



HOW DO UNDERSTORY PLANTS COME BACK AFTER FIRE?







BURIED TREASURES: Perennials

- Underground buds or growing points
 - Dormant before fire
 - Meristem tissues (i.e. stem cells)
- Insulated from the heat of fire
- Released from dormancy by the death of the buds on the aerial portions of the plant





HOW DOES FIRE AFFECT UNDERGROUND PLANT STRUCTURES?

**DEPENDS ON WHERE
THEY'RE GROWING**

FOREST FLOOR LAYERS

Litter & Duff

Mineral soil

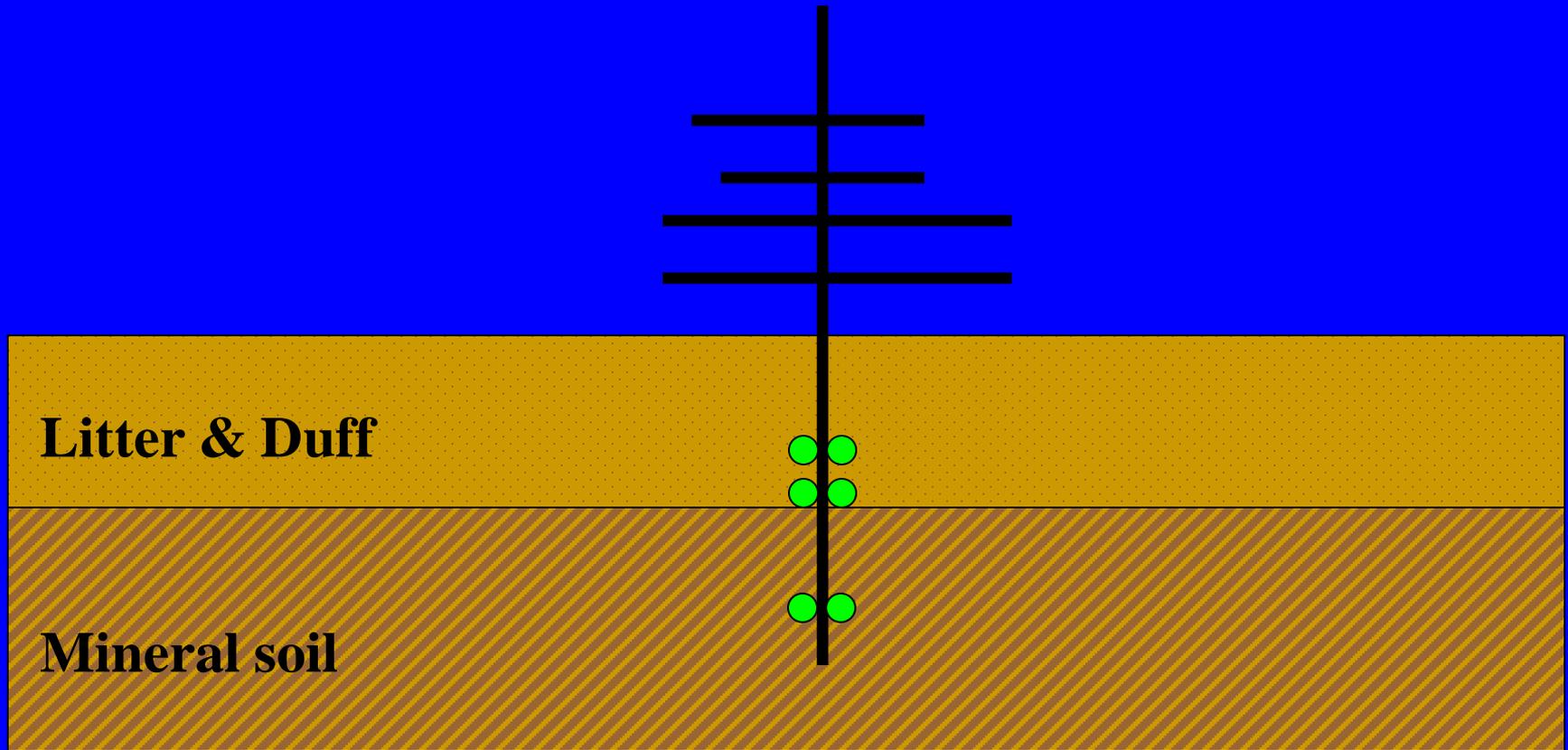




UNDERGROUND STRUCTURES THAT SUPPORT DORMANT BUDS

- **Root collar**
- **Root crown**
- **Rhizome**
- **Caudex**
- **Bulb**
- **Corm**

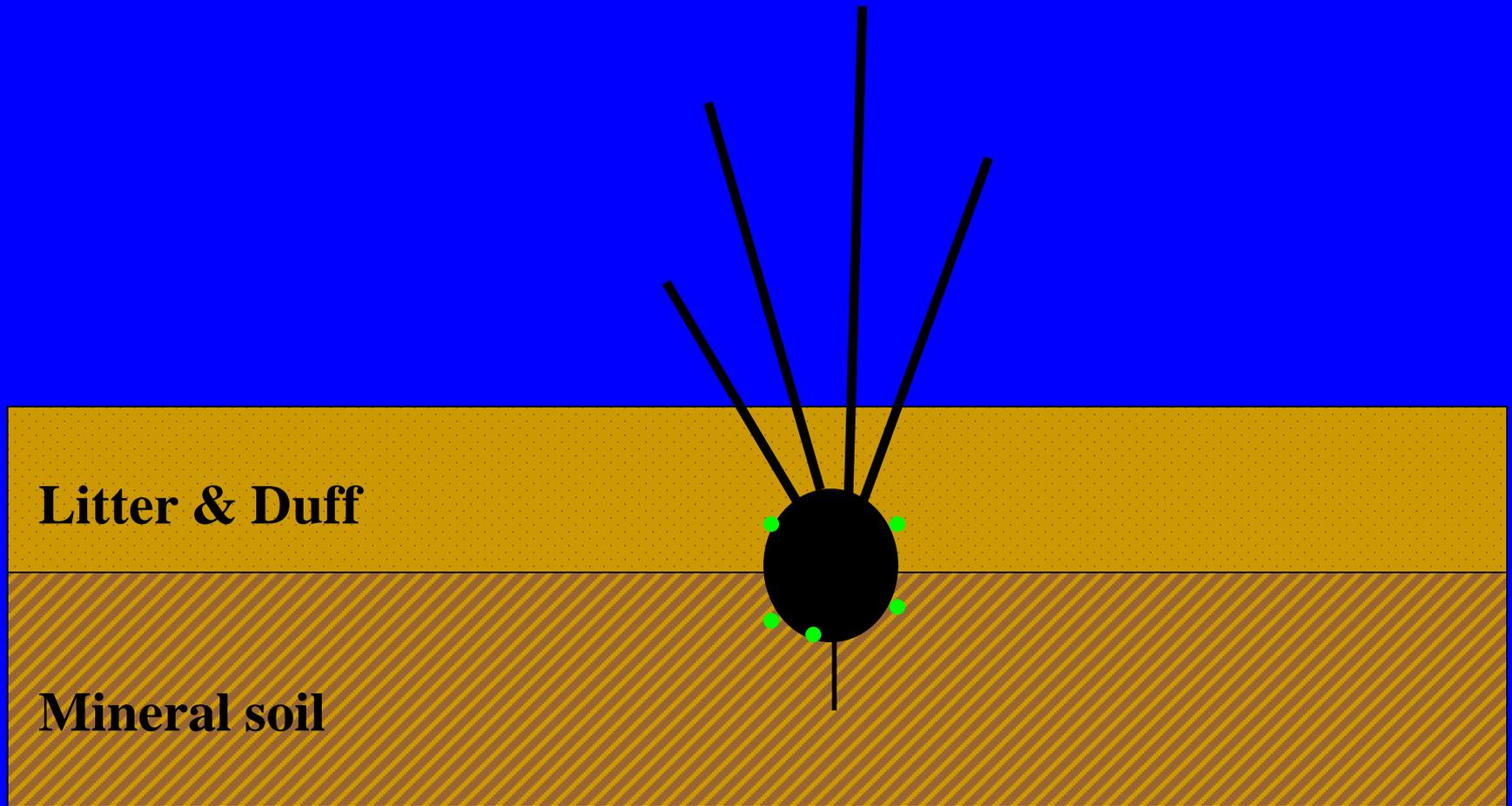
ROOT COLLAR







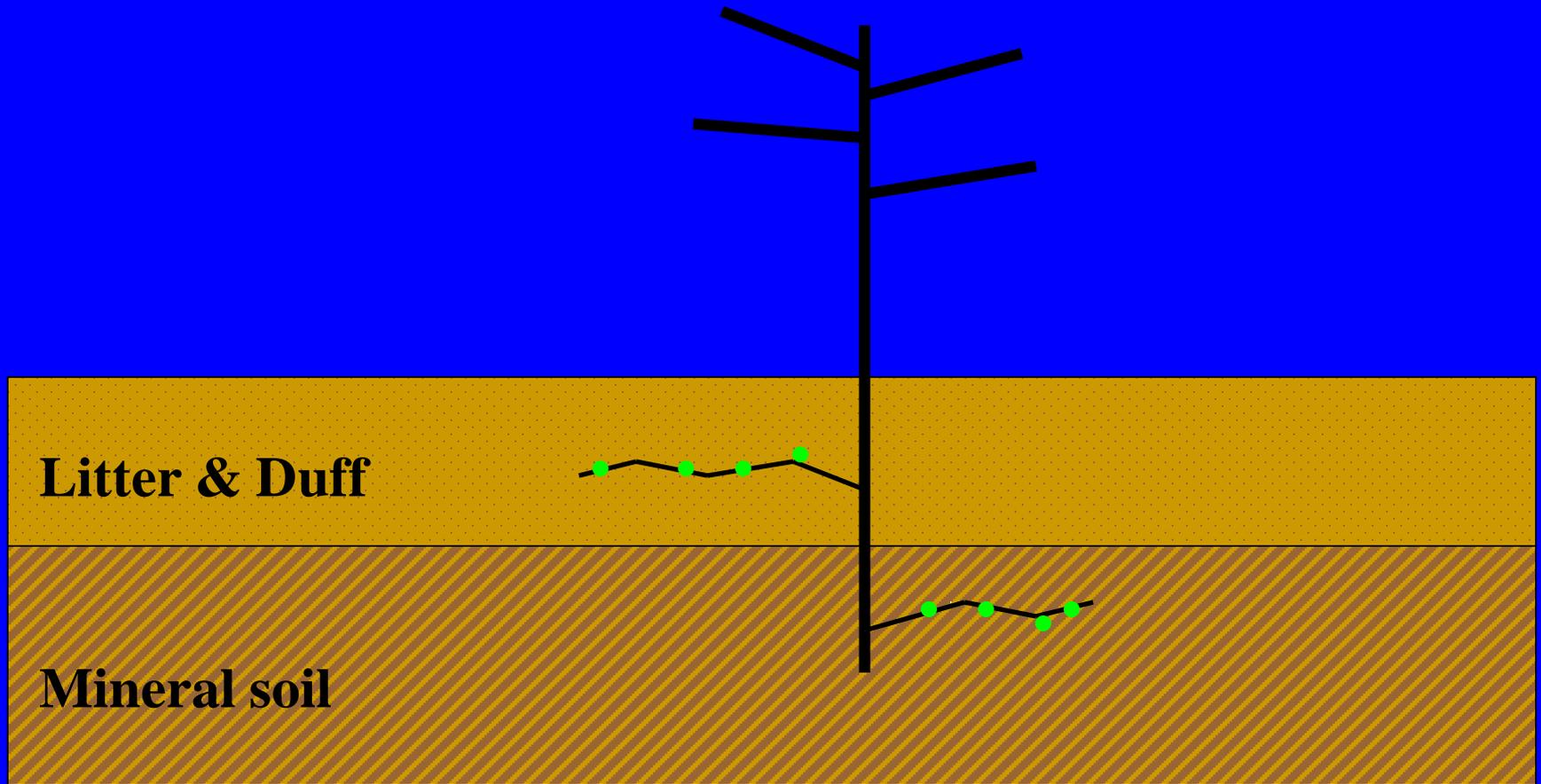
ROOT CROWN







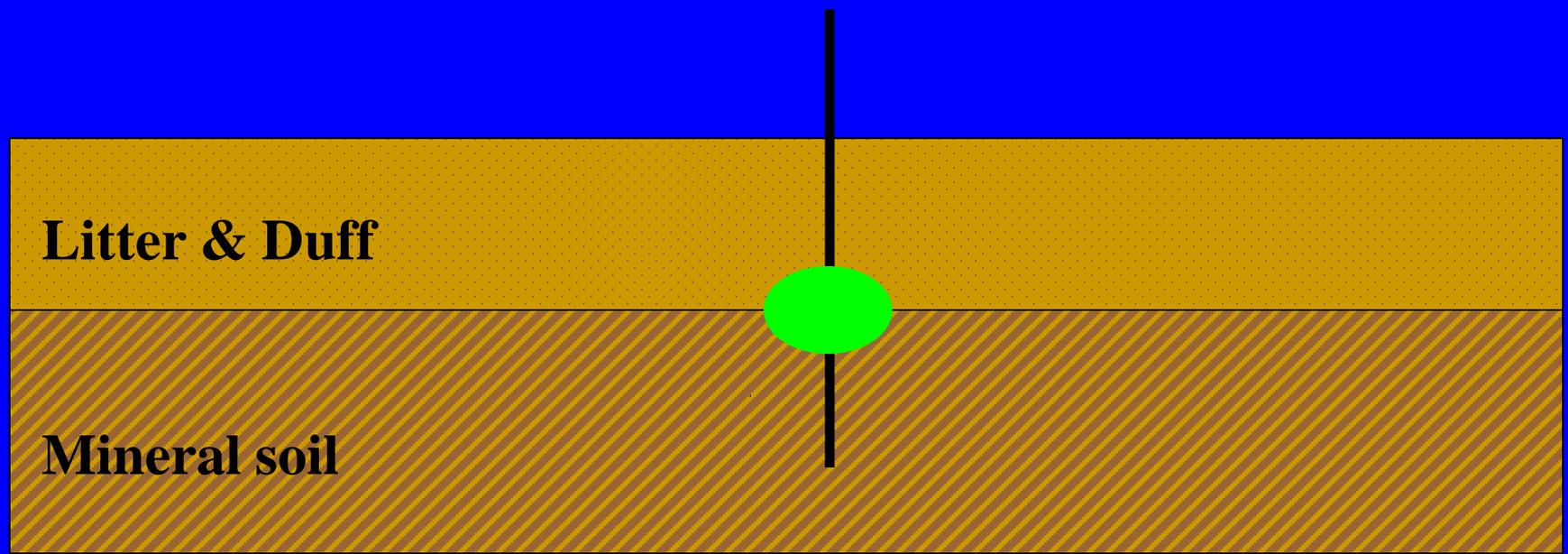
RHIZOME







CAUDEX



Litter & Duff

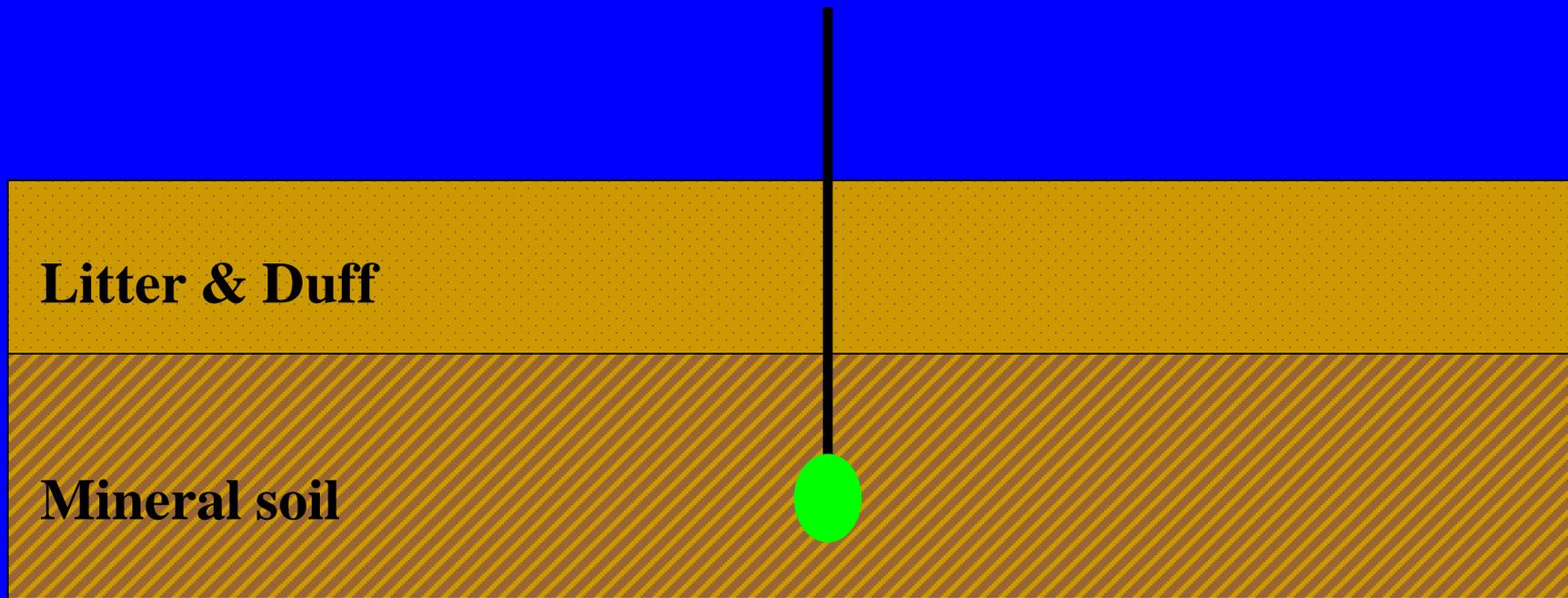
Mineral soil

CAUDEX





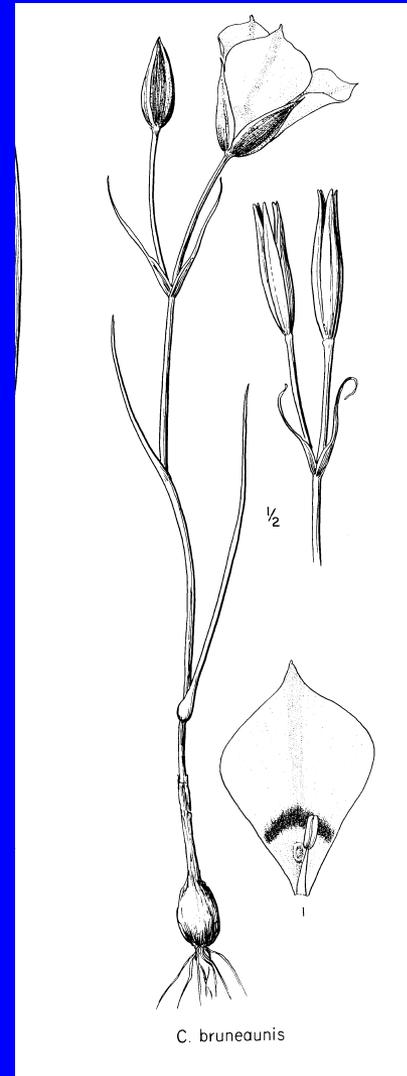
BULB/CORM



BULB



CORM





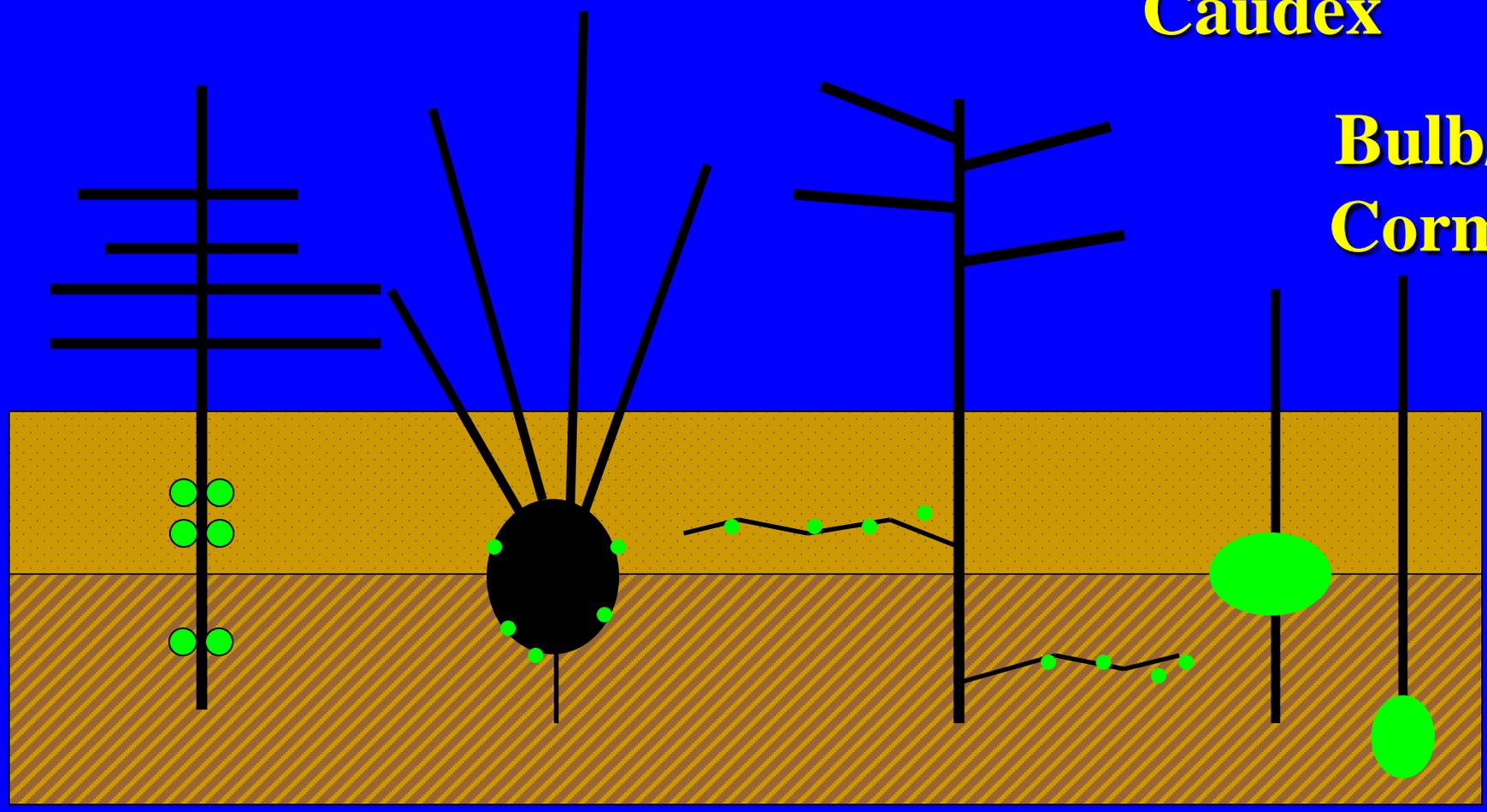
Root collar

Root crown

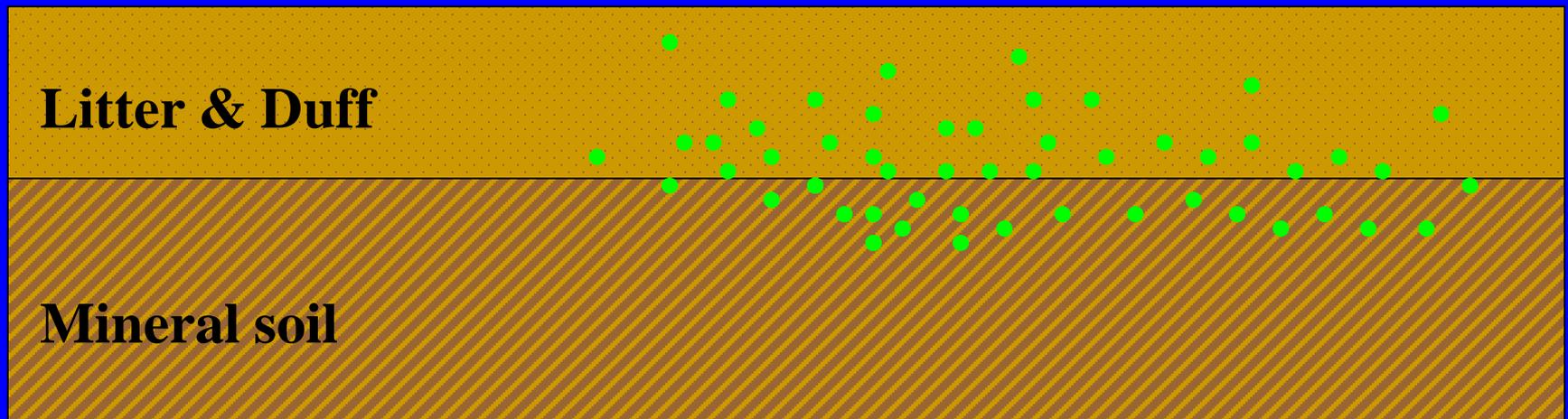
Rhizome

Caudex

**Bulb/
Corm**



Another treasure: **BURIED SEED**



BURIED TREASURES: Seeds

- **Insulated from the heat of the fire**
- **Remain in the soil for decades**
- **Are still able to germinate and grow**





Buried Treasures

- Fire adaptation of understory plants—if top-killed can still be alive below ground
- Underground buds
 - insulated from the heat of a fire
 - dormant
- Located on underground structures that are species specific
- Sprouting ability variable
 - depends upon bud location—litter/duff vs. mineral soil
 - depends on duration of fire and duff consumption