

# Good Housekeeping Pollution Prevention

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Sensible turf management limits fertilizer and weed control usage.

# Fall Turf Care

- Winterizing fertilizer a good thing
- Keep turf moisturized.....
- Aeration builds strong bones
- Not too late for weed control
- Keep mowing till the snow flies

# TURF PROFILE

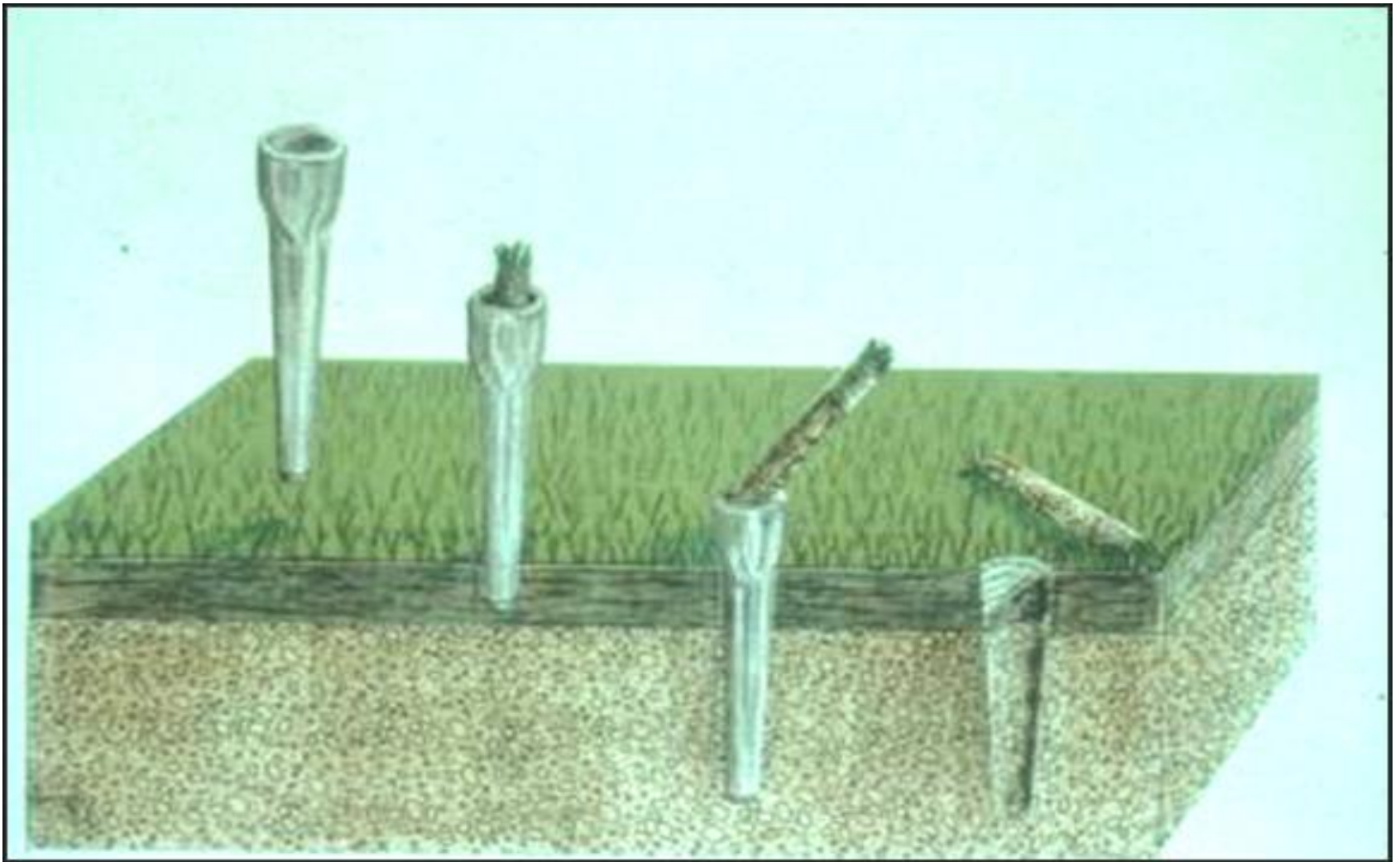


← SHOOT ZONE

← THATCH ZONE

← SOIL ZONE

Some thatch is a good thing, too much is bad



Core aeration allows air, fertilizer and water into the soil profile and reduces soil compaction in areas of heavy traffic



If you are going to control weeds, apply when the weeds are most susceptible

# Weed Control

## Spring

Crabgrass prevention if it has been a problem in high visibility areas

## Summer

Spot treat only

## Fall

Broadleaf Weeds where necessary

# MOWING

- One-third (1/3) rule
- Bag clippings vs. accumulation
- Mulching Mowers (recycles nutrients)
- Mowing Heights – taller is better
- SHARPEN BLADES – easily neglected



# Fall Fertilization is very good



# Reasons for Fall Fertilizing\*

- Increase shoot growth (Nitrogen)
- Increase root growth (Phosphorus)\*
- Encourage winter hardiness, disease resistance (Potassium)\*
- Food storage\*

# Fertilize based on a soil test!

- Cost effective
- Better for the environment (water runoff, retention ponds, creeks and streams)
- Nitrogen typically the most limiting for good growth
- Phosphorus and Potassium relatively stable in the soil profile
- *If only fertilizing once a year, do it in the Fall*

# Fertilizers and Pesticides in our Environment

- Can move in water runoff over land
- Can move in storm water runoff
- Can move out of root zone
- Can promote algae bloom in retention ponds and excessive vegetation growth (fertilizers)
- Can cause dissolved oxygen levels in ponds to drop, impacting aquatic life in ponds and streams

# Composting Landscape Waste

- Who's responsible for all that compost
- What we have to do
- When it does not work
- Benefits to us and the environment

# AEROBIC BACTERIA

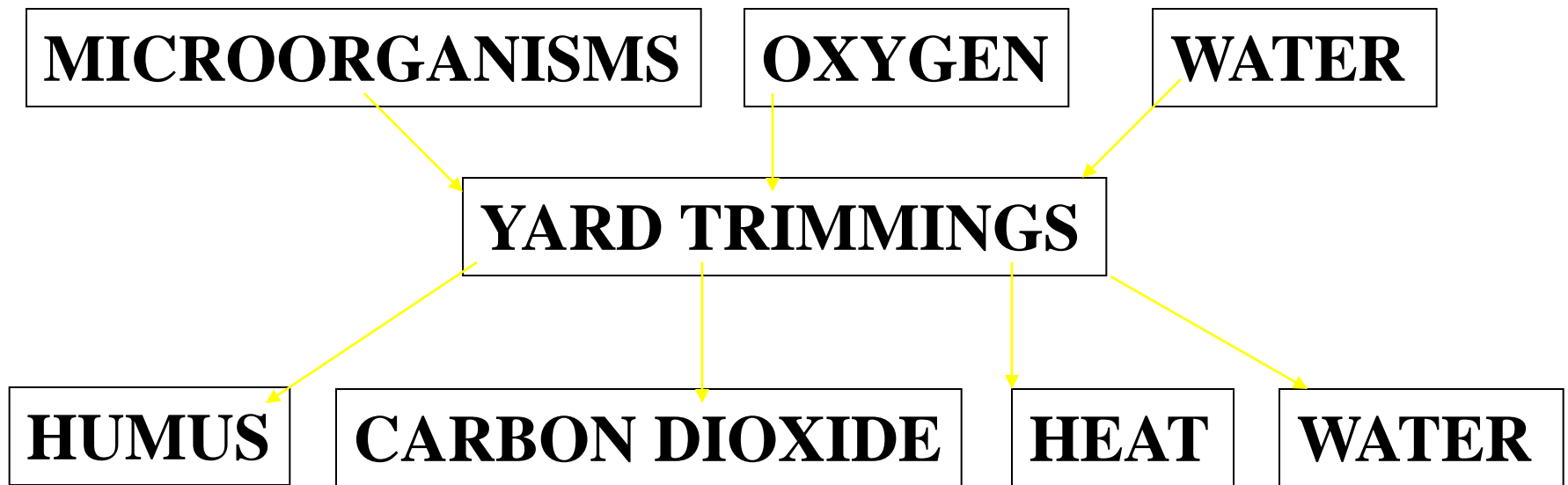
- Bacteria that function only in the presence of oxygen

# ANEROBIC BACTERIA

- Bacteria that function in the absence of oxygen
- Produce organic acids, amines, and hydrogen sulfides and putrescine

# MACROORGANISMS

# THE COMPOSTING PROCESS



# CARBON/NITROGEN RATIO

- The amount of carbon compared to the amount of nitrogen in a substance
- Carbon amounts are always higher than nitrogen



# A C/N RATIO OF 25:1 IS IDEAL FOR RAPID COMPOSTING

- Blending of materials is necessary

Try to have 1/4 to 1/2 of materials in high nitrogen category ( the green stuff)

# MATERIALS WITH HIGH NITROGEN VALUES

MATERIAL	C/N RATIO
Food wastes	15:1
Grass clippings	20:1
Cow Manure	20:1
Horse Manure	25:1
Coffee grounds	20:1

# MATERIALS WITH HIGH CARBON VALUES

MATERIAL	C/N RATIO
Leaves	80:1
Straw	80:1
Sawdust	500:1
Paper	200:1

# AIR FACTOR

- Microorganisms need oxygen to function
- Affected by wind, moisture, and porosity

# TEMPERATURE FACTOR

- Temperatures of 90 to 140 degrees indicate rapid decomposition
- Below 90 means little decomposition taking place, above 140 reduces microbial activity

# PARTICLE SIZE FACTOR

- Affects rate of decomposition
- The smaller the size, the more surface area provided for microbes to work on



# COMPOST ADDITIVES ARE **NOT** NEEDED!

- Types of additives:
  - **Inoculants (dormant bacteria and fungi)**
  - **Starters (Nitrogen, enzymes)**
  - **Activators (Nitrogen)**

# COMPOSTING METHODS

- It doesn't have to be rocket science!
- Select a technique that suits your community and service level



# HOLDING UNITS

- Stage of decomposition will be different from top to bottom, outside to inside
- Can remove finished material at bottom and center, while adding new material on top



## Community Gardens

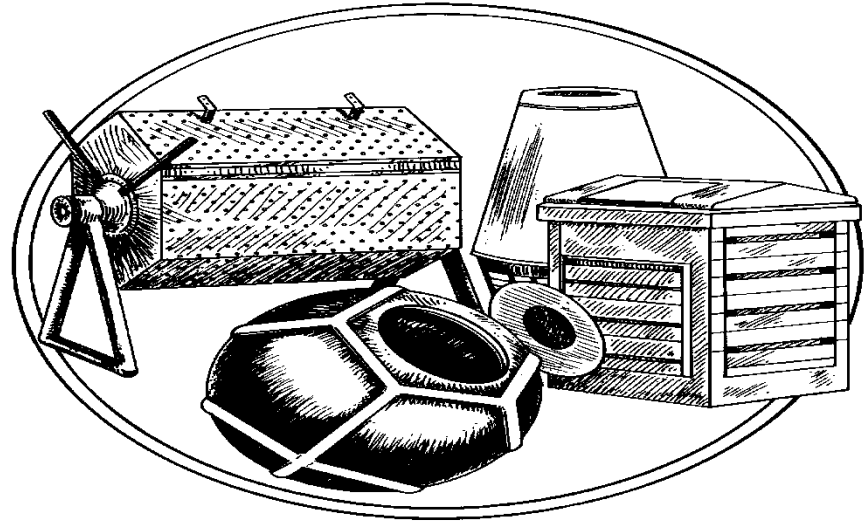


Made out of used pallets and snow fence

# TURNING UNITS

(Homeowner)

- Multiple bins, rolling ball, rotating barrel



- Typically produces finished compost faster than holding bins

# HEAP COMPOSTING

(Homeowner or Municipal)

- Uncontained pile
- Recommended dimensions 5 feet wide by 3 feet high as a minimum
- The bigger the pile, the better the composting activity
- Turning optional

# LOCATION

- Level area
- Good drainage
- Avoid windy location and full sun
- Avoid large trees

# SIZE

## Homeowner

- Minimum 3' x 3' x 3'
- Maximum 5' x 5' x 5'

## Community

- Uncontained pile of various sizes or contained within a three sided structure

# WHEN TO START



- Can be started any time of year, but may be limited by availability of carbon rich or nitrogen rich materials



# CARE OF THE PILE

- Monitor moisture- should feel damp but not soggy



# ODOR!!!!

- Not enough oxygen
  - Overwatering
  - Compaction
  - Too much nitrogen



# PILE NOT HEATING UP

- Not big enough
- Not enough moisture or air
- Not enough nitrogen
- Compost may be finished

# BENEFITS

- Adds organic matter to soil
- Improves water retention in sandy soils
- Improves water movement in clay soils
- Acts as a slow release organic fertilizer
- Will increase amount of insects that prefer to live in decaying organic matter, both good and bad

# Community Composting

- Encourage homeowners to compost
- At community garden sites
- Parks Departments
- City maintenance locations
- Demos at City parks
- Give away compost like we do wood chips

# Landscape Planning

Illinois has been considered a water rich state

Landscape designers have not been concerned with irrigation requirements in the landscape, designing beds containing high and low water usage plants together

Community water restrictions now are impacting landscape design

# Landscape Planning

- Native grasses and other perennials
- Native trees and shrubs
- Grouping of “like water usage” plants
- Much better “zoning” of turf and planting beds for irrigation systems
- Use of rain and soil moisture monitoring instruments that modify irrigation times

# Landscape Planning

- Designing Bio swales
- Designing Rain Gardens
- Designs respectful of existing grades and natural features
- Limiting impacts to areas to be left natural

# Landscape Maintenance

We benefit from using organic mulches

- Organic mulches retain soil moisture
- Organic mulches moderate soil temperature
- Organic mulches inhibit weed seed germination
- Organic mulches add to soil structure
- Organic mulches release plant nutrients

# Landscape Maintenance Integrated Pest Management

- IPM means sharing a bit of the landscape with the pests
- Landscape plants can tolerate a good deal of insect feeding and maintain their health
- Using the least harmful product to our environment when we must treat
- Use alternatives to chemical treatments



# Who Regulates Pesticides

- In Illinois, the Department of Agriculture is responsible for regulation and enforcement
- The University of Illinois in cooperation with IDA provides the educational training component of the regulation

Thanks for your attention!

Questions?



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