



110
321
THS

THESIS
A FOREST PLANTING
IN MICHIGAN
PAUL B. HAINES
1914



R236

2.5410

8.141

THESIS.
A FOREST PLANTING IN MICHIGAN.
by
Paul B. Haines.
1914

The land planted comprised part of the Orchard Bay Farm owned by Edward C. Waller, 705 "The Rookery", Chicago, Ill. and located in Sec. 13- T.34 N.- R. 8 W. Charlevoix, Mich. The area consists of numerous small sand dunes, lying parallel to the shore of Lake Michigan and about one quarter of a mile distant. They are moving only slightly in a few exposed portions.

The soil is a light sand, deep and quite free from organic matter, except in the ravines or pockets, where there is from four to ten inches of loam. The excess water drains into the lake but along the two temporary brooks that cross the plantation wet patches occur. These now grow willow, but originally grew fine cedar and for that reason pine was not planted where it was very moist.

With the exception of the higher knolls the cover was fairly heavy, consisting of brush , under six inches in diameter and twenty five feet high, of the following species:

Poplar.....	40%
Pin Cherry.....	50%
Paper Birch.....	} 10%
Willow.....	
Others.....	

Ferns formed a light ground cover over the entire area, Red Raspberries also a light cover in places, with some grass in the more favored places. The latter had been grazed by sheep which were pastured on the land for several years past. In addition to the above vegetation old stumps averaged eighteen

10. The question is whether the following is a valid argument. If so, identify the form of the argument. If not, identify the fallacy. (10 points)

• All dogs are mammals. All mammals are animals. Therefore, all dogs are animals.

• All dogs are mammals. All mammals are animals. Therefore, all animals are dogs.

• All dogs are mammals. All mammals are animals. Therefore, all animals are mammals.

• All dogs are mammals. All mammals are animals. Therefore, all animals are dogs and all dogs are mammals.

• All dogs are mammals. All mammals are animals. Therefore, all animals are dogs and all dogs are mammals and all mammals are animals.

11. The following is a valid argument. Identify the form of the argument. (10 points)

• All dogs are mammals. All mammals are animals. Therefore, all dogs are animals.

• All dogs are mammals. All mammals are animals. Therefore, all animals are dogs.

• All dogs are mammals. All mammals are animals. Therefore, all animals are mammals.

• All dogs are mammals. All mammals are animals. Therefore, all animals are dogs and all dogs are mammals.

• All dogs are mammals. All mammals are animals. Therefore, all animals are dogs and all dogs are mammals and all mammals are animals.

12. The following is a valid argument. Identify the form of the argument. (10 points)

• All dogs are mammals. All mammals are animals. Therefore, all dogs are animals.

• All dogs are mammals. All mammals are animals. Therefore, all animals are dogs.

• All dogs are mammals. All mammals are animals. Therefore, all animals are mammals.

• All dogs are mammals. All mammals are animals. Therefore, all animals are dogs and all dogs are mammals.

• All dogs are mammals. All mammals are animals. Therefore, all animals are dogs and all dogs are mammals and all mammals are animals.

.....

.....

.....

.....

.....

13. The following is a valid argument. Identify the form of the argument. (10 points)

• All dogs are mammals. All mammals are animals. Therefore, all dogs are animals.

• All dogs are mammals. All mammals are animals. Therefore, all animals are dogs.

• All dogs are mammals. All mammals are animals. Therefore, all animals are mammals.

• All dogs are mammals. All mammals are animals. Therefore, all animals are dogs and all dogs are mammals.

• All dogs are mammals. All mammals are animals. Therefore, all animals are dogs and all dogs are mammals and all mammals are animals.

PLATE 1.



Typical View.

Showing character of the land planted.

or twenty to the acre, while the more numerous decaying logs averaged from twenty-five to thirty. The remains of the original timber indicated that it consisted of hemlock with a little red pine and cedar and balsam on the wet areas.

The planting stock was five year old white pine once transplanted, purchased from the Mich. Agr. College. The plants were tied in bundles of twenty-five each, puddled packed with moist hay in a box car. They arrived at Charlevoix, after five days on the road, in first class condition. Heating however had started to take place but the car was unloaded before any damage had resulted.

In hauling the trees to the scene of planting a hay-rigging was used. This outfit permitted an average load of 4,250 trees, yet more could be hauled over hard ground with no difficulty. In this case the haul was three miles over a good gravel road, but terminated with a stretch of soft pasture slightly frozen. Over this haul four trips a day was the average.

Three situations were chosen upon which to heel-in the stock. They were located close to water, where the digging was good, and so that they were accessible from any part of the area that was to be planted. As fast as the trees were unloaded from the wagon they were puddled and heeled-in.

In planting two men crews were used entirely; one man digging the holes, with a round pointed shovel, the other planting and carrying the trees along as the work progress-

1. The first step in the process of creating a new product is to identify a market need.

2. Once a market need is identified, the next step is to develop a concept for the product.

3. The third step is to create a prototype of the product, which allows the designer to test the concept.

4. After the prototype is created, the next step is to conduct a feasibility study to determine if the product is viable.

5. Once the feasibility study is complete, the next step is to develop a business plan for the product.

6. The final step in the process is to launch the product into the market and monitor its performance.

7. Throughout the process, it is important to maintain communication with stakeholders and to be flexible in the face of change.

8. The success of a new product depends on the quality of the design and the execution of the marketing plan.

9. It is also important to have a clear understanding of the target market and to tailor the product to their needs.

10. Finally, it is important to have a strong financial foundation and to be prepared for the challenges of a new venture.

11. The process of creating a new product is a complex one, but it is also a rewarding one.

12. By following these steps, designers can increase their chances of creating a successful new product.

13. The key to success is to be persistent and to have a strong belief in the product and the team.

14. With the right approach, the process of creating a new product can be a smooth and successful one.

15. The end result is a new product that meets the needs of the market and brings value to the company.

16. The process of creating a new product is a journey, and it is one that is worth taking.

17. By following these steps, designers can create a product that is both innovative and profitable.

18. The process of creating a new product is a challenge, but it is also an opportunity.

19. It is a chance to bring a new idea to life and to make a difference in the world.

20. The process of creating a new product is a journey, and it is one that is worth taking.

21. By following these steps, designers can create a product that is both innovative and profitable.

22. The process of creating a new product is a challenge, but it is also an opportunity.

23. It is a chance to bring a new idea to life and to make a difference in the world.

24. The process of creating a new product is a journey, and it is one that is worth taking.

25. By following these steps, designers can create a product that is both innovative and profitable.

26. The process of creating a new product is a challenge, but it is also an opportunity.

27. It is a chance to bring a new idea to life and to make a difference in the world.

28. The process of creating a new product is a journey, and it is one that is worth taking.

29. By following these steps, designers can create a product that is both innovative and profitable.

30. The process of creating a new product is a challenge, but it is also an opportunity.



A Particularly Large Bare Dune.
Showing trees heeled-in in the fore ground.

ed. The holes were dug deep enough to permit the trees being set at their original depth as they grew in the nursery, and wide enough so that the roots could be well spread out. The men were instructed to put a thin layer of good soil over the roots and press it down well with the feet. The hole was then filled up and further pressed down in the same manner. At first the hands and feet were used to fill in the holes, but later short handled hoes were substituted.

Brush and other obstructions hindered the men and the best results were obtained by keeping the crews separated. To accomplish this end a line of pickets was run for every ninth row, and planted up a little in advance of the intermediate rows. By working out from both sides of these guide rows the crews were separated and the work kept straight.

In distributing the trees from the beds where they were heeled-in a sled was devised. The dimensions of the same are shown on page (4); also see plate 1V, for photo. This rig would hold about twenty-five bundles of trees, the box being narrower than the width between the runners to prevent its being torn off by collision with trees. As the trees were taken from the bed, they were dipped in a half barrel of water. It would have been better to have puddled the roots in a solution of clay but as this substance was very scarce, water alone was used. One man was kept very busy at this job, (hauling, dipping and carrying the bundles to the crews) when there were fourteen men, or seven crews at

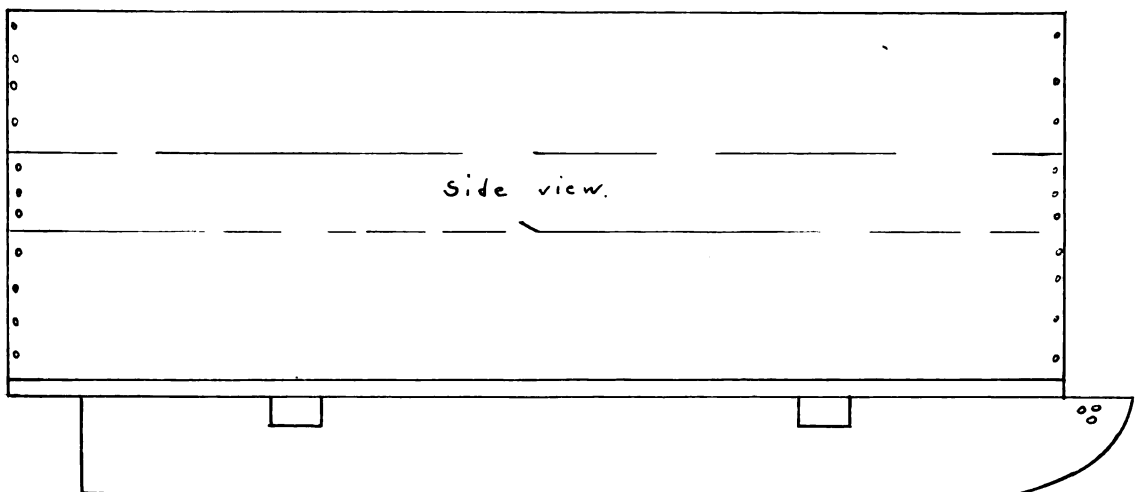
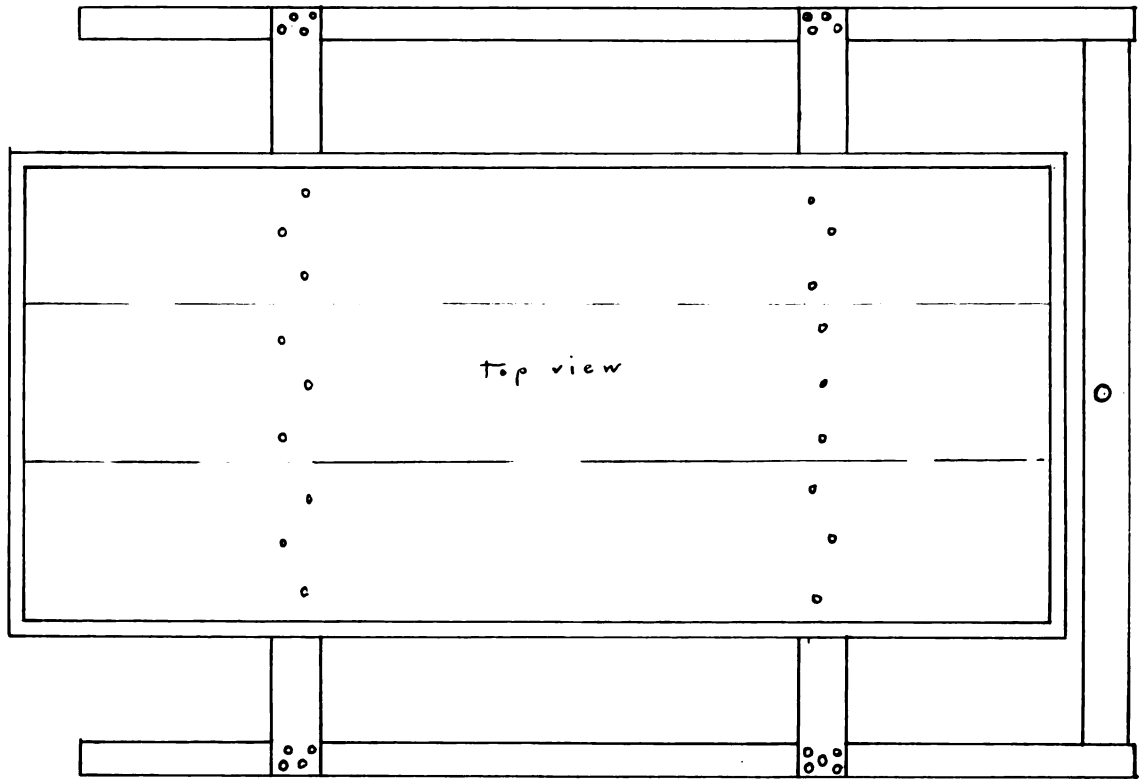
PLATE 111.



A Planting Crew At Work.

Sled

Fig. 1.



Scale: 1" = 1' ft.



Distributing Sled In Operation.

Showing also the character of the land planted.

work. A few roadways had to be brushed out in order to haul the trees close to the scene of planting. After these were abandoned they were planted up.

In order that the work from day to day can be followed a brief report, taken from the field diary, is here inserted.

Mon. April 6, 1914.

Weather; Snowing with one inch on the ground in the morning, abating before noon.

Employed three men in the forenoon, six in the afternoon.

One team and a single horse all day.

Hauled, puddled and healed-in three loads of trees.

Tues. April 7, 1914.

Weather; Ground frozen an inch or more. Frequent snow flurries.

Employed three men one half day, two men total time of six and one half hours. One horse full time and two teams for one half day.

Finished healing-in the 33,975 trees by two thirty P.M.

For six days the weather was such that it was impossible to plant.

Mon. April 13, 1914.

Weather; Clear, warm and calm.

Employed seven men and one horse all day.

Frost in the ground in many places made planting difficult.

Total number of trees planted, 1475.

Tues. April 14, 1914.

Weather; Fair, warm and calm.

Employed fourteen men and one horse full day.

Bothered by frost in many places. Worked fourteen men planting and hauled the trees myself. Planted, 2925.

Wed. April 15, 1914.

Weather; Clear warm and calm.

Employed thirteen men and a single horse.

Used one men to haul trees and deliver them to the crews.

Also equipped the men with short handled hoes. The ground was frozen only in sheltered spots. Planted, 3,125 trees.

Thur. April 16, 1914.

Weather; Warm and clear.

Employed thirteen men all day and two men one half day, also used the single horse.

Worked on hilly land free from frost and where the digging was easy. Total number of trees planted, 3,500.

Fri. April 17, 1914.

Weather; Clear, warm and calm.

Employed fifteen men and single horse for full day.

Total trees planted, 3,825.

Sat. April 18, 1914.

Weather; Fair and warm.

Employed fifteen men and horse full day and one man one half day.

Planted on a good site using short rows, Total planted, 4,300

Mon. April 20, 1914.

Weather; Wind N. cloudy and freezing, ground covered with three quarters of an inch of snow.

Employed thirteen men and horse all day and one man one half

• $\frac{1}{2} \frac{d}{dt} \int_{\mathbb{R}^n} |\nabla u|^2 dx = \int_{\mathbb{R}^n} u \Delta u dx = - \int_{\mathbb{R}^n} |\nabla u|^2 dx$

— 319 —

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

• • • • •

• *Journal of the American Medical Association*, 1997; 277: 1025-1030.

...and the fact that the *Journal* is a journal of the American Psychological Association, the largest and most influential of the professional organizations in the field of psychology, is a testament to the journal's impact on the field.

• **What is the purpose of the study?** The purpose of the study is to determine the effect of a 12-week resistance training program on the strength and endurance of the lower extremities in healthy young adults.

• **2017年11月17日**，中国首艘国产大型邮轮“**爱达·魔都**号”在上海正式下水。

• 1977 • 1978 • 1979 •

• COULD BE A PROBLEM

1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 26

• Supply of the market

[illegible][illegible]

• 2007 •

1. *Journal of the American Medical Association*, 1997; 277: 1033-1037.

• CO_2 and CH_4 are greenhouse gases

[illegible]

• • • • •

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971) using a Shimadzu 1601 UV-Visible Spectrophotometer.

[illegible]

10. The following table shows the number of people who have been convicted of a crime in the United States since 1970, by race and sex.

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

1. *Phragmites australis* (Cav.) Trin. ex Steud. 167

© 2004 Blackwell Publishing Ltd, *Journal of Internal Medicine* 255: 101–108

day. Four of the men were new hands.

The weather was clear and warmer in the afternoon.

Total number of trees planted, 4, 300.

Tues. April 21, 1914.

Weather; Cool and cloudy.

Employed eleven men and one horse for full day.

Total number of trees planted., 3,050.

Wed. April 22, 1914.

Weather; Fair, cool and windy.

The results of this day are the same as the previous.

Thur. April 23, 1914.

Weather; Cloudy with traces of rain.

Employed eleven men and one horse for full day.

Total number of trees planted 3,275.

Fri. April 24, 1914.

Weather; Cloudy and cool.

Employed five men and single horse three quarters of a day.

Planted 850 trees which completed the work.

The length of a working day was supposed to be ten hours, but forty minutes was consumed each day walking back and forth to the scene of planting. Also an extra quarter of an hour was taken at noon, which allowed some of the men to go home for dinner.

In making the following computations these costs are used: teams alone, \$2.00 and single horse \$1.00 per. day. Men, including teamsters \$1.75 per. day.

[illegible]

Total cost on the land ready to plant.

Freight \$35.05.....	per. M.	\$1.05
Hauling three miles, \$7.50.....	" "	\$0.28
Puddling & healing-in, \$15.40.....	" "	\$0.45
Cost of 33,975 trees, \$300.00.....	" 6"	<u>\$8.83</u>
Total.....	" "	\$10.61

Planting Averages.

Number planted per. day per. man.....253.
 Time required to plant 1.000 (two men)....Two days.

Planting Costs.

Cost of labor to plant.....	per. M.	\$7.00
Cost to plant per. acre (spacing 6 by 6).....		\$8.31
Cost of supervision and overseeing, \$56.75....	per. M.	\$1.72

Summary of Time and Costs.

Time required to plant 33,975 trees (15 men).....	9 days.
Number of acres planted (approximately).....	28.25.
Total cost.....	\$625.20
" " per. acre including trees.....	\$22.13.

• How to find the area of a triangle

- Area of a triangle $\frac{1}{2} \times \text{base} \times \text{height}$
- " " $\frac{1}{2} \times \text{length} \times \text{width}$
- " " $\frac{1}{2} \times \text{length} \times \text{breadth}$
- " " $\frac{1}{2} \times \text{length} \times \text{breadth}$
- " " $\frac{1}{2} \times \text{length} \times \text{breadth}$

• Area of a rectangle

- $\text{length} \times \text{width}$
- $\text{length} \times \text{breadth}$

• Area of a square

- $\text{side} \times \text{side}$
- $\text{length} \times \text{width}$
- $\text{length} \times \text{breadth}$

• Area of a circle

- πr^2
- πr^2
- πr^2
- πr^2

PLATE V.



A Planted Sand Dune.

1. 2000 1. 2000 1. 2000

ROOM USE ONLY

ROOM USE ONLY



MICHIGAN STATE UNIVERSITY LIBRARIES



3 1293 01099 3693