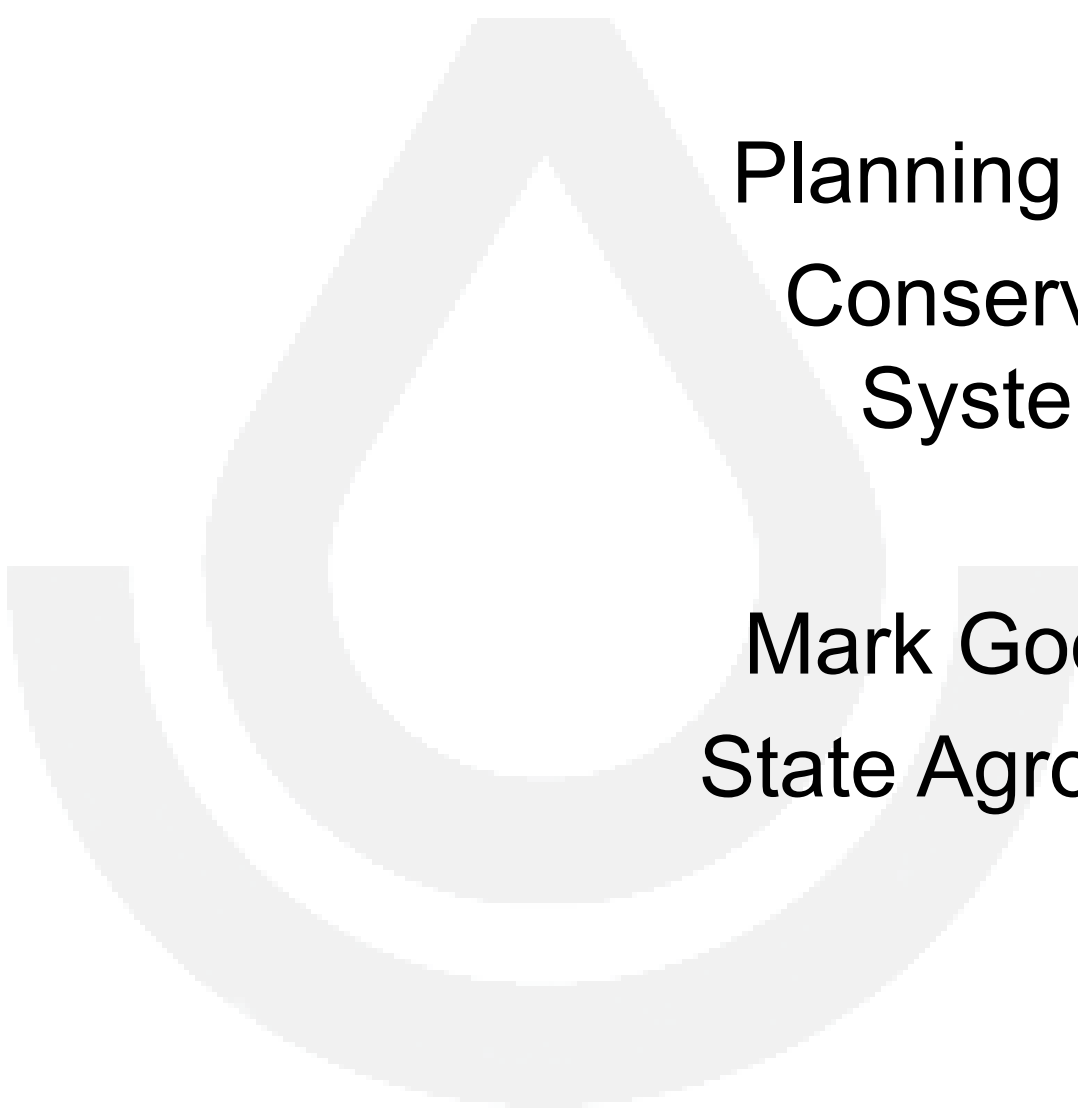




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A large, light gray, stylized water drop graphic that serves as a background for the title and speaker information. It has a thick outline and a pointed bottom.

# Planning A.C.T. Conservation Systems

Mark Goodson  
State Agronomist

|     |                                  |   |   |
|-----|----------------------------------|---|---|
| 327 | Conservation Cover               | A | C |
| 329 | No-till                          | A | C |
| 332 | Contour buffer strips            | A | C |
| 345 | Reduced till                     | A | C |
| 590 | Nutrient Management              | A | C |
| 328 | Conservation Crop Rotation       | C |   |
| 330 | Contour Farming                  | C |   |
| 331 | Contour orchard                  | C |   |
| 340 | Cover crop                       | C | T |
| 342 | Critical area planting           | C |   |
| 362 | Diversion                        | C |   |
| 386 | Field border                     | C |   |
| 410 | Grade stabilization structure    | C |   |
| 412 | Grassed waterway                 | C |   |
| 449 | Irrigation water management      | C |   |
| 585 | Stripcropping                    | C |   |
| 600 | Terrace                          | C |   |
| 601 | Vegetative barrier               | C |   |
| 640 | Water spreading                  | C |   |
| 390 | Riparian herbaceous cover        | T |   |
| 391 | Riparian forest buffer           | T |   |
| 393 | Filter Strip                     | T |   |
| 635 | Vegetated treatment area         | T |   |
| 638 | Water and sediment control basin | T |   |
| 656 | Constructed wetland              | T |   |
| 657 | wetland restoration              | T |   |
| 658 | Wetland creation                 | T |   |
| 659 | Wetland enhancement              | T |   |
| 747 | Denitrifying bioreactor          | T |   |

# Avoid Control Trap



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# **A.C.T. Systems**

**Conservation Systems that**  
**Avoid, Control, and**  
**Trap pollutants**



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# Three phases of the ACT system

Avoid

*Prevent pollutants from forming*

Control

*Minimize losses/transport of pollutants*

Trapping

*Safeguard sensitive areas*





## Pollutants

- Sediment
- Nitrogen
- Phosphorus



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*Pr*

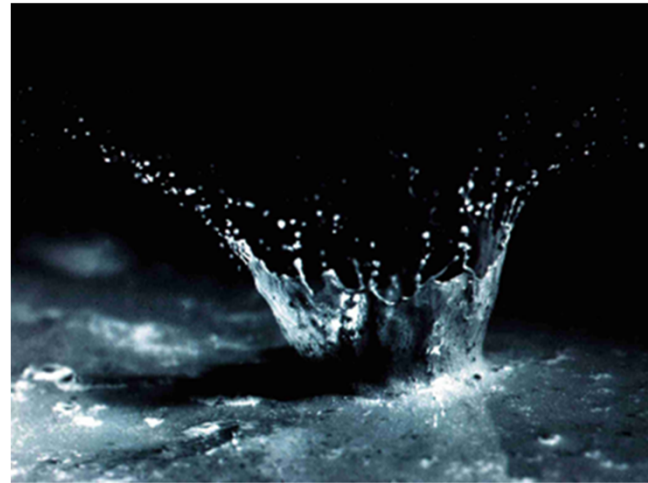
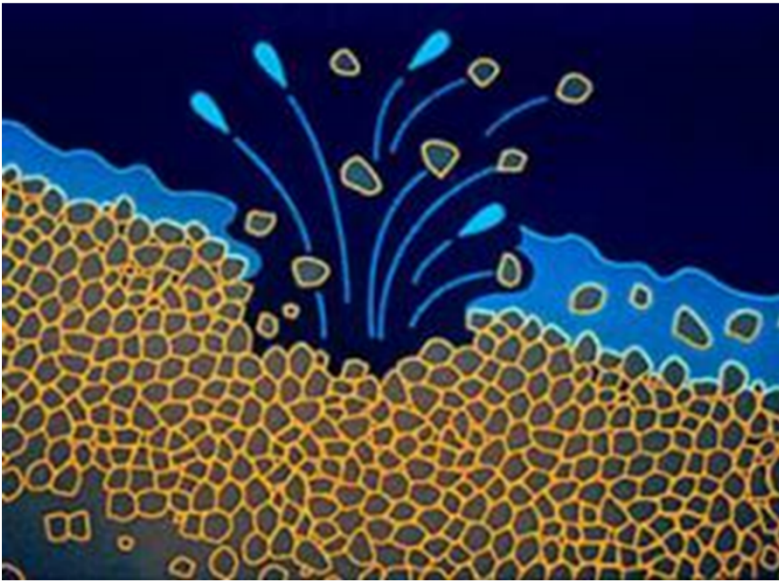
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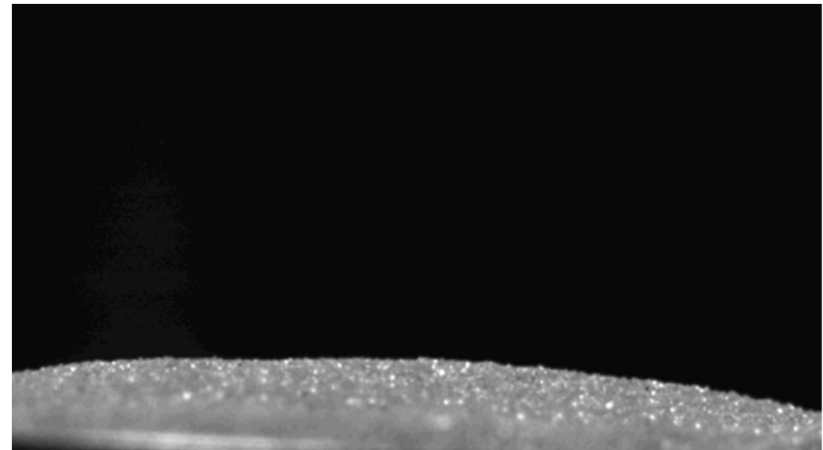
# #1 AVOID

## Rain Drop Impact & Splash

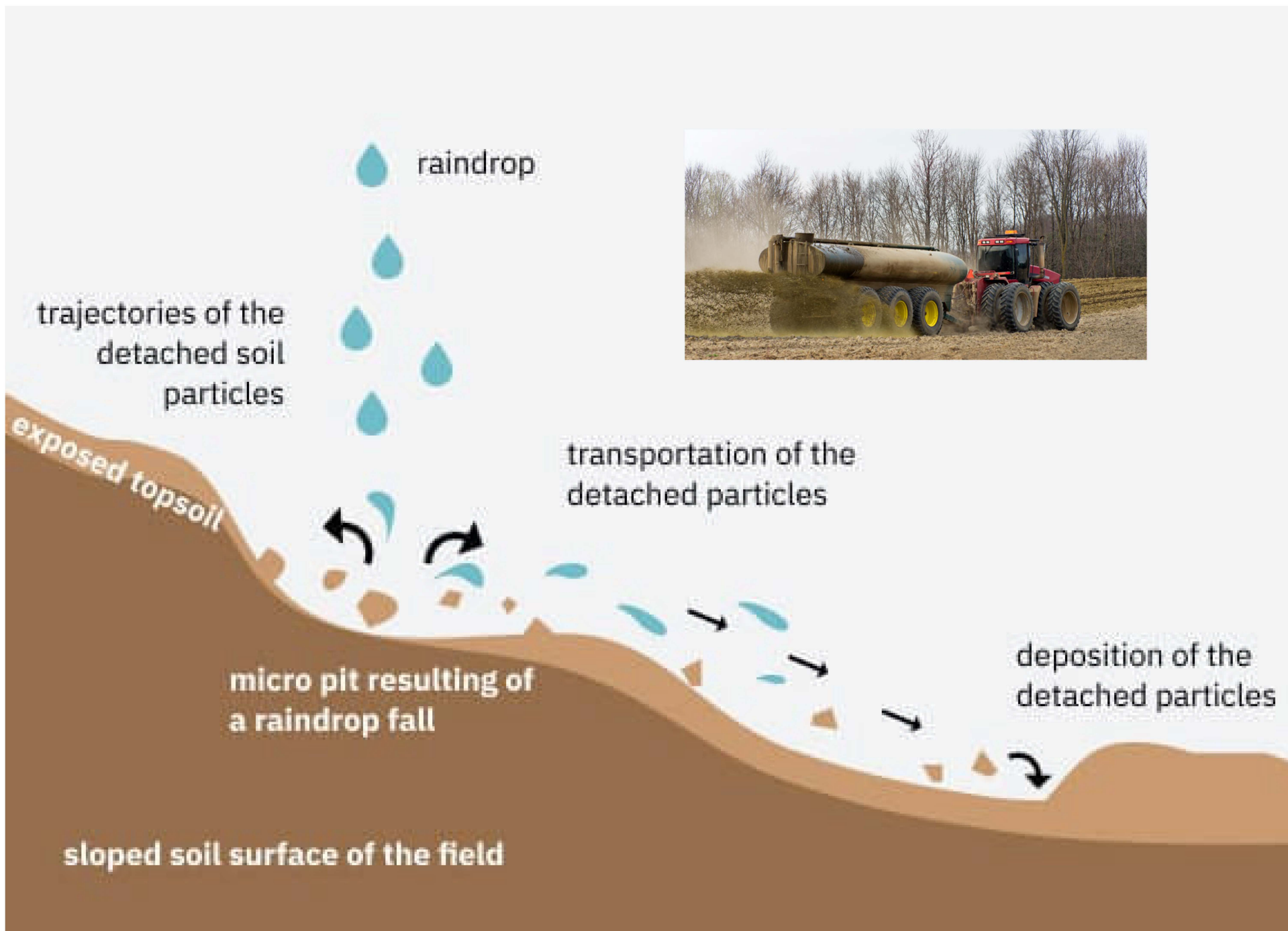


33,000,000,000

Raindrops/acre in a 1-inch storm









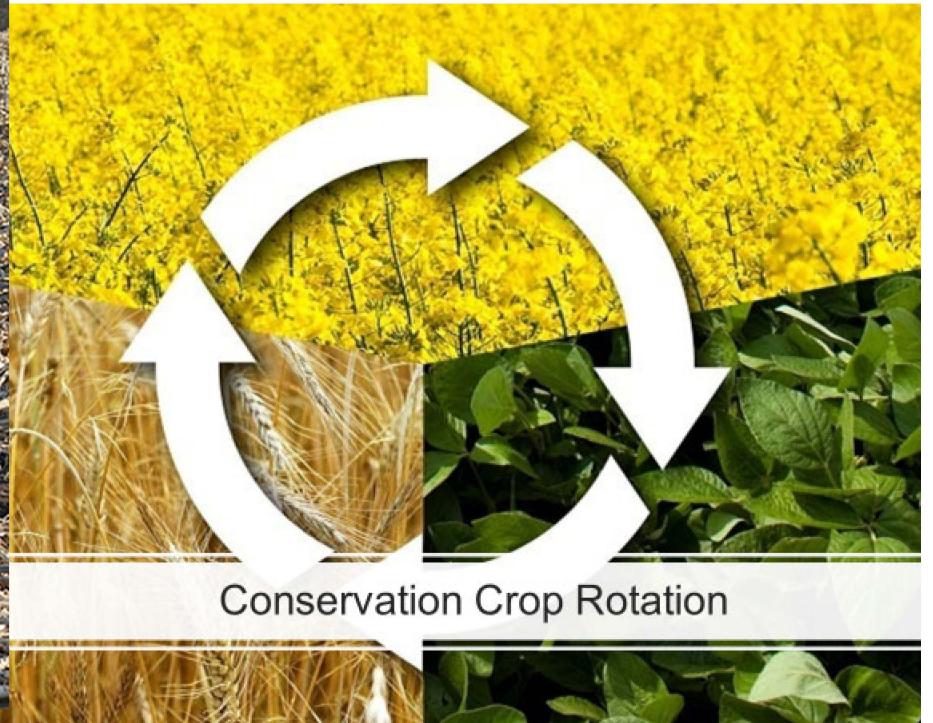
# Take Home

The greatest deterrent to soil erosion by water is vegetative cover, living or dead, on the soil surface.

Long term vegetation is always your friend.

Soil is meant to be Covered.





Reduced Till  
and No-Till



Cover Crop



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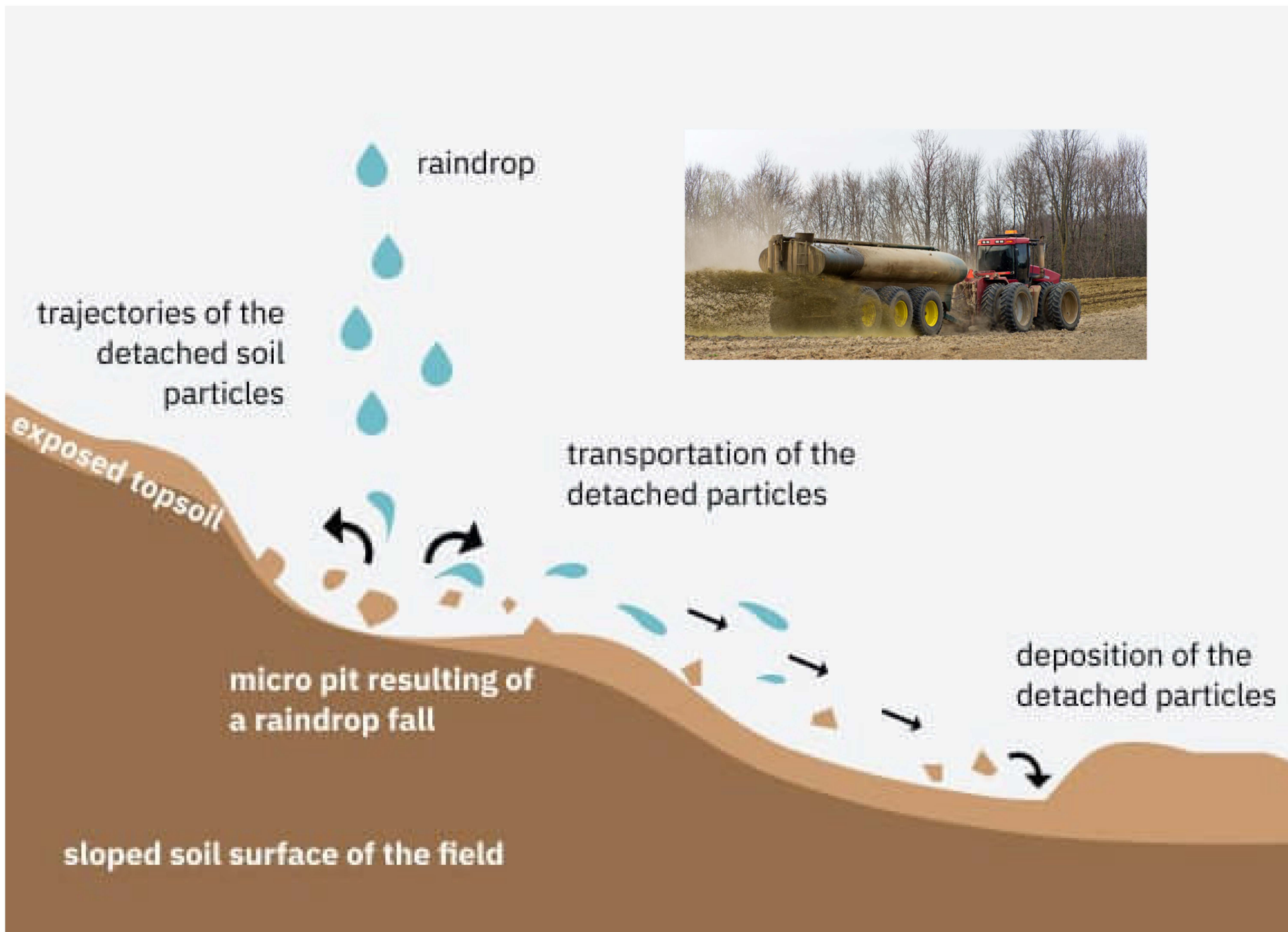
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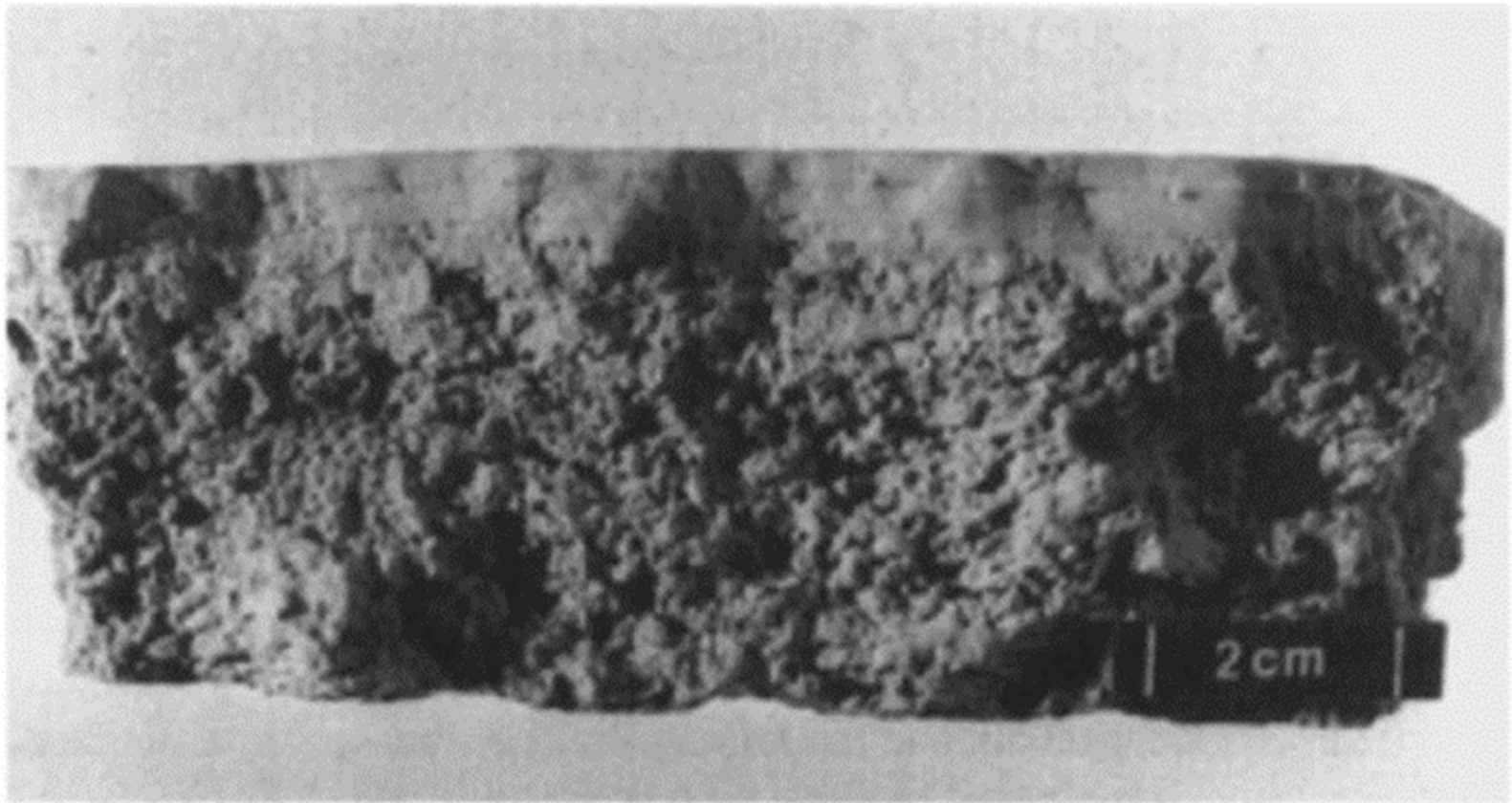
*Min  
por*





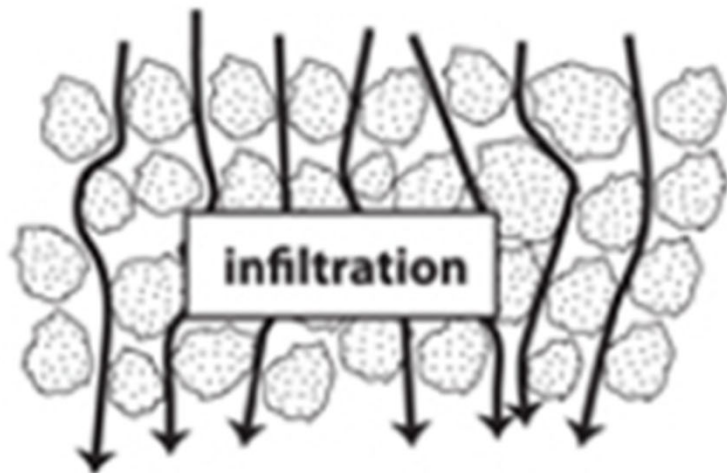


# Local and remote deposition surface compaction & crusting

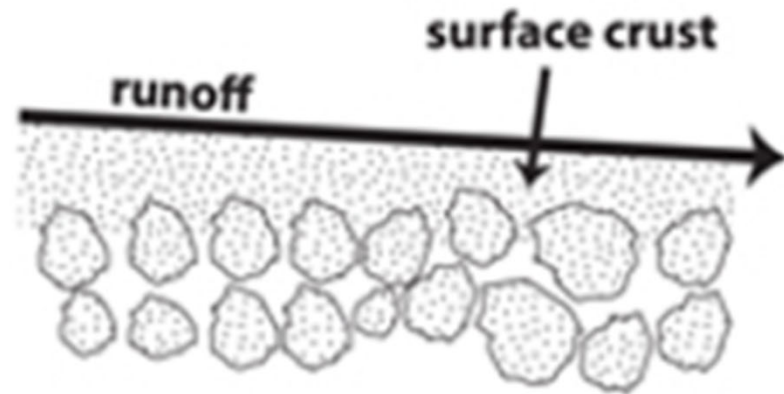


# Reduced infiltration

Changes in water flow due to soil crusting/compaction.



a) aggregated soil



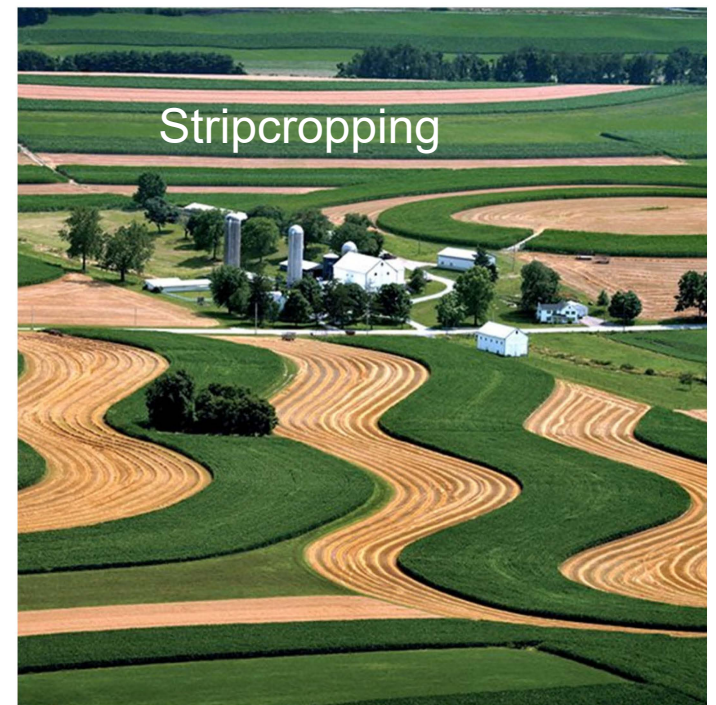
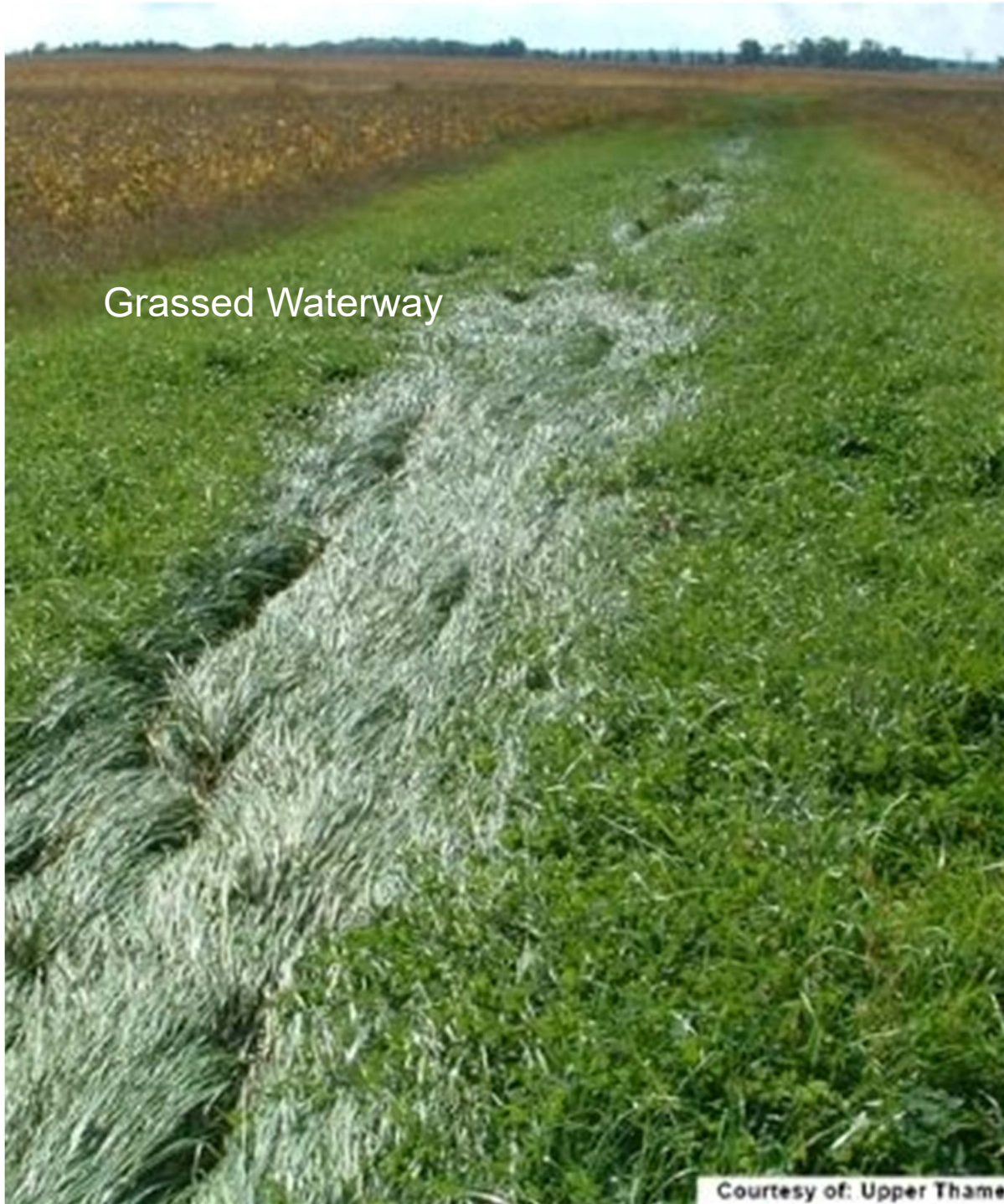
b) soil crusts over after aggregates break down



Uncontrolled sediment and nutrient-  
laden runoff

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# Take Home

The greatest deterrent to soil erosion by water is vegetative cover, living or dead, on the soil surface.

Long term vegetation is always your friend.

Soil is meant to be covered



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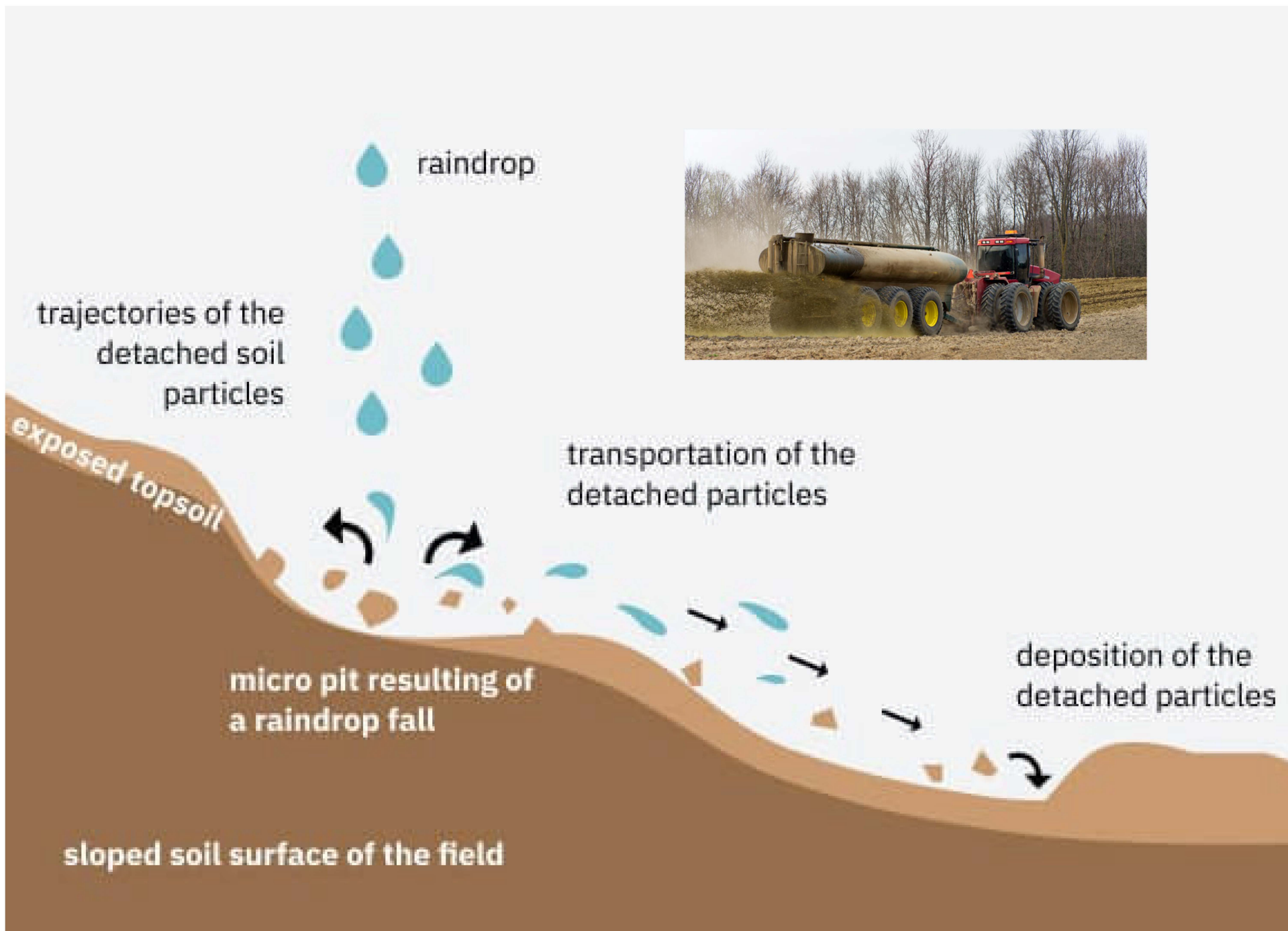
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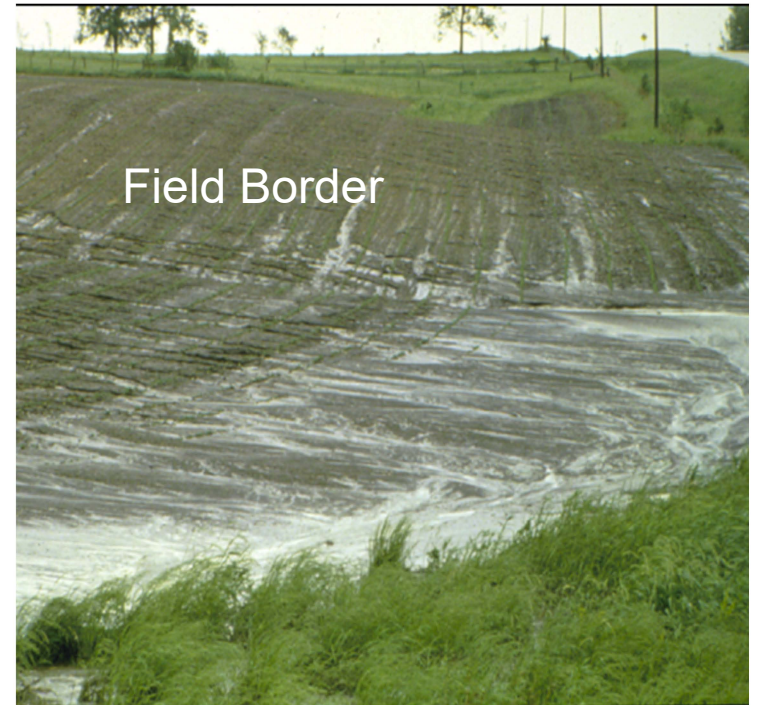
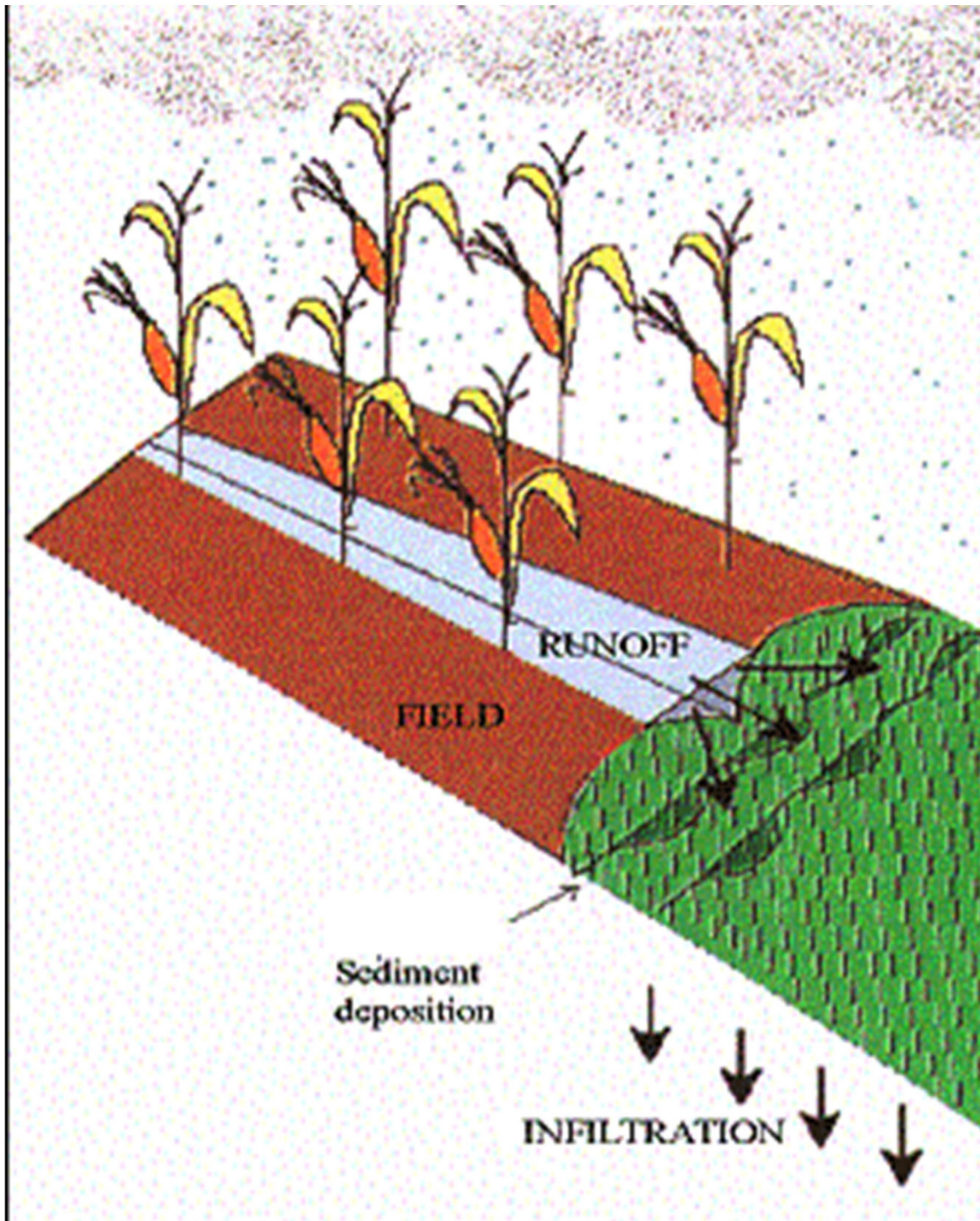












Field Border



Riparian Herbaceous Cover

# Take Home

The greatest deterrent to soil erosion by water is vegetative cover, living or dead, on the soil surface.

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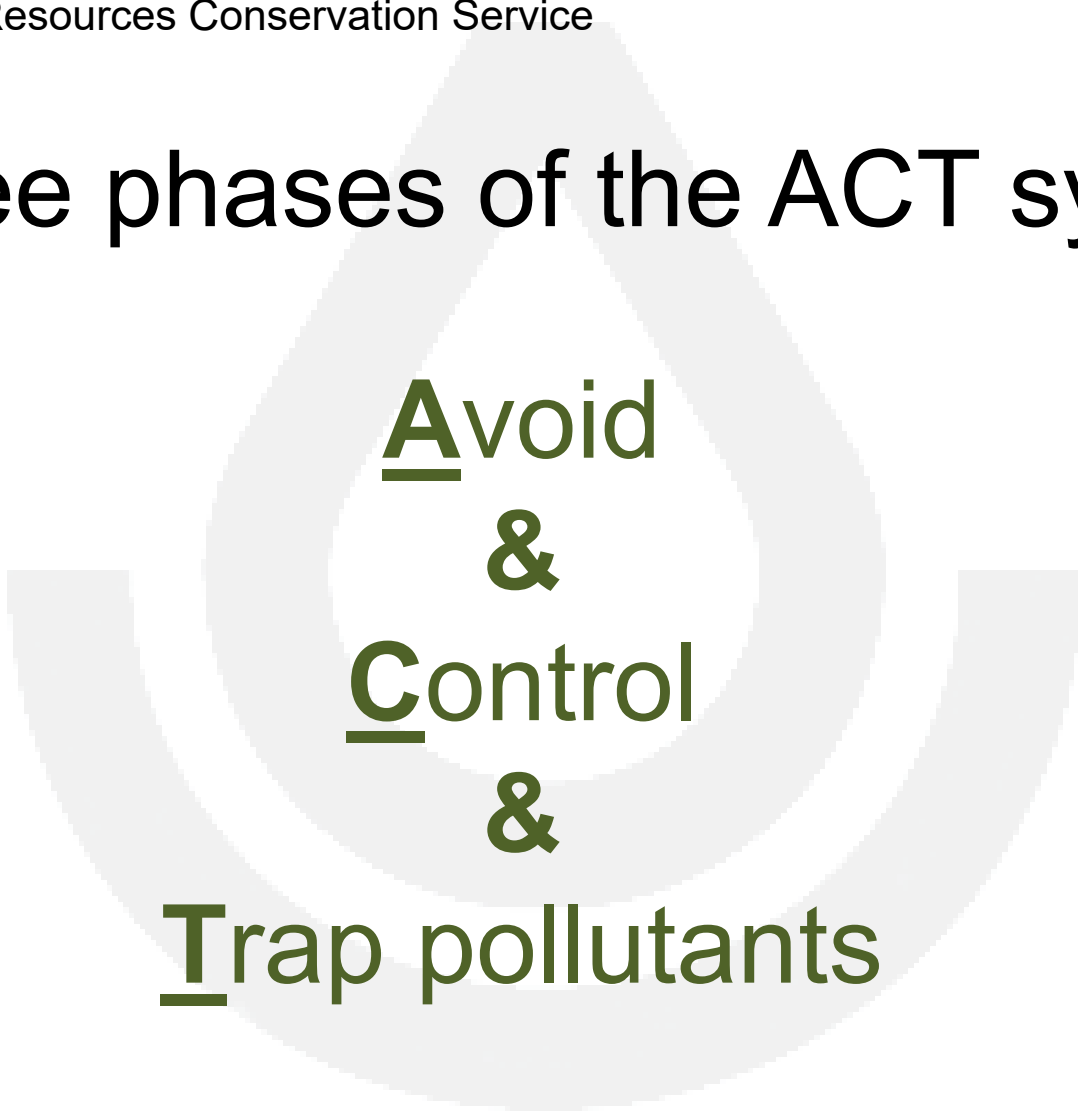




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# Three phases of the ACT system

A large, faint, light-gray background graphic in the shape of a teardrop or a stylized 'A'. Inside this shape, the text "Avoid & Control & Trap pollutants" is written in a dark green, bold, sans-serif font. The words "Avoid", "Control", and "Trap" are underlined.

Avoid  
&  
Control  
&  
Trap pollutants



# PMS System

***Prevent pollutants from forming***

***Minimize losses/transport of  
pollutants***

***Safeguard sensitive areas***

# Soil Health System

## MAXIMIZE CONTINUOUS LIVING ROOTS

- Crop Rotation
- Relay Crops
- Forage and Biomass Planting
- Perennial Crops
- Cover Crops

## MINIMIZE DISTURBANCE

- No-till
- Reduced Tillage
- Controlled Traffic
- Avoid Tillage When Wet
- IPM
- Reduced Chemicals
- Reduced Fertilizers

## MAXIMIZE BIODIVERSITY

- Crop Rotation
- Rotational Grazing
- IPM
- Pollinator Plantings
- Organic Fertilizers
- Legumes in Mix
- Agroforestry
- Cover Crops
- Crop/ Livestock Integration

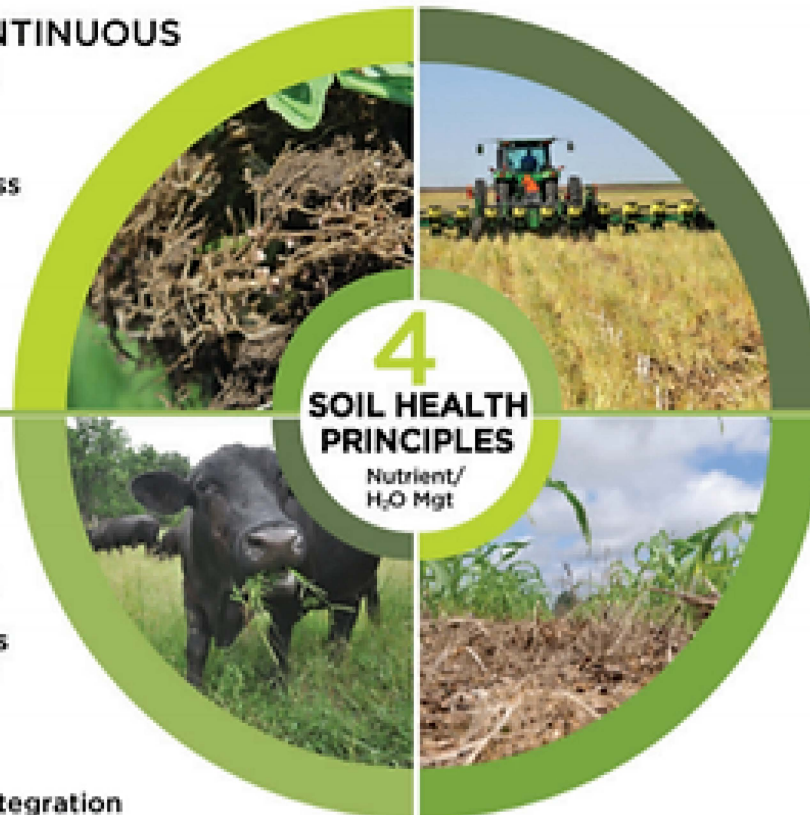
## MAXIMIZE SOIL COVER

- Mulching
- Reduced Tillage
- Forage and Biomass Planting
- Residue Retention
- Cover Crops
- Green Manures

4

### SOIL HEALTH PRINCIPLES

Nutrient/  
H<sub>2</sub>O Mgt



# Nutrient Management 4Rs

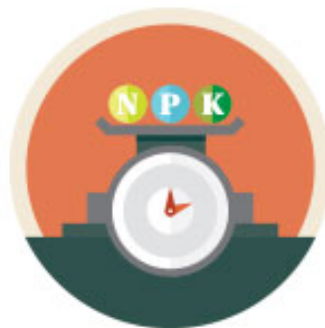


What are the 4Rs



## RIGHT SOURCE

Matches fertilizer type to crop needs.



## RIGHT RATE

Matches amount of fertilizer type crop needs.



## RIGHT TIME

Makes nutrients available when crops needs them.



## RIGHT PLACE

Keep nutrients where crops can use them.