Multiple-Pass Continuous Recycle Homogenization

(A. Leviton, M. J. Pallansch, J. Dairy Science, 42:20-27, 1959)

f_P = Fraction of sample that has undergone exactly P homogenization passes

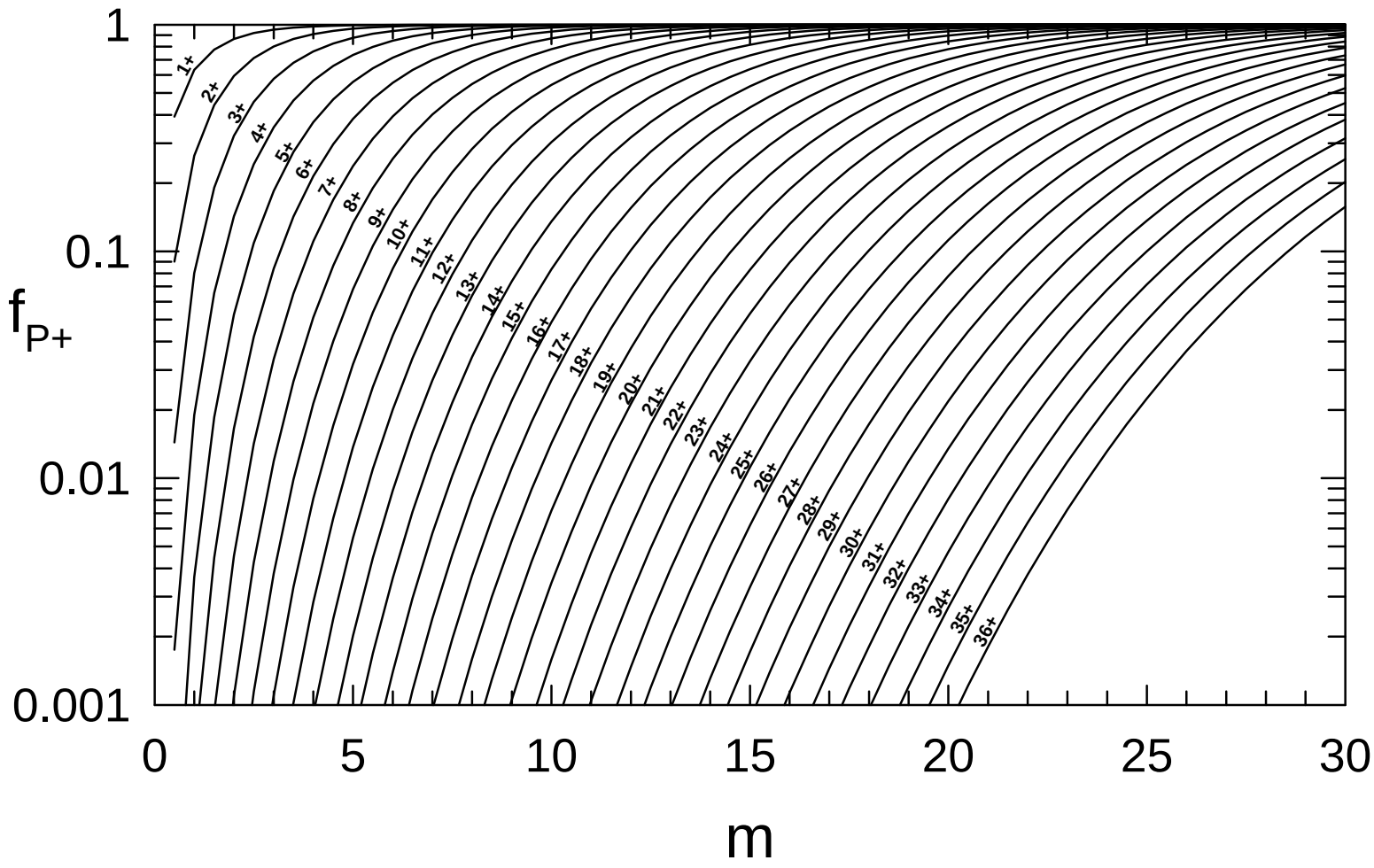
f_{P+} = Fraction of sample that has undergone P or more homogenization passes

m = Number of times V_0 is recycled = Ct/V_0

V_0 = Sample volume (gallons)

C = Homogenizer Capacity (gallons/min)

T = Time (min)


1
0.1
0.01
0.001
f_{P+}
0
5
10
15
20
25
30
m
1+
2+
3+
4+
5+
6+
7+
8+
9+
10+
11+
12+
13+
14+
15+
16+
17+
18+
19+
20+
21+
22+
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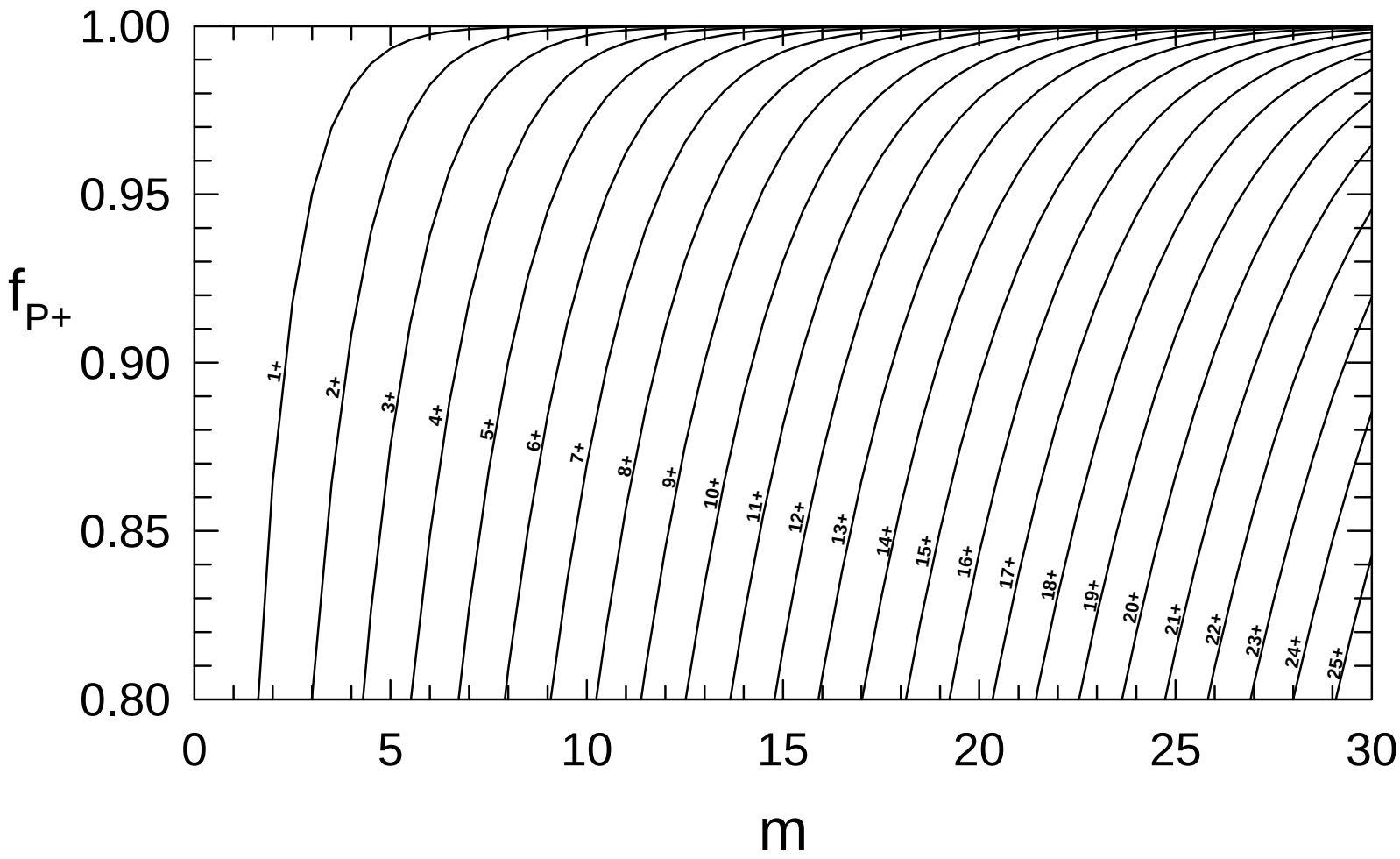
26+
27+
28+
29+
30+
31+
32+
33+
34+
35+
36+


1.00
0.95
0.90
0.85
0.80
f_{P+}
0
5
10
15
20
25
30
m
1+
2+
3+
4+
5+
6+
7+
8+
9+
10+
11+
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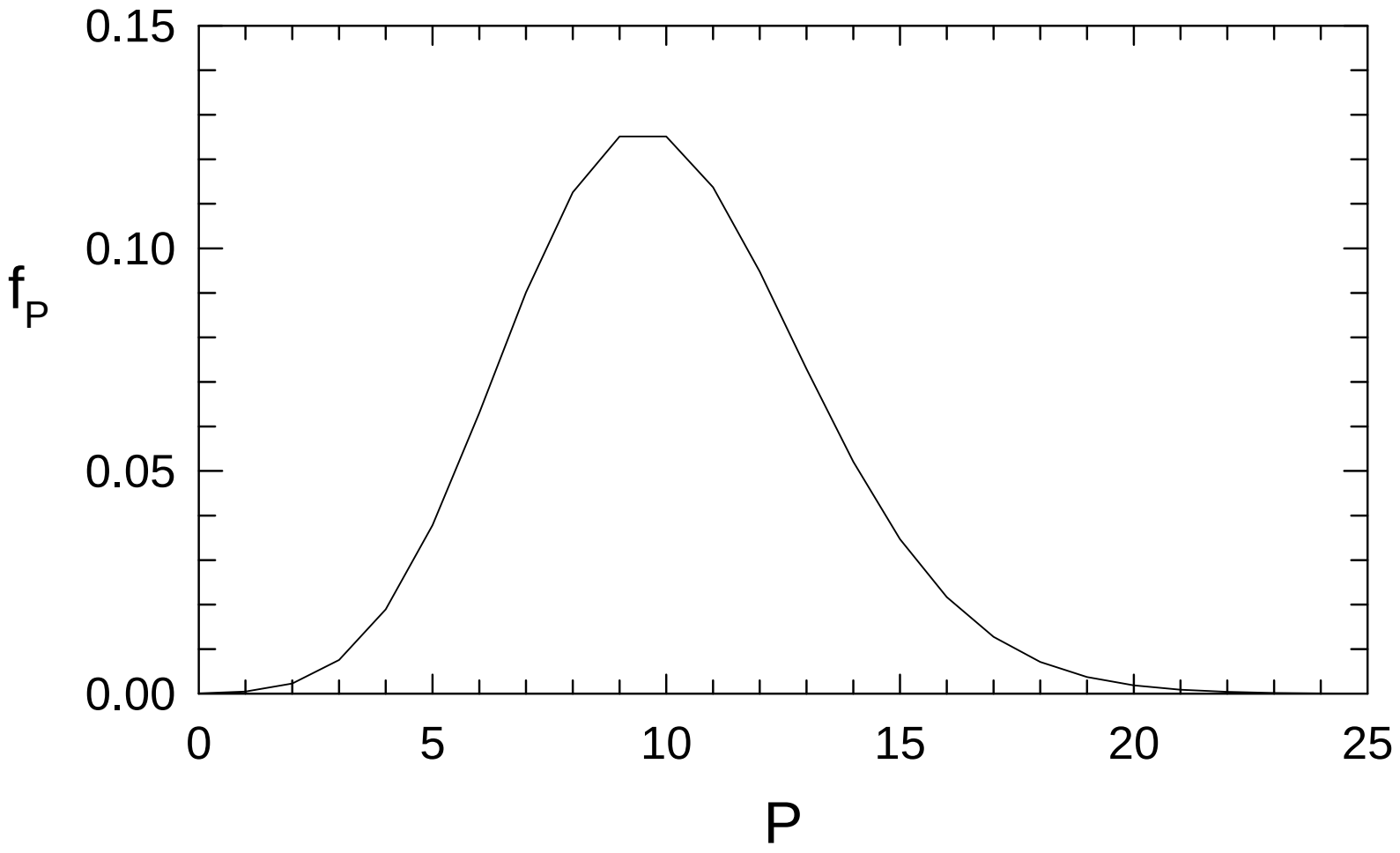
Section 3 - Example 1