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.(Groen,1989)

.(Brascamp,Smith and Guy,1985)

.(Gibson,1987)

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(Groen,1989)

(Hazel,1943)

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(Brascamp, Smith and Guy, 1985; Gibson, 1987; Hazel, 1943)

(Groen,1989)

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(Hazel,1943)

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(Brascamp, Smith, and Guy,1985; Hazel,1943; Smith, James, and Brascamp, 1986

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.(Dickerson, 1970; Gibson, 1989)

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.(Gibson, 1989; and Groen,1989)

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...

$$P = N(R - C) \quad (1)$$

(A)

$$P = N(R - A - h) \quad (2)$$

(RN)

$$RN = N [M (m (B + q s + q s) + (-m) u)] \quad (3)$$

- = M
- = m
- = B
- = q
- = s
- = q
- = s
- = u

...

$$\begin{aligned} & / & / \\ & \cdot & q \quad q \\ & & \cdot \\ & (\quad) & \text{CN} \\ & \cdot & \\ \text{CN} = N [M (b+t s + t s) + D + (a/L) + h] & () \\ &) & = b \\ & & (\\ & & = t \\ & & = t \\ & & = D \\ & & \cdot \\ & & = a \\ & & = L \\ & & = h \end{aligned}$$

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y

$$P = N \{ M [m (B + q s + q s + (-m)u) - [b + t s + t s] + D + (a/L) + h] \} \quad (1)$$

$$\frac{\partial P}{\partial y} = (1/N) \frac{\partial P}{\partial y} = (1/N) \frac{\partial (R - C)}{\partial y} = (1/N) \frac{\partial (R - A - h)}{\partial y} \quad (2)$$

$$N = U / C \quad (3)$$

$$Q = C / R \quad (4)$$

$$N = U / A \quad (5)$$

$$A = M (b + t s + t s + D + a/L)$$

(vm)

(vL)

$(vp\%)$

$(vf\%)$

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$vm = (C/R) - (w/r)$ ()	$vm = r - w (R/C)$ ()	
$vf = M(t - mq - Q)/r$ ()	$vf\% = m (mq - t (R/C))$ ()	
$vp = M(t - mq - Q)/r$ ()	$vp\% = m (mq - t (R/C))$ ()	
$vL = a/rL$ ()	$vL = a/L (R/C)$ ()	

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$w r$

$$r = B + q s + q s$$

$$w = b = t, s_1 + t, s_2$$

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(Gibson, 1987)

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