelina meal
52	P6CM	5/3/2022	94% Paper 6% Camelina meal
53	W2G	5/3/2022	98% wood and 2% Guar gum
54	paper control	5/16/2022	100% Paper
55	P2G	5/16/2022	98% Paper 2% Guar gum
56	P4G	5/23/2022	96% Paper 4% Guar gum
57	P6G	5/23/2022	94% Paper 6% Guar gum
58	P2PH	5/23/2022	98% Paper 2% Psyllium husk
59	P4PH	5/23/2022	96% Paper 4% Psyllium husk
60	P6PH	5/23/2022	94% Paper 6% Psyllium husk
61	P2CM	6/6/2022	98% Paper 2% Camelina meal
62	P4CM	5/23/2022	96% Paper 4% Camelina meal
63	P6CM	5/23/2022	94% Paper 6% Camelina meal
64	P2G(angle)	5/23/2022	98% Paper 2% Guar gum
65	P2G(30min)	6/6/2022	98% Paper 2% Guar gum
66	P6%75GGCM	5/31/2022	100% Paper, 4.5%GG, 1.5%CM
67	P6%50GGCM	5/31/2022	100% Paper, 3%GG, 3%CM
68	P6%25%GGCM	5/31/2022	100% Paper, 1.5%GG, 4.5%CM
69	W4GG	5/31/2022	96% wood and 4% Guar gum
70	W6GG	5/31/2022	94% wood and 6% Guar gum
71	W2PH	5/31/2022	98% wood 2% Psyllium husk

72	W4PH	6/16/2022	96% wood 4% Psyllium husk
73	W2CM	6/17/2022	98% Wood 2% Camelina meal
74	W4CM	6/18/2022	96% Wood 4% Camelina meal
75	W6CM	6/19/2022	94% Wood 6% Camelina meal
76	75/25PW2GG	6/29/2022	75% Paper 25% Wood and 2% Guar gum
77	75/25PW4GG	6/29/2022	75% Paper 25% Wood and 4% Guar gum
78	75/25PW6GG	6/29/2022	75% Paper 25% Wood and 6% Guar gum
79	75/25PW2PH	6/29/2022	75% Paper 25% Wood and 2% Psyllium husk
80	75/25PW4PH	6/29/2022	75% Paper 25% Wood and 4% Psyllium husk
81	75/25PW6PH	6/29/2022	75% Paper 25% Wood and 6% Psyllium husk
82	75/25PW2CM	6/29/2022	75% Paper 25% Wood and 2% Camelina meal
83	75/25PW4CM	6/29/2022	75% Paper 25% Wood and 4% Camelina meal
84	75/25PW6CM	6/29/2022	75% Paper 25% Wood and 6% Camelina meal
85	P6%75PH/CM	7/11/2022	100% Paper, 4.5% Psyllium husk, 1.5%Camelina meal
86	P6%50PH/CM	7/11/2022	100% Paper, 3% Psyllium husk, 3%Camelina meal
87	P6%25%PH/CM	7/11/2022	100% Paper, 1.5% Psyllium husk, 4.5%Camelina meal
88	50/50PW2GG	8/8/2022	50% Paper 50% Wood and 2% Guar gum
89	50/50PW4GG	8/8/2022	50% Paper 50% Wood and 4% Guar gum
90	50/50PW6GG	8/8/2022	50% Paper 50% Wood and 6% Guar gum
91	50/50PW2PH	8/8/2022	50% Paper 50% Wood and 2% Psyllium husk
92	50/50PW4PH	8/8/2022	50% Paper 50% Wood and 4% Psyllium husk
93	50/50PW6PH	8/15/2022	50% Paper 50% Wood and 6% Psyllium husk
94	50/50PW2CM	8/15/2022	50% Paper 50% Wood and 2% Camelina meal
95	50/50PW4CM	8/15/2022	50% Paper 50% Wood and 4% Camelina meal
96	50/50PW6CM	8/15/2022	50% Paper 50% Wood and 6% Camelina meal

NOTE: All the formulations were not tested as they were very weak