



# What Worked, What Didn't and Where we are Headed

Working Toward Lower Cost of Production and Healthier Soil



# 2020 in Review



- Switched from a hoe drill to a disc drill
- Cut all starter fertilizer in half and reduced N applied
- 2<sup>nd</sup> year of no seed treat
- 2<sup>nd</sup> year of intensive grazing
- Accepted in EQIP contract for Stripper Header and soil health
- 7.2 Inches of total precipitation following 6.55 inches in 2019
- Eliminated all seed treat even on the chickpeas



# Crop Results



Crop	Yield	Price/Bu	Gross \$
Malt Barley	45	\$4.50	\$202
Canola	12	\$9.00	\$108 + \$47 Insurance \$155
Mustard	475 lbs	\$.28	\$133
Spring Wheat	37	\$5.50	\$203
Winter Wheat	28	\$5.00	\$140
Marvel Chickpeas	24	\$10.00	\$240

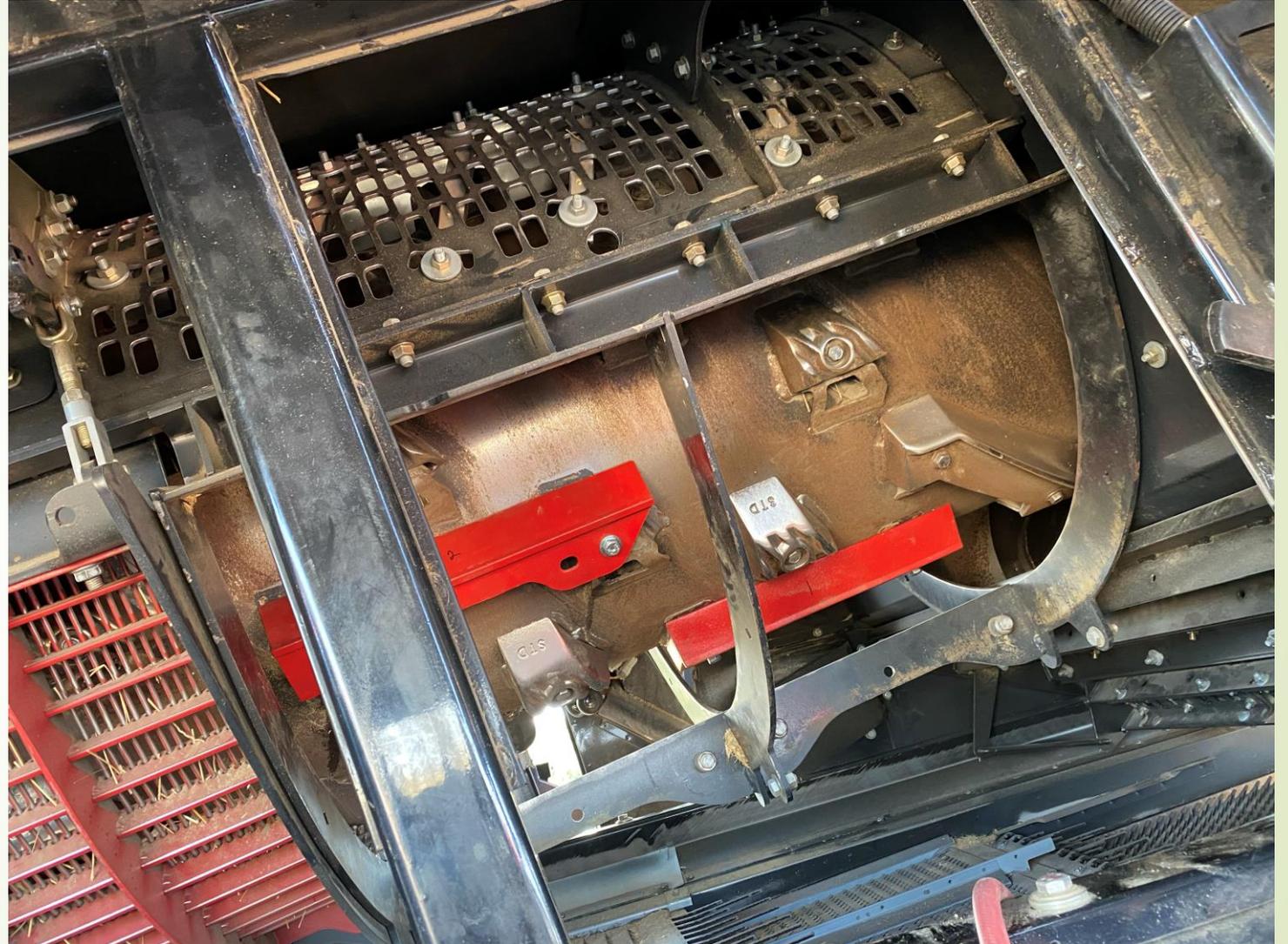


- Replacing skid plate after first 1000 acres



# Combine Modifications

- Straight Bars added to Rotor
- Feeder House Tipped all the way back



# Seeding into Stripped Spring Wheat



# Angle Seeding to Avoid Hairpinning



# Low Input CRP Field







# Results

- Cheatgrass really knocked the yield
  - First year out peas worked good
  - I wouldn't follow the peas with winter wheat next time
- 24 bu WW with only 5 gal of 28% UAN and no starter
- Soil is in incredible shape
  - The best ground is testing near 4% OM
- Fall sprayed the cheatgrass late this year
- Will Seed to Spring Wheat to capture N release

# Downsized Cow Frame Size



# Ramped up Beef Retail





- Cuts of Beef
- Bundled Beef
- Gift Cards
- Pickup Locations
- About Our Farm
- Contact Us

UPS Delivery (CHANGE) on Tue Jan 12th 5 days left to order

- Cuts of Beef
- Gift Cards
- Bundled Beef
- Whole & Half Beef
- Search store...

## Cuts of Beef

THE BEEF HAS ARRIVED!!! Order now and receive a free insulated tote while supplies last!!! We have a fabulous selection of homegrown, grass-finished delicious beef! Also, we are now set up to ship directly to your Montana doorstep via UPS! We offer next day delivery on all shipped orders (\$75 minimum order) and FREE shipping on orders of \$90 or more. Your shipped order will arrive in a Happy Steer Ranch box with a one inch insulated lining and gel packs to keep your beef cold! Enjoy the convenience of getting quality beef delivered right to your doorstep!



**Bottom Round Roast**  
\$8.75/lb. Avg. 3.4 lb.

Add to cart



**Chuck Roast**  
\$9.25/lb. Avg. 3.5 lb.

**Cubed Steak**  
2 per package  
\$8.25/lb. Avg. 1 lb.

Add to cart





# Restructure Debt

- ▶ Refinancing land and equipment debt
  - ▶ Allows us to cashflow the farm at ~\$150/Acre instead of ~\$200/acre now
- ▶ Take advantage of lower interest rates and simplifies a bunch of smaller notes into one large equipment note



# Where are we headed

- No more seed treat, fungicides, insecticides
  - Neonicotinoids (wire worm seed treat) are proving to be one of the most toxic chemicals for the whole ecosystem
    - They mess up the bees, mess up the soil organisms and last a long time
  - Only using low salt liquid fertilizer through the drill and split apps of UAN top-dressed
- Brewing our own compost tea and applying through the drill
- Applying compost tea to the standing crop for disease resistance and increased biology



WHAT IS THE  
SOIL FOOD-WEB?

# Everything has a cycle and we messed it up



Coyotes and Foxes Killed Off

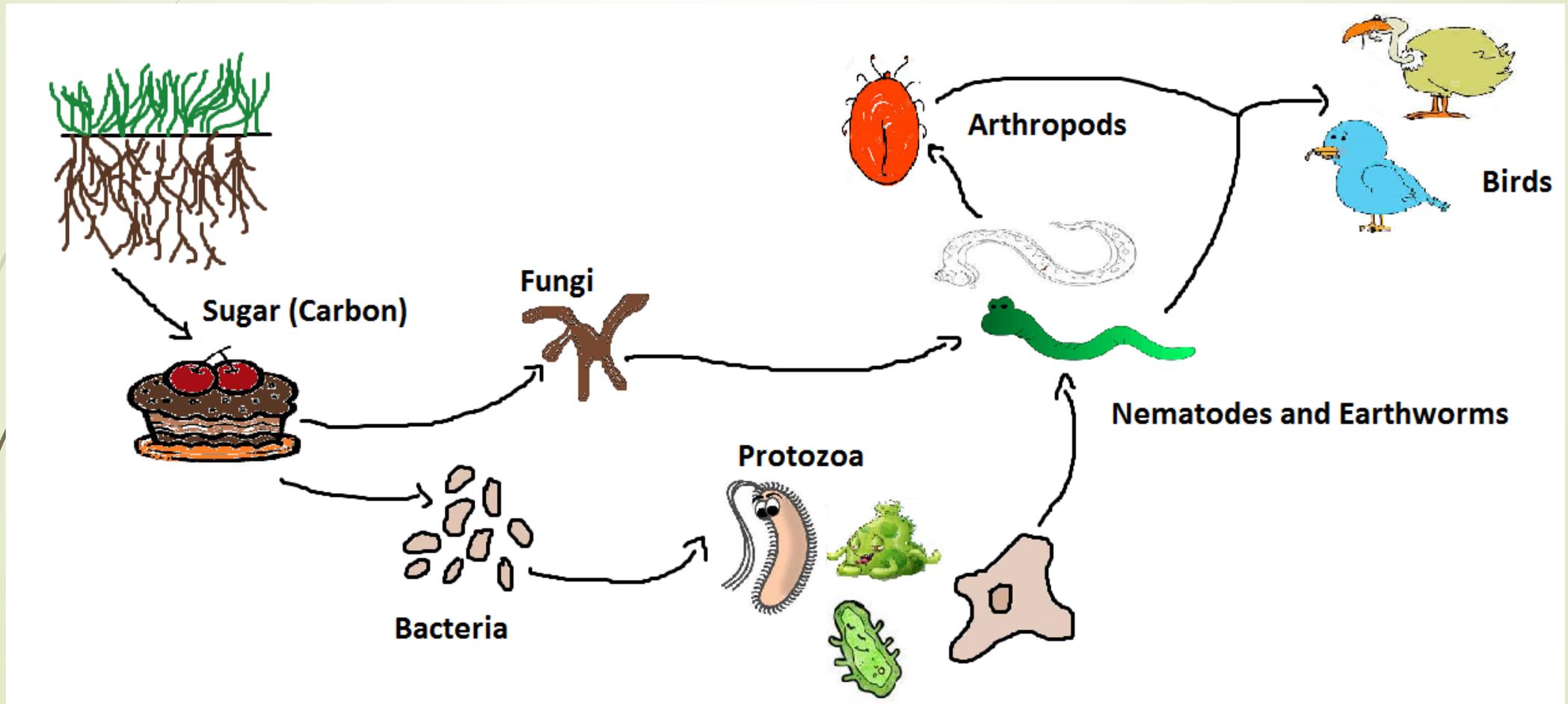
Gopher Numbers Increase

More Poison required and the cycle keeps amplifying

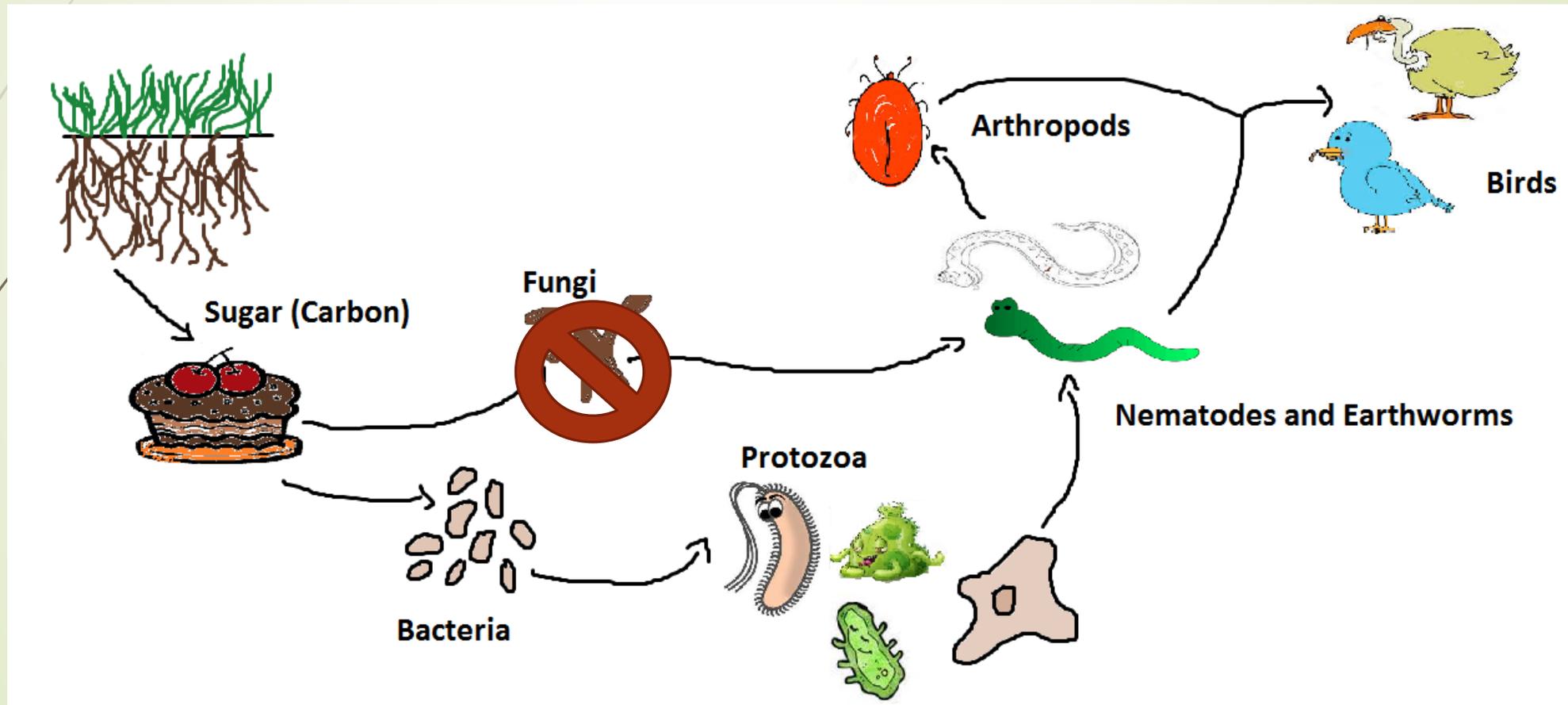
Our Only Control is Poison with Predators Gone

Remaining Predators Eat Poisoned Gophers

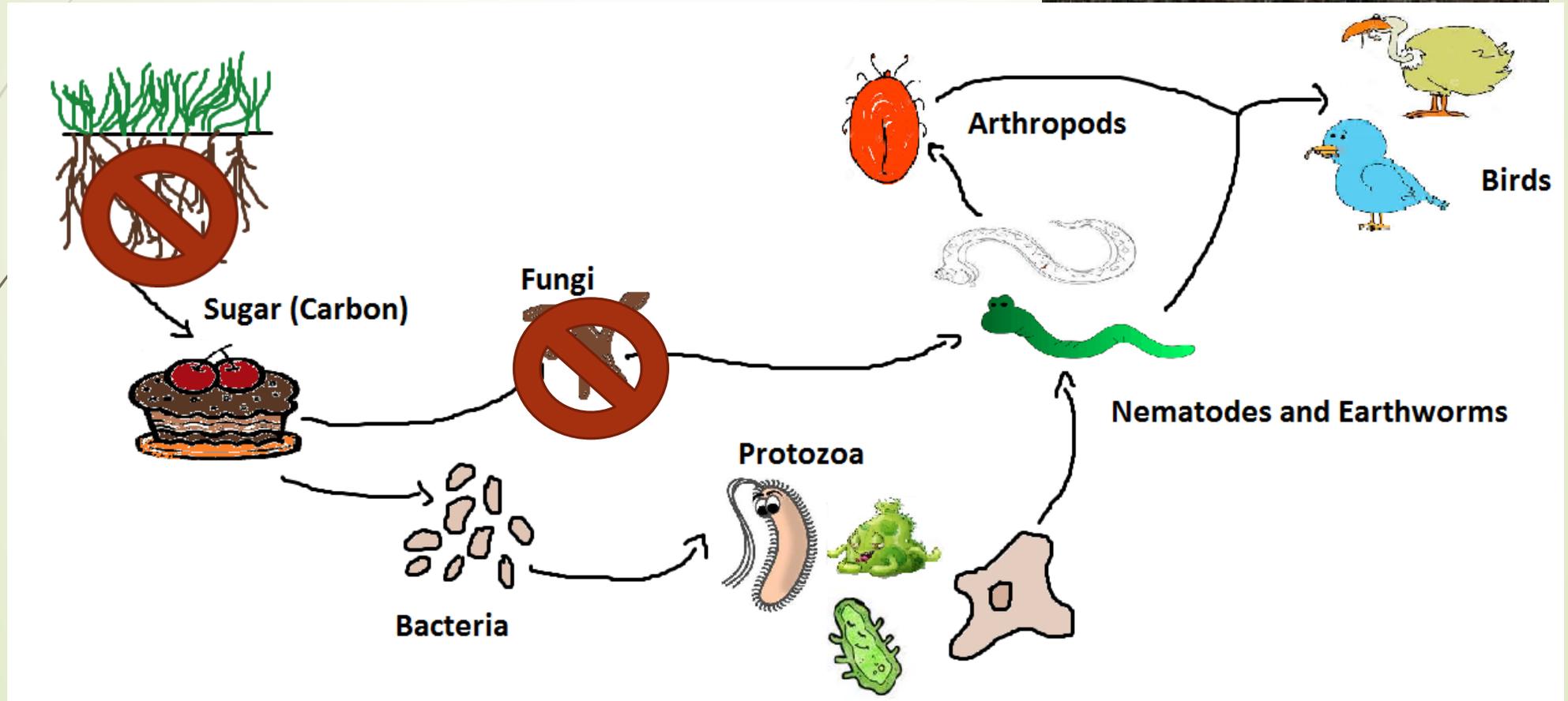
# Soil before we messed it up



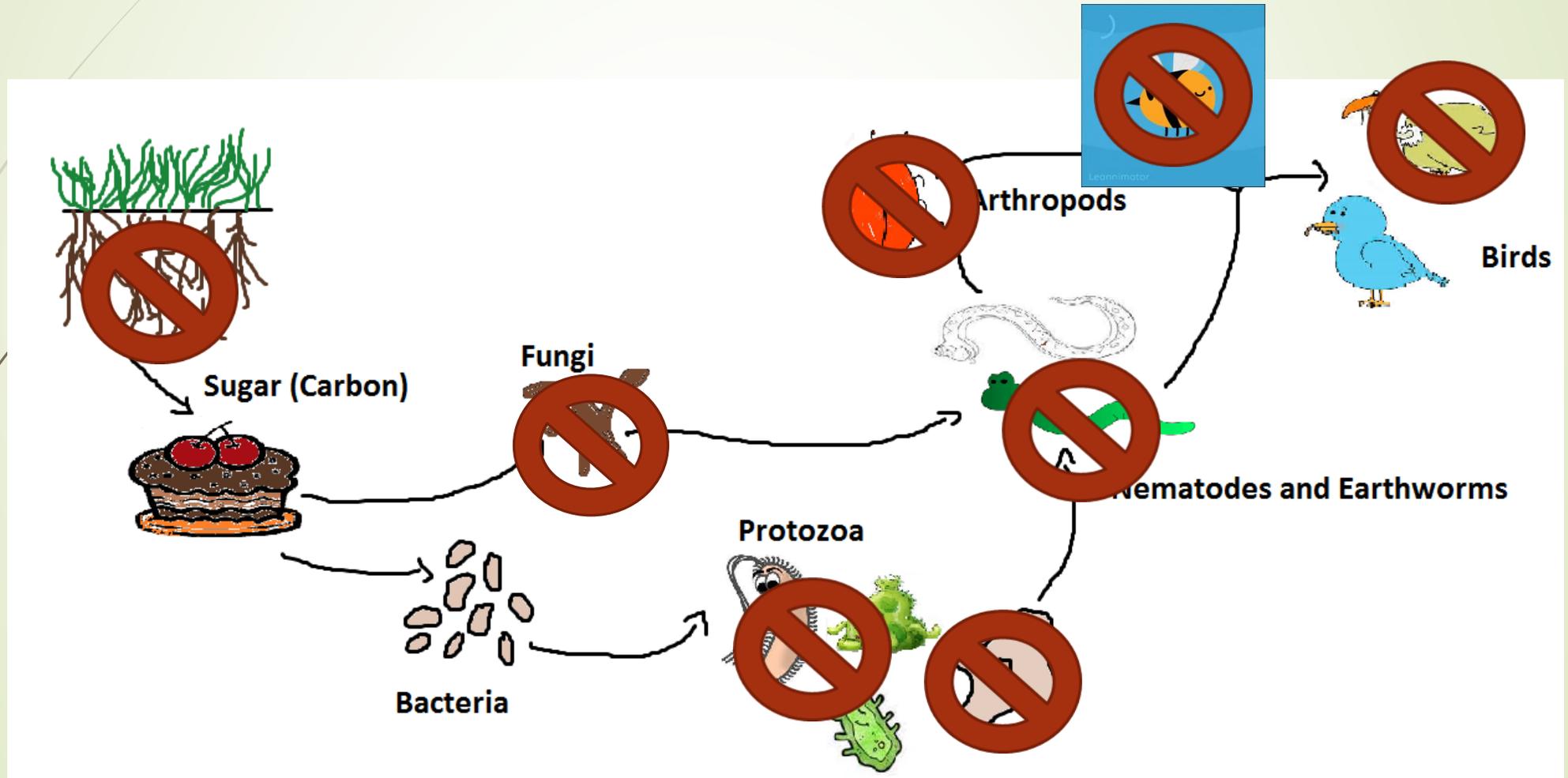
# Broke out sod



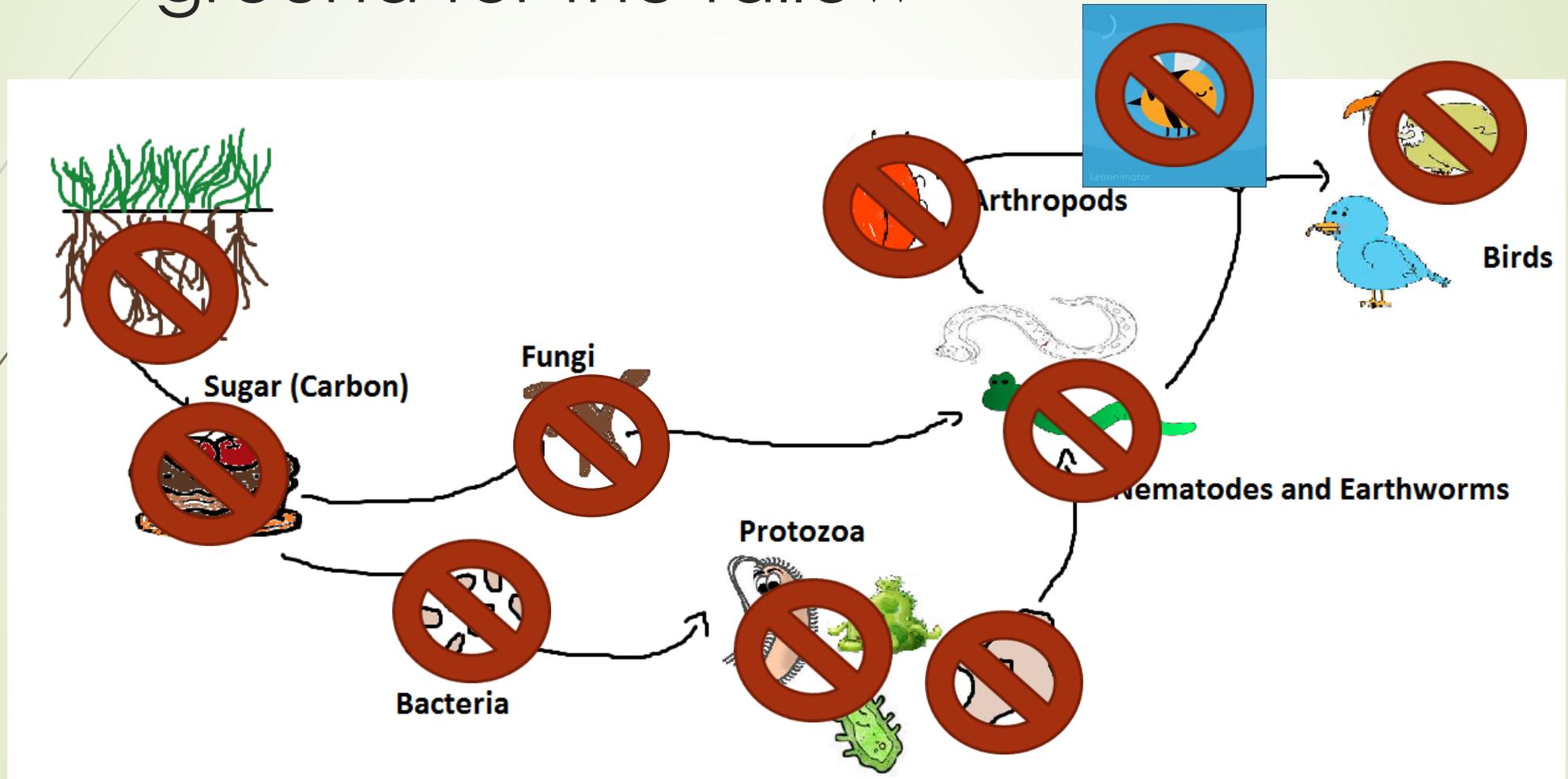
# Started Following



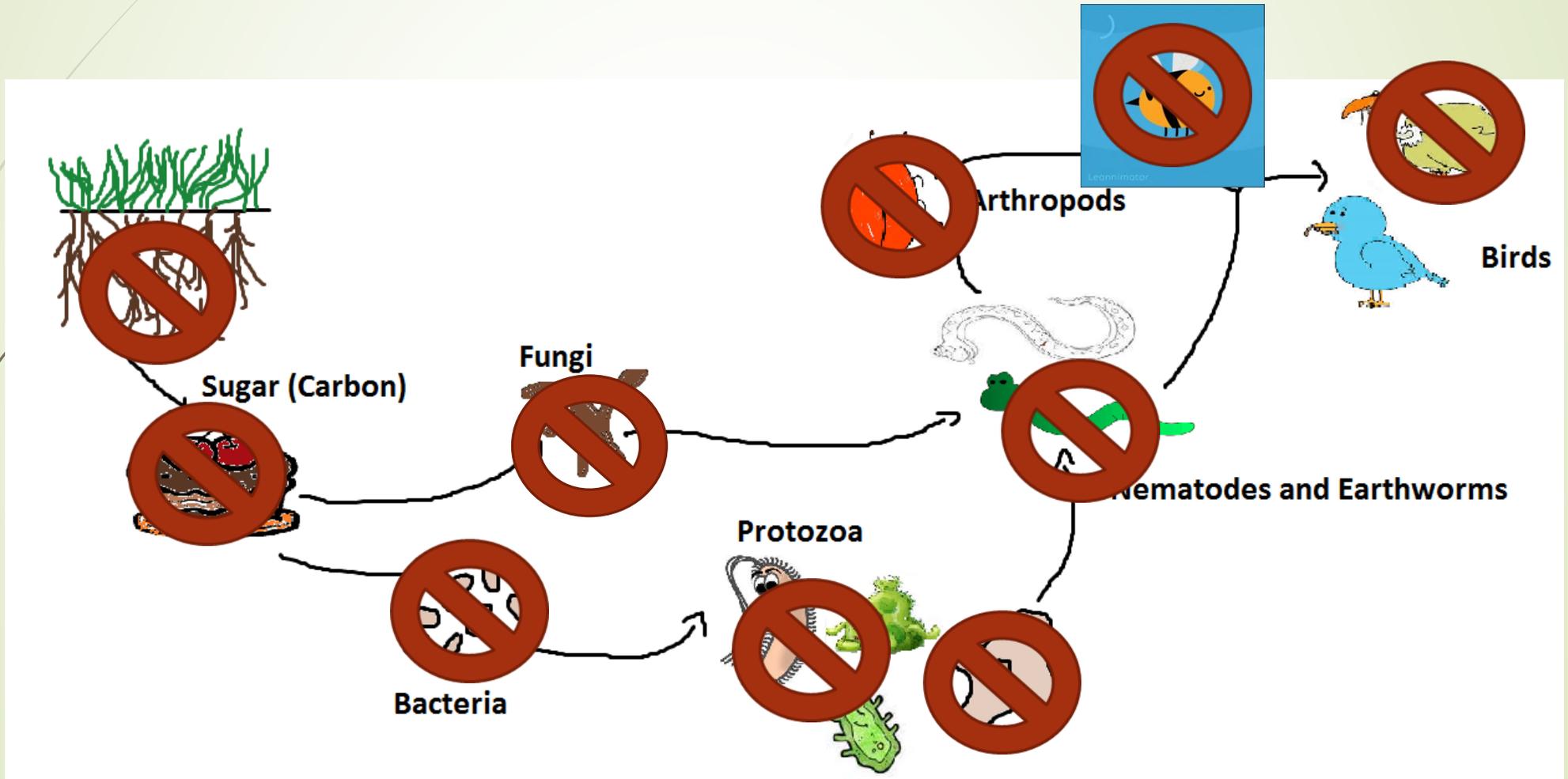
# Anhydrous, Insecticides, Seed Treat and Fungicides Applied as diseases ramped up



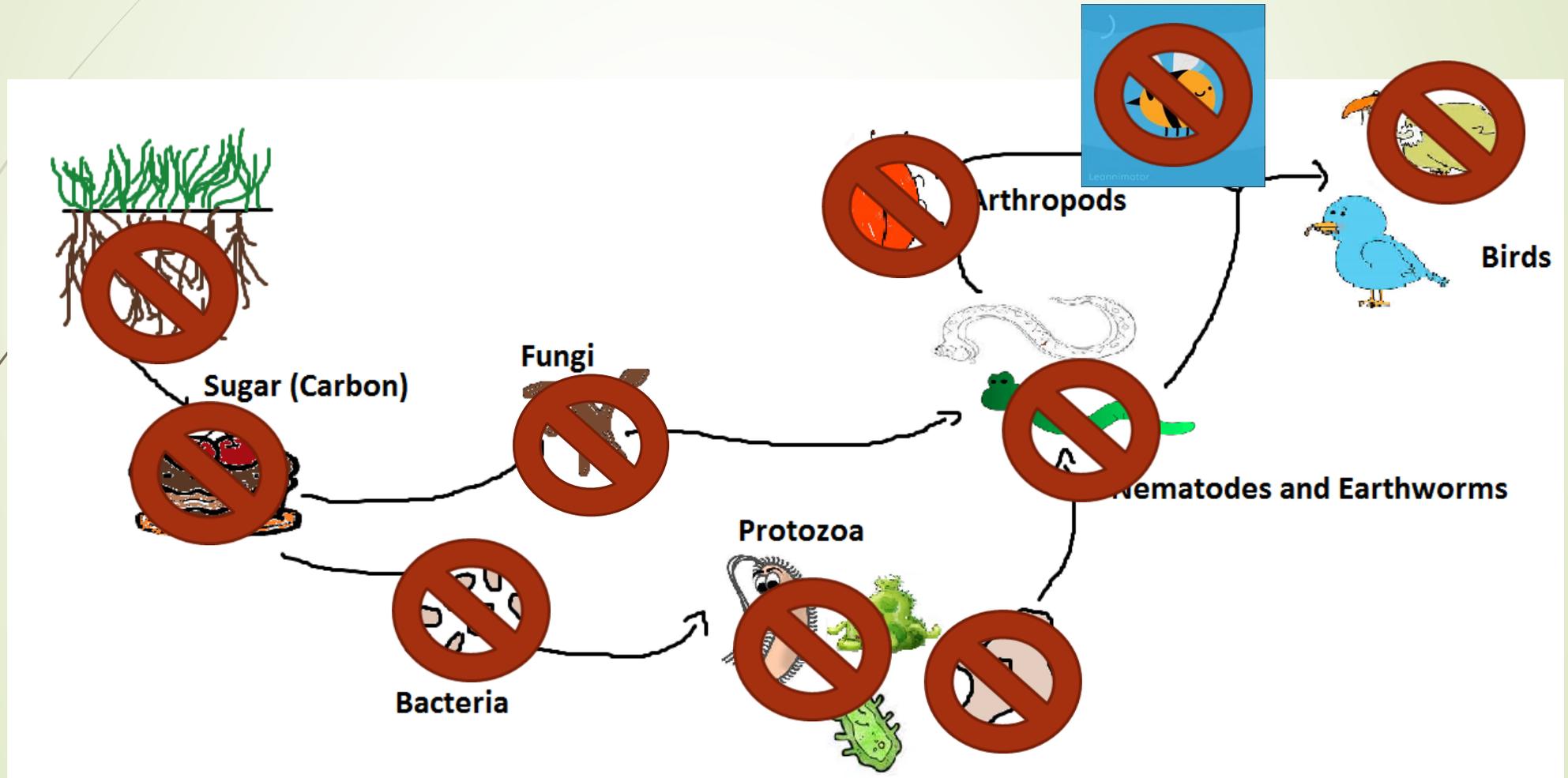
Now throw in paraquat on bare ground for the fallow



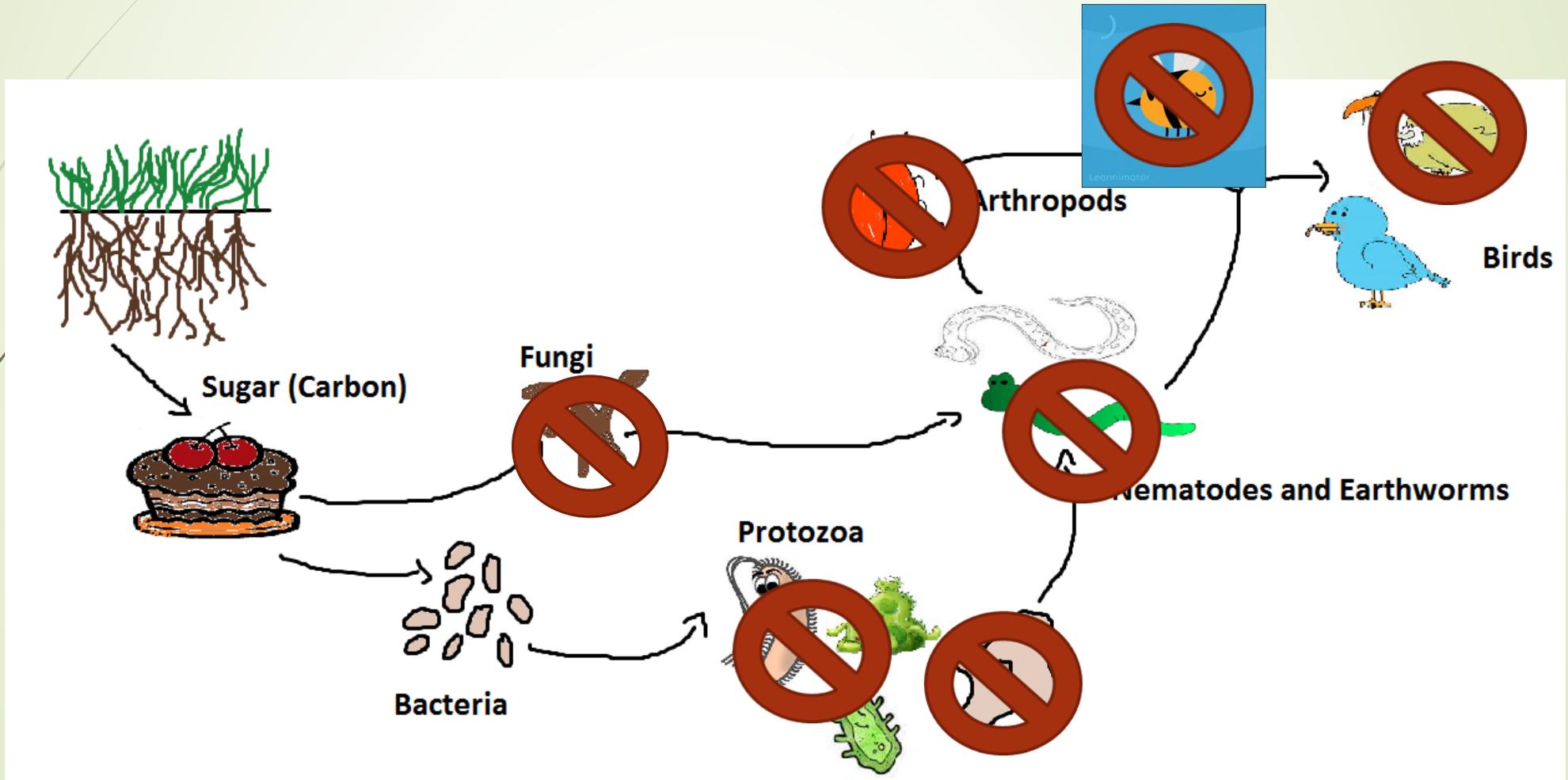
Now you are responsible for providing everything the plant needs in inputs



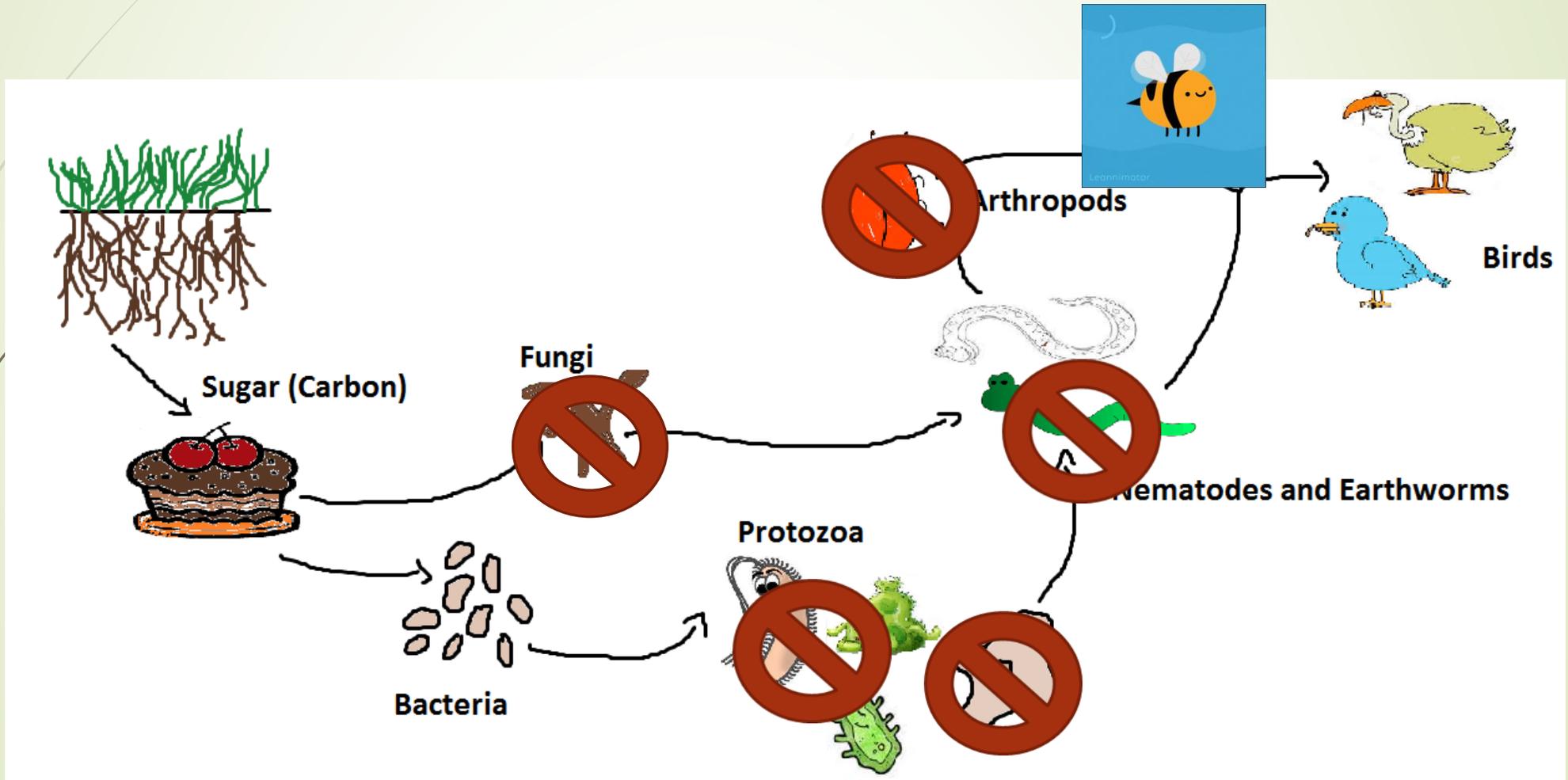
# Eliminate Fallow



# Eliminate Seed Treat, Fungicide, Insecticides and High Salt Fertilizer

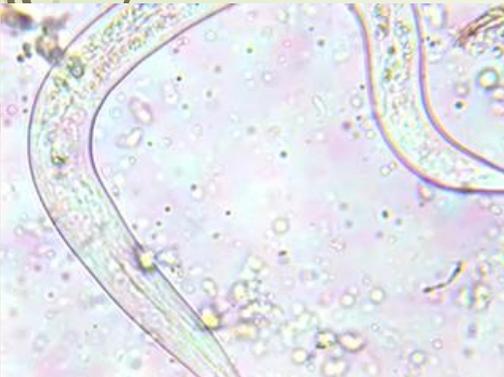


# Apply biology back to the soil with compost tea and extract



# Completing Training on Soil Food Web, Compost Tea and Microscopy

- Darcy (my sister) is just finishing up the soil food web course and will be a certified soil consultant and be able to run samples for anyone that wants to know what they have for soil biology
- We are getting setup to do our own composting and compost tea
  - Even with buying the compost we can apply the biology as a tea for under \$.50/acre



# Compost Experiments



# Compost Tea





# Compost Tea vs Extract

- Extract is the biology in the compost solubilized in water
- Tea is the biology in the compost multiplied by adding food and air to the solution
- 15 lbs of compost/1000 gal of teas
- 1 lb. compost per 5 gal of water for the extract
- Extract can be stored longer and doesn't require as much aeration (Good for through the drill)
- Tea is more active and sticks to leaves better (Better through sprayer)

# Equipment Changes





# Our Goals

1

Eliminate  
Glyphosate to 1  
pass per year at  
most

2

Cut N Fertilizer  
50% by 2023 and  
eliminate P  
applications

3

Have our own  
compost  
completed using  
local materials

4

Run water to most  
of our farm fields  
to integrate  
livestock