



How to study crop and herbaceous vegetation phenology in an agroforestry system ?

Marion Forest, Jérôme J. Ngao, Gabin Piton, Rémi Dugué, Didier Arnal,
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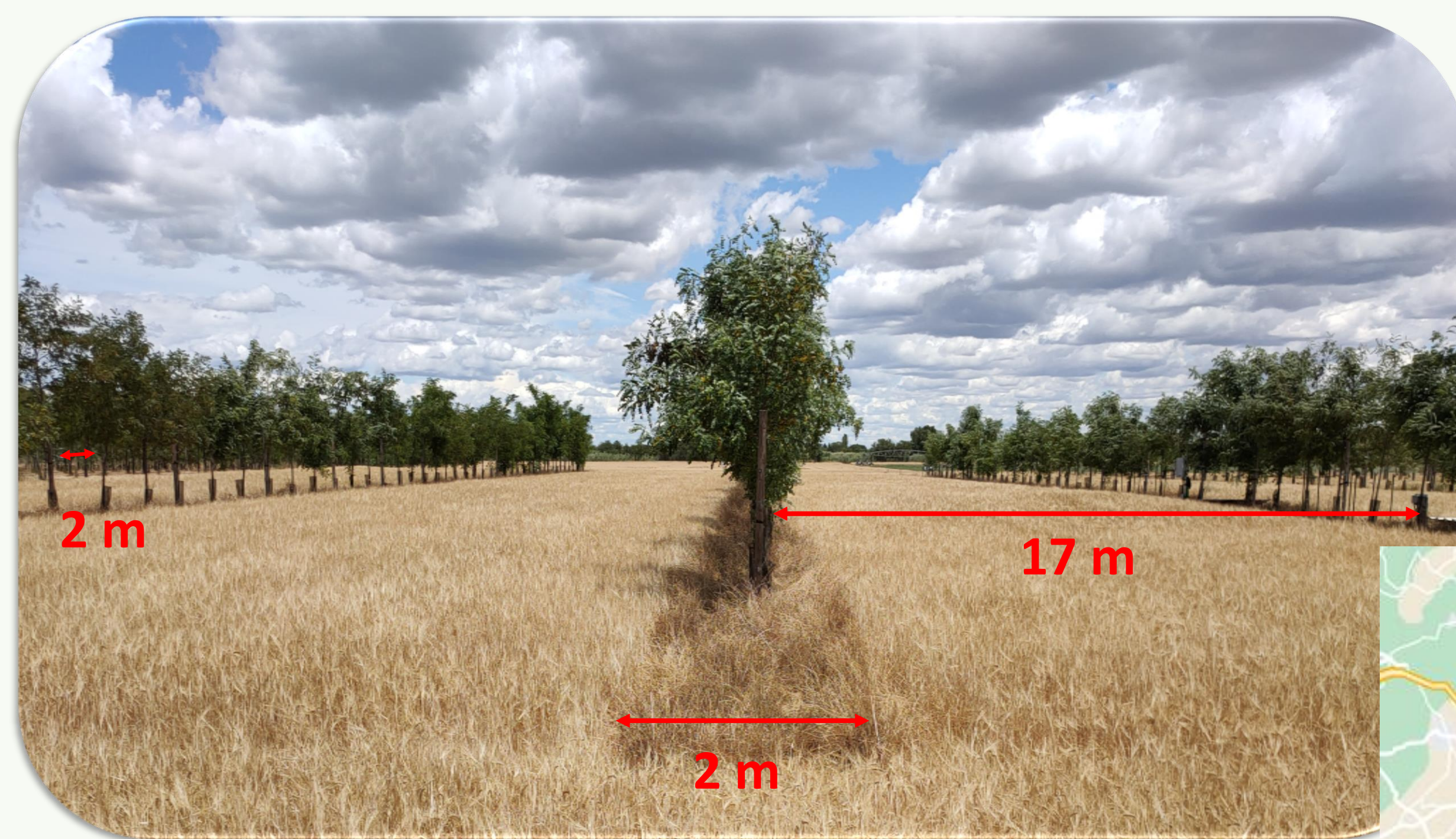
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CONTEXT AND EXPERIMENTAL SITE

- Agroforestry systems → Candidates for agroecological transition
 - **DIAMS** "Experimental site in Mediterranean Agroforestry under water Stress" :
 - - Agroforestry system planted in 2017
 - 3 land uses compared : → Agroforestry (331 trees.ha⁻¹)
→ Crop (no trees)
→ Forestry (1689 trees.ha⁻¹)
 - Cereal and legume rotations (wheat/barley/pea)
 - Highly instrumented with above and belowground sensors
 - One of the few long term agroforestry experiments
- 



- Herbaceous monitoring area (n=45)
Environmental monitoring
- Crop monitoring point (n=130)
Agronomic monitoring
- PAR sensors

BLOCK 3

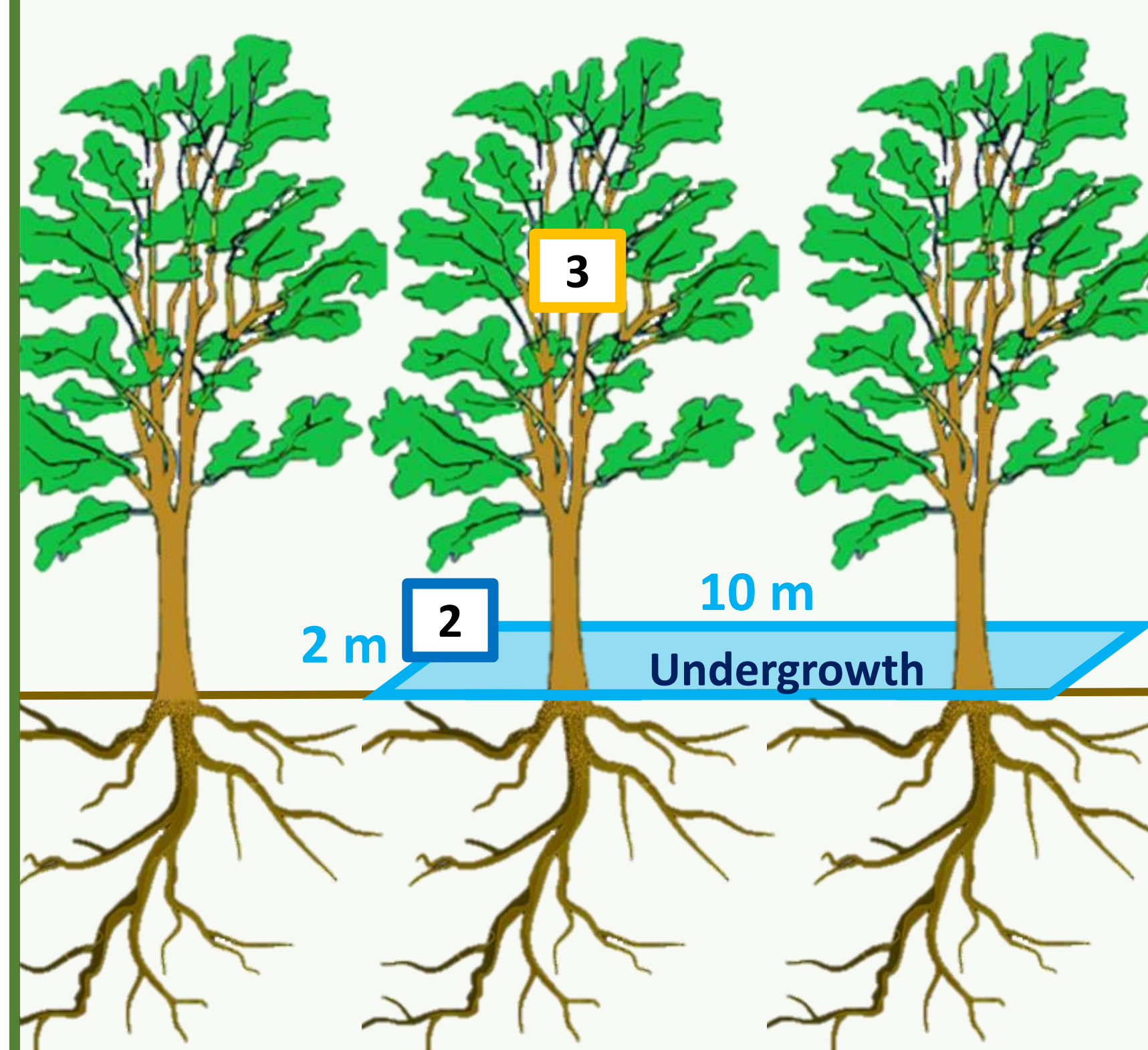
North

BLOCK 2

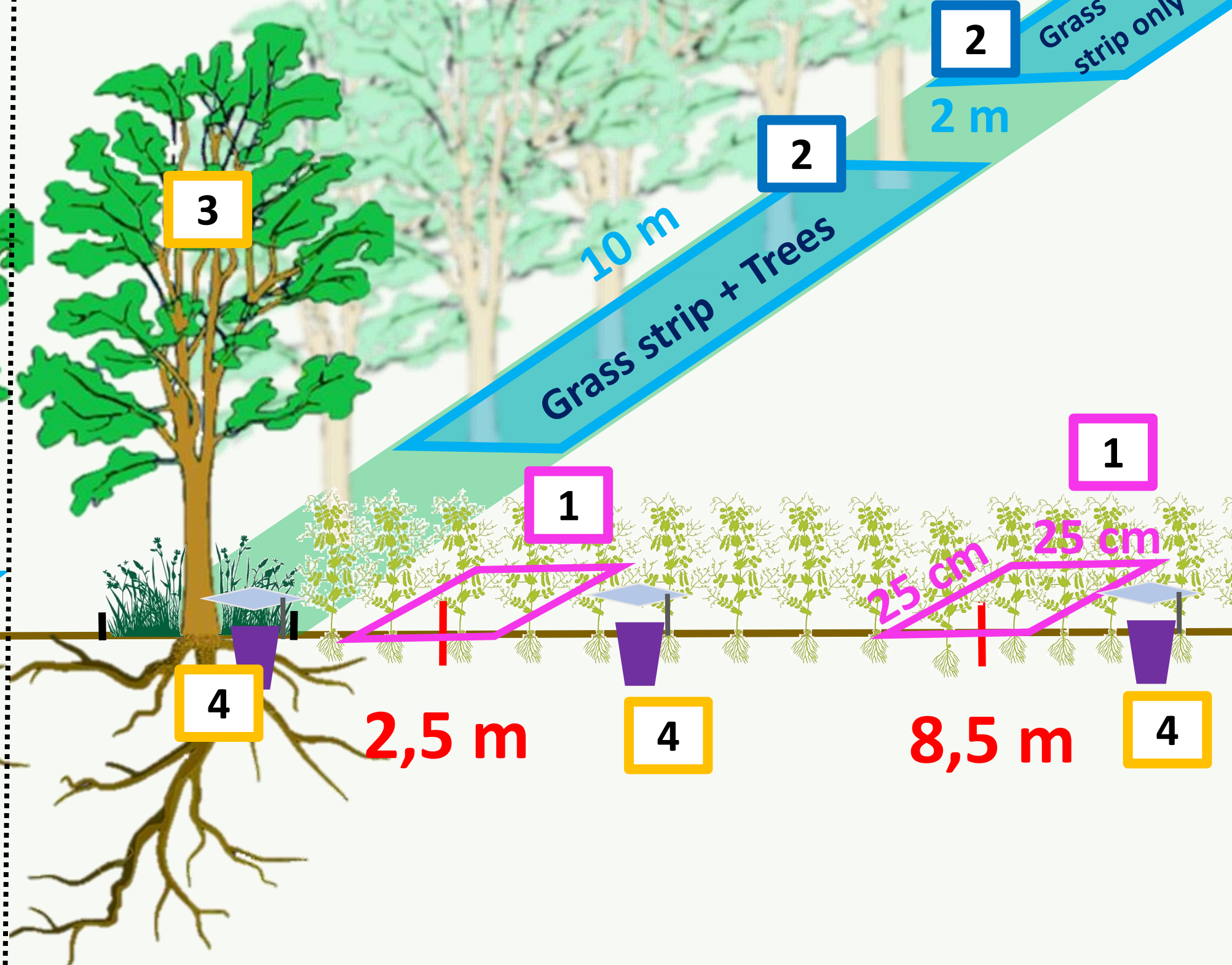
BLOCK 1

South

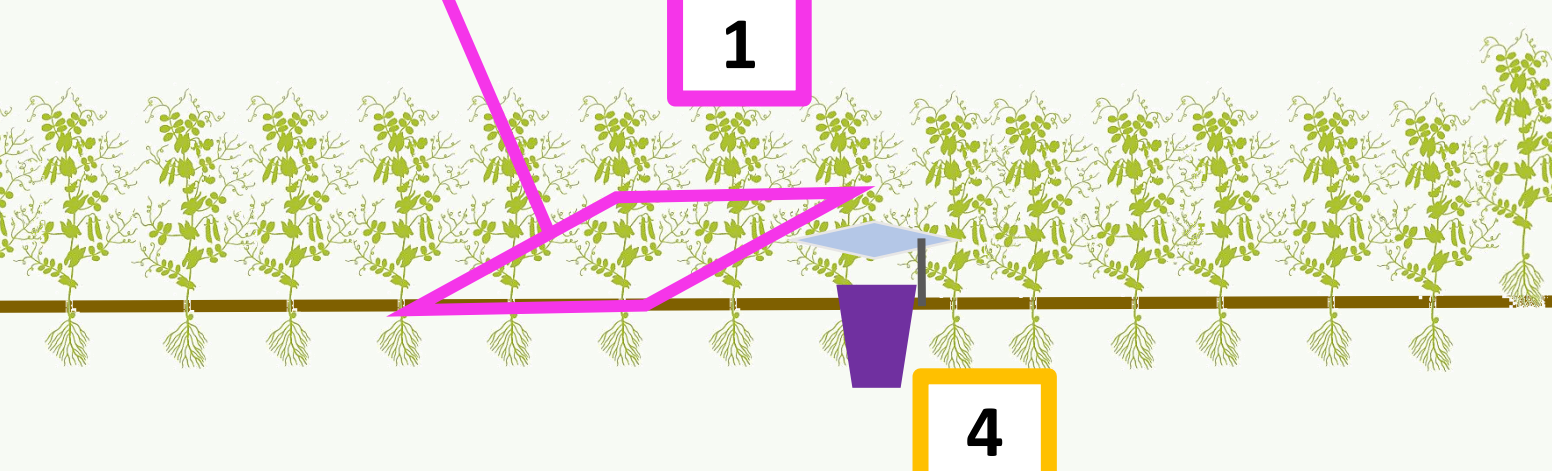
PHENOLOGICAL MONITORING



Forestry system



Agroforestry system



Crop system

Phenological monitoring of crops

Monitoring of grass strips and undergrowth

Development records (BBCH scale)

Aerial biomass

1 Root biomass

Crop yield components

1

Flowering calendar
Specific richness
Relative abundance
Aerial biomass
Root biomass

2

3 Black locust development records (BBCH scale)

4 Macroinvertebrate monitoring at the soil surface (Barber traps)

[illegible]