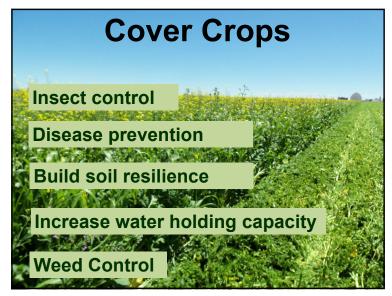


1



Cover Crops

Nitrogen building

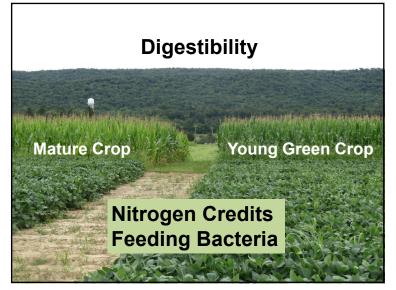
Nutrient storing

Nutrient Time release (depending on digestibility)

Erosion protection (building soil structure)

Carbon sequestering (building organic matter)

2



The Soil Food Web **Food - the feeding frenzy:** Carbon: Nitrogen Ratio **⇔** Bacteria 5:1 Fungi 20:1 Protozoa 30:1 ♦ Nematodes 100:1 Humans 30:1 **\text{\text}** Lettuce 30:1 500:1 **♦** Wood

Green Carbon

Brown Carbon

Black Carbon

5





7

NRCS Principles for High Functioning Soils

Minimize disturbance

Maximize soil cover

Maximize biodiversity

Maximize presence of living roots

9



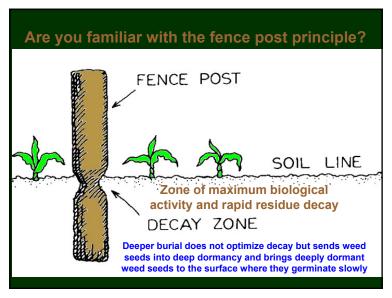




10



12



Oxygen (0,) diffuses into soil from the atmosphere.

Oxygen production as a byproduct of photosynthesis

Co, diffuses from soil into stomata for photosynthesis.

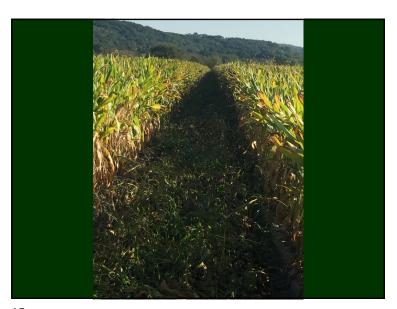
STOMATA (mainly on underside of leaf)

CO,

Root zone organisms and roots use oxygen and release Co, as a byproduct.

MICROORGANISMS

13 14





15 16











Green
Manure
large amounts

large amounts of organic matter

amino sugars

proteins and amino acids

Nitrate and ammonium N

21



22



23





























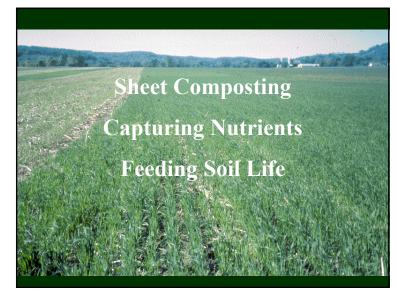














Feed and 32.54% ADF Forage Report NDF 37.99% Lignin T.D.N. 65.79% 6.49% **Product:** N.E.L. 0.67% Calcium 1.54% Mustard Phosphorous 0.56% Magnesium 0.26% Potassium 3.52% Sulfur 1.01% Moisture 16.5% Sodium 0.13% Dry Matter 83.5% 42 ppm Boron Crude 22.09% Manganese 51 ppm Protein 34 ppm Zinc 3.53% Nitrogen 9 ppm Copper N:S ratio 3:1 124 ppm Iron Starch 0.64% 65 ppm Aluminum Sugar 6.47% molybdenum 0.42 ppm

46



47 48





49



50



51 52