

# AGRICULTURE & FOOD SECURITY

## CLIMATE & HEALTH

### OVERVIEW

Agriculture and food are critical to the economy and health of Minnesotans. Climate disruptions to agricultural production have increased in the past 40 years, and by 2050 and beyond, these impacts will be increasingly negative on most crops and livestock. More intense rains, along with longer dry periods and higher heat, are making it more difficult to secure our food supply.

### POTENTIAL CLIMATE IMPACTS: AGRICULTURE & FOOD SECURITY

- Decreases in food quality, safety, accessibility, and availability
- Disruptions to the food distribution system
- Increases in food costs
- Threats to traditional Native American food sources
- Increases in risk of injuries or illnesses to farm workers

### MINNESOTA'S TOP CROPS AND LIVESTOCK



**DYK?** Agricultural production generates  
**\$90 billion** for Minnesota's economy.

### THE FOOD SYSTEM

Our food system involves a complex set of activities that are sensitive to climate change and extreme weather. The stability of Minnesota agriculture is important not only for our local food security, but also for national and global food security because we export many of our agricultural products.



*Adapted from the Minnesota Food Charter*

# IMPACTS ON CROP PRODUCTION

**CROP YIELDS:** May be impacted by changes in temperature, precipitation, humidity, and cloud cover

**CROP LOSSES:** May increase due to extreme heat and precipitation, weeds, insects, and diseases

**ANNUAL VARIATIONS:** Are expected to increase due to climate change

**SOIL AND WATER QUALITY & QUANTITY:** Are expected to decline due to increasing extremes in precipitation

# IMPACTS ON LIVESTOCK PRODUCTION

**HEAT AND HUMIDITY:** Impact feed efficiency, milk production, animal health, grain and forage production, pests and diseases, and worker health

**PRECIPITATION:** Affects crop and forage loss, soil erosion, manure storage, muddy pastures, and access to roads and bridges

**EXTREME EVENTS:** Can cause difficulties transporting feed and product, power outages, wind damage, and snow damage

**WEATHER VARIABILITY:** Can cause catastrophic livestock deaths if they have not had prior conditioning or acclimation

# PUBLIC HEALTH STRATEGIES

## FOCUS ON PREVENTION AND PREPAREDNESS

- Increase awareness of how climate change impacts food security
- Identify those who may be impacted by food security issues and collaborate to reduce negative impacts

## FOCUS ON FOOD SAFETY AND DISTRIBUTION

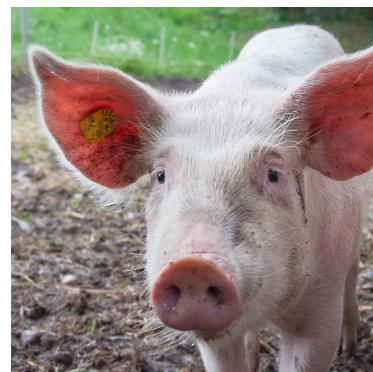
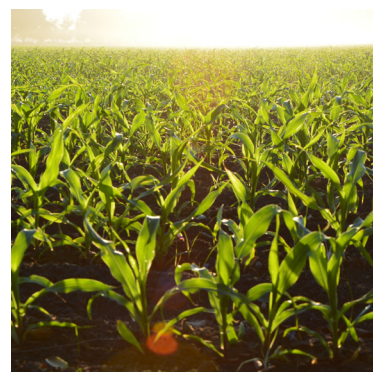
- Educate the public on proper handling of food
- Address risks of foodborne illness that may increase as a result of changes in temperature, precipitation, and extreme weather

## FOCUS ON FOOD ACCESS AND AVAILABILITY

- Promote a diverse food supply, including biodiversity and geographic diversity
- Promote local food initiatives to contribute to food security in Minnesota

## FOCUS ON HEALTH EQUITY

- Initiate and support policies and practices that build food security for at-risk populations, including children, those with limited incomes, hunters and gathers, and farm workers.



## PROTECTING OUR ENVIRONMENT PROTECTS OUR HEALTH

- 1. Use less energy** — install energy efficient appliances and support renewable energy (solar, wind, biofuels).
- 2. Burn less gas** — walk, bike, take transit, carpool, or telecommute at least twice a week.
- 3. Lower your “food print”** — eat less meat per week, buy locally-grown food, and consider growing some of your own food.