

PRACTICAL TIPS FOR YOUR REGENERATIVE FARM



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Q



A

- **WHENEVER POSSIBLE, USE RESOURCES PRODUCED ON THE FARM ITSELF (THIS REQUIRES MAINTAINING BIODIVERSITY IN ADDITION TO THE MAIN CROPS AND PLANTING MIXES OF COVER CROPS) INSTEAD OF IMPORTED RESOURCES**

- **PLANT A VARIETY OF CROPS IN THE FIRST FEW YEARS. THE CHOICE OF CROPS DEPENDS ON WHAT GROWS WELL IN YOUR AREA AND WHETHER YOU CAN MARKET THE PRODUCE.**

- **WHEN PLANNING CROP ROTATION, ALSO CONSIDER THE FOLLOWING:**
- **▶ IT IS NOT RECOMMENDED TO SWITCH TO REGENERATIVE AGRICULTURE IN FIELDS WHERE CROP RESIDUES HAVE BEEN BURNED, BECAUSE BURNING CROP RESIDUES IS THE WORST POSSIBLE SOIL CONDITION.**
- **▶ HARVESTING THE PREVIOUS CROP (WHETHER CASH OR COVER CROP) SHOULD LEAVE SUFFICIENT RESIDUE ON THE SOIL SURFACE.**



THE FOLLOWING RULES ARE OF PARTICULAR IMPORTANCE WHEN MANAGING CROP RESIDUES:

**CEREALS SHOULD BE MOWED
HIGHER THAN WITH TILLAGE
METHODS – THE OPTIMAL HEIGHT
IS ABOUT 25 CM.**

**LEGUMES SHOULD NOT BE PLUCKED,
BUT HARVESTED BY CUTTING.**

**IT IS PARTICULARLY IMPORTANT TO
ENSURE AN EVEN DISTRIBUTION OF CROP
RESIDUES ON THE SOIL AFTER HARVEST.**



- **USE THE CARBON/NITROGEN RATIO TO MANAGE CROP RESIDUES IN REGENERATIVE AGRICULTURE:**



AT LOW CARBON/NITROGEN RATIO < 25: PLANT RESIDUES DECOMPOSE EASILY AND QUICKLY RELEASE ORGANIC MOLECULES (E.G. POLYSACCHARIDES AND NITROGEN). TO AVOID UNWANTED RAPID NITROGEN RELEASE, PLANT LEGUMES TOGETHER WITH CEREALS.



AT HIGH CARBON/NITROGEN RATIO >25: THERE IS A POSSIBILITY THAT RESIDUES WILL DEPRIVE PLANTS OF NITROGEN.

- **THE CARBON/NITROGEN RATIO IS AFFECTED BY THE TYPE AND VARIETY OF CROP, AS WELL AS THE TIMING OF COVER CROP REMOVAL:**

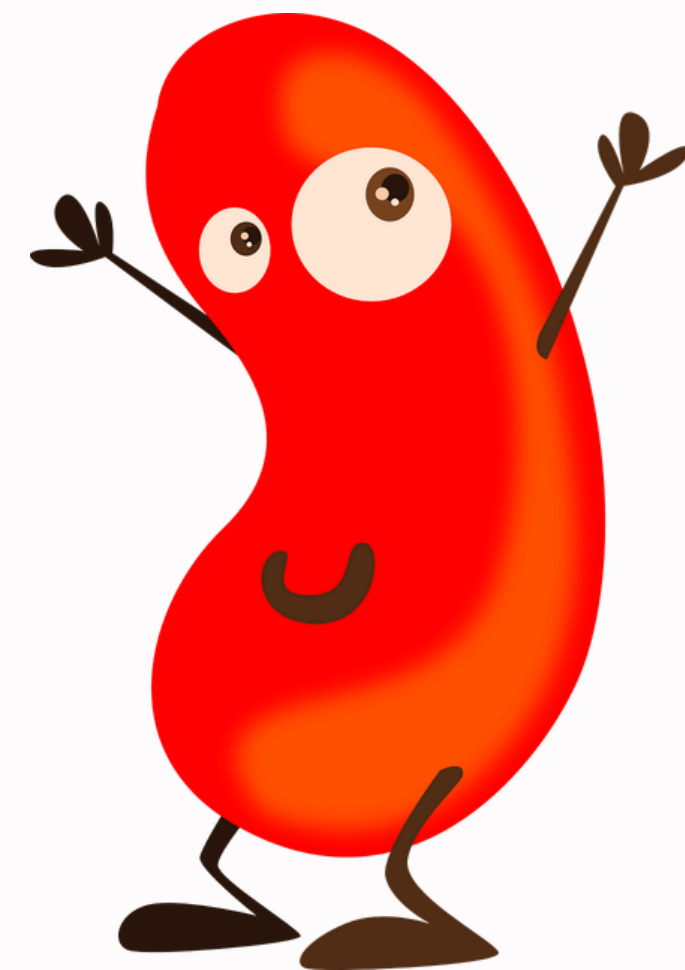


EXAMPLES:



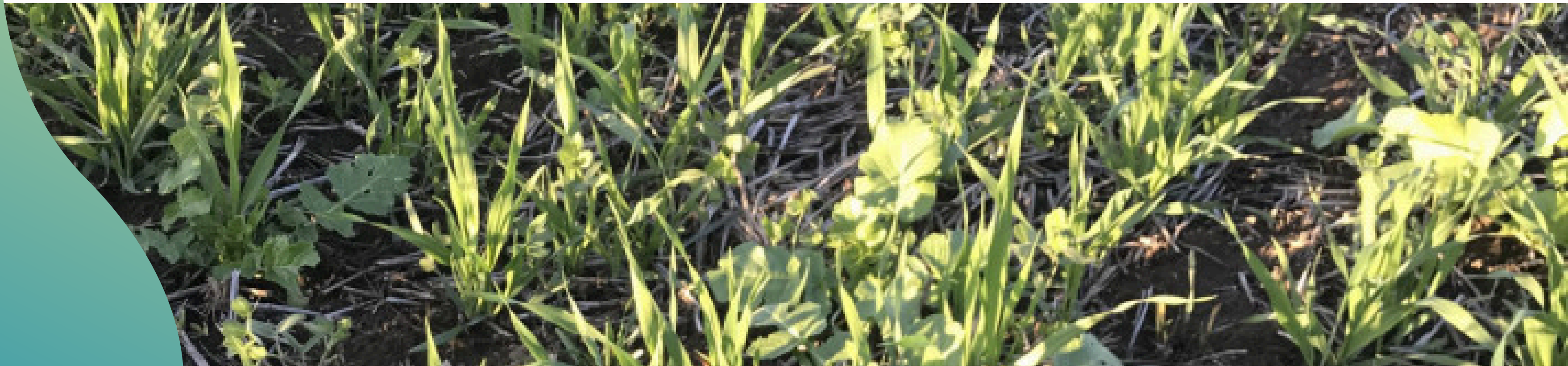
IN LEGUMES, THE CARBON/NITROGEN RATIO OF MATURE LEGUME RESIDUES IS TYPICALLY LOW, RANGING FROM 9 TO 25 AND USUALLY WELL BELOW 20 (THE APPROXIMATE THRESHOLD AT WHICH RAPID NITROGEN MINERALIZATION IN THE RESIDUE OCCURS). KILLING LEGUMES IN THE EARLY TO MID-FLOWERING STAGE RESULTS IN MAXIMUM NITROGEN RELEASE TO THE SOIL FOR THE NEXT CROP.

LEGUMES ACCUMULATE THE MAXIMUM AMOUNT OF NITROGEN IN THEIR BIOMASS BEFORE THE FLOWERING STAGE.



- **DELAYING COVER CROP REMOVAL UNTIL FLOWERING TYPICALLY INCREASES THE CARBON/NITROGEN RATIO AND AVERAGE DRY MATTER ACCUMULATION IN THE ABOVEGROUND PART OF THE SOIL.**

DELAYING COVER CROP REMOVAL UNTIL THE END OF FLOWERING INCREASES THE CARBON/NITROGEN RATIO BUT DOES NOT INCREASE BIOMASS PRODUCTION.





- **INTEGRATE LIVESTOCK AND AGRICULTURE AND, WHERE POSSIBLE, INCLUDE PERENNIAL CROPS AND TREES.**

USE WASTE AS RAW MATERIALS FOR THE FARM - FOR EXAMPLE, COMPOSTING TO PRODUCE COMPOST AND COMPOST TEA.



PERFORM ROUTINE SOIL NUTRIENT STATUS AND PH TESTING AND ANALYSIS. WHEN TAKING SAMPLES, PAY ATTENTION TO THE FOLLOWING:



TAKE SAMPLES AT A DEPTH OF 0-10 CM. AND 10-20 CM. TO ACCOUNT FOR THE HIGH CONCENTRATION OF NUTRIENTS ON THE SOIL SURFACE AND IN 20-40 CM TO IDENTIFY FACTORS THAT INHIBIT ROOT DEVELOPMENT.

- COVER THE ENTIRE WIDTH OF THE ROW WITH A DEDICATED WIDE, FLAT (VERTICAL) SAMPLER TO AVOID SKEWING THE RESULTS DUE TO FERTILIZER CONCENTRATION IN THE ROW. ALTERNATIVELY, A LARGE NUMBER OF RANDOM SAMPLES CAN BE TAKEN.**

SOW DIFFERENT CROPS TO COMBINE THE BENEFITS OF INDIVIDUAL SPECIES. CHOOSE SPECIES THAT PRODUCE LARGE AMOUNTS OF BIOMASS, AS WELL AS SPECIES WITH DEEP, STRONG ROOTS THAT HELP AVOID SOIL COMPACTION AND/OR BREAK DOWN HARD SOILS.



COMBINE BETWEEN TWO AND FOUR COVER CROPS WITH DIFFERENT HABIT (E.G. BUSHY, CREEPING) AND DIFFERENT ROOT TYPES (E.G. TUFTED, CONICAL).

OATS AND PEAS AND TURNIPS AND OATS GO VERY WELL TOGETHER, AS THEY HAVE DIFFERENT TYPES OF ROOTS.

CHANGE CROP ROTATION AS SOON AS SOIL CARBON ACCUMULATION DECREASES. THE REPLACEMENT CROP SHOULD BE NEW AND MORE INTENSIVE TO INCREASE FRESH ORGANIC MATTER.

- **MINIMIZE THE USE OF ADDITIVES AND DO SO EFFICIENTLY, INCLUDING SYNTHETIC FERTILIZERS AND PESTICIDES.**

INTRODUCE MICROORGANISMS TO IMPROVE SOIL BIOLOGICAL PROCESSES.

