



Bed Preparation for Saffron Production

Sid Bosworth

Extension Agronomist

University of Vermont

Saffron Weed Control

- Preparing saffron beds for weed prevention
- Weed management of established saffron

Can we really control weeds?

Preparing Beds for Saffron Production

Target Planting Date – Sept. 1

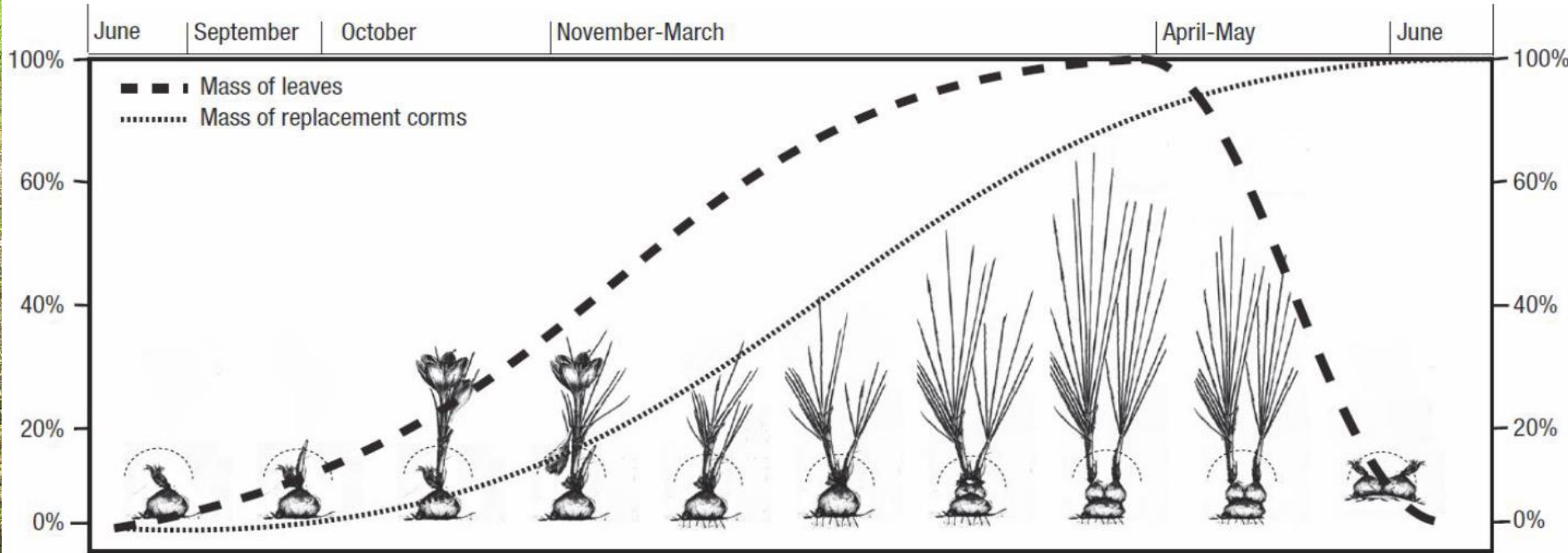


Fig. 1. The annual cycle and major growth stages of saffron (Corcoles et al. 2015).



Preparing Beds for Saffron Production

Target Planting Date – Sept. 1

This spring:

- Before any tillage, assess your site this spring for existing weeds and vegetation.
- Look especially for creeping perennial weeds
- A good time to take a soil test and lime and amend your soil as needed
- Adding compost or organic matter?
- Want good quality compost that is weed-free!



Understanding Your Weeds

Life Cycle

Annual



Biennial



Perennial





UMass Extension Landscape, Nursery & Urban Forestry Program

Weed Herbarium

Common Name

Scientific Name

Family Name

Contact



UMass Extension Weed Herbarium

[A](#) | [B](#) | [C](#) | [D](#) | [E](#) | [F](#) | [G](#) | [H](#) | [I](#) | [J](#) | [K](#) | [L](#) | [M](#) | [N](#) | [O](#) | [P](#) | [Q](#) | [R](#) | [S](#) | [T](#) | [U](#) | [V](#) | [W](#) | [X](#) | [Y](#) | [Z](#) | [ALL](#)

Common Name

Scientific Name

+ agrimony

[*Agrimonia gryposepala*](#)

+ agrimony, tall hairy

see - [agrimony](#)

+ akebia, five-leaf

[*Akebia quinata*](#)

+ alexanders, darkpurple

see - [angelica, purplestem](#)

Weed ID Test



Weed ID Test

Common milkweed

Weed # 1



Vegetative Propagation



Weed ID Test

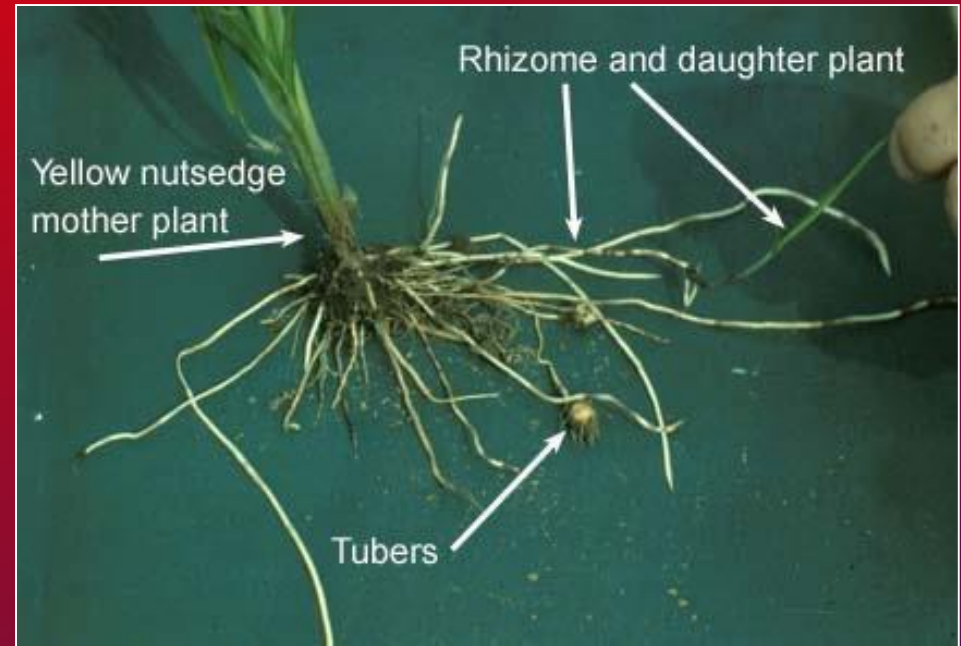
Yellow nutsedge

Weed # 2



Vegetative Propagation

Yellow Nutsedge

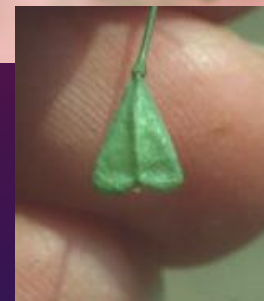


www.agry.purdue.edu/turf/tips/2003/nut624.htm



One tuber was reported to result in 1918 new plants and 6,864 new tubers in one year!

(Aldrich and Kremer, 1997)





White clover

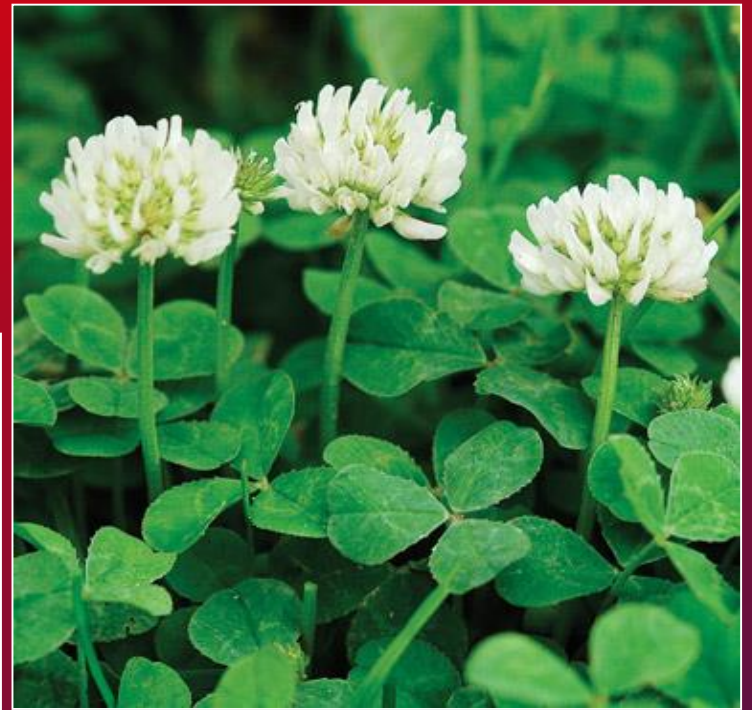


White Clover

Family:
Fabaceae

Life Cycle:
CP

Reproduction:
Stolon, Seed



Weed ID Test

Common Burdock

Weed # 6



Weed ID Test

Bull thistle

Weed # 7



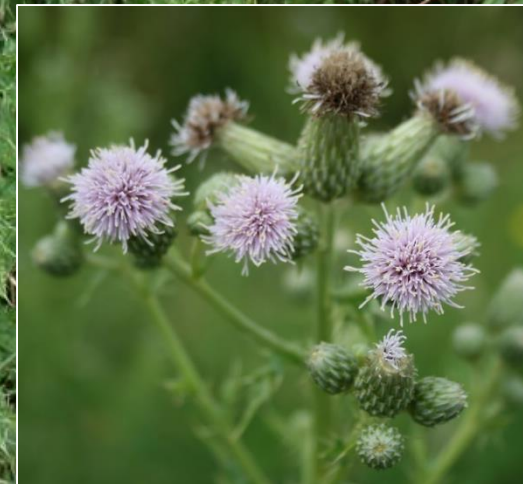
Wind Dispersal



Weed ID Test

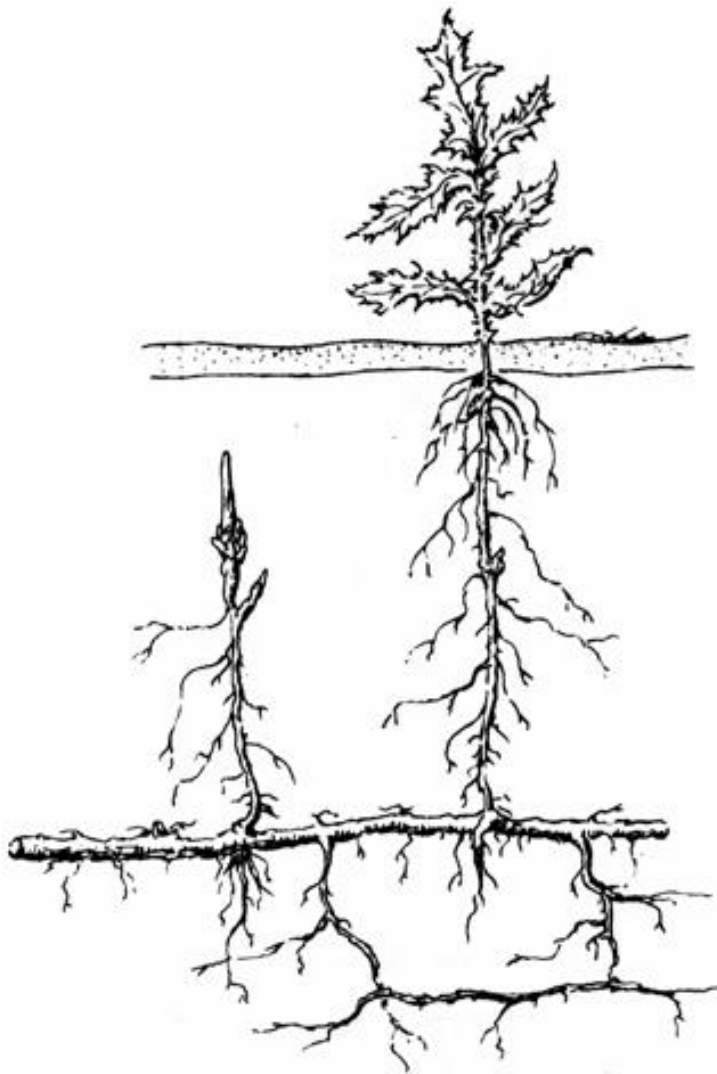
Canada Thistle

Weed # 8



Vegetative Propagation

Budding/Creeping Roots



Creeping root system
of Canada thistle



(<http://www.oardc.ohio-state.edu/weedguide/>)

Shoot emerging from underground root

Weed ID Test

Smooth bedstraw

Weed # 10



Weed ID Test

White Champion
or White Cockle

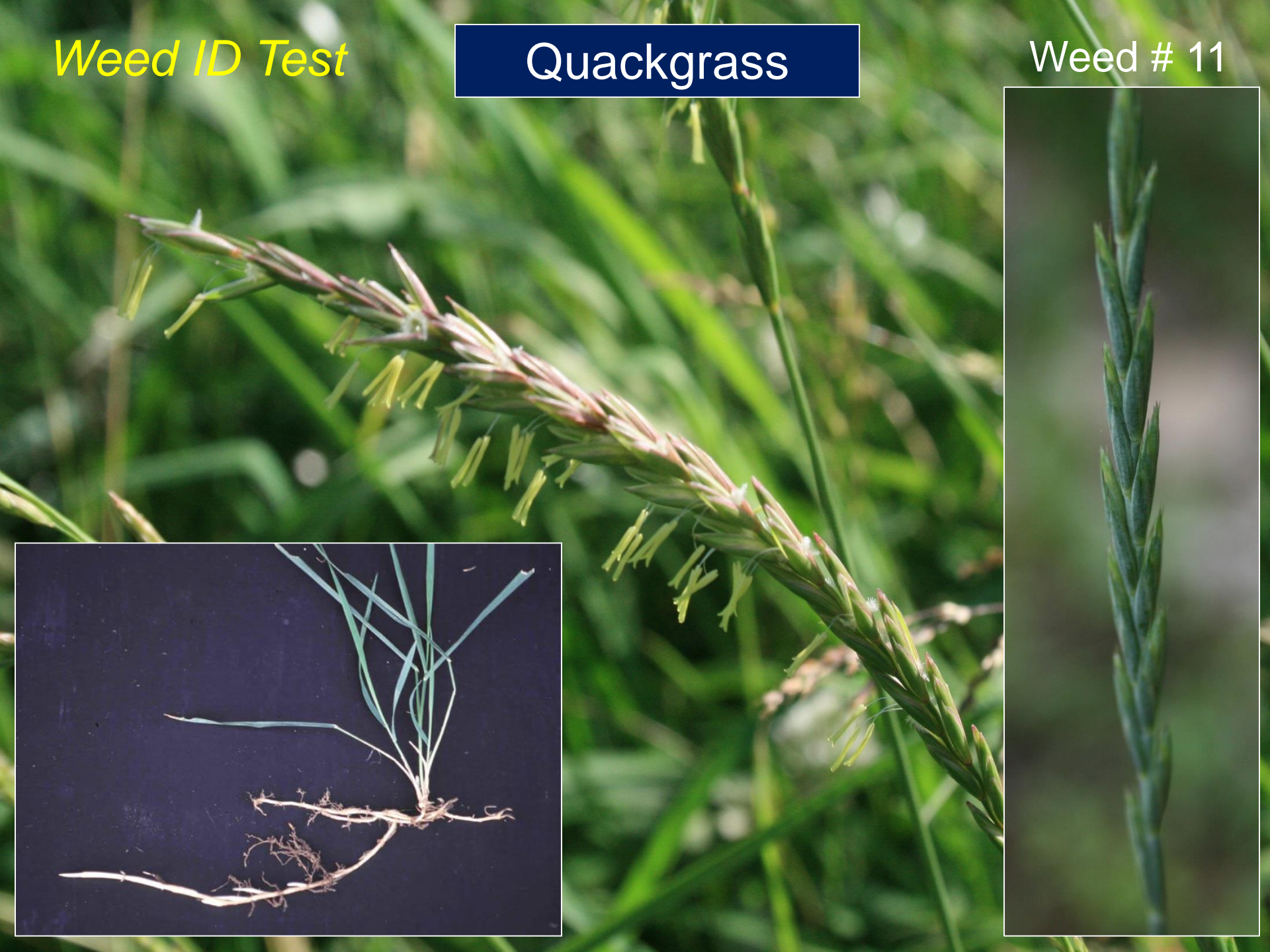
Weed # 10



Weed ID Test

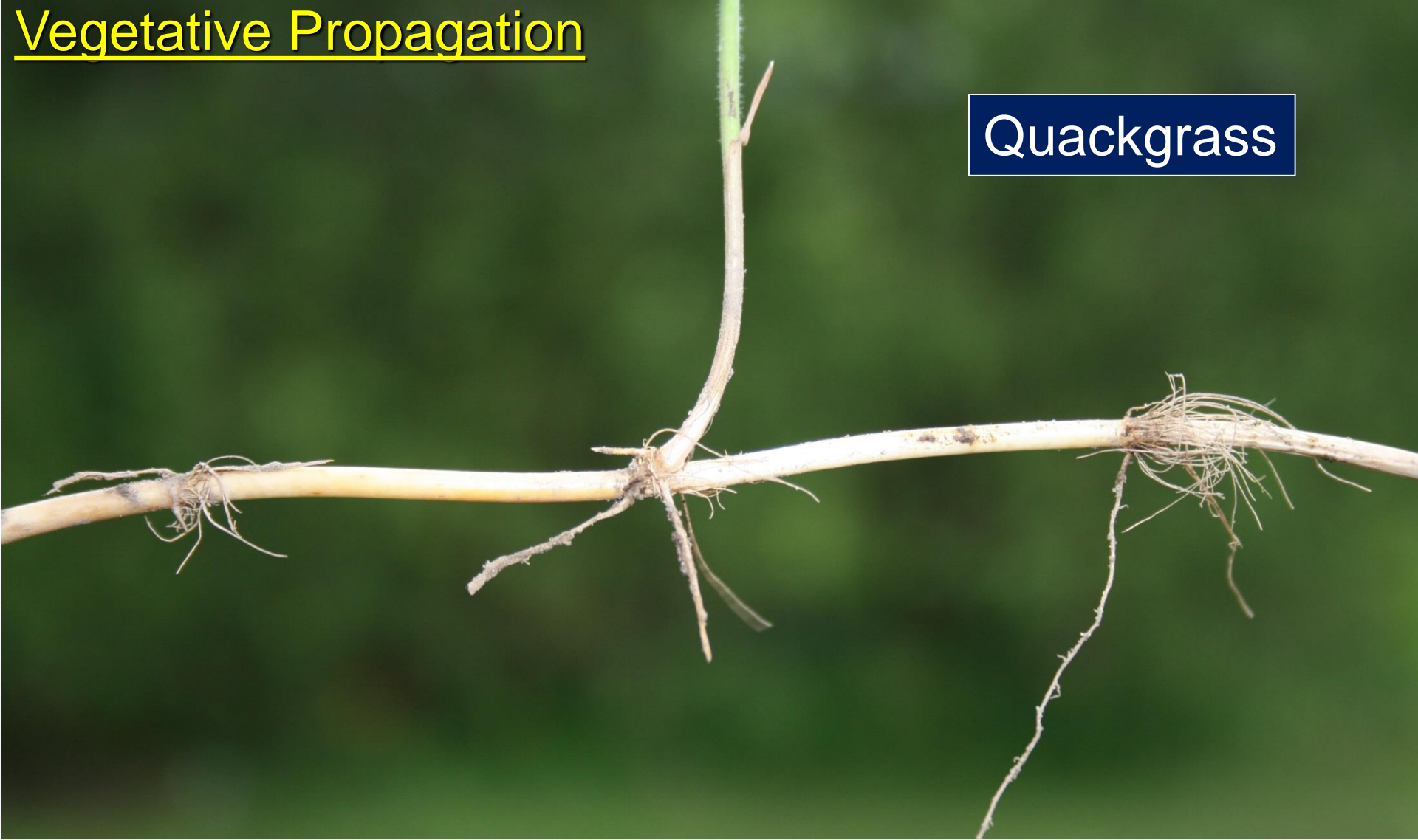
Quackgrass

Weed # 11



Vegetative Propagation

Quackgrass



A single plant is capable of producing a system of rhizomes extending 11 feet in diameter (over 440 feet of rhizomes), with more than 200 aerial shoots in one season

(www.oardc.ohiostate.edu/weedguide)

Weed ID Test

Horsetail

Weed # 16



Vegetative Propagation



New shoots can emerge from depths of 3 feet or more



Field Horsetail



Rhizomes have been found to grow as much as 330 feet horizontally and 20 feet deep.

Weed ID Test

Mustard spp.

Weed # 13





Kentucky bluegrass





Weed Seed Dispersal

Horseweed

Wind dispersed seed make this weed a big problem!



Preparing Beds for Saffron Production

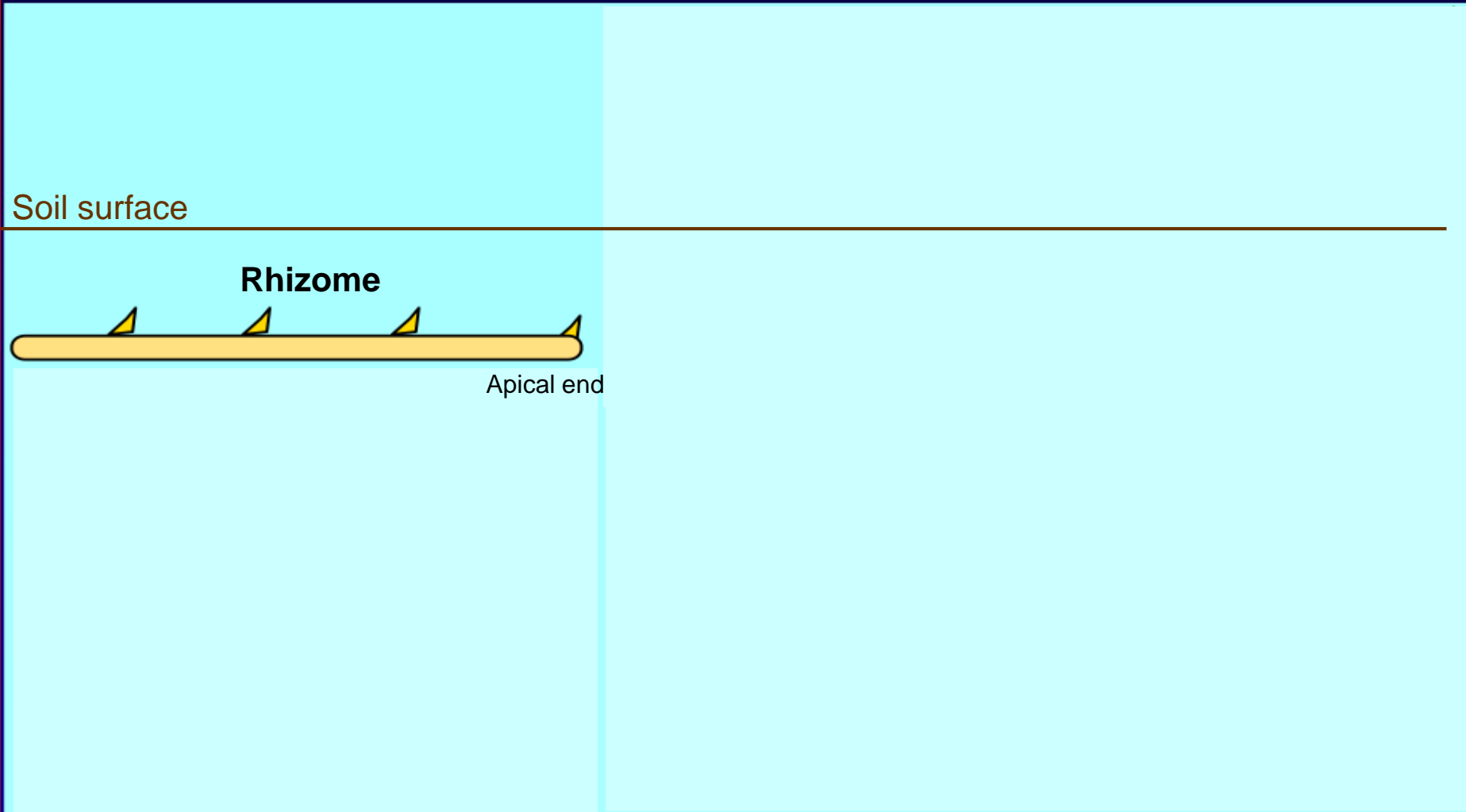
We till to kill!



Should you fallow till?

Vegetative Propagation

Apical Dominance Prevents New Shoots



(Chuck Mohler, Cornell University)

Preparing Beds for Saffron Production



Fallow tillage:
Repeat tillage as new shoots emerge

What about organic matter?

Plastic Mulches for Soil Solarization



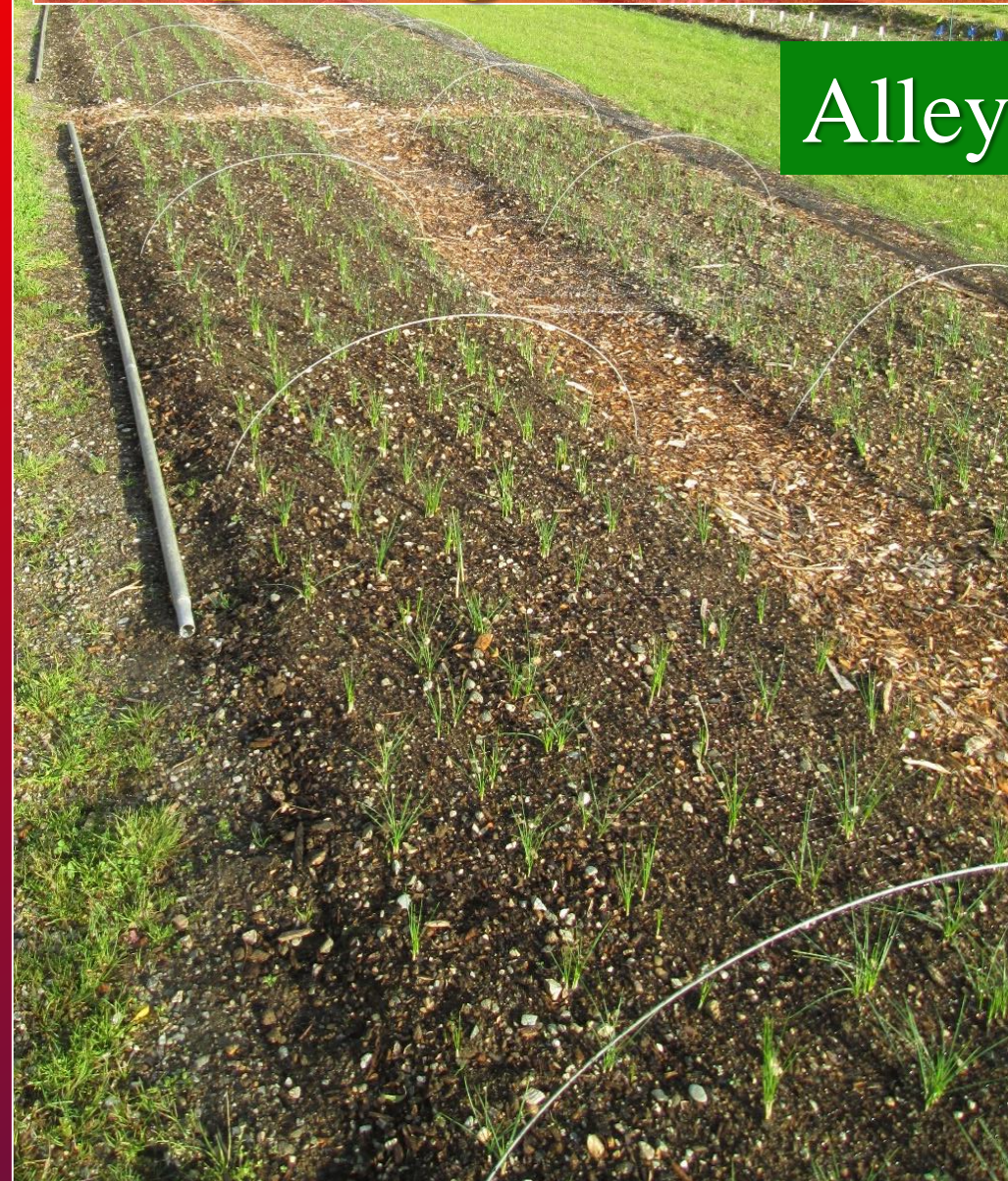
(<http://www.uidaho.edu/ag/plantdisease/solpic.htm>)

- Used to control plant pathogens but can also reduce weeds
- Most effective on small seeded annuals

- Use transparent plastic and soil needs to be moist
- Need 4 to 5 weeks of coverage during hottest time of year
- Could be combined with other practices such as tilled-in mulch

Preparing Beds for Saffron Production

Alleyways?





Questions?