**Unit 4 – Soil Pollution**

* Soil pollution is the buildup in soils of persistent toxic compounds, chemicals, salts, radioactive materials, or disease-causing agents, which have adverse effects on plant growth and animal health
* by the mid-1960s there has been an **increasing** concern over soil pollution because of:
* The increasing amounts of **fertilizers** and other agricultural chemicals **applied to** soils since World War II ended in 1945,
* industrial and **domestic** **waste-disposal practices**

However

* soil pollution is not widespread
* the application of ***fertilizers*** containing the primary nutrients, nitrogen, phosphorus, and potassium, has not led to soil pollution
* BUT the application of trace elements has
* The ***irrigation of arid lands*** often leads to pollution with salts.
* s***ulfur from industrial wastes*** has polluted soils in the past, as has the accumulation of arsenic compounds in soils following years of spraying crops with lead arsenate.
* the application of ***pesticides*** has also led to short-term soil pollution.

**Fertilizers**

* the overuse of fertilizers can lead to water pollution problems such as eutrophication, by causing excessive growth of vegetation

**Irrigation**

* the chief problem caused by continuous irrigation is that of salt accumulating in the upper layers of the soil and stunting or preventing plant growth
* where drainage is bad and the water table approaches root level, the concentrated salt makes plant growth impossible.
* good drainage systems, which keep the water table well below the root level and allow water to flush salts through the topsoil is a crucial aspect of a successful irrigation system.

**Pesticide Residues**

* the effectiveness of a pesticide, as well as the hazards of harmful residues depend largely on how long the pesticide remains in the soil
* some persist for years, some for some days or months
* insecticides persist longer if worked into the soil than if left on the surface.
* herbicides applied to soils may not persist at all or may persist up to two years or longer, depending on the compound.
* all pesticides disappear because of evaporation and vaporization, leaching, plant uptake, chemical and microbial decomposition, and photodecomposition.

**Glossary**

buildup= αύξηση/συσσώρευση

agent=παράγοντας / polluting agent=ρυπαντική ουσία

adverse=αρνητικός/δυσμενής/ανεπιθύμητος

waste disposal practices= πρακτικές διάθεσης λυμάτων

lead-led-led

primary=πρωταρχικός/βασικός

secondary=δευτερεύων

nutrient=θρεπτική ουσία/ nutrition= τροφή, διατροφή, θρεπτική αξία

trace=ίχνος /trace elements= ιχνοστοιχεία

long/short-term=μακροπρόθεσμος/βραχυπρόθεσμος

arid= άνυδρος/ξηρός

leaching=απόπλυση/κατάληξη

percolate= φιλτράρω-ομαι/ διεισδύω/διϋλίζω

water table= υπόγεια στάθμη νερών

brackish= υφάλμυρος/γλυφός

flush= καθαρίζω με άφθονο νερό

drainage= αποχέτευση/αποστράγγιση

topsoil=καλλιεργήσιμη γη

insecticide= εντομοκτόνο

herbicide= ζιζανιοκτόνο

pesticide=παρασιτοκτόνο

evaporation= εξάτμιση

vaporization =εξάτμιση/αεροποίηση

decomposition=αποσύνθεση

plant uptake =πρόσληψη τροφής

photodecomposition=φωτοαποσύνθεση

Nouns-Ουσιαστικά

fertilize-fertilizer-fertilization (γονιμοποιώ-λίπασμα-γονιμοποίηση)

fertility = γονιμότητα (fertile=γόνιμος/καρπερός)

concern-concern\*

apply –applicant- application

irrigate-irrigation

leaching=απόπλυση/κατάληξη

vegetate-vegetation /vegetable

stunt-stunting (κατσιάζω/κάτσιασμα)

effective-effectiveness

evaporate-evaporation

vaporize-vaporization

uptake- uptake\*

Adjectives-Επίθετα

persist- persistent (επιμένω/επίμονος)

domestic ( latin domus=οικία)/ residence-residential

increasing= αυξανόμενος / increased=αυξημένος

contain-containing(οποίο περιέχει)/ contained –το οποίο περιέχεται

effect-effective

microbe-microbial