



# Four mega drivers for our food system

## **Population growth**

- Urbanization & demographic transition

## **How we think about ourselves**

- "I consume, therefore I am"
- The religion of progress

## **Fossil fuels**

- Technology and transport
- Oiling the market - cutting the chains of ecology

## **Market economy & globalization**

- Market volume, width, and depth
- Market imperative: "grow or die"

1850: 250 hours to harvest 1 ton of barley  
2000: 5 minutes

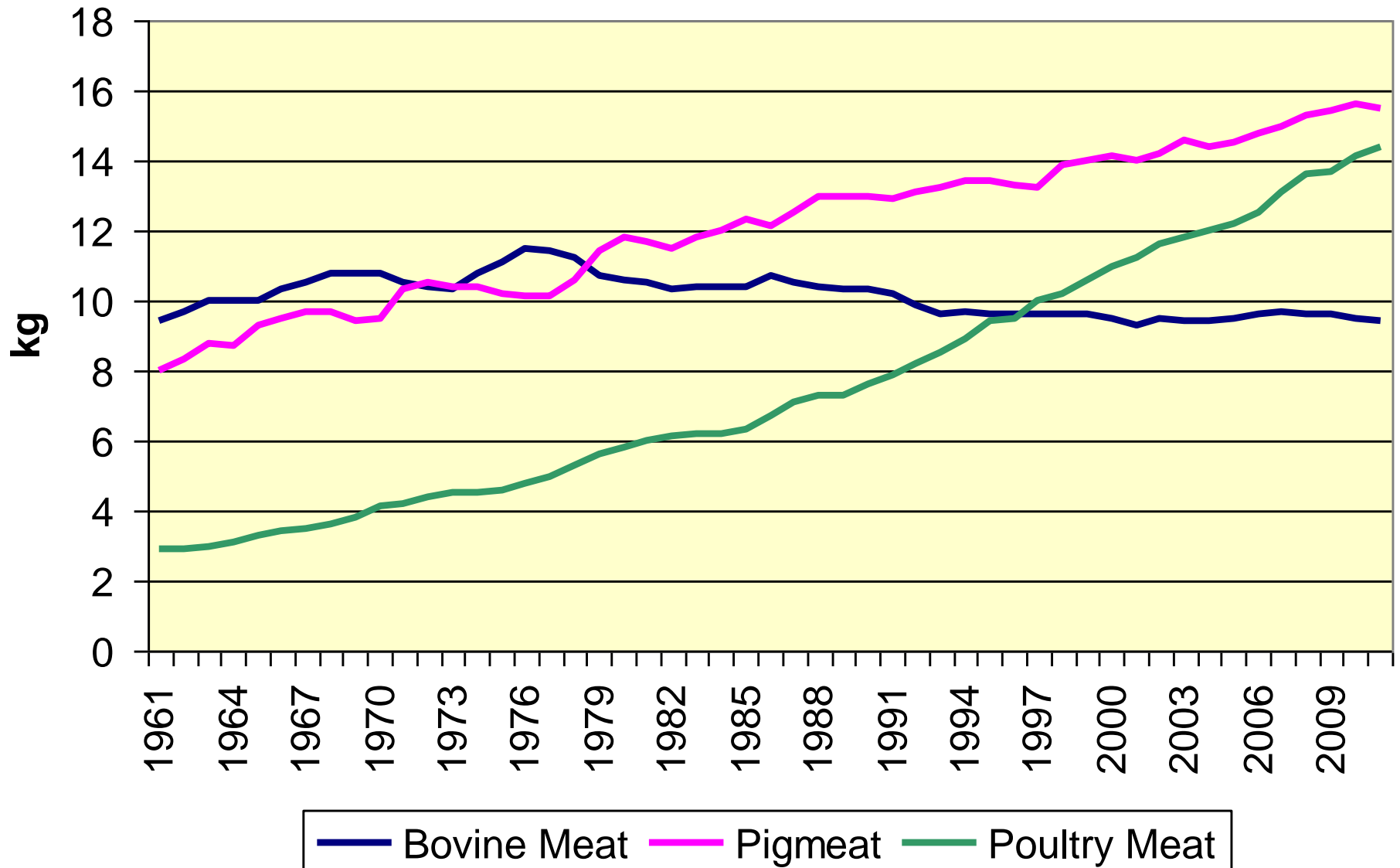


Market data display showing various financial metrics, including stock prices, volume, and market indices, displayed in multiple columns with red and green text on a black background.

| Symbol    | Price  | Change | Volume  | High   | Low    | Open   | Close  |
|-----------|--------|--------|---------|--------|--------|--------|--------|
| SPY       | 123.45 | +0.12  | 1234567 | 123.50 | 123.30 | 123.35 | 123.40 |
| QQQ       | 234.56 | -0.23  | 987654  | 234.60 | 234.40 | 234.50 | 234.45 |
| IWM       | 345.67 | +0.45  | 543210  | 345.70 | 345.50 | 345.60 | 345.65 |
| DIA       | 456.78 | +0.34  | 321098  | 456.80 | 456.60 | 456.70 | 456.75 |
| FTSE      | 567.89 | +0.56  | 210987  | 567.90 | 567.70 | 567.80 | 567.85 |
| NASDAQ    | 678.90 | +0.67  | 109876  | 678.95 | 678.75 | 678.85 | 678.90 |
| S&P 500   | 789.01 | +0.78  | 98765   | 789.05 | 788.85 | 788.95 | 789.00 |
| DAX       | 890.12 | +0.89  | 87654   | 890.15 | 889.95 | 890.05 | 890.10 |
| EURO      | 901.23 | +0.90  | 76543   | 901.25 | 901.05 | 901.15 | 901.20 |
| NIKKEI    | 012.34 | +0.01  | 65432   | 012.35 | 012.30 | 012.32 | 012.33 |
| HANG SENG | 123.45 | +0.12  | 54321   | 123.48 | 123.40 | 123.42 | 123.44 |
| ASX       | 234.56 | +0.23  | 43210   | 234.58 | 234.50 | 234.52 | 234.54 |
| SEMI      | 345.67 | +0.34  | 32109   | 345.70 | 345.60 | 345.65 | 345.68 |
| COMEX     | 456.78 | +0.45  | 21098   | 456.80 | 456.70 | 456.75 | 456.78 |
| CL        | 567.89 | +0.56  | 10987   | 567.90 | 567.80 | 567.85 | 567.88 |
| WTI       | 678.90 | +0.67  | 9876    | 678.95 | 678.85 | 678.90 | 678.92 |
| NG        | 789.01 | +0.78  | 8765    | 789.05 | 789.00 | 789.02 | 789.03 |
| GC        | 890.12 | +0.89  | 7654    | 890.15 | 890.10 | 890.12 | 890.13 |
| SI        | 901.23 | +0.90  | 6543    | 901.25 | 901.20 | 901.22 | 901.23 |
| PL        | 012.34 | +0.01  | 5432    | 012.35 | 012.30 | 012.32 | 012.33 |
| ZN        | 123.45 | +0.12  | 4321    | 123.48 | 123.40 | 123.42 | 123.44 |
| CU        | 234.56 | +0.23  | 3210    | 234.58 | 234.50 | 234.52 | 234.54 |
| AG        | 345.67 | +0.34  | 2109    | 345.70 | 345.60 | 345.65 | 345.68 |
| AU        | 456.78 | +0.45  | 1098    | 456.80 | 456.70 | 456.75 | 456.78 |
| FE        | 567.89 | +0.56  | 987     | 567.90 | 567.80 | 567.85 | 567.88 |
| CO        | 678.90 | +0.67  | 876     | 678.95 | 678.85 | 678.90 | 678.92 |
| SI        | 789.01 | +0.78  | 765     | 789.05 | 789.00 | 789.02 | 789.03 |
| PL        | 890.12 | +0.89  | 654     | 890.15 | 890.10 | 890.12 | 890.13 |
| ZN        | 901.23 | +0.90  | 543     | 901.25 | 901.20 | 901.22 | 901.23 |
| CU        | 012.34 | +0.01  | 432     | 012.35 | 012.30 | 012.32 | 012.33 |
| AG        | 123.45 | +0.12  | 321     | 123.48 | 123.40 | 123.42 | 123.44 |
| AU        | 234.56 | +0.23  | 210     | 234.58 | 234.50 | 234.52 | 234.54 |
| FE        | 345.67 | +0.34  | 109     | 345.70 | 345.60 | 345.65 | 345.68 |
| CO        | 456.78 | +0.45  | 98      | 456.80 | 456.70 | 456.75 | 456.78 |
| SI        | 567.89 | +0.56  | 87      | 567.90 | 567.80 | 567.85 | 567.88 |
| PL        | 678.90 | +0.67  | 76      | 678.95 | 678.85 | 678.90 | 678.92 |
| ZN        | 789.01 | +0.78  | 65      | 789.05 | 789.00 | 789.02 | 789.03 |
| CU        | 890.12 | +0.89  | 54      | 890.15 | 890.10 | 890.12 | 890.13 |
| AG        | 901.23 | +0.90  | 43      | 901.25 | 901.20 | 901.22 | 901.23 |
| AU        | 012.34 | +0.01  | 32      | 012.35 | 012.30 | 012.32 | 012.33 |
| FE        | 123.45 | +0.12  | 21      | 123.48 | 123.40 | 123.42 | 123.44 |
| CO        | 234.56 | +0.23  | 10      | 234.58 | 234.50 | 234.52 | 234.54 |
| SI        | 345.67 | +0.34  | 9       | 345.70 | 345.60 | 345.65 | 345.68 |
| PL        | 456.78 | +0.45  | 8       | 456.80 | 456.70 | 456.75 | 456.78 |
| ZN        | 567.89 | +0.56  | 7       | 567.90 | 567.80 | 567.85 | 567.88 |
| CU        | 678.90 | +0.67  | 6       | 678.95 | 678.85 | 678.90 | 678.92 |
| AG        | 789.01 | +0.78  | 5       | 789.05 | 789.00 | 789.02 | 789.03 |
| AU        | 890.12 | +0.89  | 4       | 890.15 | 890.10 | 890.12 | 890.13 |
| FE        | 901.23 | +0.90  | 3       | 901.25 | 901.20 | 901.22 | 901.23 |
| CO        | 012.34 | +0.01  | 2       | 012.35 | 012.30 | 012.32 | 012.33 |
| SI        | 123.45 | +0.12  | 1       | 123.48 | 123.40 | 123.42 | 123.44 |



# Why do people eat more chicken?

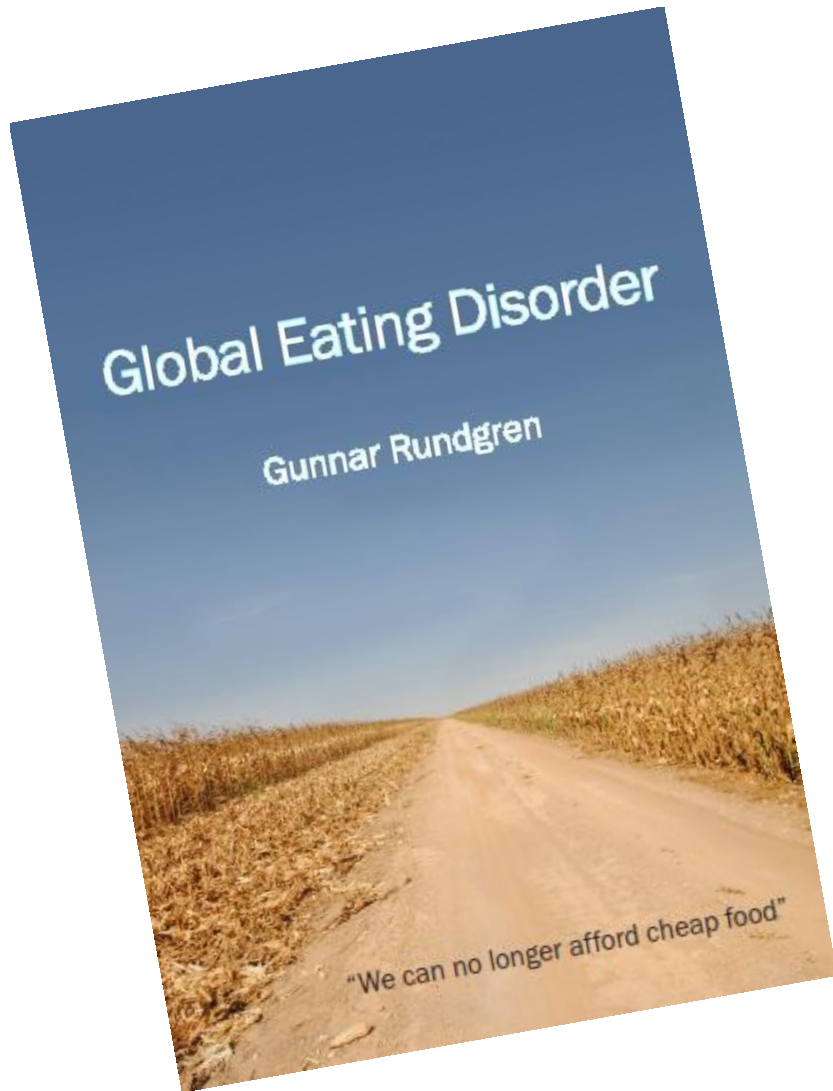






The required transformation is much more profound than simply tweaking the existing industrial agricultural system.

# Transformations needed



From crops and plants as commodities to **crops and plants as symbionts**

From nutrient intake and consumption to **eating as culture**

From nature as private property to **commons**

From farming as a business to **planetary stewardship**



