Haney Test
Chemical Changes

Almonds (2022 – 2023)
Carbonic Acid treated water

The Haney Soil Health Test offers a more comprehensive look at the nutrient needs and overall health of your soil sys
however, uses different soil extracts, namely H3A and H2O, to determine what quantity of these nutrients are availabl
the crop and accessible to the microbes.



ECO$_2$MIX®

BIOMEMAKER
POWERED BY BECROP

TOTAL ORGANIC CARBON (ppm)

The total water extractable organic C (WEOC) from your soil expressed in ppm. This pool of carbon is roughly 80 times smaller than total soil organic C pool (% organic matter) and reflects the energy/food source that is driving your soil microbes.



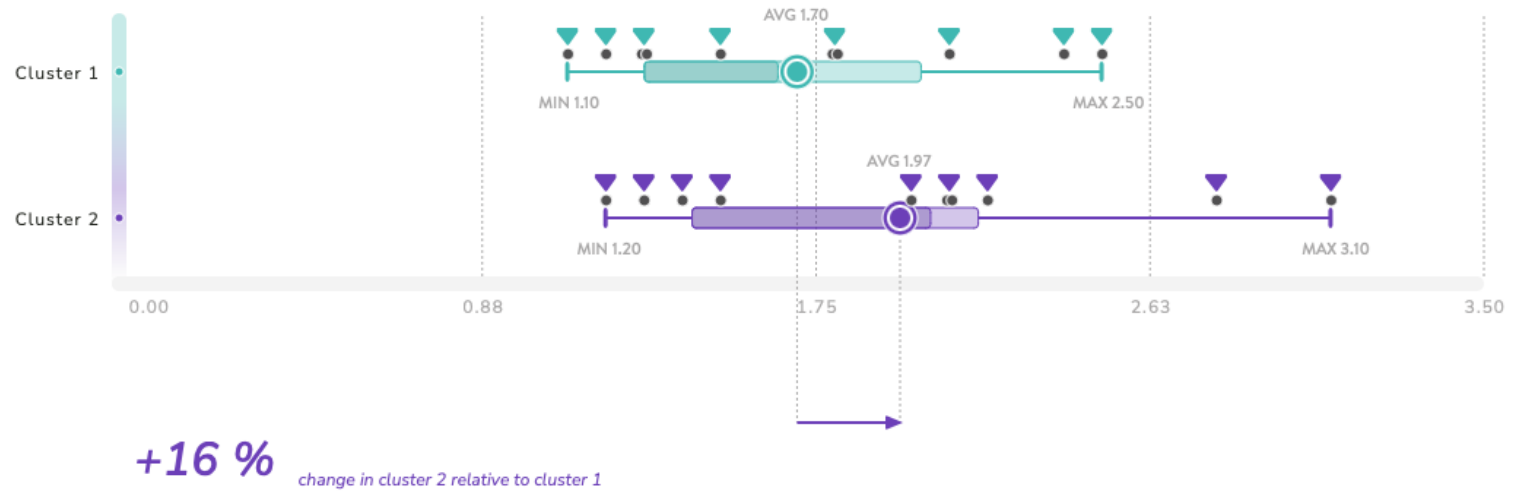


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

ORGANIC MATTER (%) LOI

This is the total soil organic matter (SOM) expressed as percent loss on ignition (%LOI). SOM is made up mostly of organic carbon, but it also contains all other essential plant nutrients. We think of SOM as the house the microbes live in.



+16 % *change in cluster 2 relative to cluster 1*

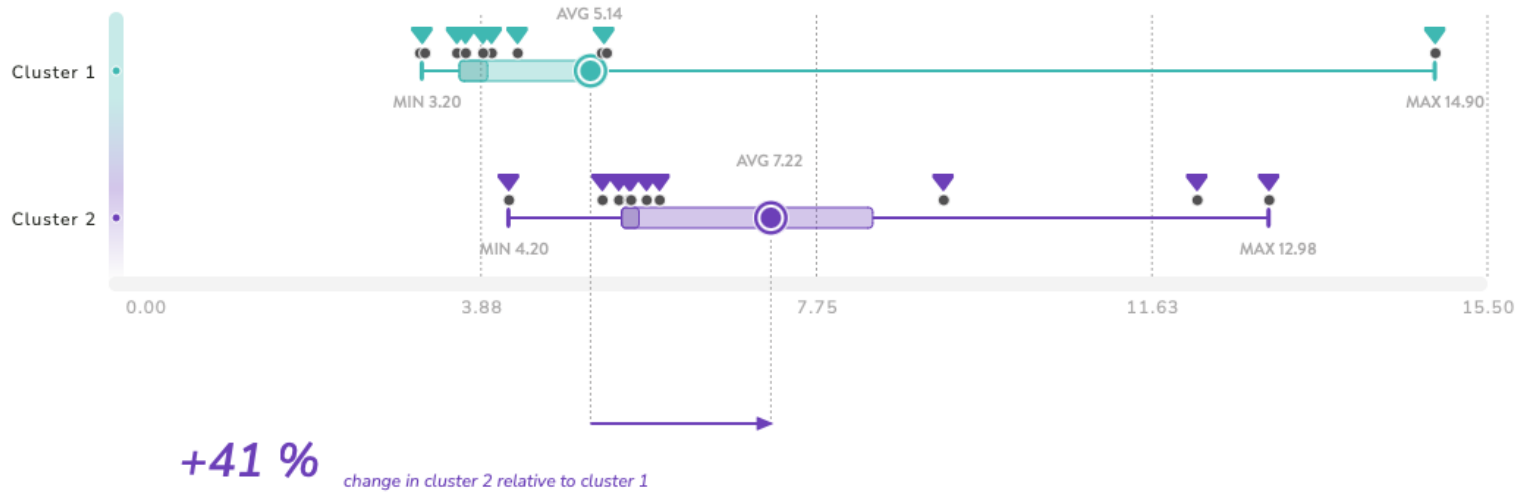


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

SOIL HEALTH SCORE

This number is calculated as soil respiration divided by 10 plus a weighted organic carbon and organic N addition. It summarizes the overall health of your system based on the indicators measured in the test.



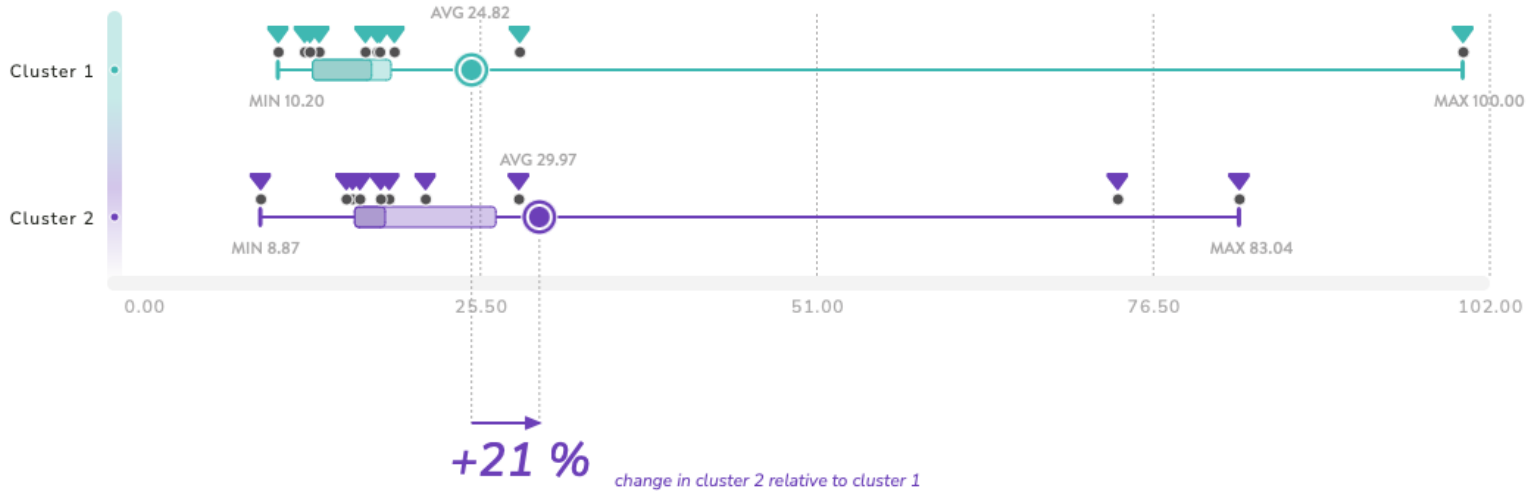
+41 % *change in cluster 2 relative to cluster 1*



PHYSICO-CHEMICAL CHANGES

CO_2 SOIL RESPIRATION

This number is ppm CO2-C released in 24 hours by soil microbes after a soil sample has been dried and rewetted. This is a measure of microbial biomass and is related to a soil's potential microbial activity during ideal conditions. Furthermore, it is influenced by SOM, aggregation, texture and overall fertility of the soil.



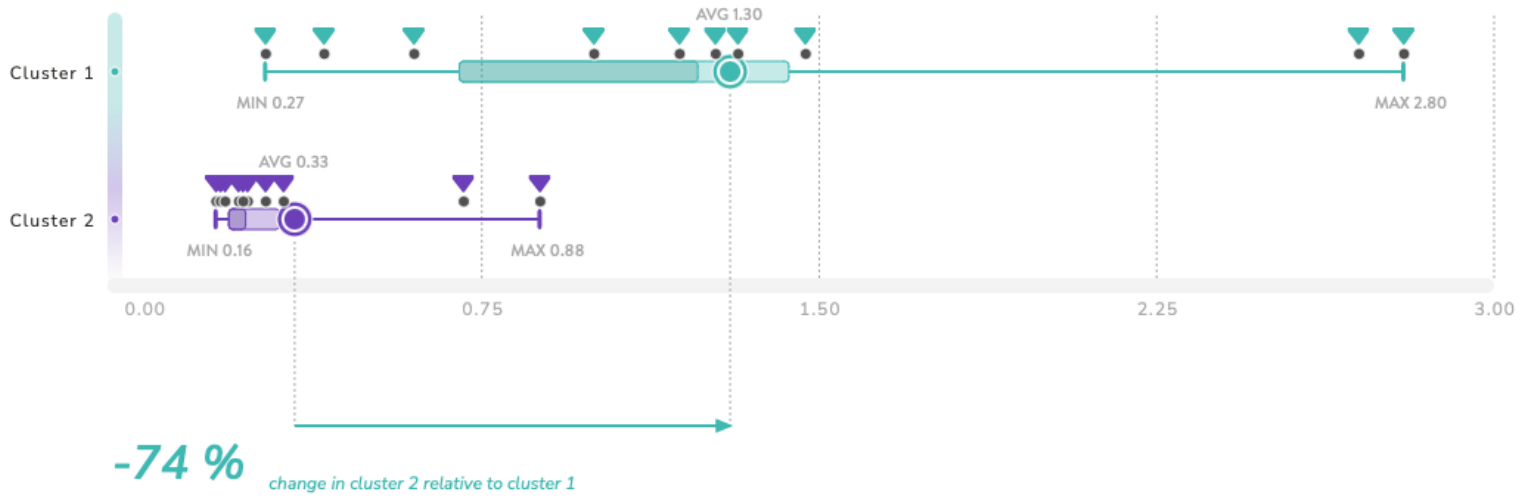
ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES



1:1 ELECTRICAL CONDUCTIVITY

A measure of the electrical conductivity (EC) of the soil based on the amount of soluble salts at a 1:1 ratio of soil and water expressed as mmho/cm.



-74 % *change in cluster 2 relative to cluster 1*

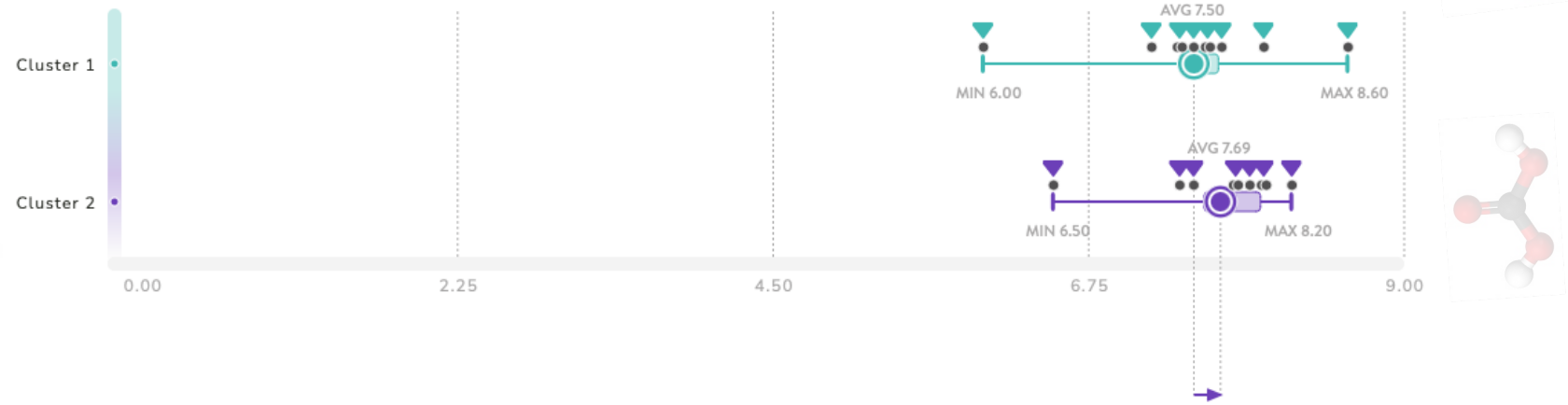


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

1:1 SOIL pH

The pH of the soil using a 1:1 ratio of soil and water.



+3 % *change in cluster 2 relative to cluster 1*

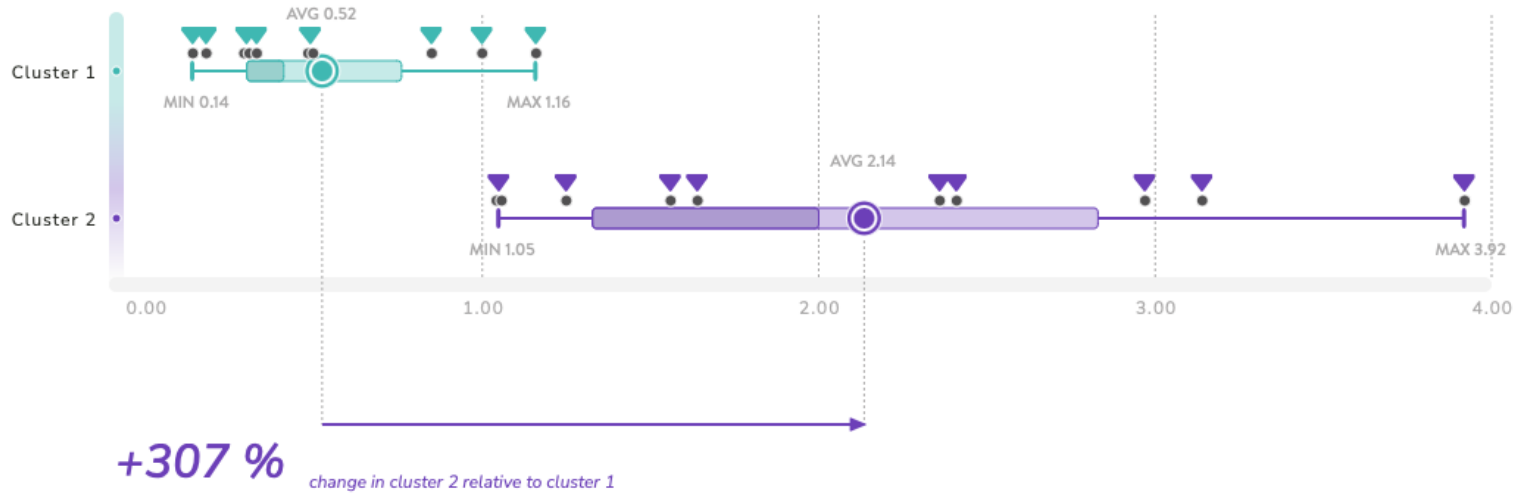


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

ORG N: INORG N RATIO

This is the ratio of organic N to inorganic N in your soil. Soils that are reliant on fertilizer inputs typically have a lower amount of organic N and a higher amount of residual inorganic N.



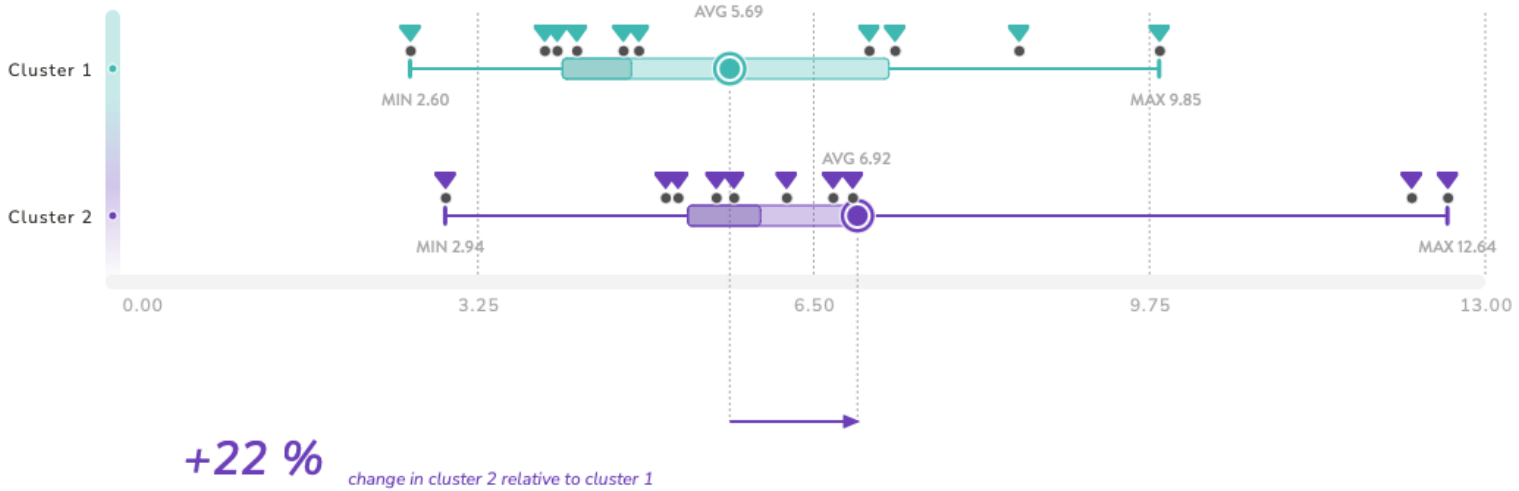


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

ORGANIC N RELEASE (ppm)

The total amount of nitrogen being released through microbial activity from the organic N pool expressed as ppm N. The N released here is counted as a credit to the next crop and is subtracted from recommendations made on the Haney Test.



+22 %

change in cluster 2 relative to cluster 1

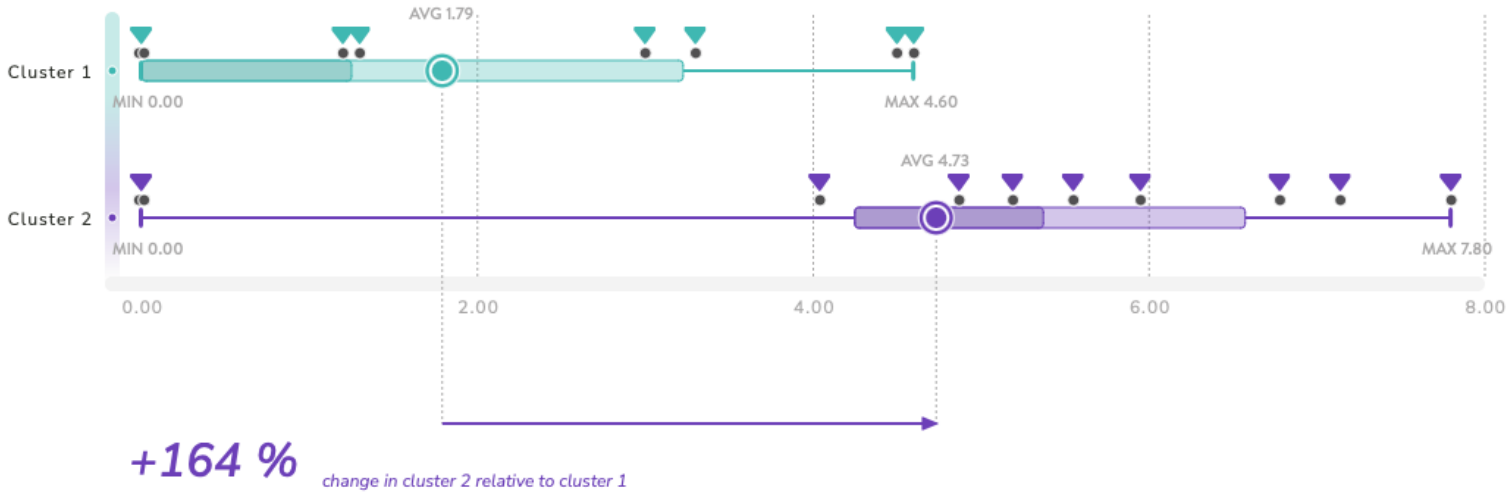


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

ORGANIC N RESERVE (ppm)

The amount of nitrogen left in the organic N pool in ppm N following the release by microbes. The organic N reserve or organic N pool is replenished by fresh plant residues, manure, composts, and dying soil microbes.



+164 % *change in cluster 2 relative to cluster 1*

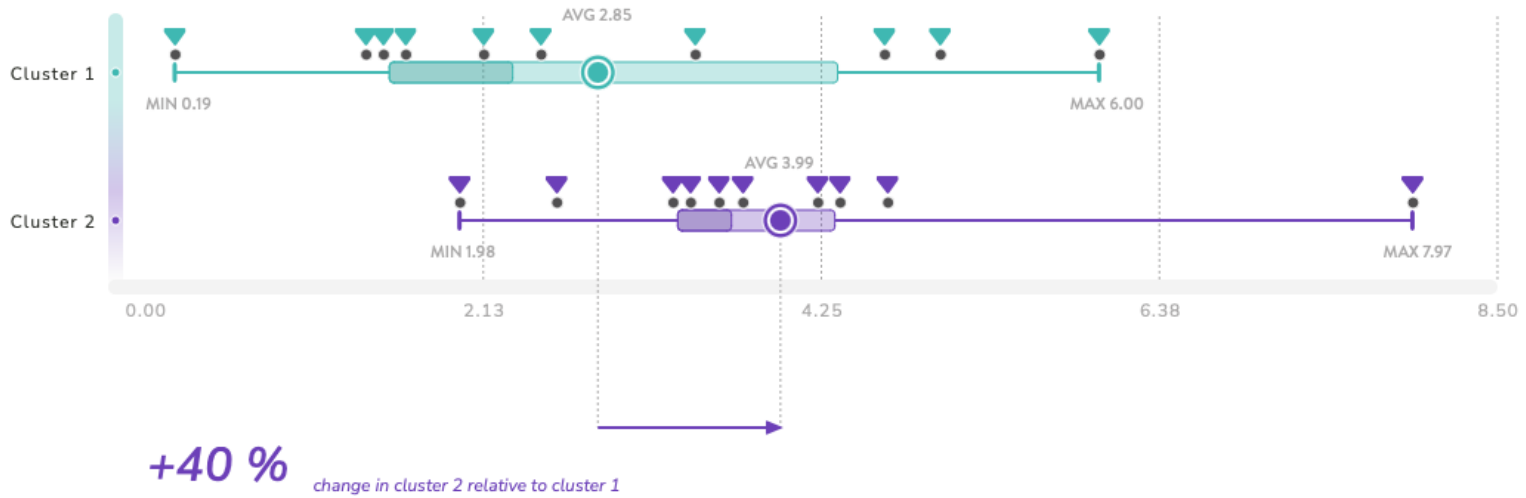
ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES



AMMONIUM-N H3A (ppm)

The amount of NH4-N extracted from your soil using H3A extractant expressed in ppm N.



+40 % *change in cluster 2 relative to cluster 1*

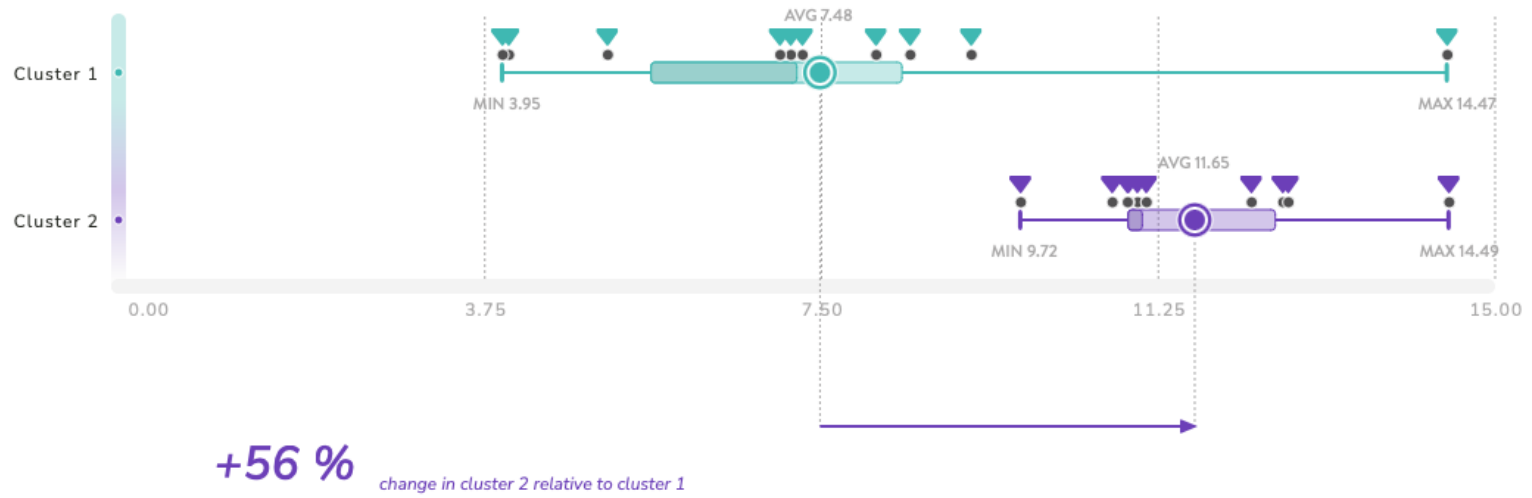
ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES



ORGANIC NITROGEN (ppm)

Organic N is the total water extractable N (WEN) minus inorganic N (NO3 and NH4) in ppm. The organic N pool is replenished by fresh plant residues, manure, composts, and dying soil microbes.



+56 % *change in cluster 2 relative to cluster 1*

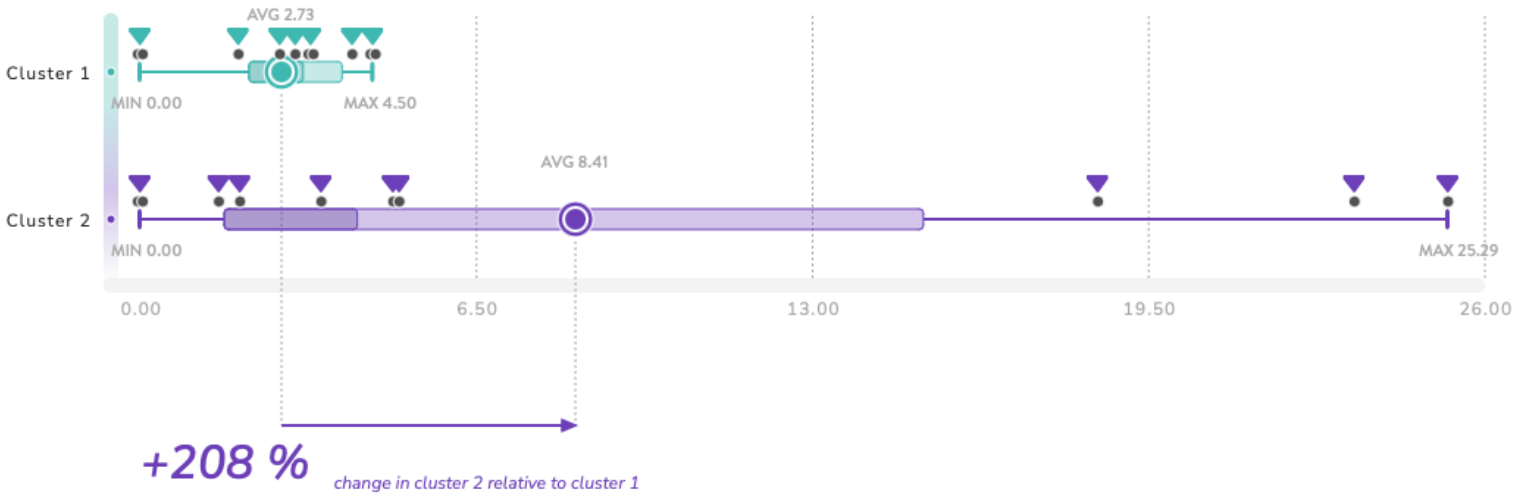


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

ORGANIC P RESERVE (ppm)

Organic P reserve is the amount of P that remains in the organic P pool following the release by microbes expressed in ppm P..



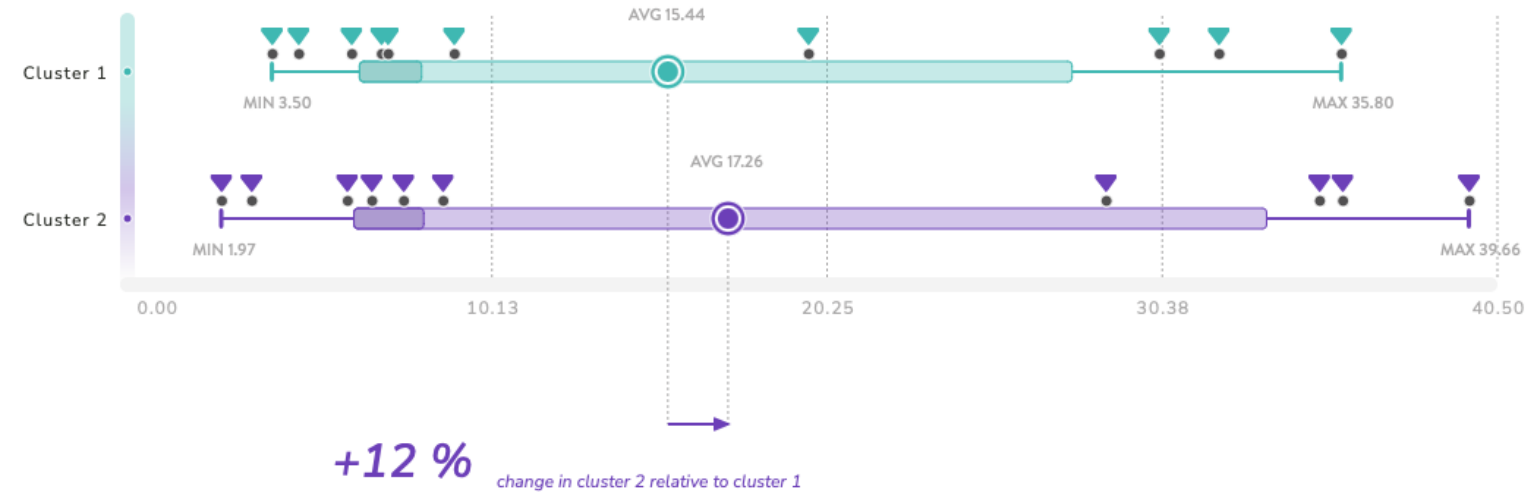


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

ORGANIC P H3A (ppm)

Total P is the amount of elemental P in your soil extracted with H3A and analyzed on ICAP in ppm P.



+12 %

change in cluster 2 relative to cluster 1

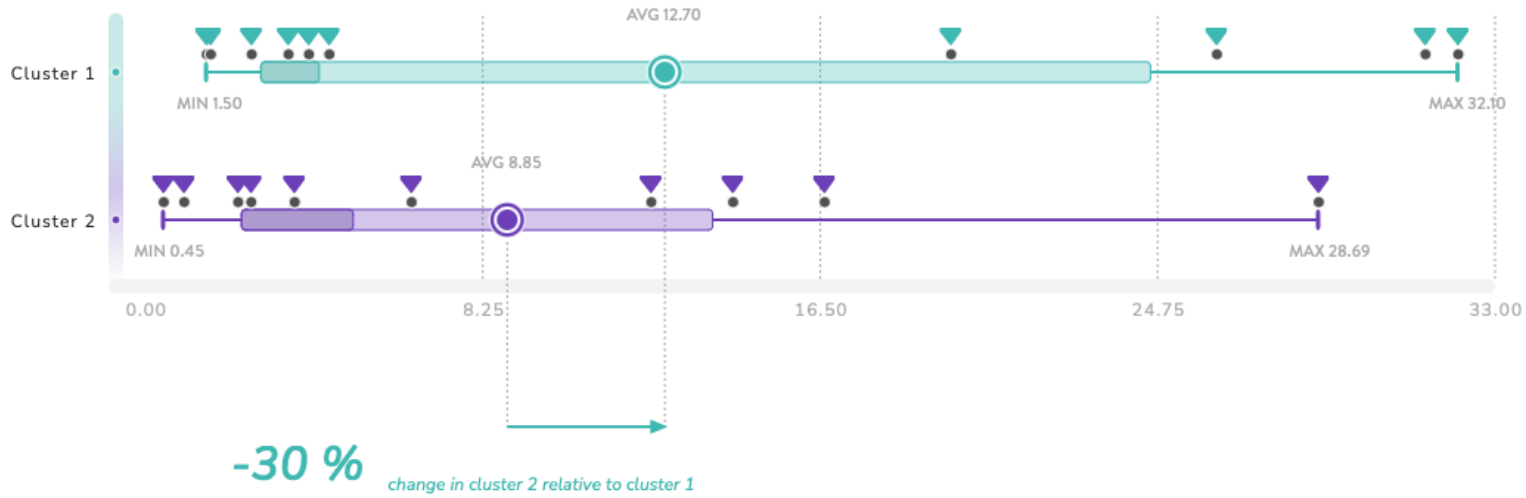


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

ORGANIC P RELEASE (ppm)

The amount of phosphorus that will be released through mineralization of organic P by soil microbes depending on their abundance and the organic C : organic N ratio expressed in ppm P.



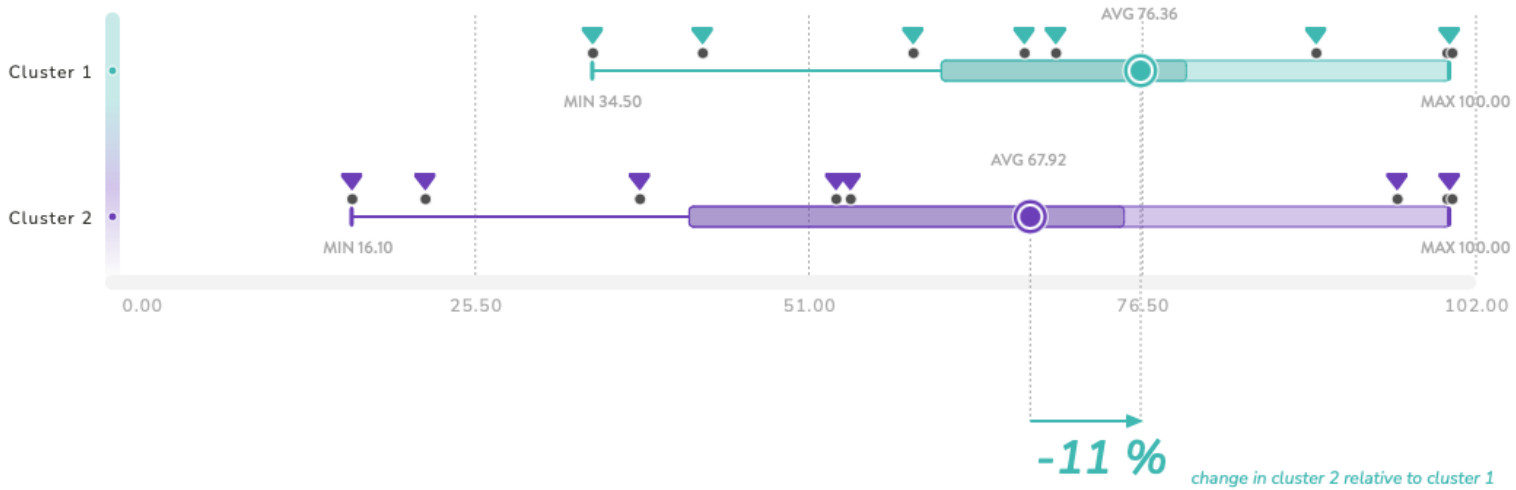


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

INORGANIC P H3A (ppm)

The amount of P in your soil extracted with H3A and measured as orthophosphate (PO4-P) expressed in ppm P.





ECO2MIX®

PHYSICO-CHEMICAL CHANGES

TOTAL PHOSPHORUS (ppm)

Total P is the amount of elemental P in your soil extracted with H3A and analyzed on ICAP in ppm P.



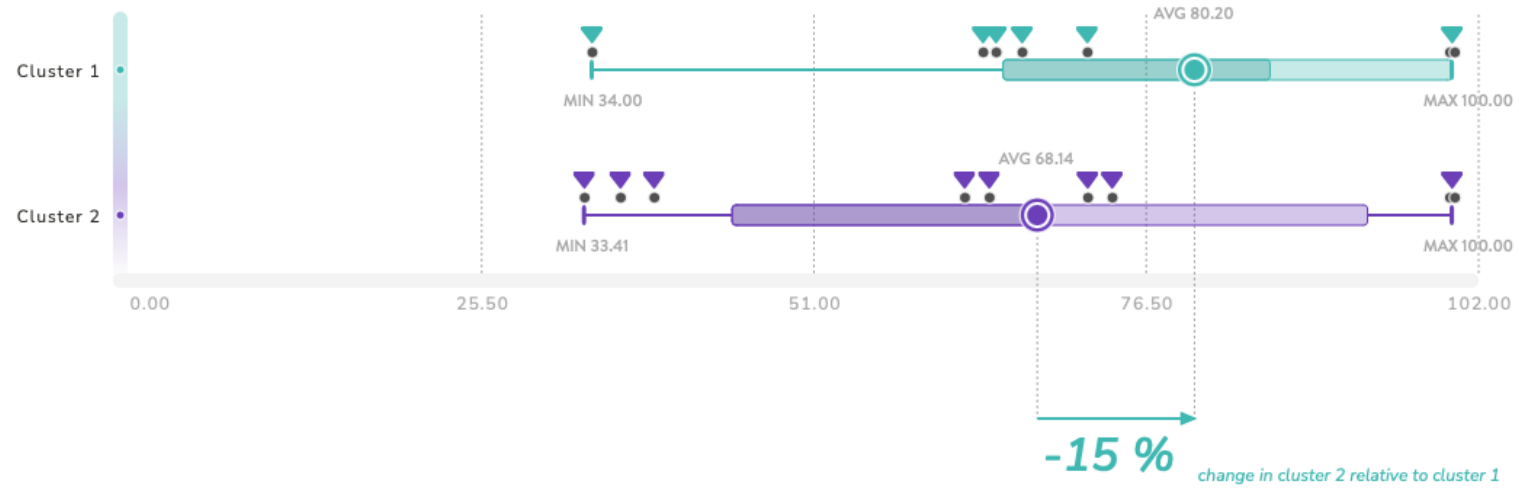


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

POTASSIUM H3A (ppm)

Is the total elemental K extracted with H3A from your soil expressed as ppm K.



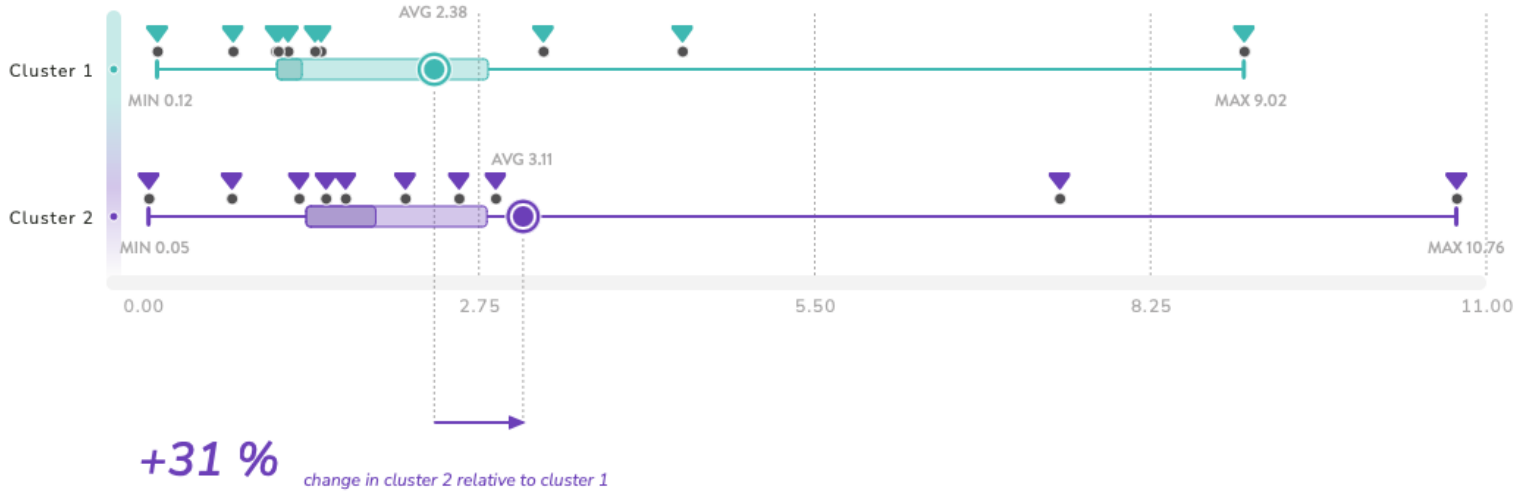


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

ZINC H3A (ppm)

Is the total elemental Zn extracted with H3A from your soil expressed as ppm Zn.



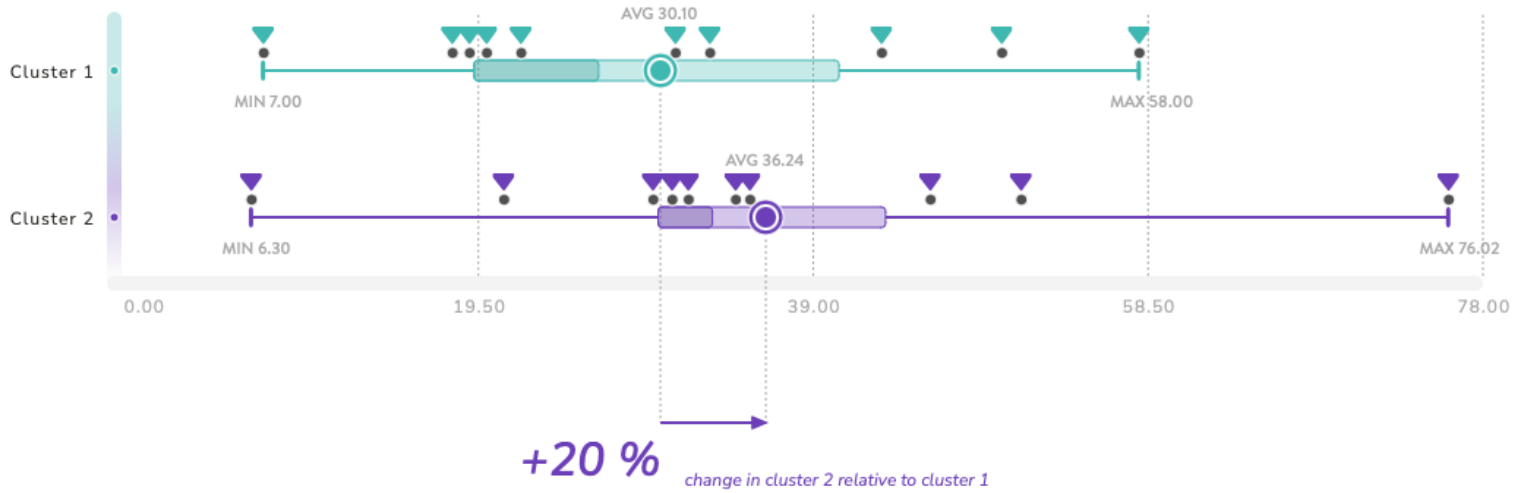


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

IRON H3A (ppm)

Is the total elemental Fe extracted with H3A from your soil expressed as ppm Fe.



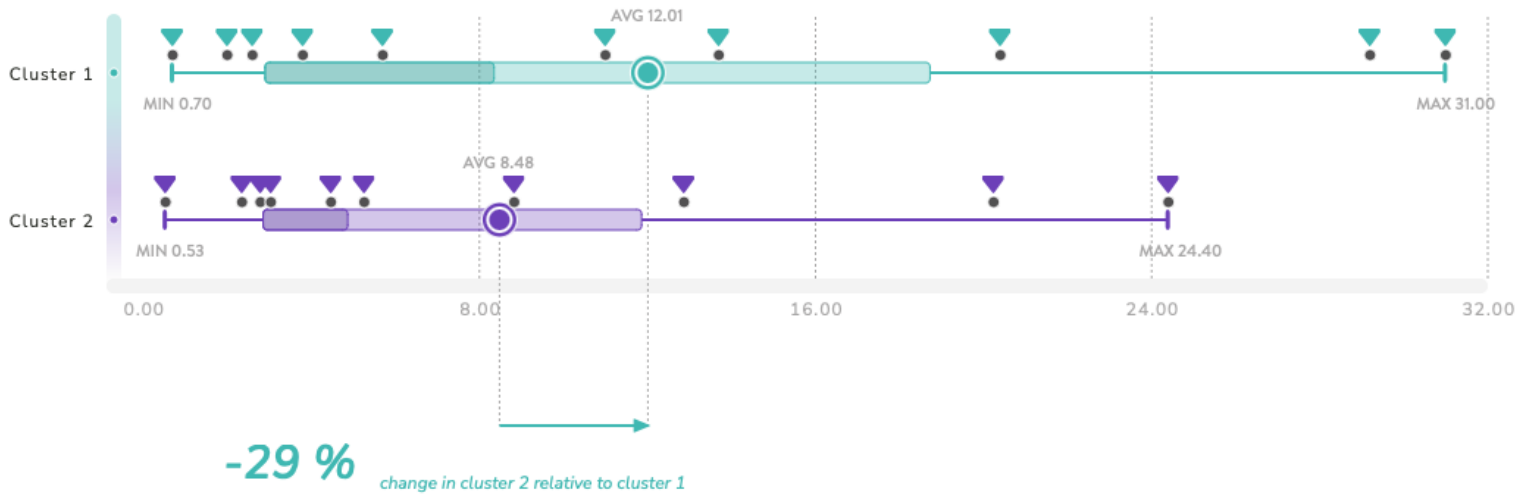


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

MANGANESE H3A (ppm)

Is the total elemental Mn extracted with H3A from your soil expressed as ppm Mn.



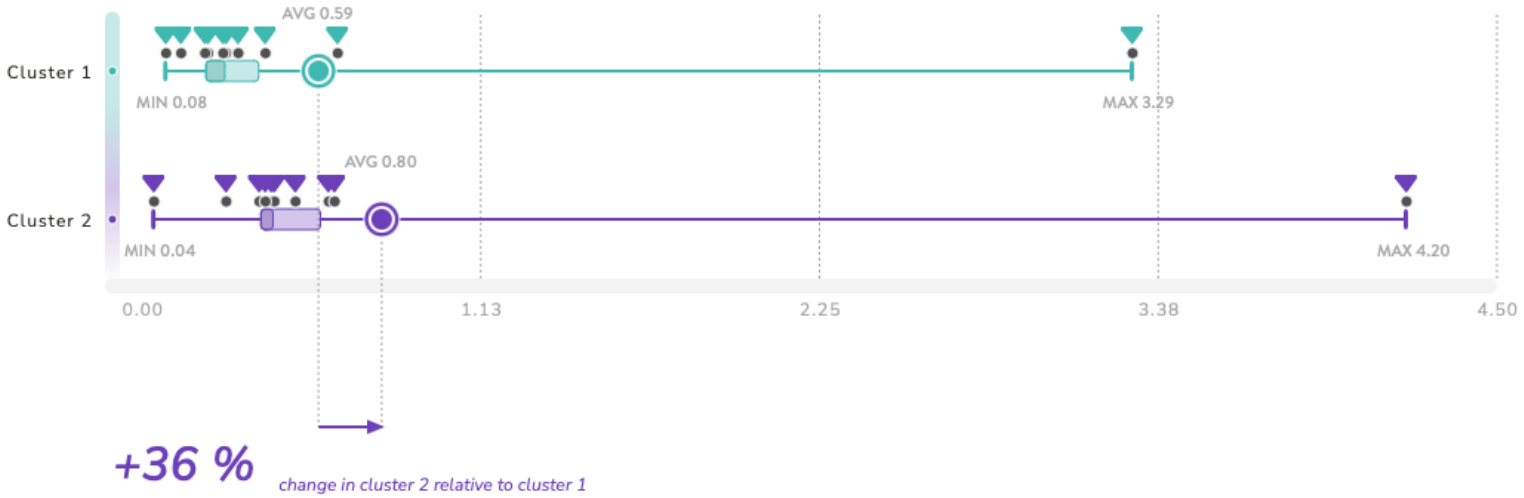


ECO$_2$MIX®

PHYSICO-CHEMICAL CHANGES

COPPER H3A (ppm)

Is the total elemental Cu extracted with H3A from your soil expressed as ppm Cu.



+36 % *change in cluster 2 relative to cluster 1*



PHYSICO-CHEMICAL CHANGES