3.17 Primary production

For primary producers the production is estimated as a function of the producers’ biomass, \( B_i \), from a simple saturating relationship:

\[
f(B_i) = \frac{r_i \cdot B_i}{1 + B_i \cdot h_i} \quad \text{Eq. 67}
\]

where, \( r_i \) is the maximum production/biomass ratio that can be realized (for low \( B_i \)’s), and \( r_i/h_i \) is the maximum net primary production when the biomass is not limiting to production (high \( B_i \)’s). For parameterization it is only necessary to provide an estimate of \( r_i/(P_i/B_i) \), i.e., a factor expressing how much primary production can be increased compared to the base model state. If a Forcing function is applied to primary production (see Apply FF (primary producer)), it multiplies the \( r \) parameter in Eq. 67.