

Forage Morphology (Chapters 2 & 3, pg 25-72)

Introduction

- Morphology
= "morphé" (Greek for) + "ology" (.....)
- plant morphology -
(e.g.)
- plant morphology is the basis for - especially
flower heads and seed pods
- an understanding of plant morphology allows us to
.....
- allows us to have a descriptive terminology

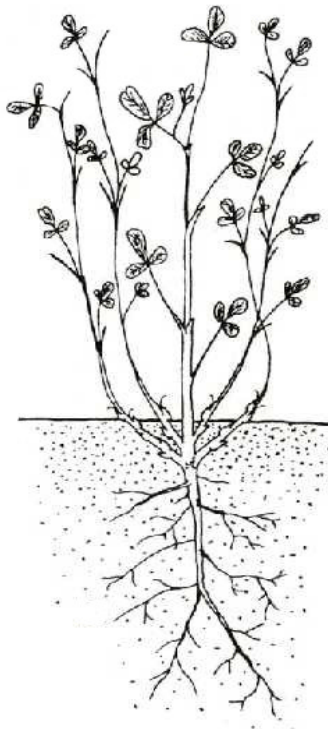
Grass structure

- The basic unit of grass growth is
- A tiller comprises
- A bunch grass plant is
e.g.
- Sod-forming grasses also produce (.....)
e.g.
or (.....) e.g. reed canarygrass, quackgrass
- The growing point of the tiller is at - and generally
protected from



Non-spreading forages

- The most common legume plant structure e.g.
- Common structure for most weeds e.g.
- no mechanism of
- plant crowns are sensitive to damage by, and Damaged plants are prone to being infected by fungal pathogens, ultimately resulting in plant death.
- After harvest, plants need to regrow from



Vegetatively-spreading forages

- The dominant plant structure for
- stolons - e.g.
- rhizomese.g.
- plants have the capacity to grow rapidly into
- nodes can produce, and eventually can become independent plants if the stolon is broken by treading or eventually senescences.
- in the axis of leaves (petioles) can produce or a - thus the potential for growth.



Meristems

- Meristems are the - undifferentiated cells from which leaf and stem structures develop.
- Areas of intense cell division. By the time a leaf appears, cell division has and leaf growth is largely by (water dependant phenomenon).
- In grasses the meristems are at (ground level). New leaves emerge from the center of the tiller. Leaves emerge at a fairly constant rate even if the grass is cut or grazed.
- In legumes (e.g. alfalfa) meristems are, so once the crop is cut, new stems must regrow from the plant crown



Implications for Farm Management

- Understanding the morphological components of plants is the key to managing forage quality (ratio of leaf:pseudo stem, identifying the onset of flowering (boot stage) in a crop. Cutting too late will
- The morphological trait most closely associated with crop yield is (stand height). Experienced farmers can estimate stand yield based on height. The sward stick and rising plate meter are two tools for measuring yield, and this is based on stand height.
- Meristems are the basis of Damaging meristems by tractors or hooves, especially when soils are wet and for non-spreading forages (alfalfa)
- Being able to identify your forages is dependant on a thorough knowledge of plant morphology