$$\frac{dy}{dt} = rV\left(\frac{n}{K_n+n}\right)\left(\frac{c}{K_c+c}\right) - qy = 0$$

$$rV\left(\frac{n}{K_n+n}\right)\left(\frac{c}{K_c+c}\right) = q$$

$$\frac{dn}{dt} = qu_n - qn - yV\left(\frac{n}{K_n+n}\right)\left(\frac{c}{K_c+c}\right) = 0$$

$$(u_n - n) = \frac{yV\left(\frac{n}{K_n+n}\right)\left(\frac{c}{K_c+c}\right)}{q}$$

$$u_n - n = y/r \qquad y = r(u_n - n)$$

$$\frac{dc}{dt} = qu_c - qn - yV\left(\frac{n}{K_n+n}\right)\left(\frac{c}{K_c+c}\right) = 0$$

$$(u_c - n) = \frac{yV\left(\frac{n}{K_n+n}\right)\left(\frac{c}{K_c+c}\right)}{q}$$

$$u_c - n = y/r \qquad y = r(u_c - n)$$

$y = r(u_n - n)$
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The steady states depend on the feed rates as seen in two equations. Increasing the f increases the biomass of the steady sta

This change will not affect the steady state. This term is replaced in the study state equations so it can't have an affect