

#### Let's start with a definition of resiliency:

per Merriam Webster

"an ability to recover from or adjust easily to adversity or change"

(= resilience)

#### forms of adversity and change

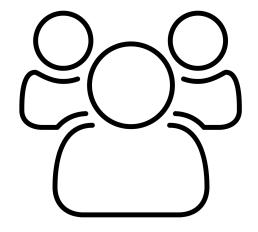


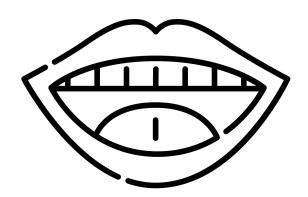
#### economic

- •limited or no control of price received
- influence of market factors
  - domestic
  - international
- •limited control over cost of inputs
- labor availability

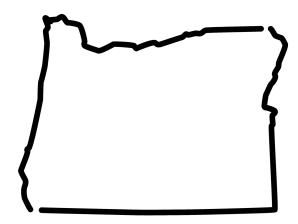
#### social and/or political

- protecting the environment
- protecting the animals
- food safety
- labor availability









#### nature

- weather
- climate change
- disaster
- disease

#### 'Just Total Chaos': Floods Bring Death and Devastation to Dairies

Near-record flooding in Washington State drowned cattle, demolished homes and damaged equipment. Broken supply chains are making it even harder to recover.

### Highly Pathogenic Avian Influenza (HPAI) Detections in Livestock

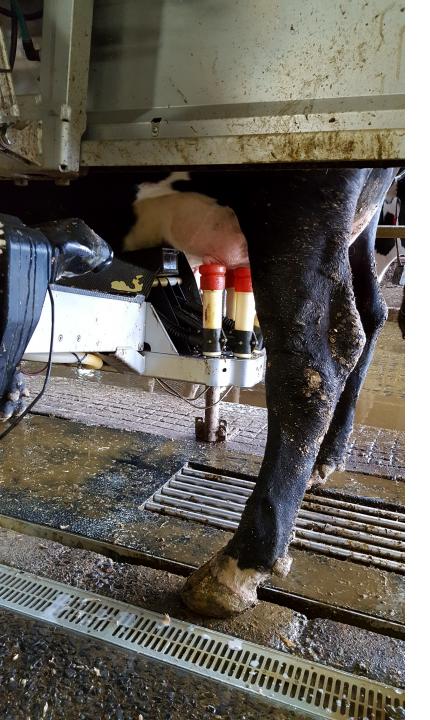
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#### What do Oregon dairy farmers do?



#### turn scraps into snacks

- including byproducts in cow rations
  - cottonseed, soybean meal, canola meal #\$
  - •seed screenings, brewer's/distiller's grain, bakery waste, cannery waste (fruit & veg), whey #\$ #local
  - •spent hemp biomass? #\$ #local #OSUresearch



#### invest in new(er) technologies

- milking
  - robots; rotary parlors #\$ #labor #welfare
- feeding
  - push-up robots; feeding robots; silageface shavers; better scales; automated calf feeders #\$ #labor #welfare
- cow monitoring systems
  - track body temperature, activity,rumination #\$ #labor #welfare

#### invest in people

- encouraging and enabling additional training
- building a team atmosphere
- making the dairy a good place to work

#welfare #retention



#### help cows be more resilient

- prioritizing cow comfort
- testing mastitis pathogens
  - >targeted treatment #foodsafety #environment
- ensuring good quality colostrum intake
- preweaned calves group housing
- managing heat, cold extremes #OSUresearch
- reducing stress

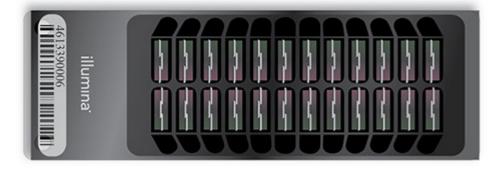
#welfare #\$





#### make the cows more resilient: genetically

- crossbreeding
- providing data through the Dairy Herd Improvement programs
  - >improves accuracy of genetic value estimation
  - reaches incorporation of new traits (e.g., health, feed efficiency, reduced methane) into selection decisions
- •getting animals genomically tested —
- #environment #welfare #\$





#### diversify income stream

- beef x dairy calves
- agritourism
- •growing different crops, maybe for cash
- manure export
- anaerobic digester (for manure)
  - electricity, renewable natural gas

#\$

## try new things / change the system



- calves on nurse cows #\$ #welfare
- outsourcing heifer raising #\$ #labor
- refining the product to match the market #\$
  - A2 milk and/or organic
- •on-farm processing #\$ #local
- partnering with a small cheesemaker #\$ #local

#### protect water, reduce emissions

- Oregon's CAFO program
  - all dairies
  - •(soil) nutrient management plan
- manure technologies
  - •separators, aerators, distribution
- compost manure for bedding #local
- reducing enteric methane
  - •feed additives (still very new)

#environment #\$



#### dealing with nature

- planning
- monitoring
- insurance
- helping each other out
- supporting investigation
  - wildfire smoke, heat stress, manure utilization, enteric methane mitigation

**#OSUresearch** 



# engage in public relations



- sharing on social media
- meeting with policy makers
- hosting tours

#education



#### Questions?

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