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Nitrogen use in the global food system: Past trends and future trajectories of agronomic performance, pollution, trade, and dietary demand

Luis Lassaletta, Gilles Billen, Josette Garnier, Lex Bouwman, Eduardo Velazquez, Nathaniel D. Mueller & James S. Gerber

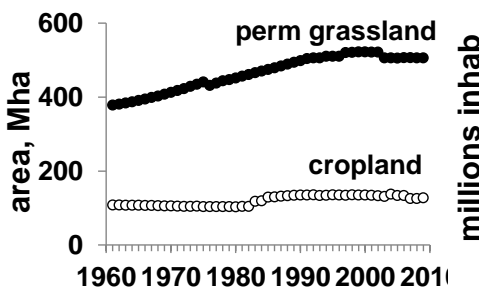
Supplementary Material S6

Detailed data on the GRAFS-N budget of each world regions

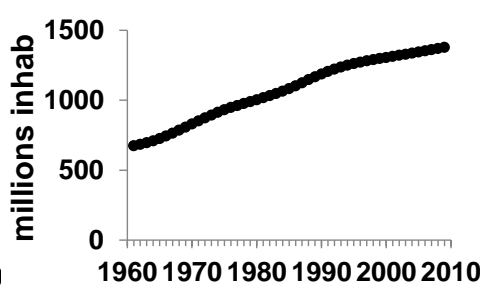
Detailed information on the N budget of the agro-food system of each region from 1961 to 2009, calculated from the FAOstat data according to the GRAFS methodology.

China

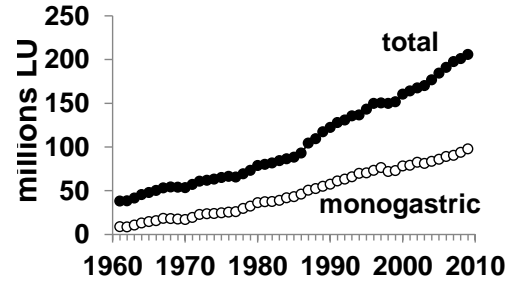
Crop & Grassland



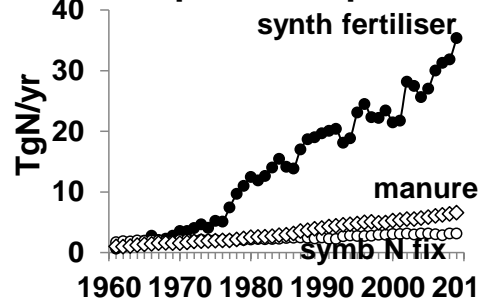
Population



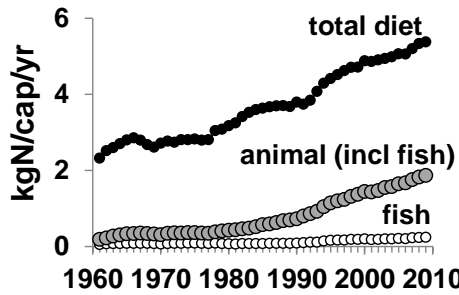
Livestock



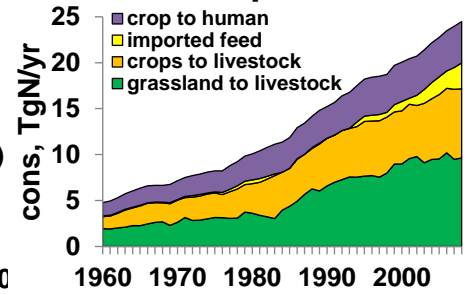
N input to cropland



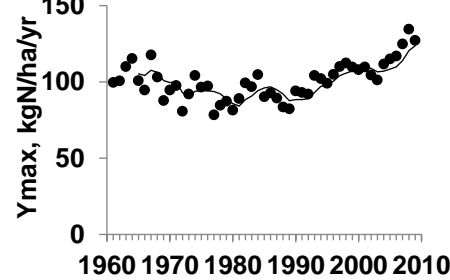
Human diet



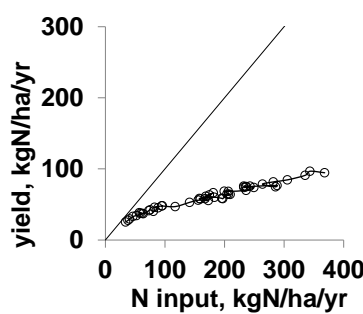
Fate of production



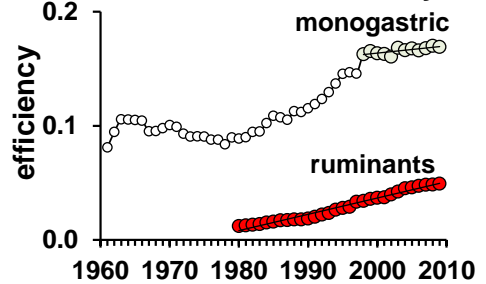
Ymax, kgN/ha/yr



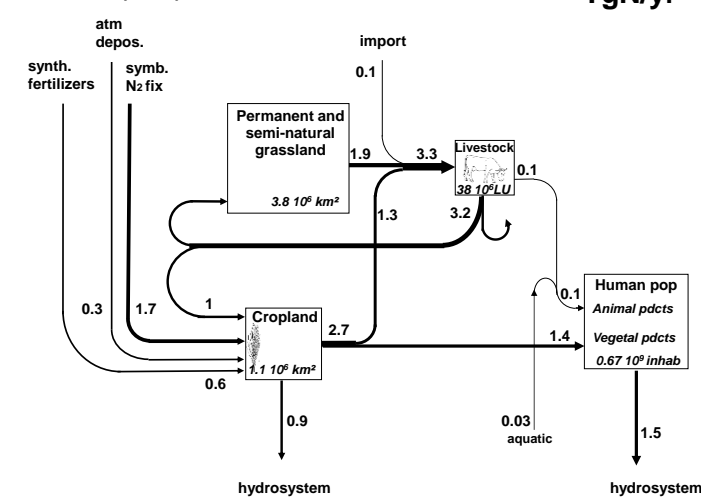
Y vs Ninput trajectory



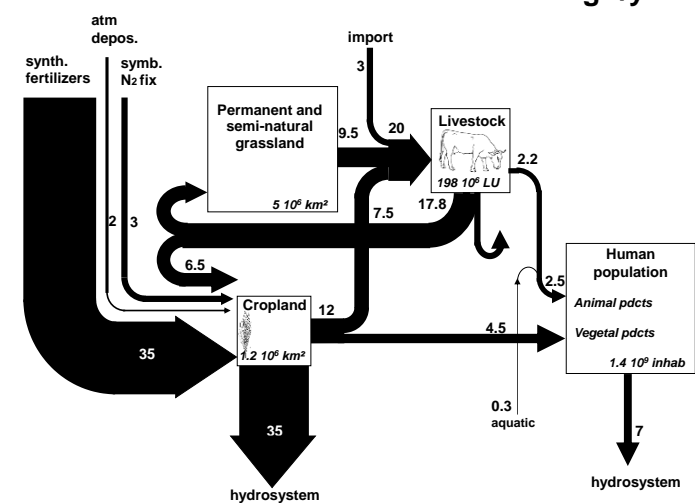
Veg to animal protein conversion efficiency



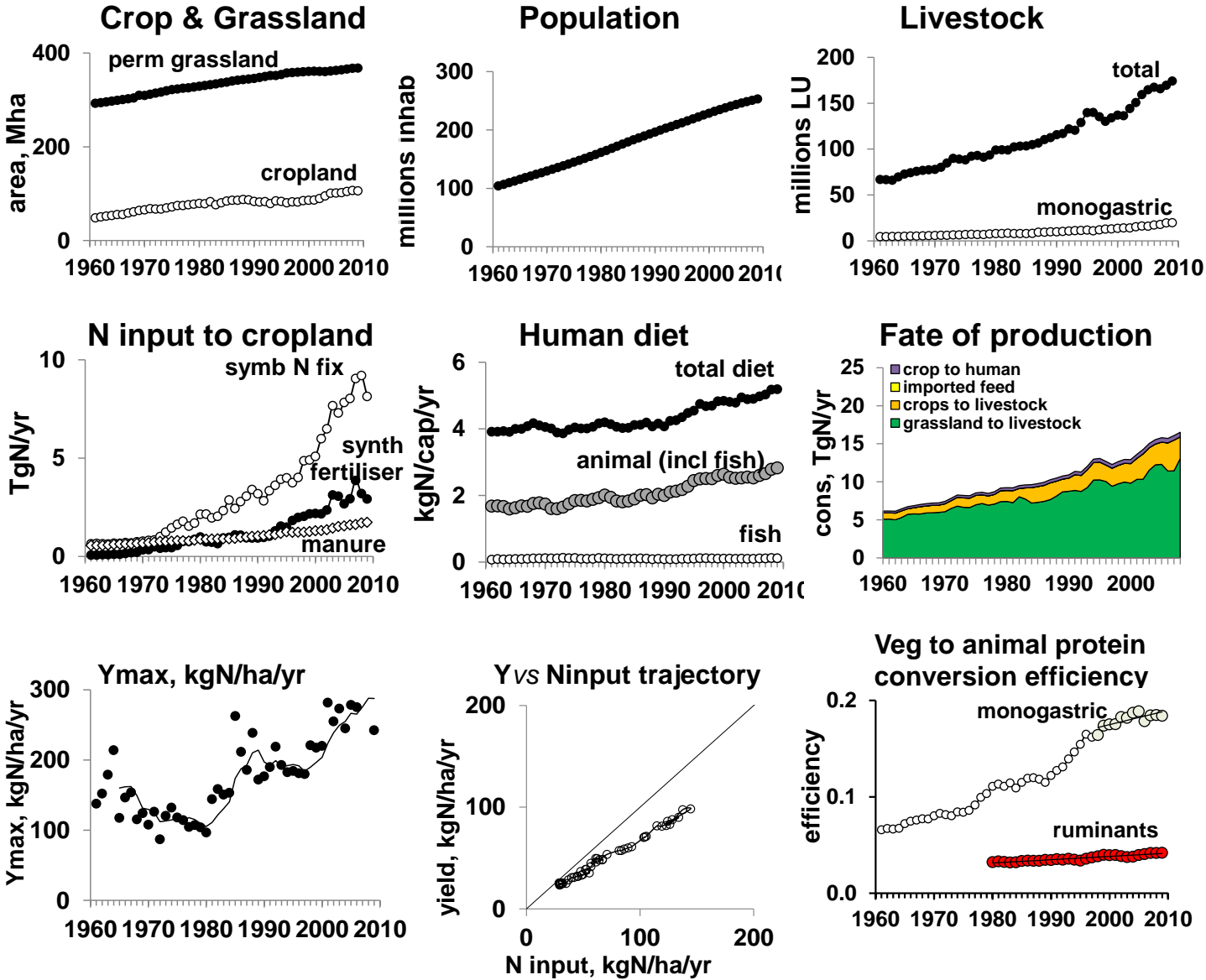
China (1961)



TgN/yr China (2009)

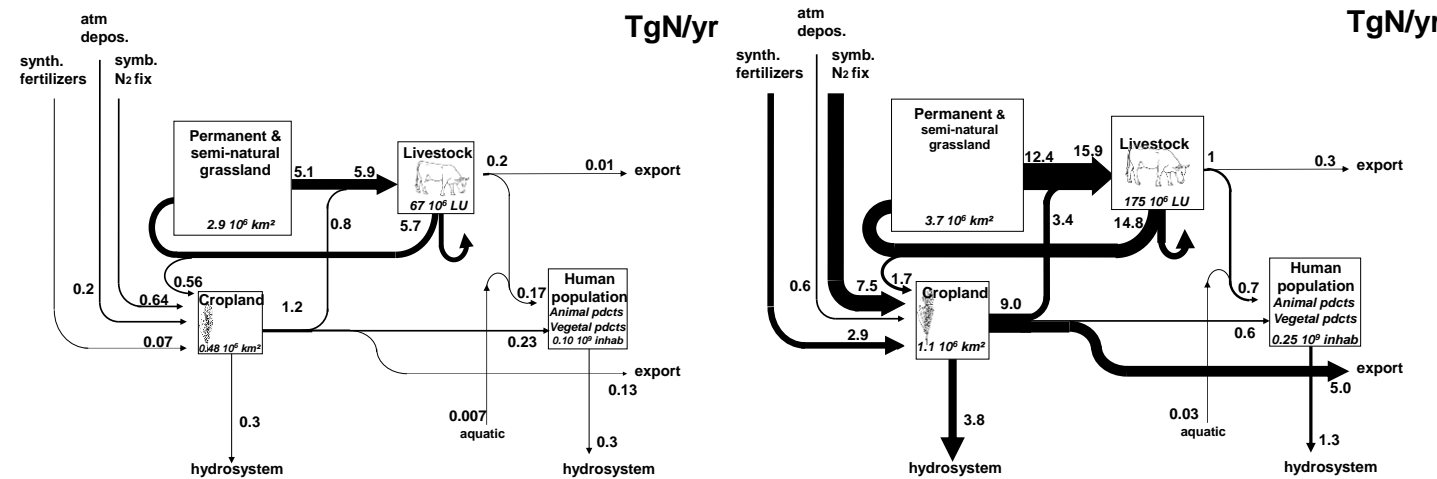


South American Soy Countries

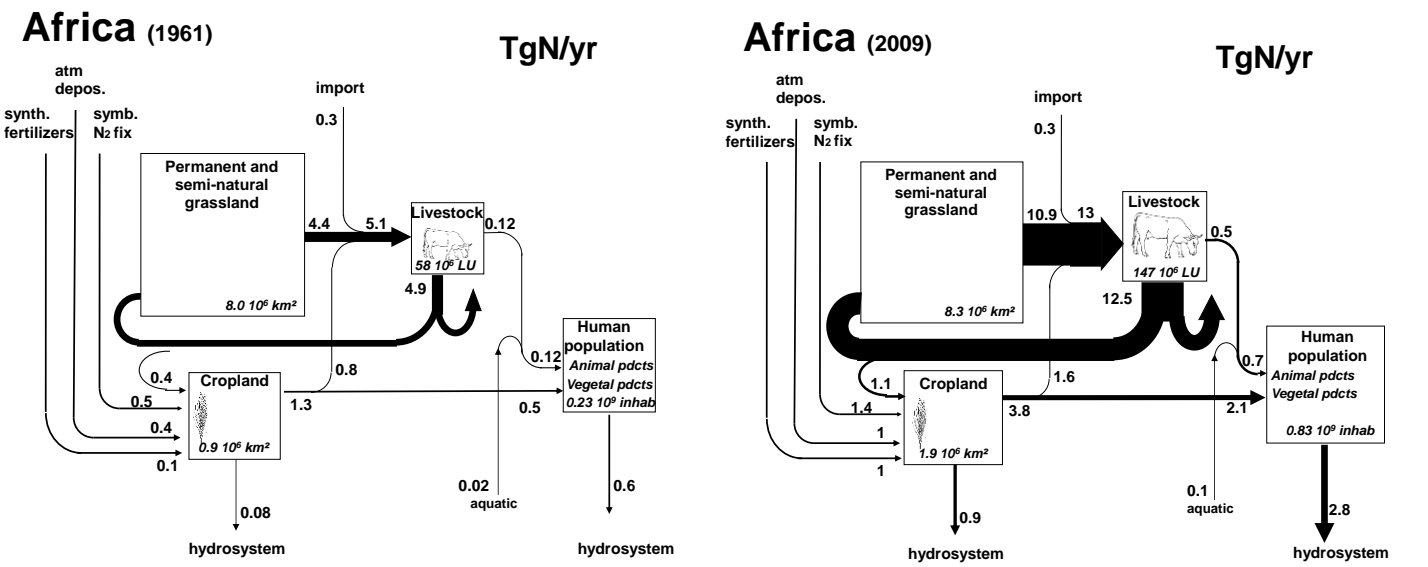
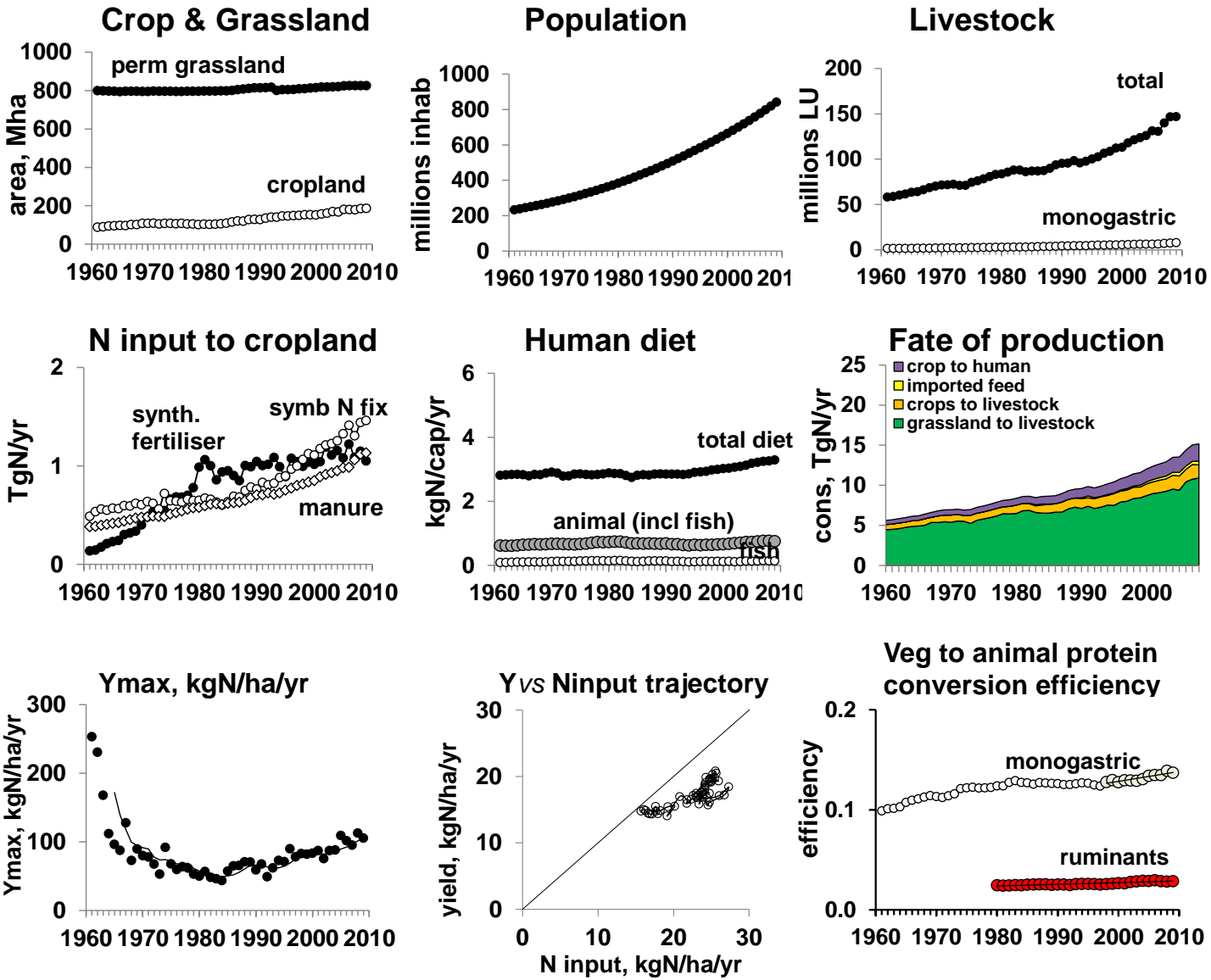


South American Soy countries (1961)

South American Soy countries (2009)

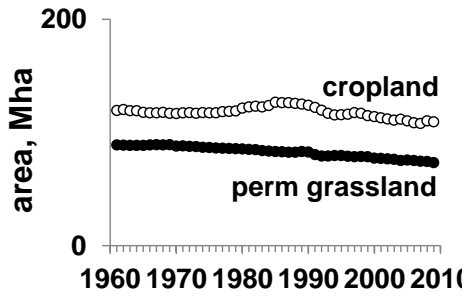


Sub-Saharan Africa

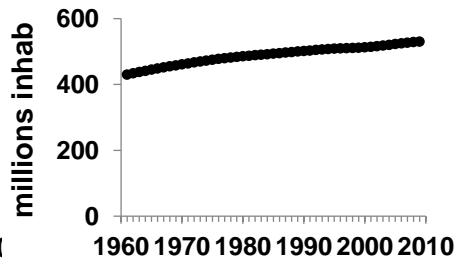


Europe

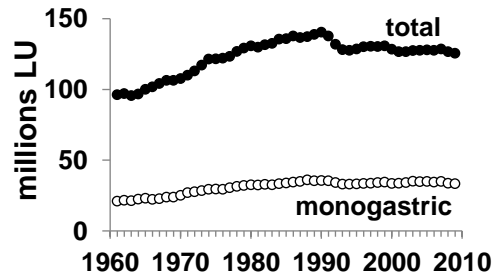
Crop & Grassland



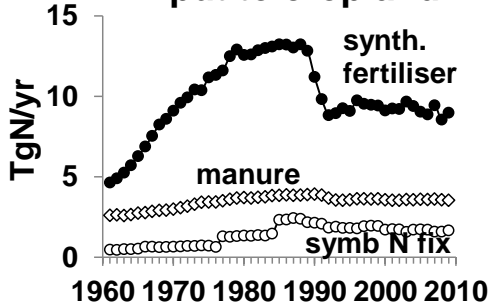
Population



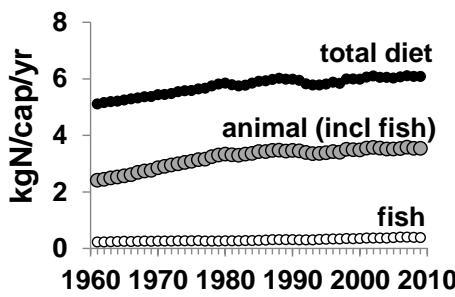
Livestock



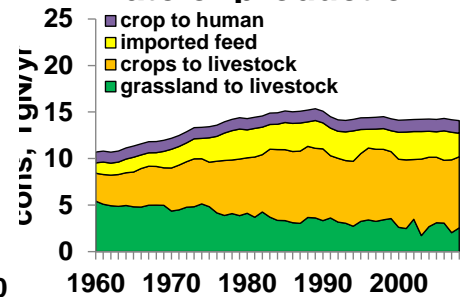
N input to cropland



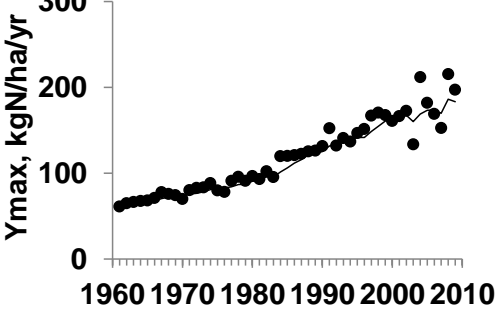
Human diet



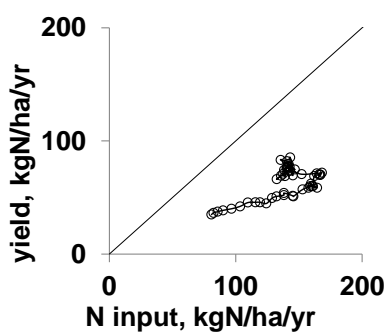
Fate of production



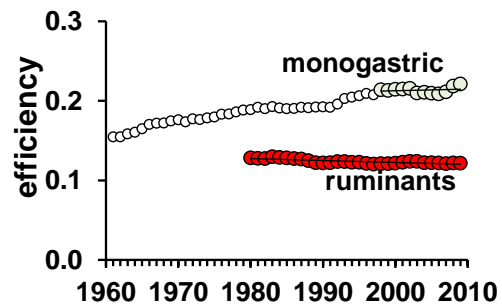
Ymax, kgN/ha/yr



Y vs Ninput trajectory



Veg to animal protein conversion efficiency

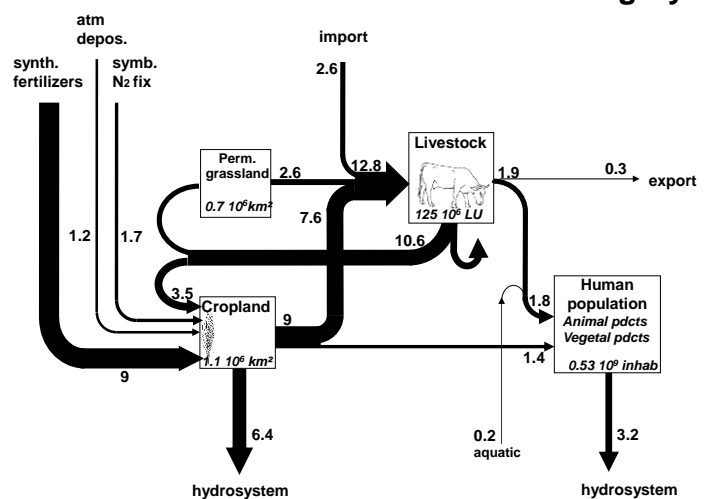
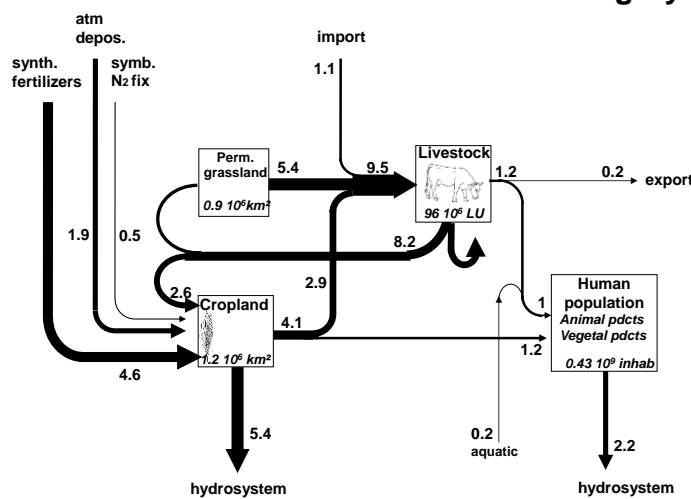


Europe (1961)

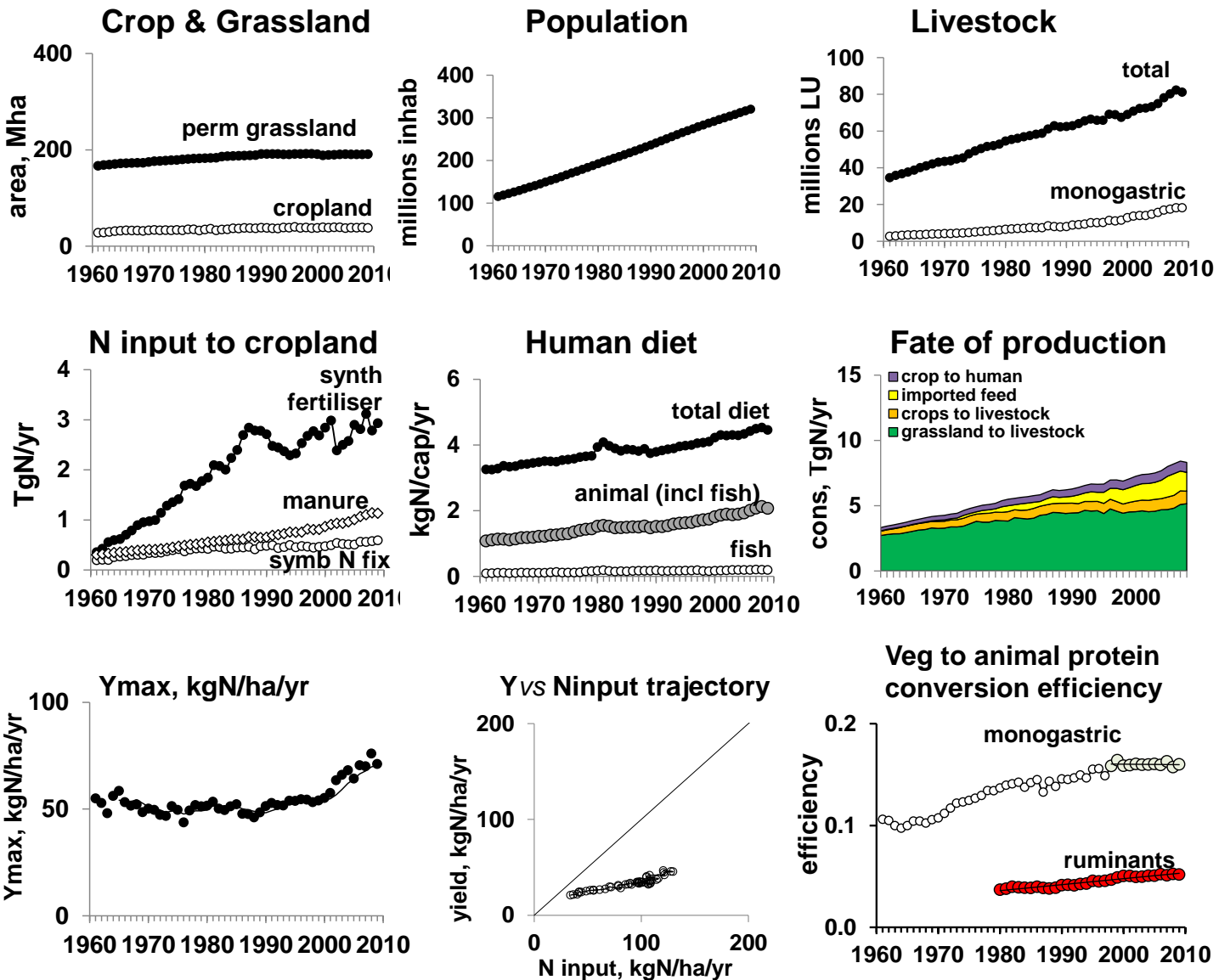
TgN/yr

Europe (2009)

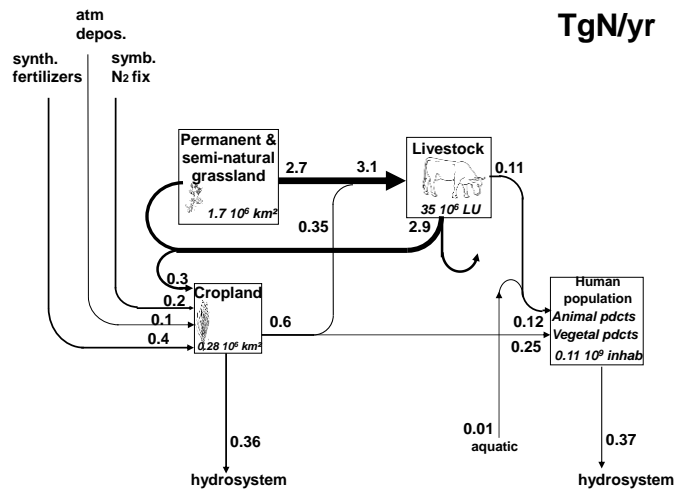
TgN/yr



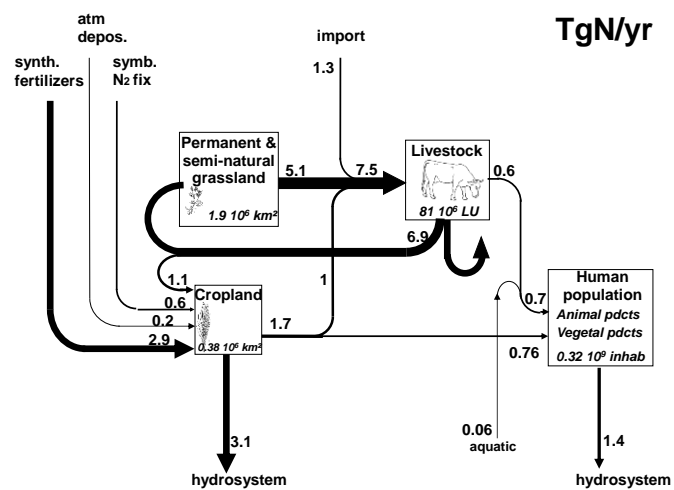
Central & South-West America



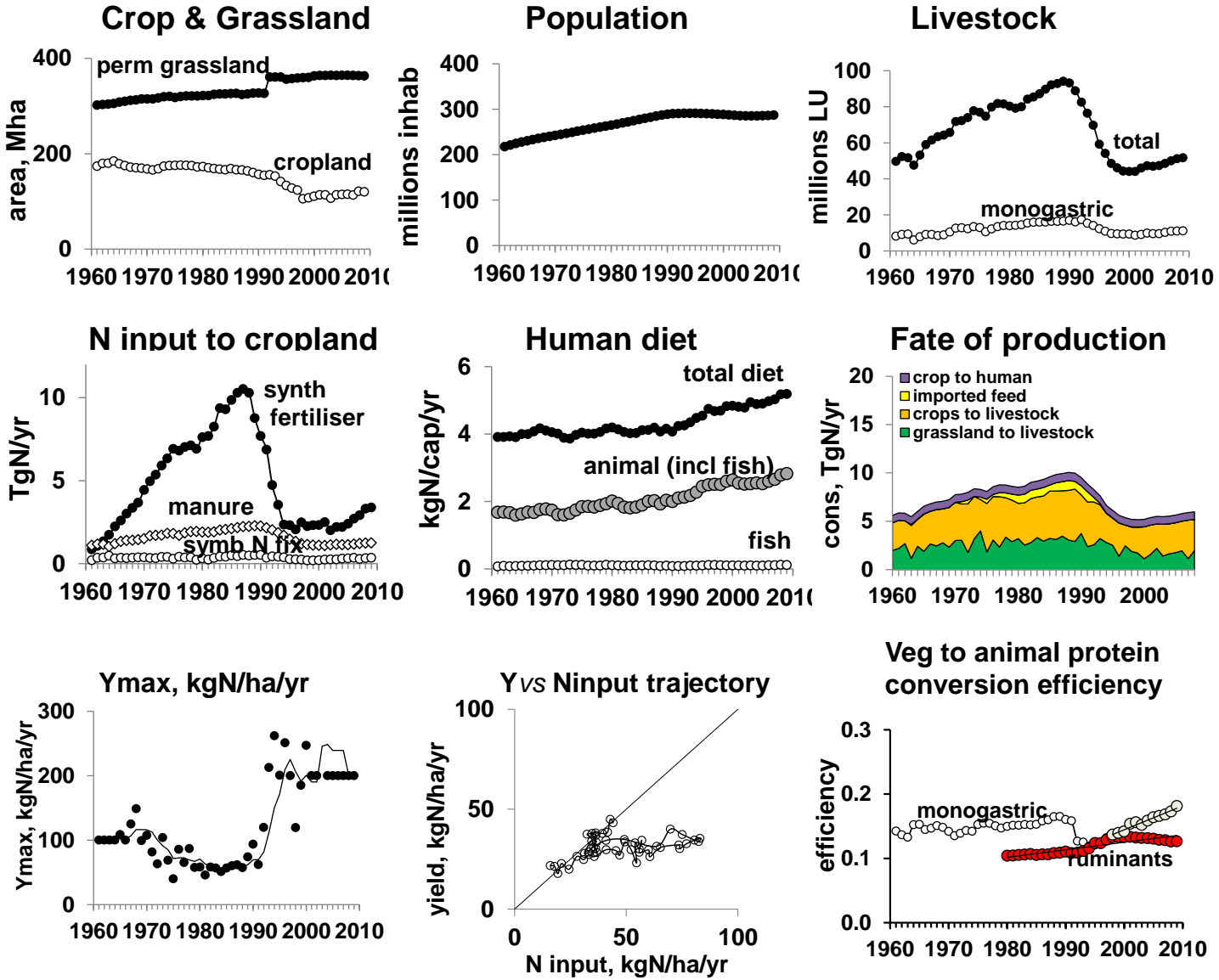
Central and SW America (1961)



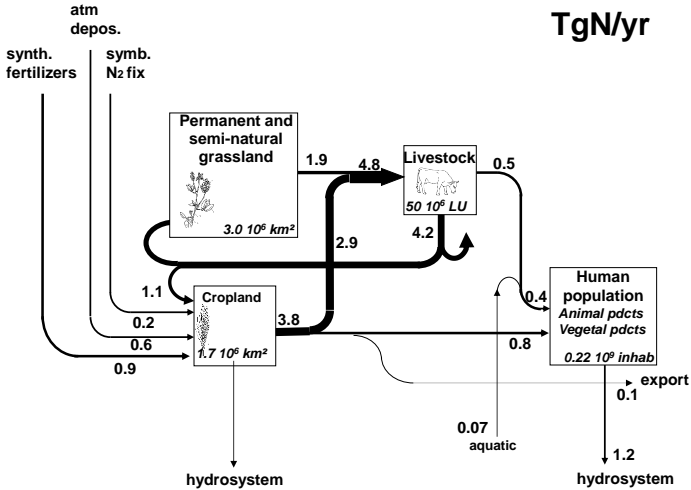
Central and SW America (2009)



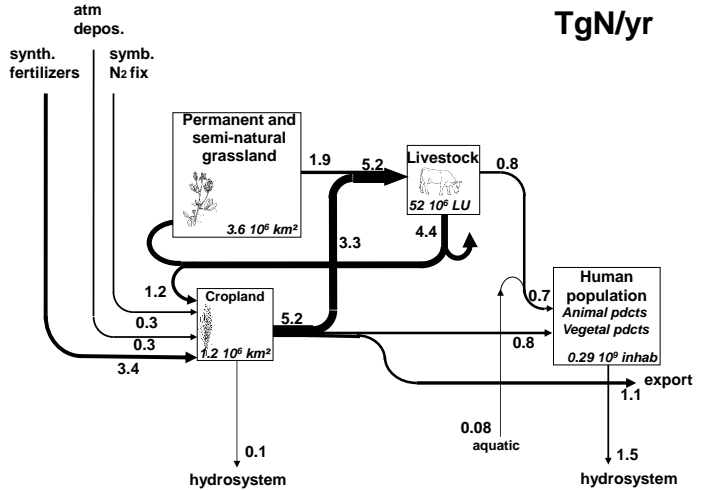
Former Soviet Union



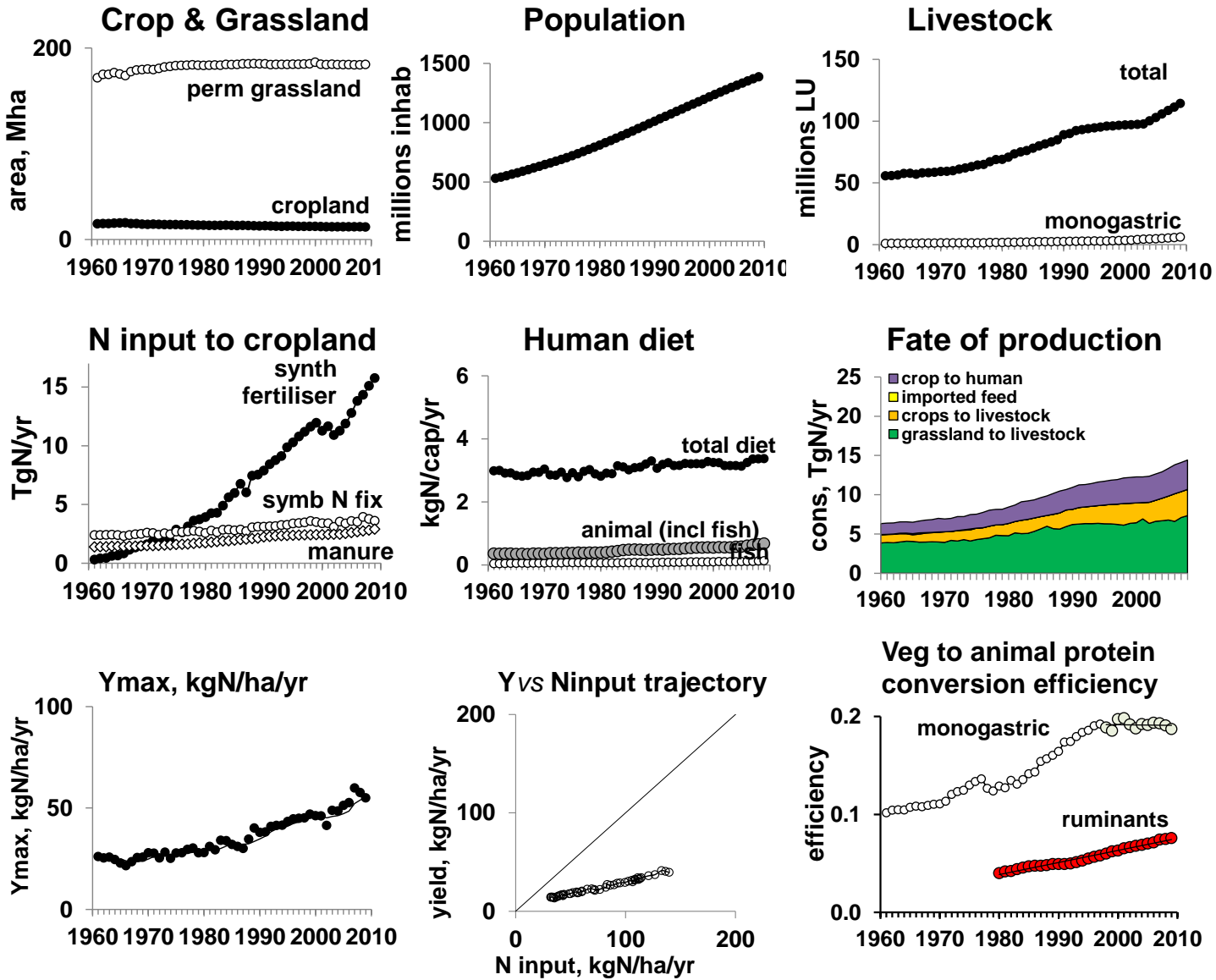
Former Soviet Union (1961)



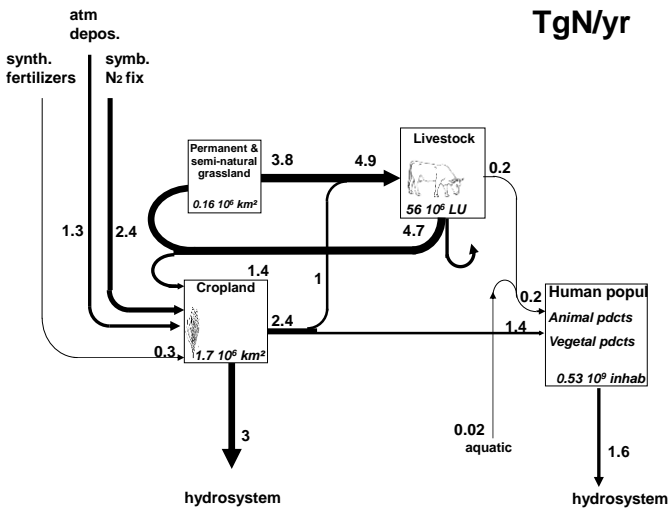
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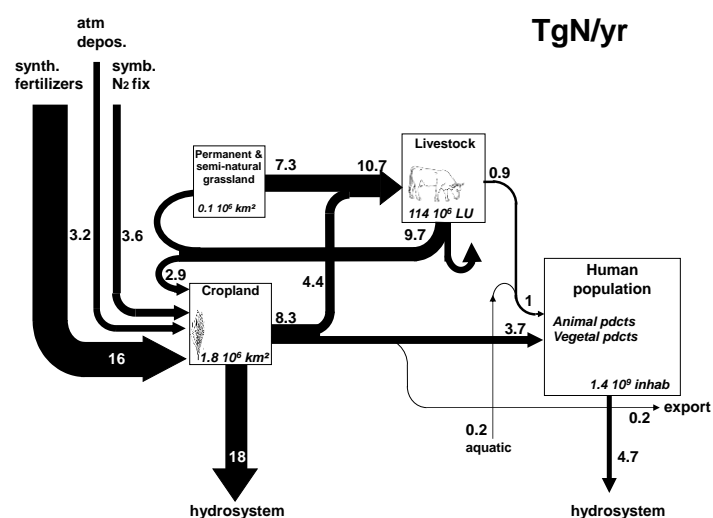
India



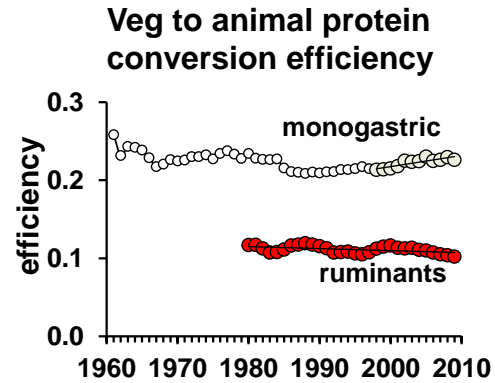
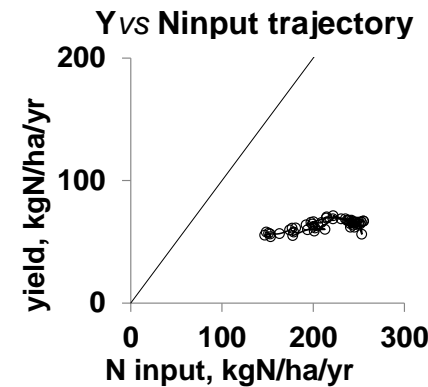
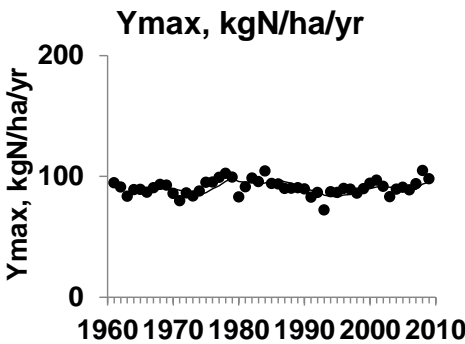
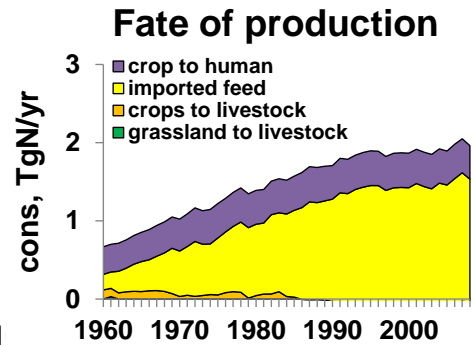
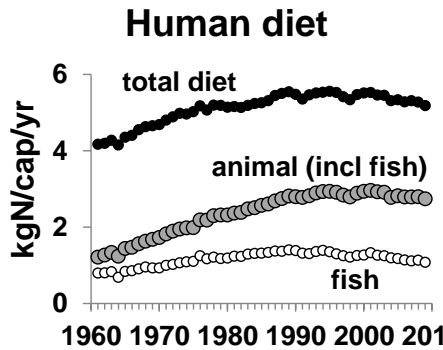
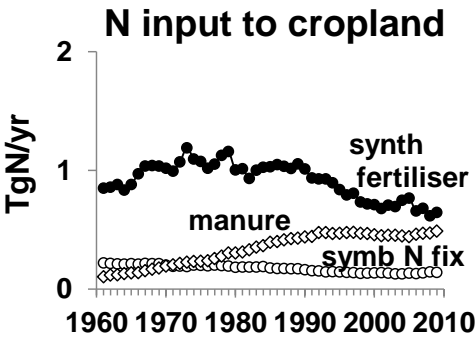
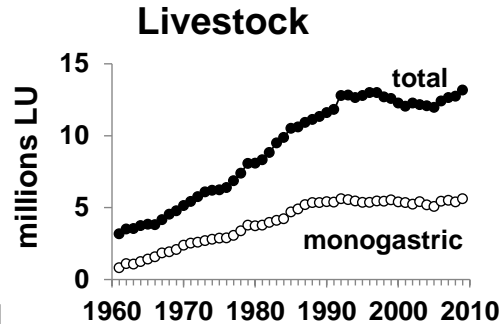
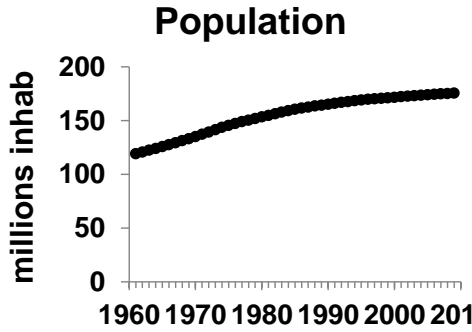
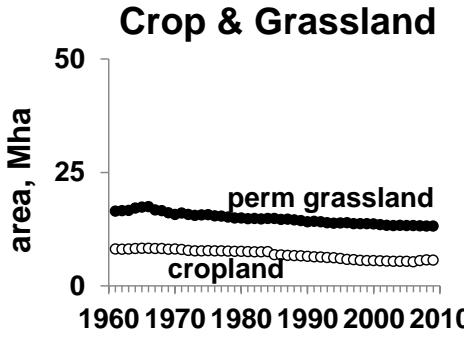
India (1961)



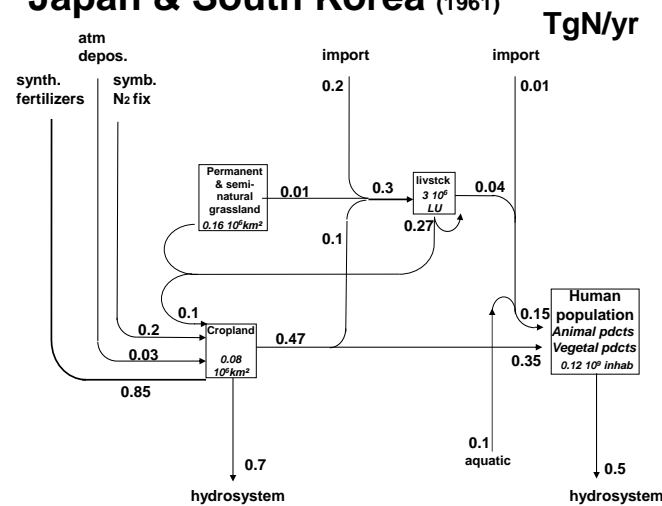
India (2009)



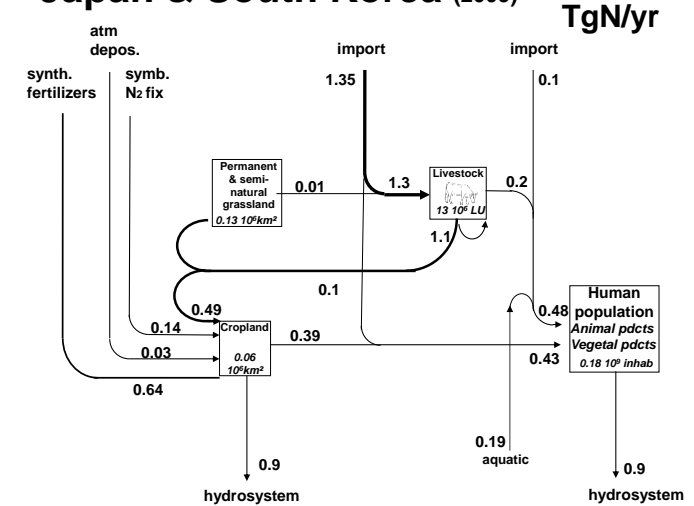
Japan & South Korea



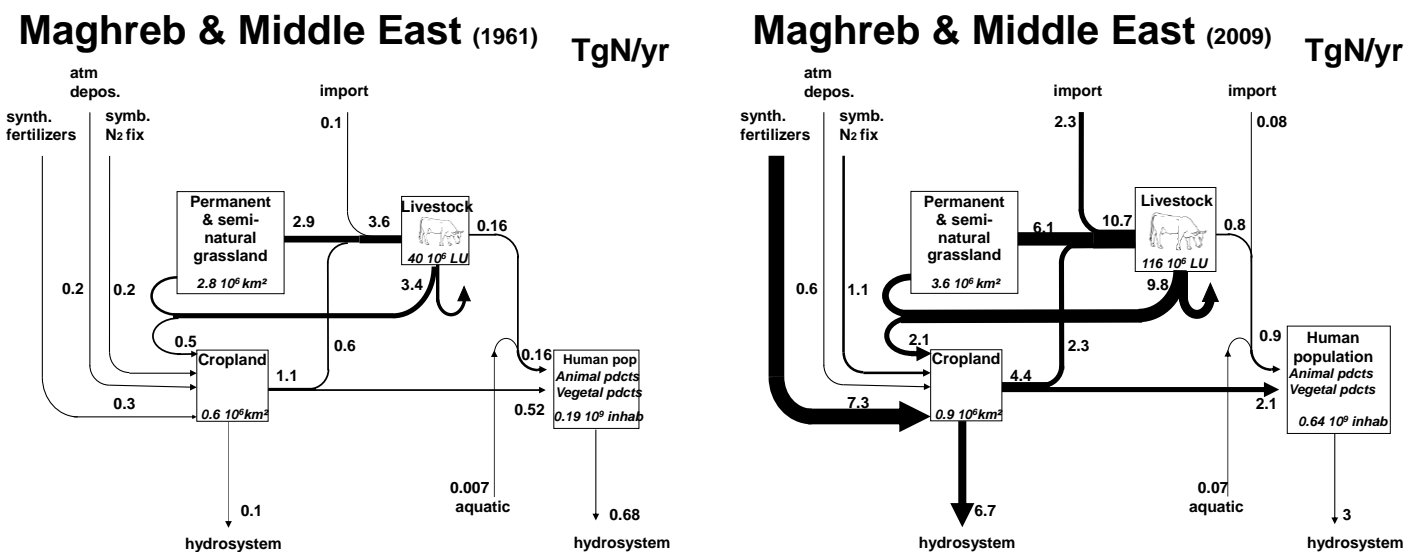
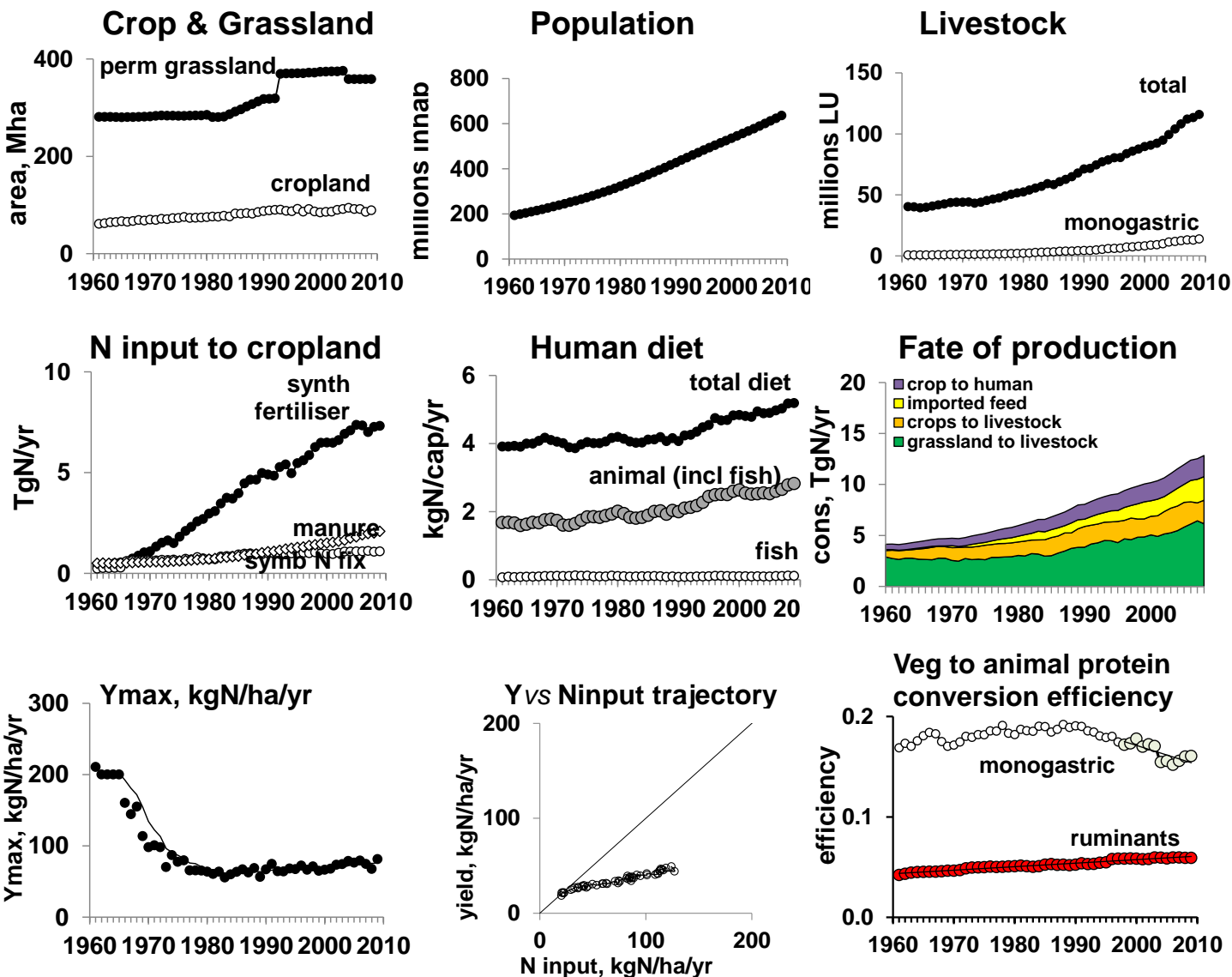
Japan & South Korea (1961)



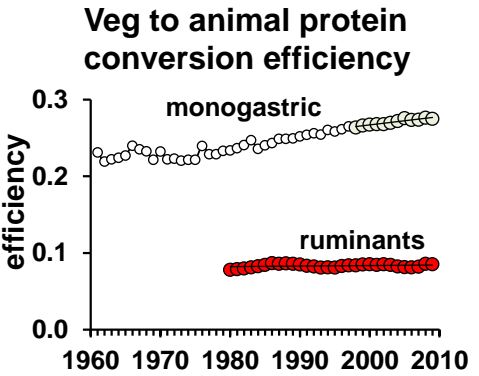
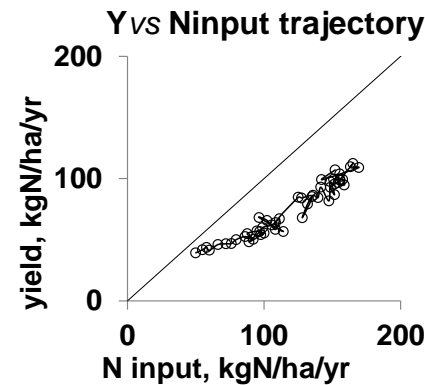
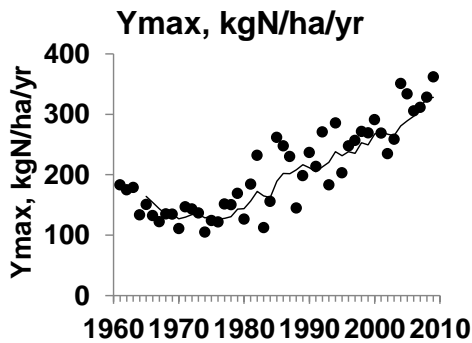
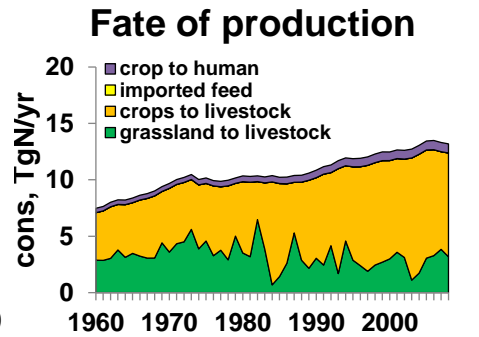
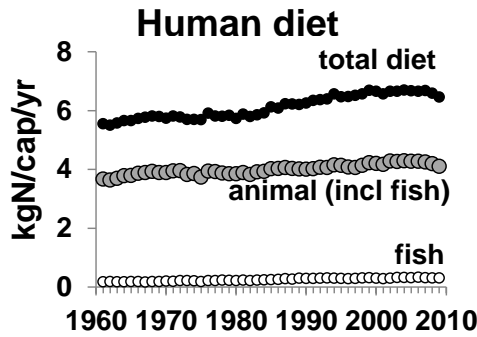
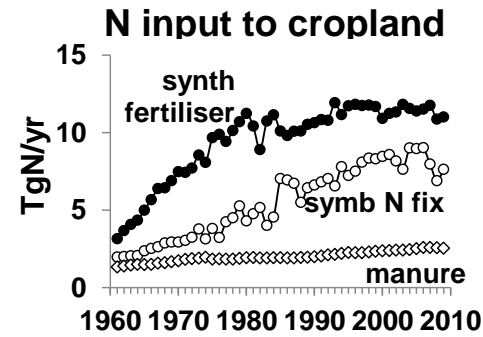
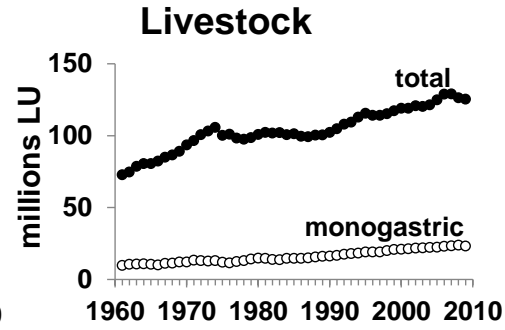
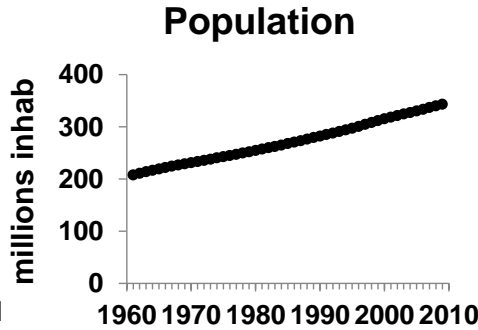
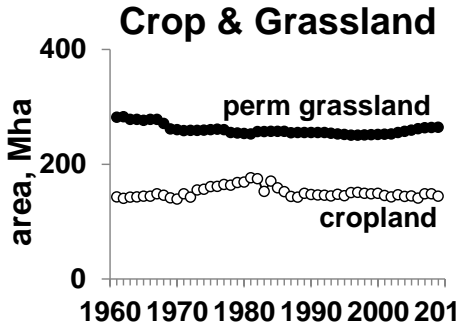
Japan & South Korea (2009)



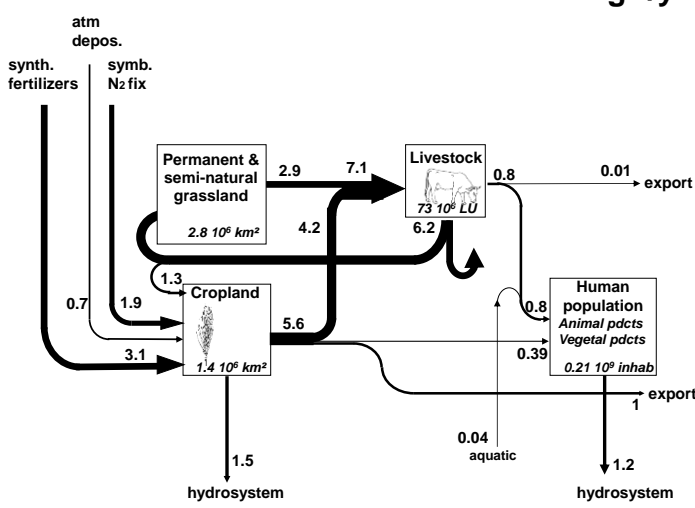
Maghreb & Middle East



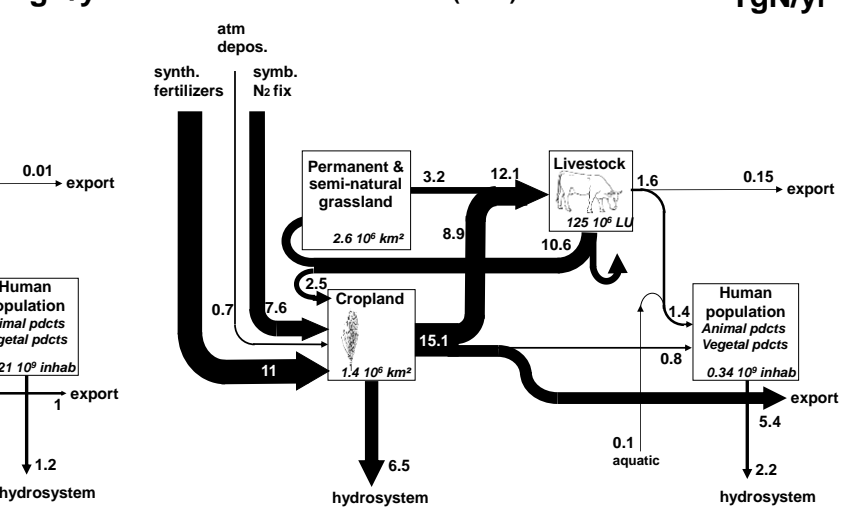
North America



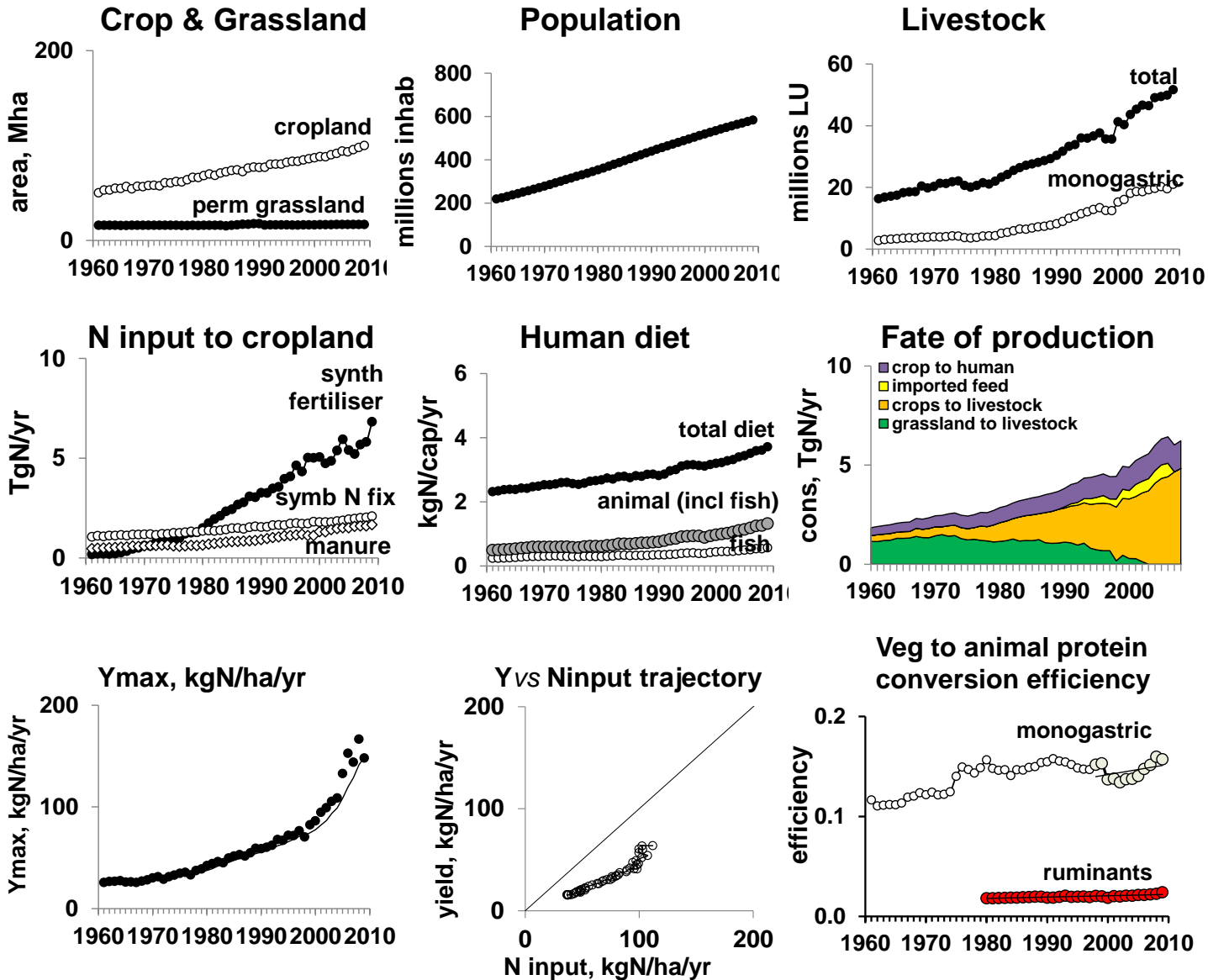
North America (1961)



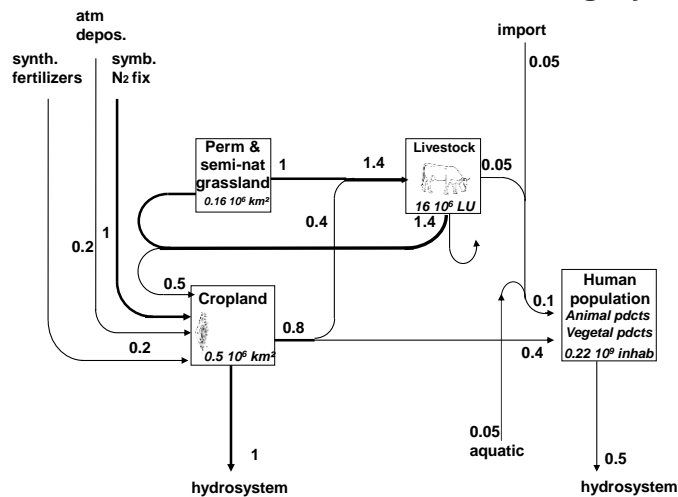
North America (2009)



South East Asia

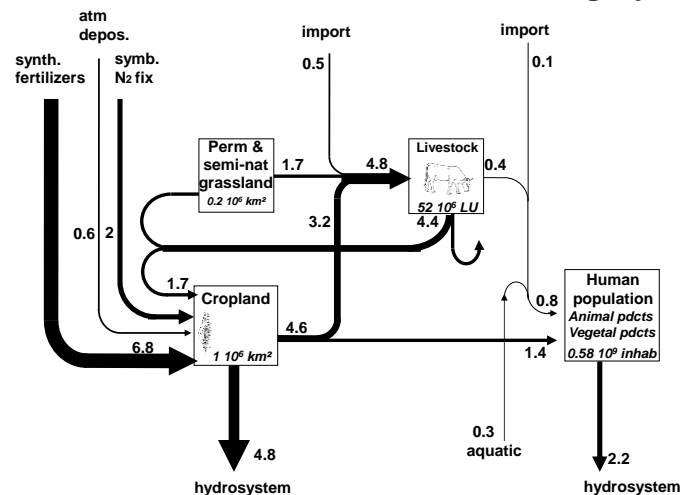


SE Asia (1961)



TgN/yr

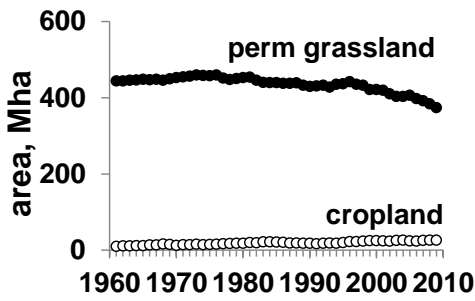
SE Asia (2009)



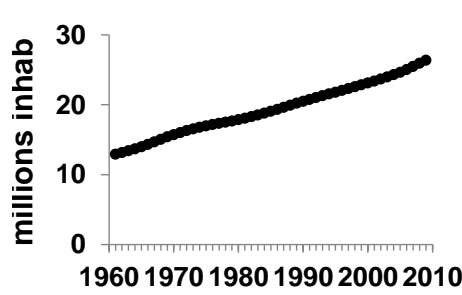
TgN/yr

Australia & New Zealand

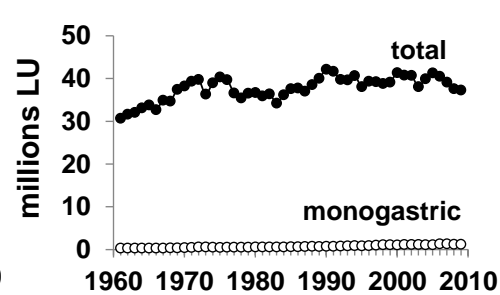
Crop & Grassland



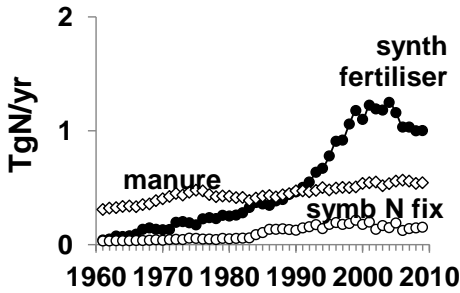
Population



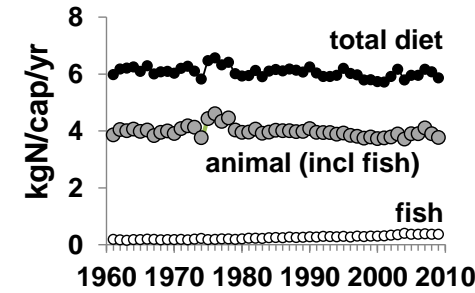
Livestock



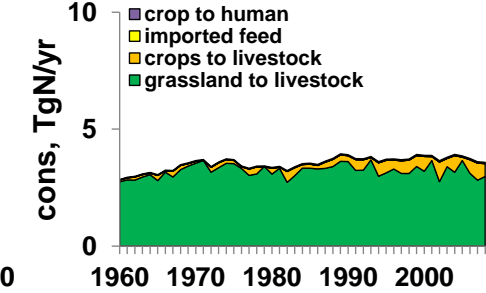
N input to cropland



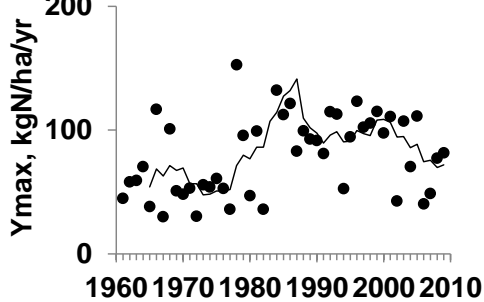
Human diet



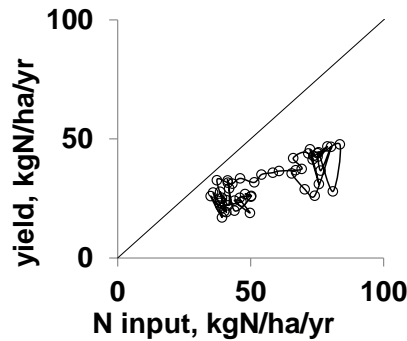
Fate of production



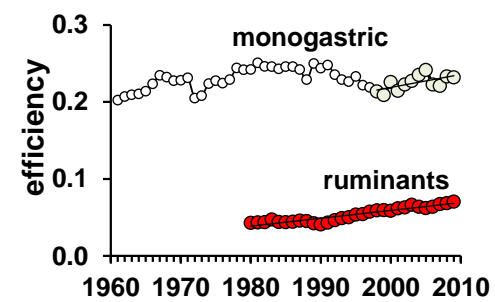
Ymax, kgN/ha/yr



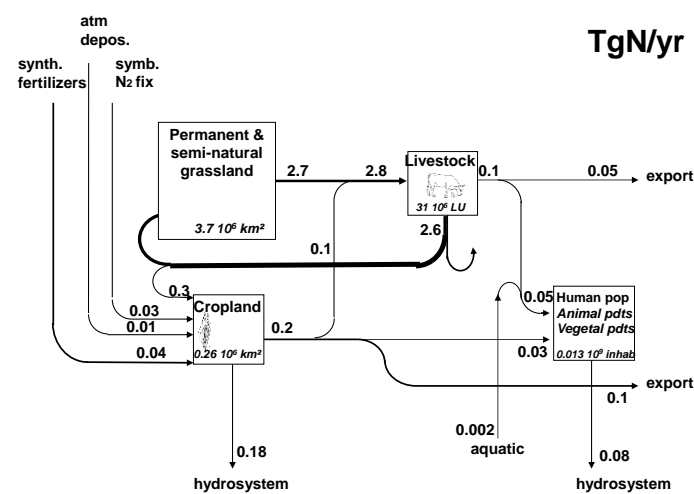
Y vs Ninput trajectory



Veg to animal protein conversion efficiency



Australia & New Zealand (1961)



Australia & New Zealand (2009)

