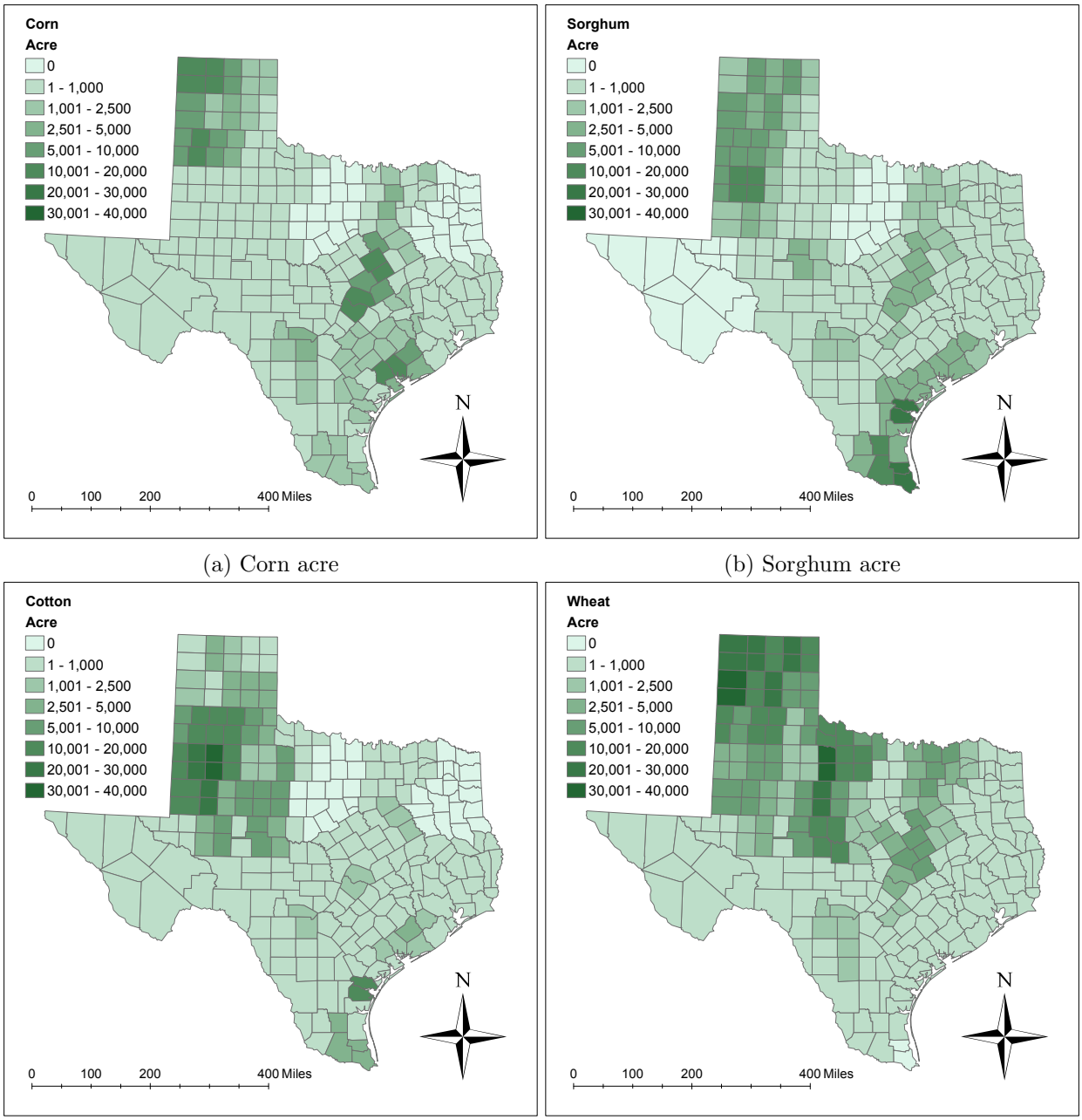
Online Supplement to "Biomass Logistics Network Design under Price based Supply and Yield Uncertainty" by Halit Üster and Gökhan Memişoğlu

A Acreages of Four Major Crops in Texas



(a) Corn acre

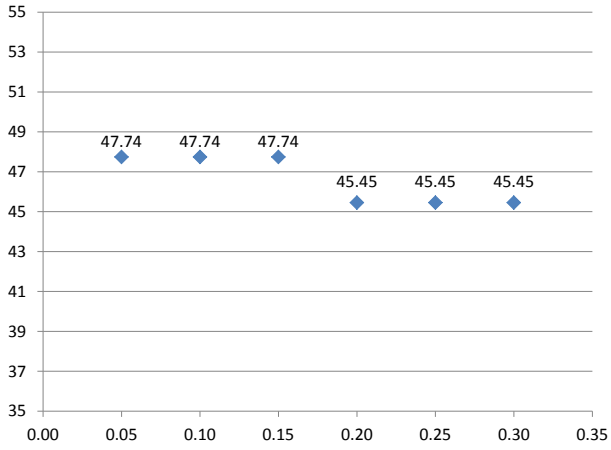
(b) Sorghum acre

(c) Cotton acre

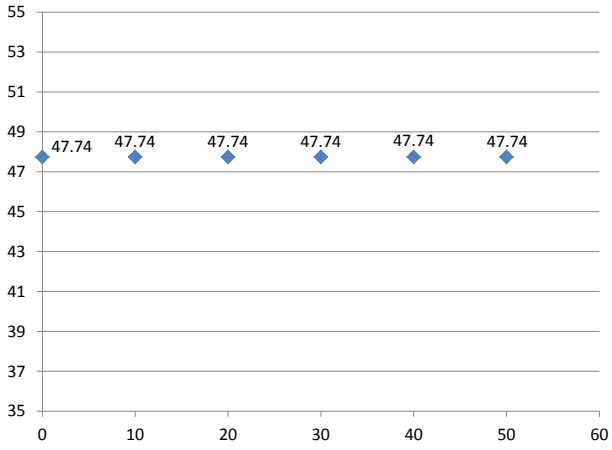
(d) Wheat acre

Figure A.1: Acreages of Four Major Crops in Texas

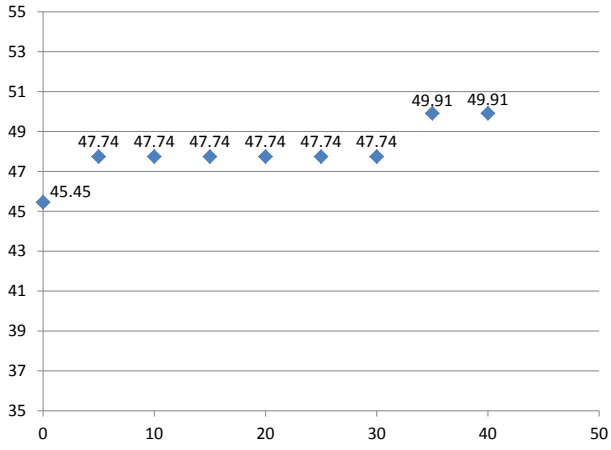
B Unit biomass price under different settings



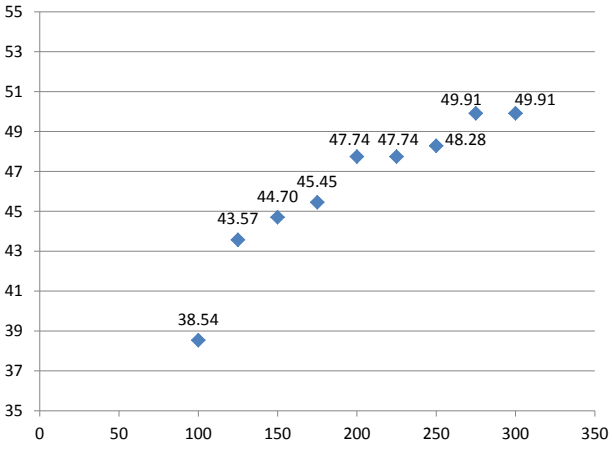
(a) Unit transportation cost ($/dt/mile)



(b) Economies-of-scale discount factor (%)



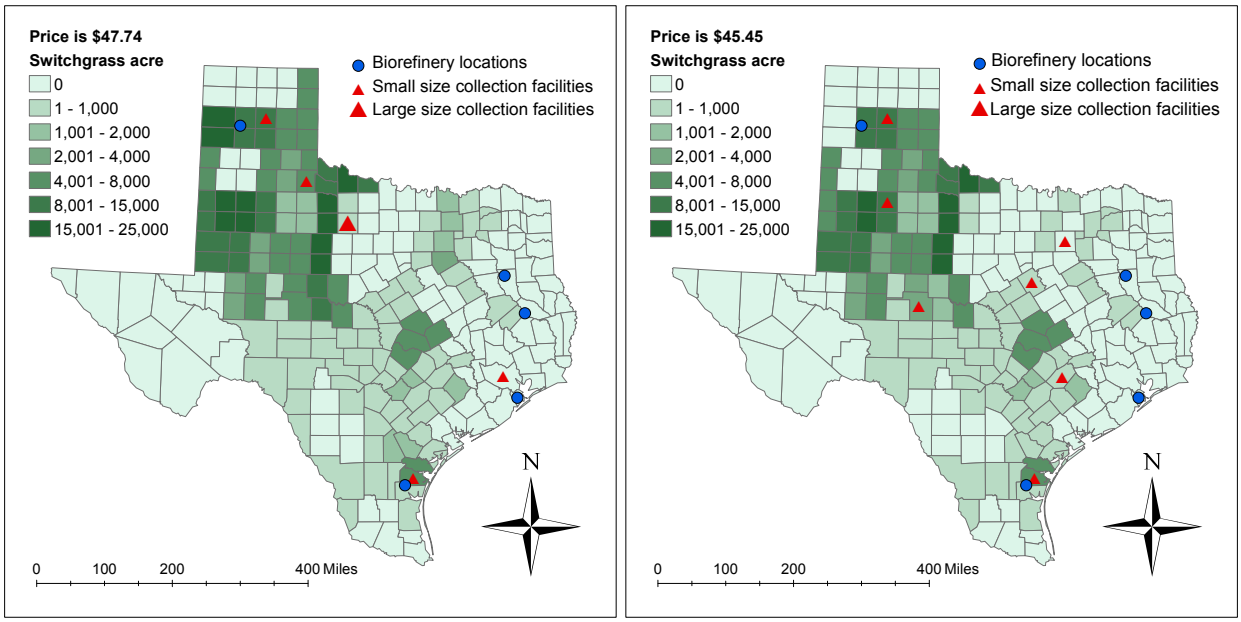
(c) Unit salvage price ($/dt)



(d) Unit penalty cost ($/dt)

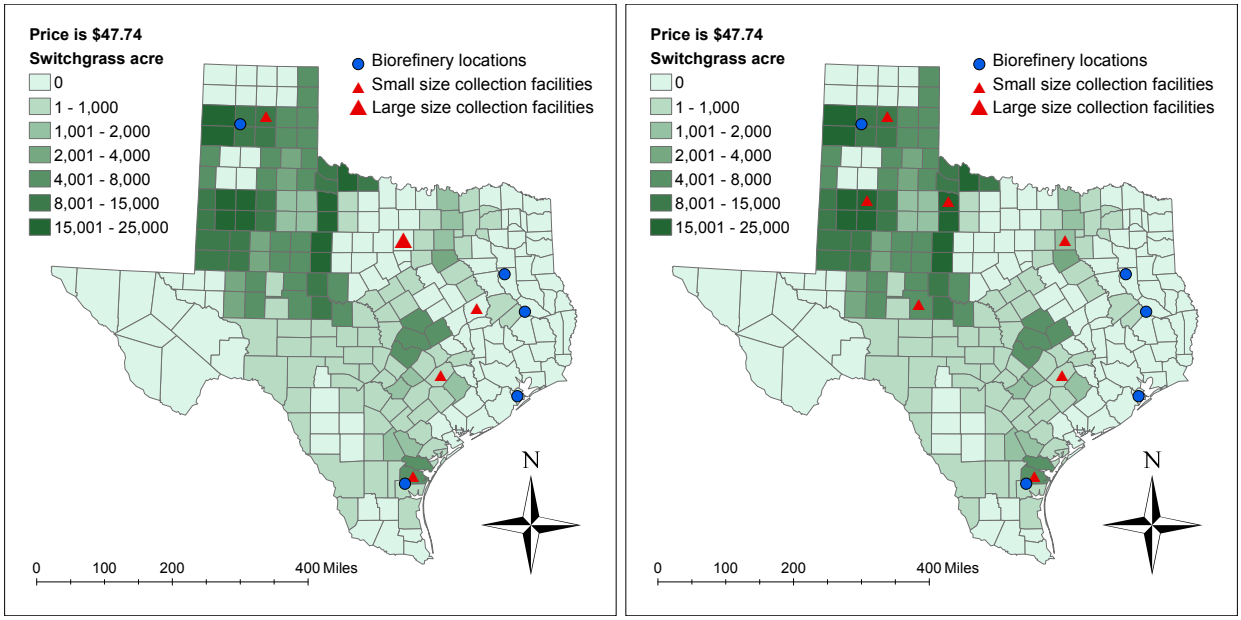
Figure B.1: Different parameter values (x-axes) vs. Unit biomass price ($/dt, y-axis)

C Network results under different settings



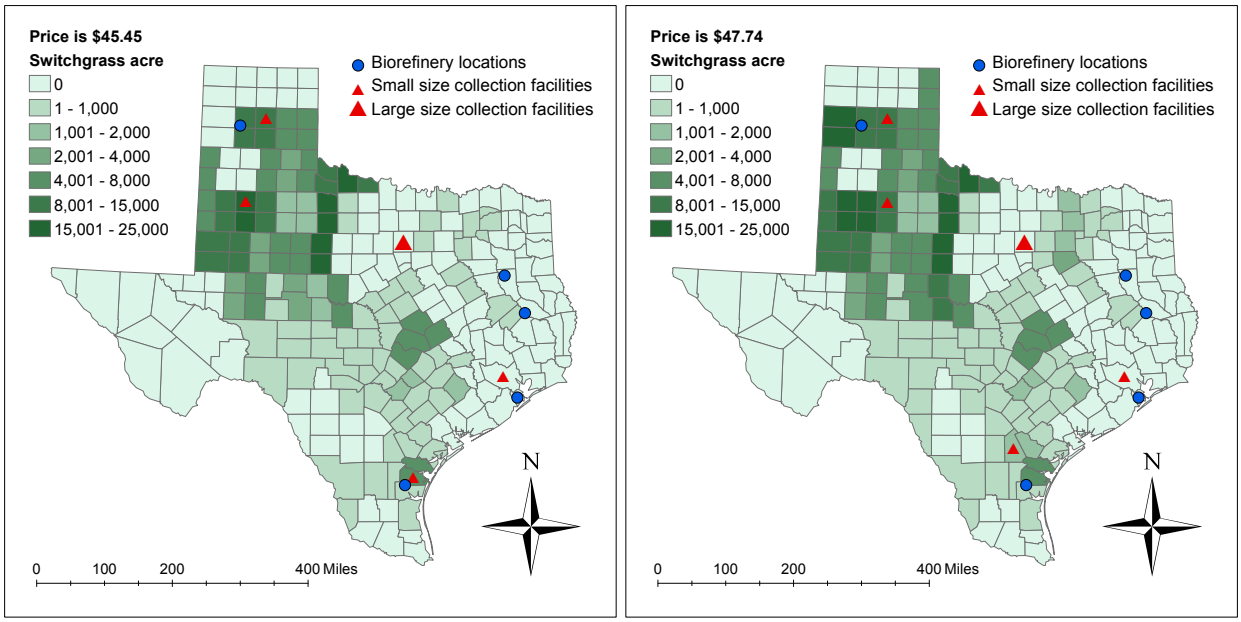
(a) Unit transportation cost is \$0.05/dt-mile (b) Unit transportation cost is \$0.30/dt-mile

Figure C.1: Setting S1 - Supply chain under different unit transportation costs



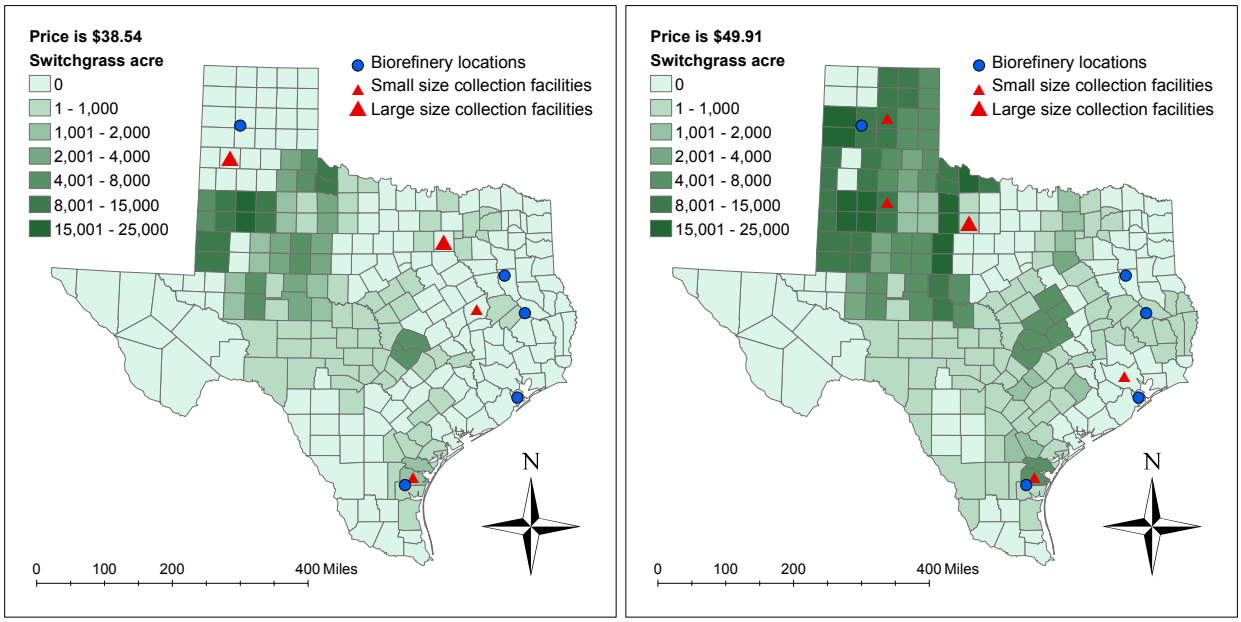
(a) Economies-of-scale discount factor is 0% (b) Economies-of-scale discount factor is 30%

Figure C.2: Setting S2 - Supply chain structure under different economies-of-scale discount factors



(a) Unit salvage price is \$0/dt (b) Unit salvage price is \$40/dt

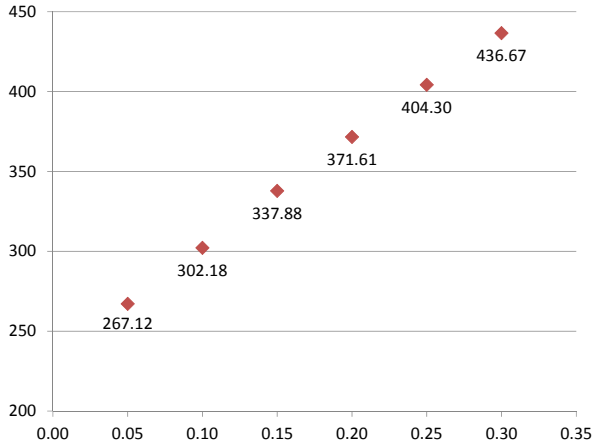
Figure C.3: Setting S3 - Supply chain structure under different unit salvage prices



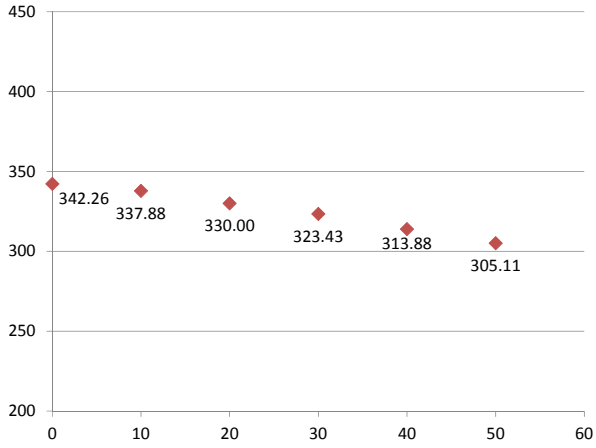
(a) Unit penalty cost is \$100/dt (b) Unit penalty cost is \$300/dt

Figure C.4: Setting S4 - Supply chain structure under different unit penalty costs

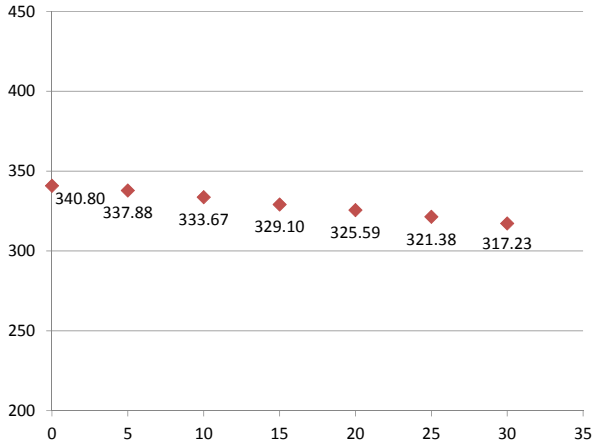
D Total cost under different settings



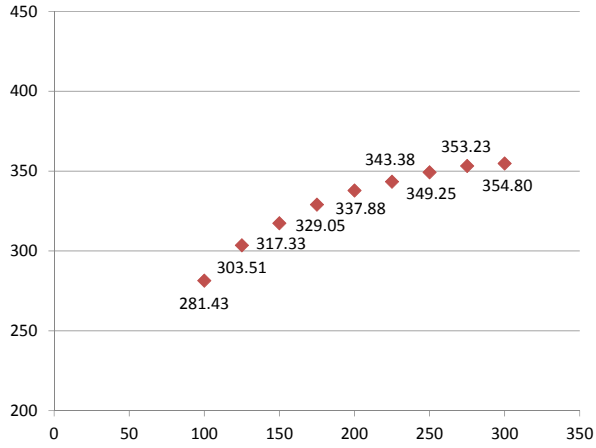
(a) Unit transportation cost ($/dt/mile)



(b) Economies-of-scale discount factor (%)



(c) Unit salvage price ($/dt)



(d) Unit penalty cost ($/dt)

Figure D.1: Different parameter values (x-axes) vs. Total system cost ($ in millions, y-axis)