

SOIL BIOLOGY

(ECOSYSTEM SERVICES OF SOIL BIOTA)

Soil fauna :

The totality or a part of their life cycle in the soil

Macrofauna (sup 2mm), Mesofauna (2-0.2mm), Microfauna (inf 0.2mm)

Soil Microbiology :

Bacteria, Fungi, Actinomycete

Decomposition of organic matter :
Bacteria and Fungi
Mites, Millipedes, earthworms and
termites

= Decomposers

Nutrient cycling :

Micro-organisms
Protozoa and nematodes

Bioturbation :

Plant roots, ants, termites, earthworms...
(Bioturbators)

Channels, mounds, aggregates and pores

Suppression of soilborne diseases
and pests

CLIMATE



CLAY + NUTRIENTS



VEGETATION and
RESSOURCE QUALITY



MACRO-ORGANISMS

MICRO-ORGANISMS

(Biological interactions)

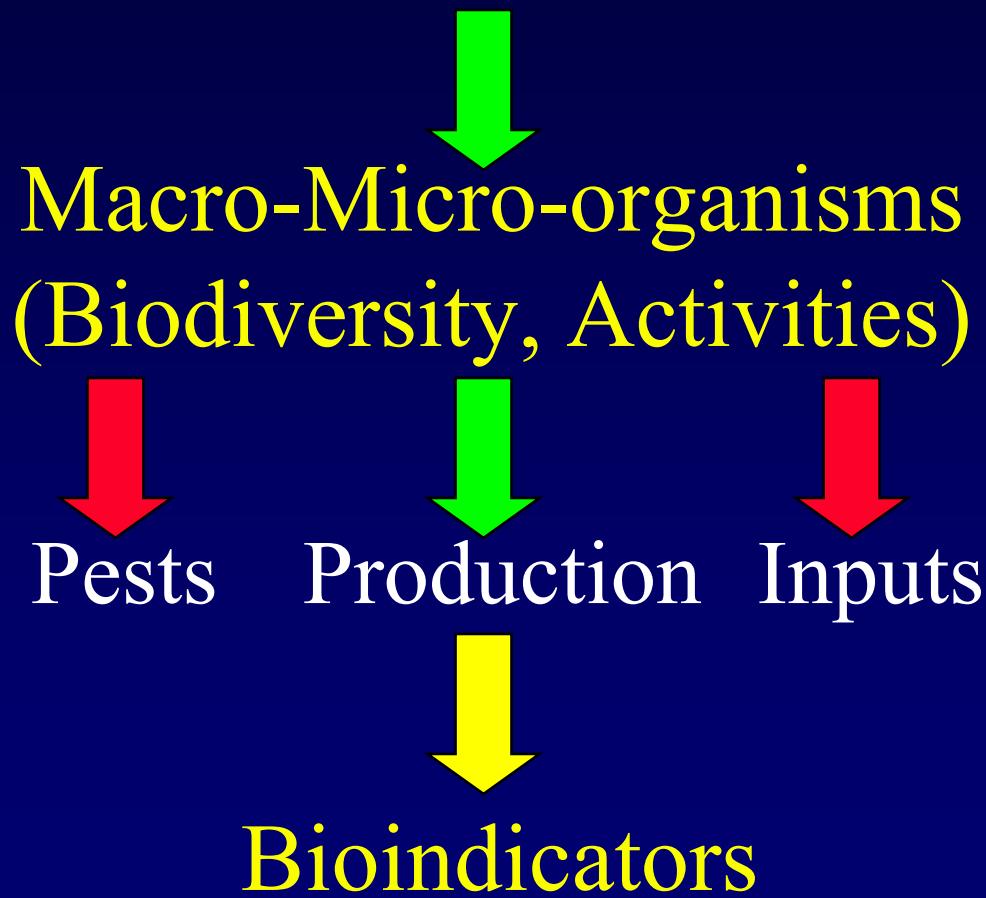


SOIL PROCESSES

The Principal objective :

To study farming practices that improve
quality and fertility of soil
while protecting the environment

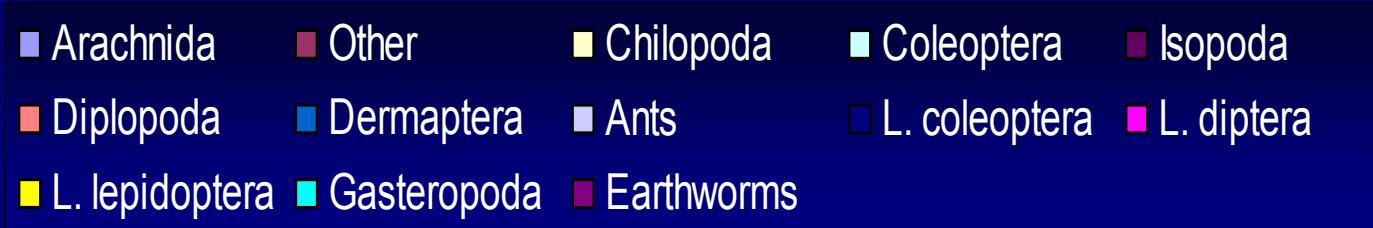
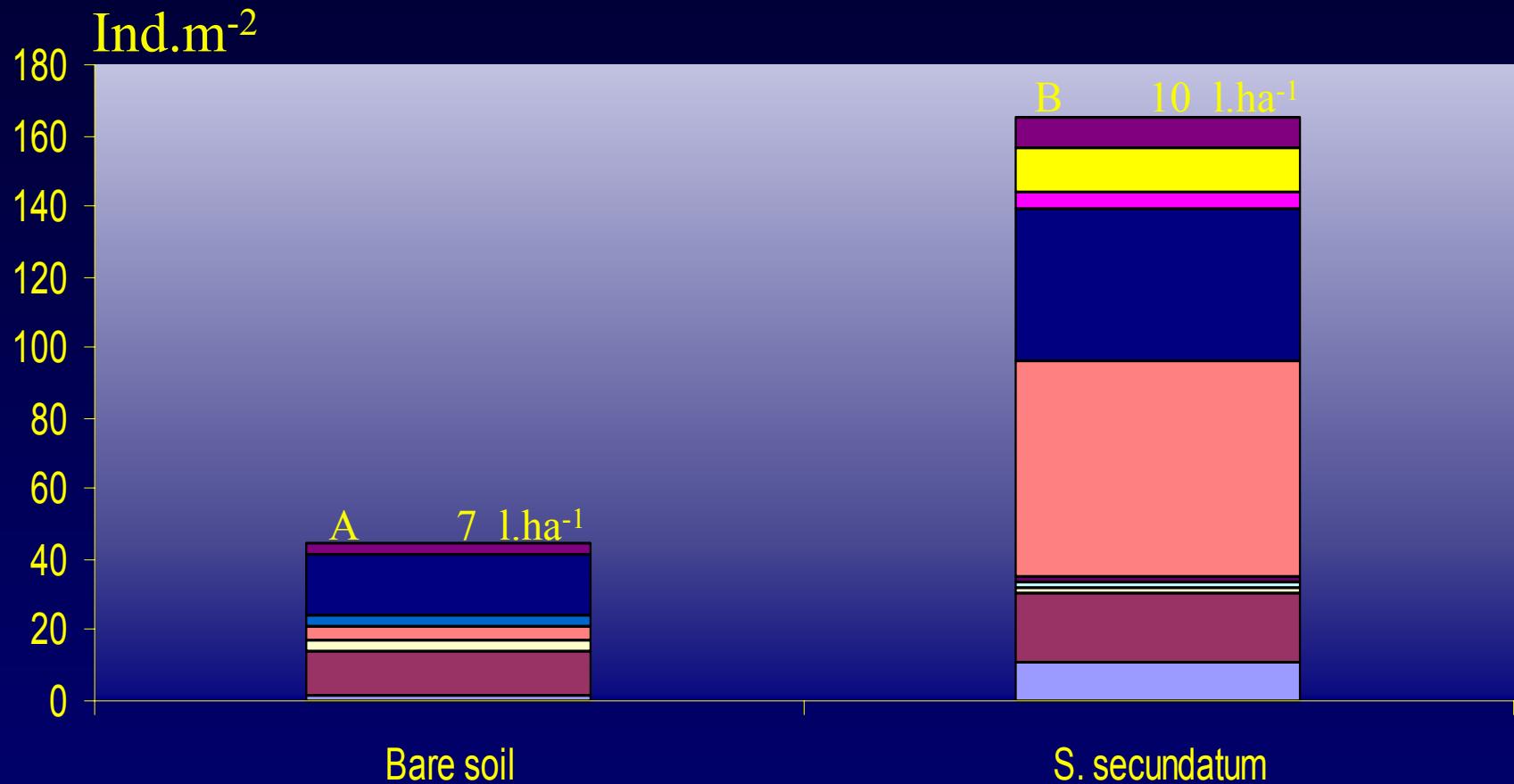
Plant covers (Quality)



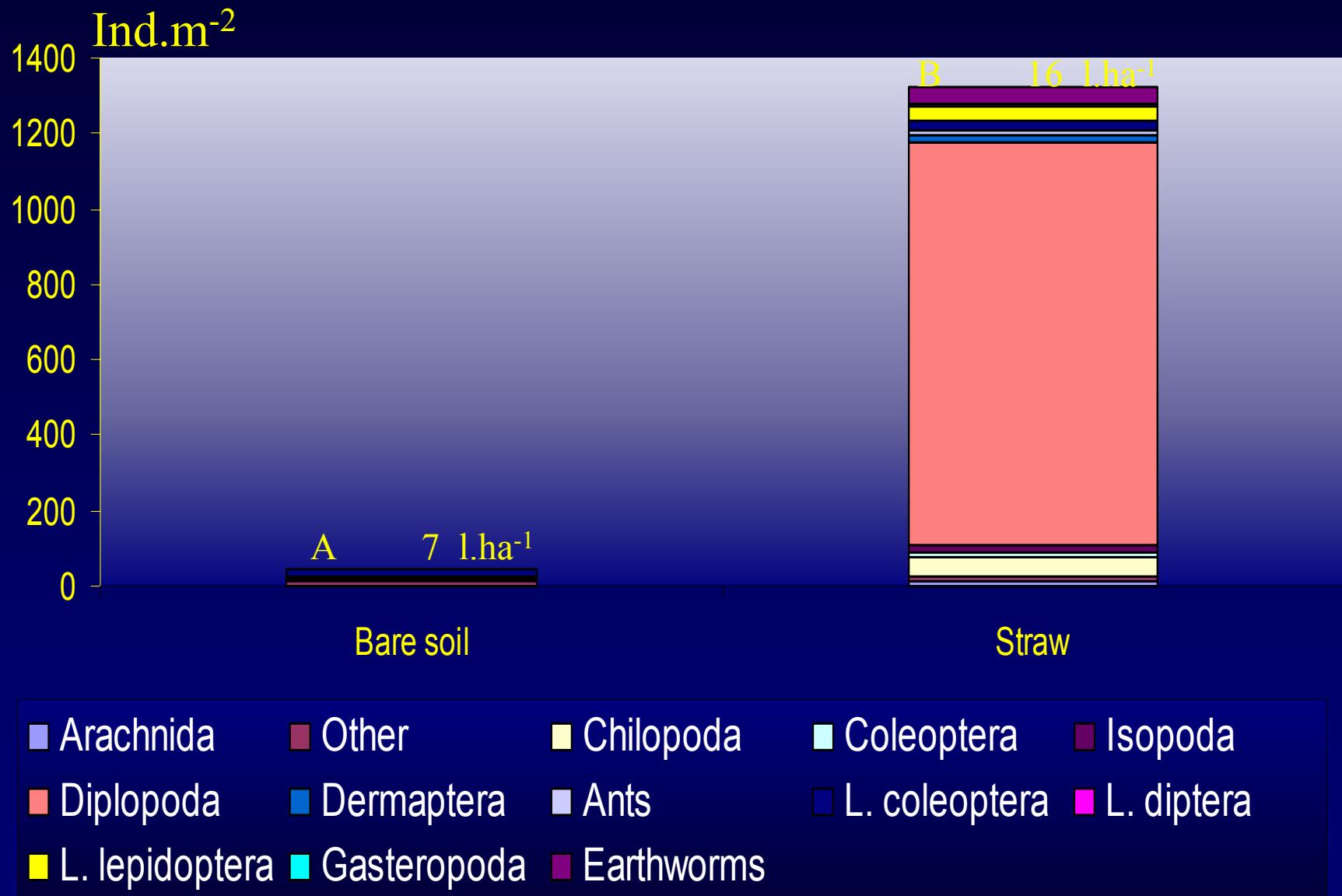
Proposals :

- Capacity of expertise and training in soil macrofauna (field and laboratory)
- Laboratory : soil microflora (respirometry, biomass, enzymes), litters quality (chemical factors) and in plant parasitic nematodes

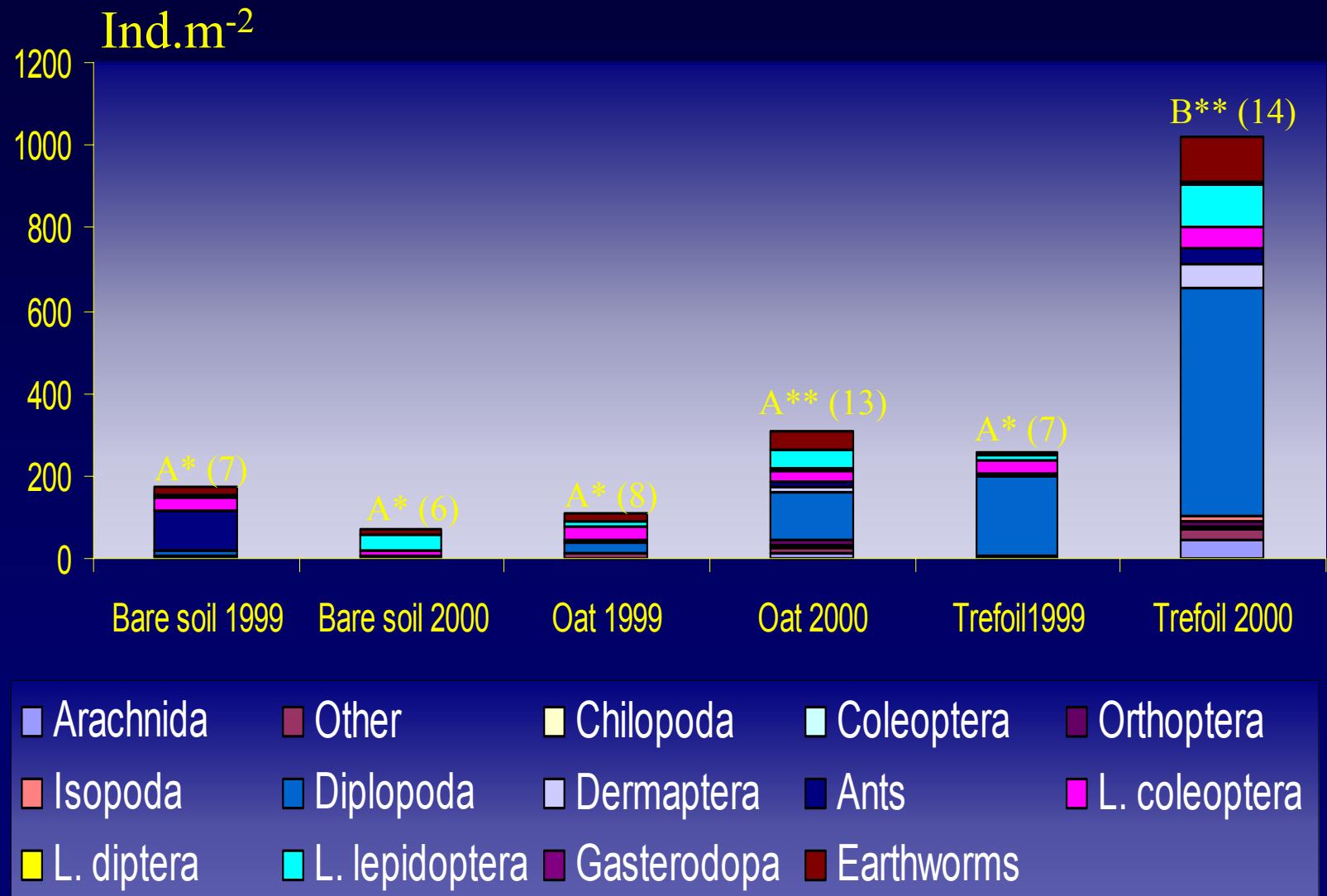
Mean density of the different soil macrofauna taxa



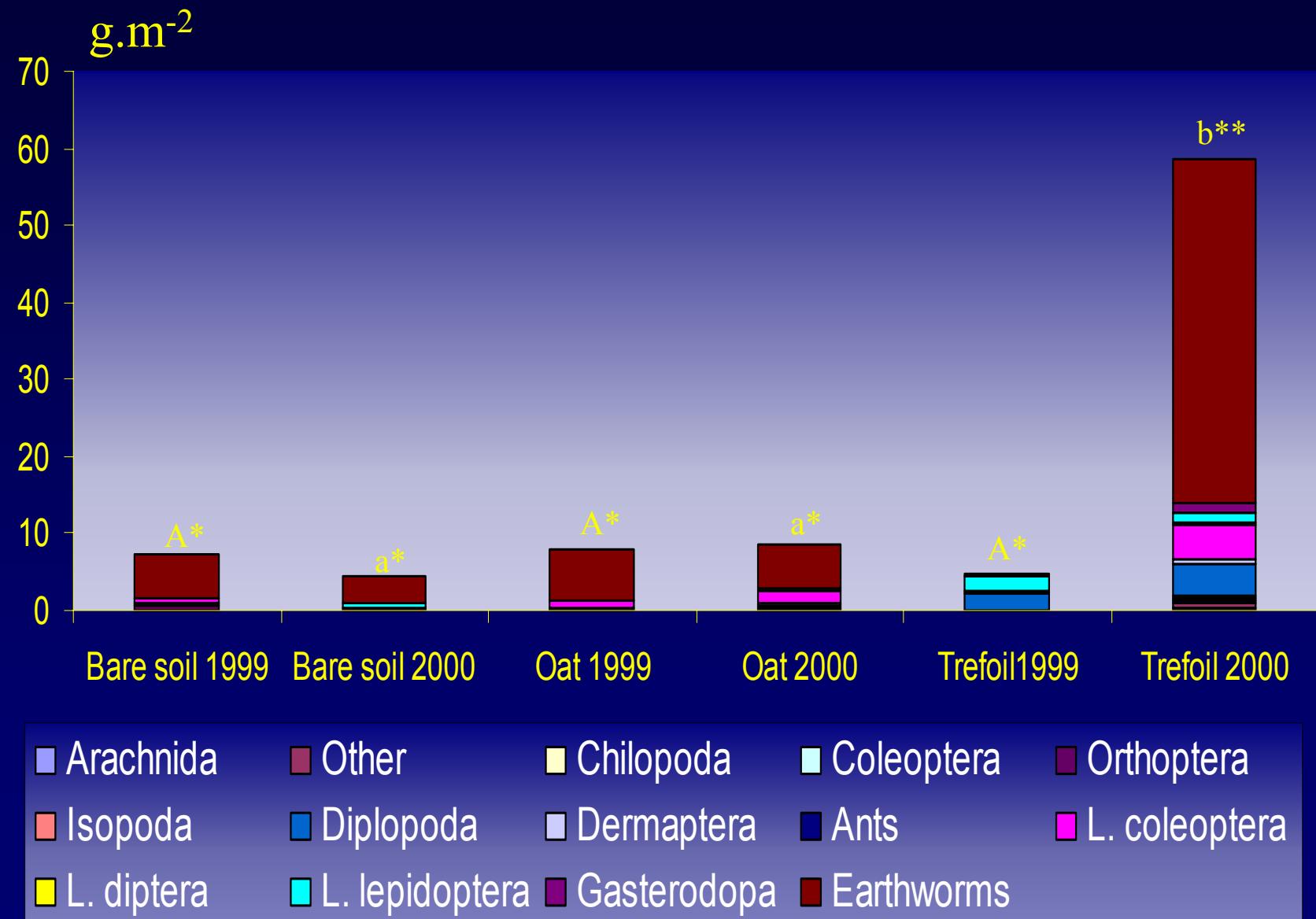
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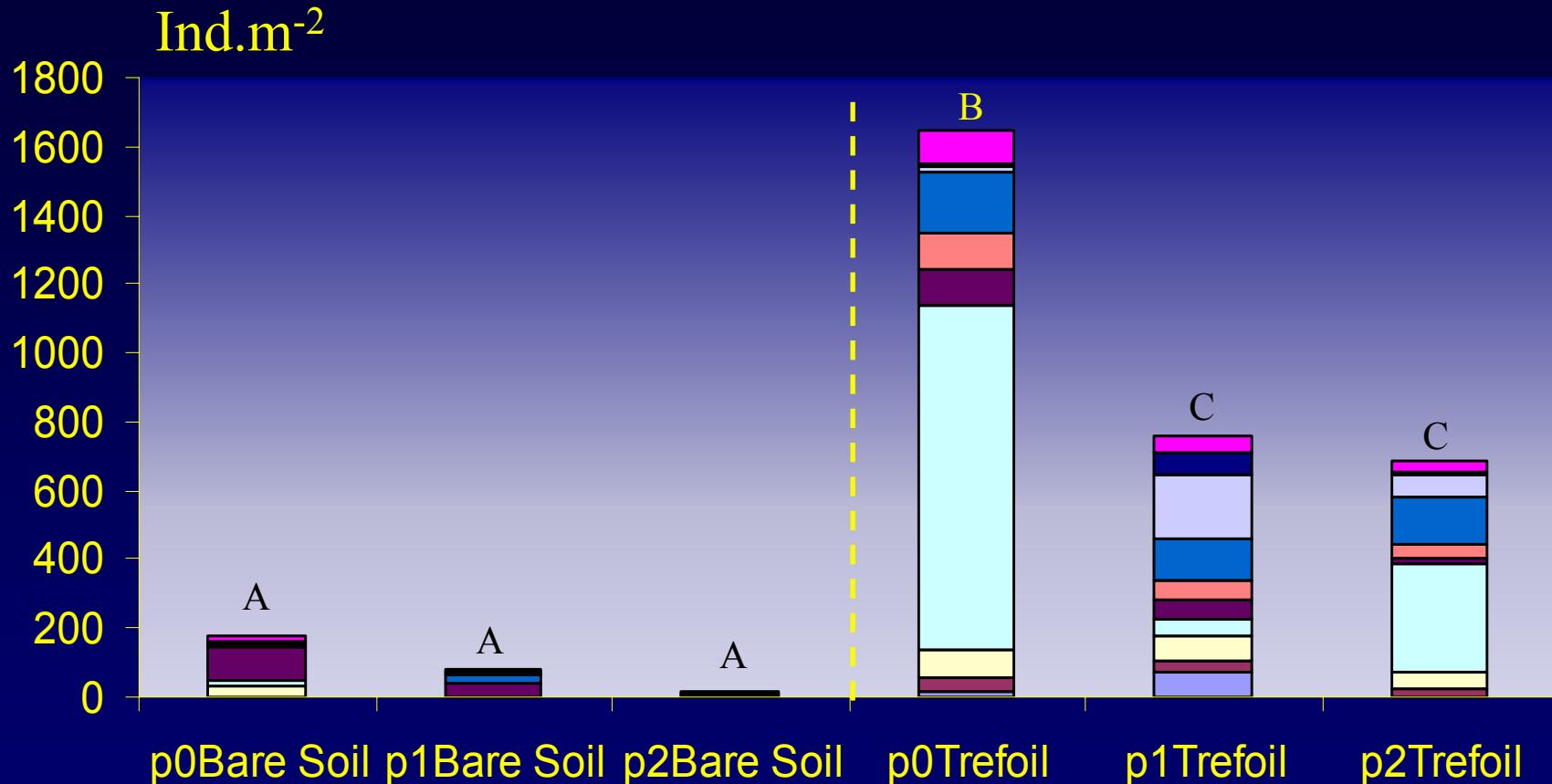
Mean density of the different soil macrofauna taxa



Mean biomasses of the different soil macrofauna taxa

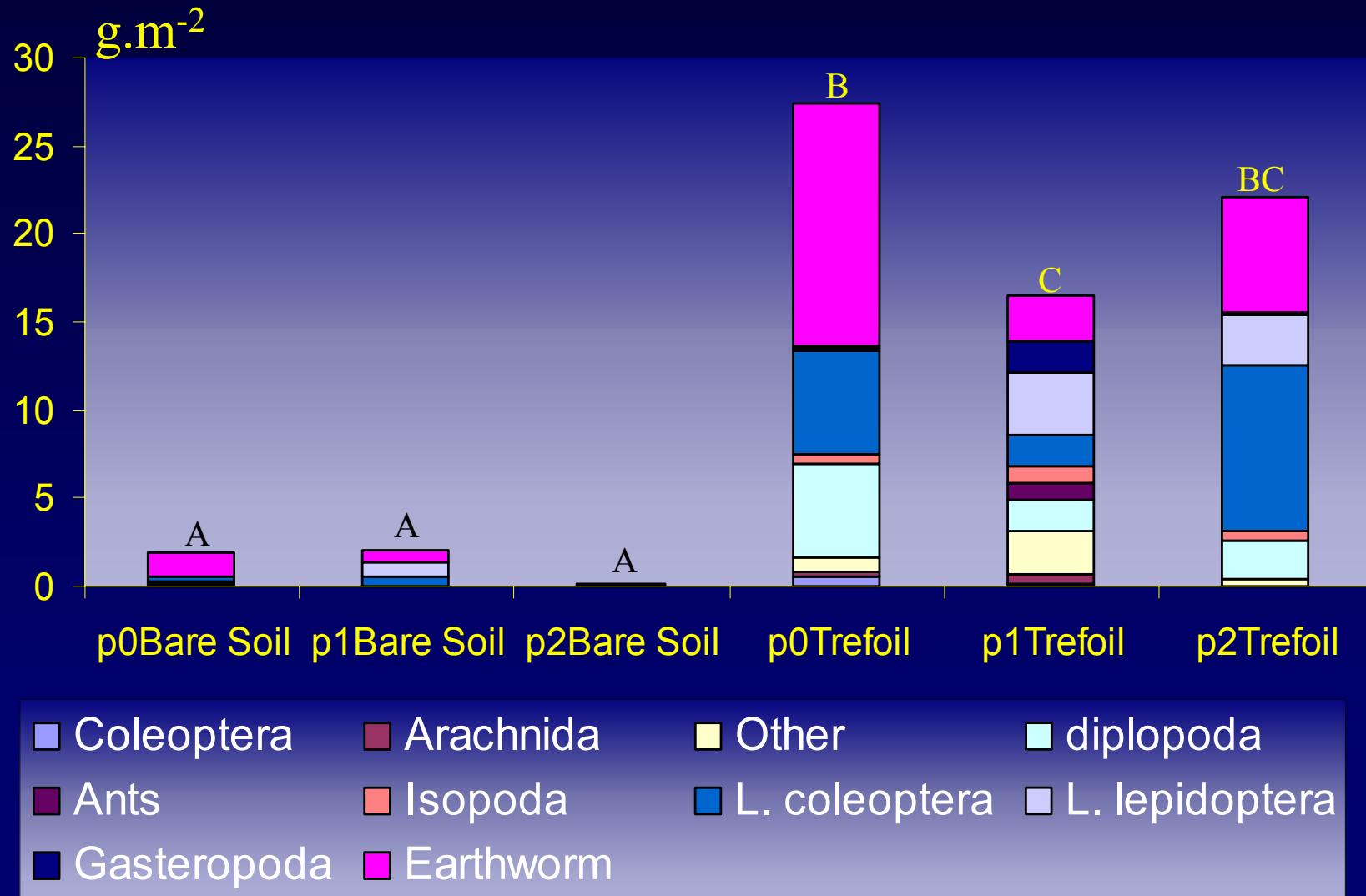


Mean density of the different soil macrofauna taxa

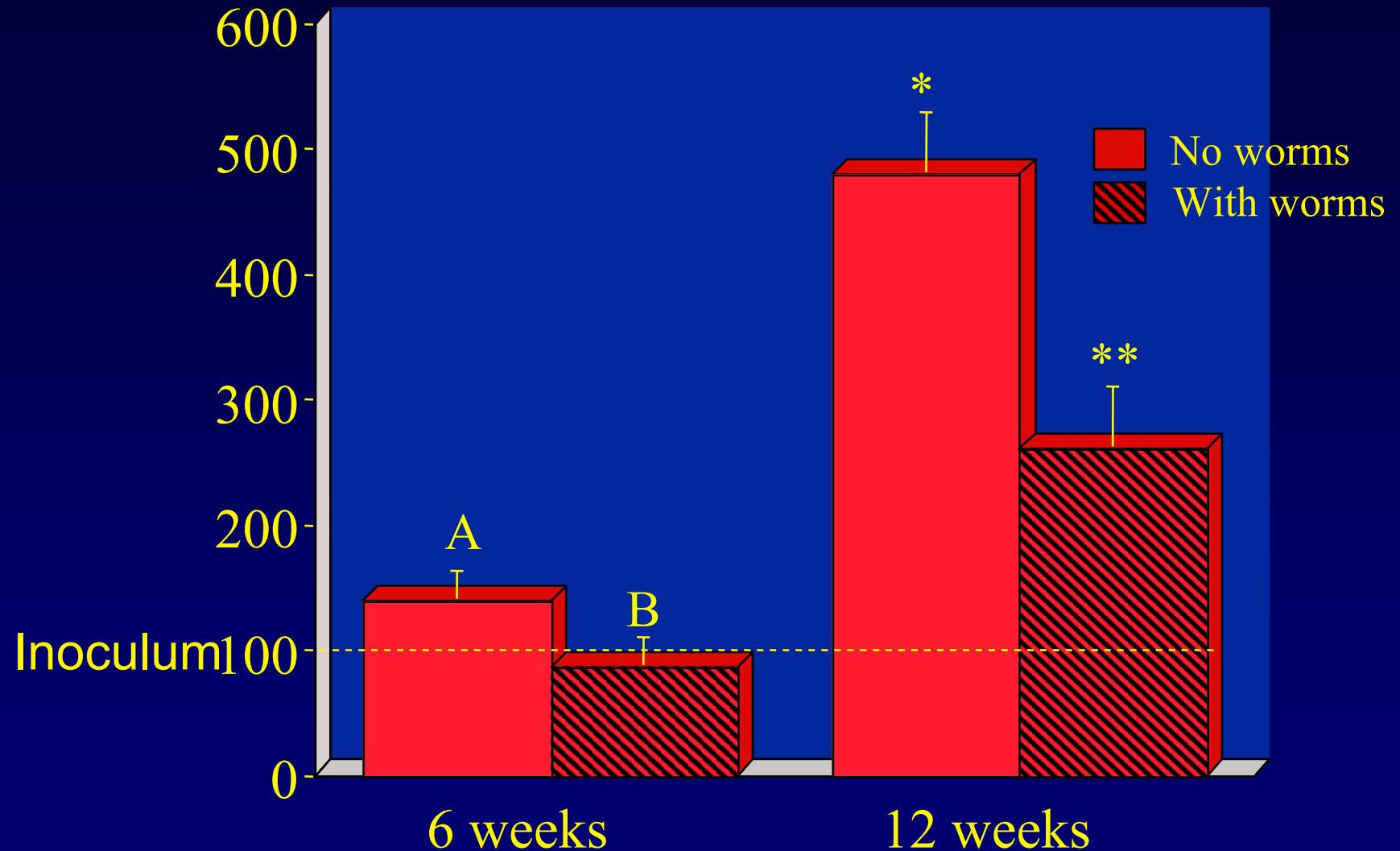


Coleoptera	Arachnida	Other	diplopoda
Ants	Isopoda	L. coleoptera	L. lepidoptera
Gasteropoda	Earthworm		

Mean biomasses of the different soil macrofauna taxa



....less Nematodes in presence of EWM



....This colony is present in soil
at a low density

N col. g⁻¹ soil

