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Introduction

In Morocco, the surface area of saline soils rises to more than 700,000 hectares throughout the country, of which 10,000 hectares are concentrated in the Sed El Masjoune region (El Khadir. M et al, 2013).

The sabkha of Sed Al Masjoune constitute the closed depression of the Bahira plain where accumulate the run-off water descending from the neighboring reliefs (Karroum, 2014). The arid climate, topographic properties as well as agricultural practices present the mean factors defining the quality of soils in this region.

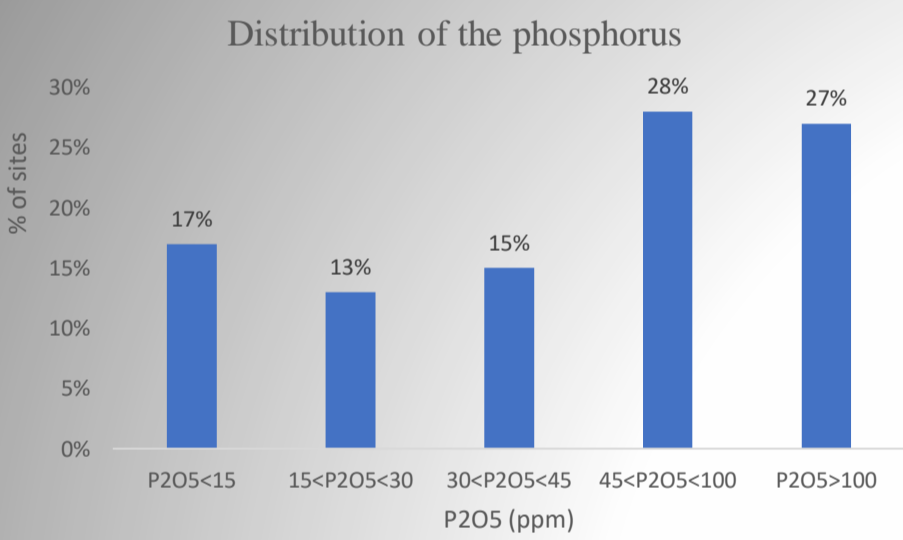
How’s the current situation of soils quality, and what’s the effect of agricultural practices on soil texture?

Method

The soil samples were taken using a manual auger at a depth of (0-20 cm), dried and sieved.

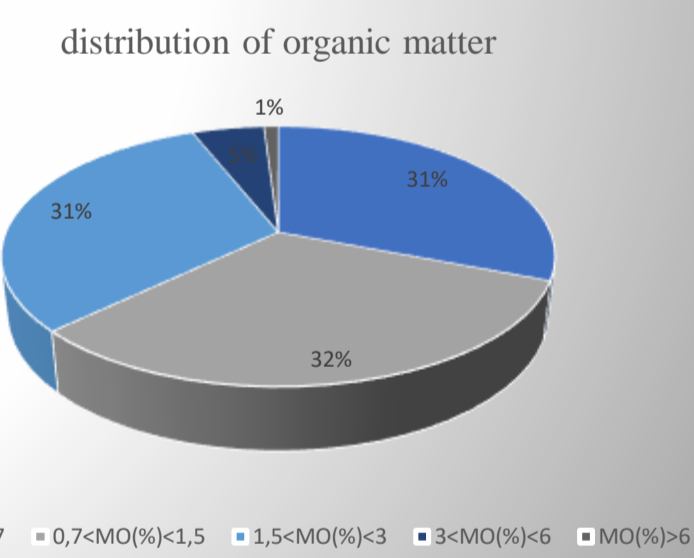
The parameters analyzed were: electrical conductivity of saturated paste (CEp), organic matter (OM), assimilable phosphorus (P2O5) and exchangeable potassium (K2O), in addition to soil granulometry.

Analysis and results



P2O5

The phosphorus abundance varies widely among sites (CV=180%), only that 55% of sites have a high to very high phosphorus content

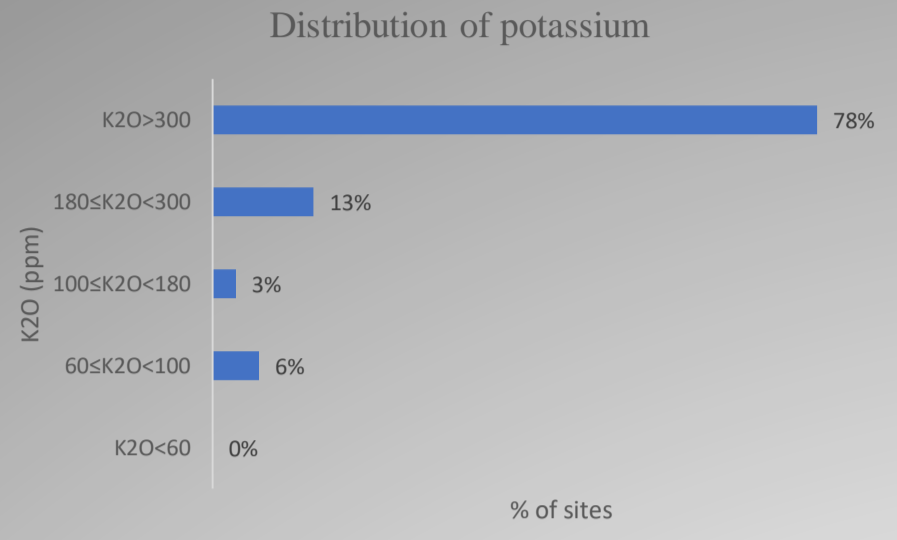


OM

The results show that the majority of soils are poor to moderately poor in organic matter. This requires the use of organic inputs as an amendment to improve the degraded condition of these soils.

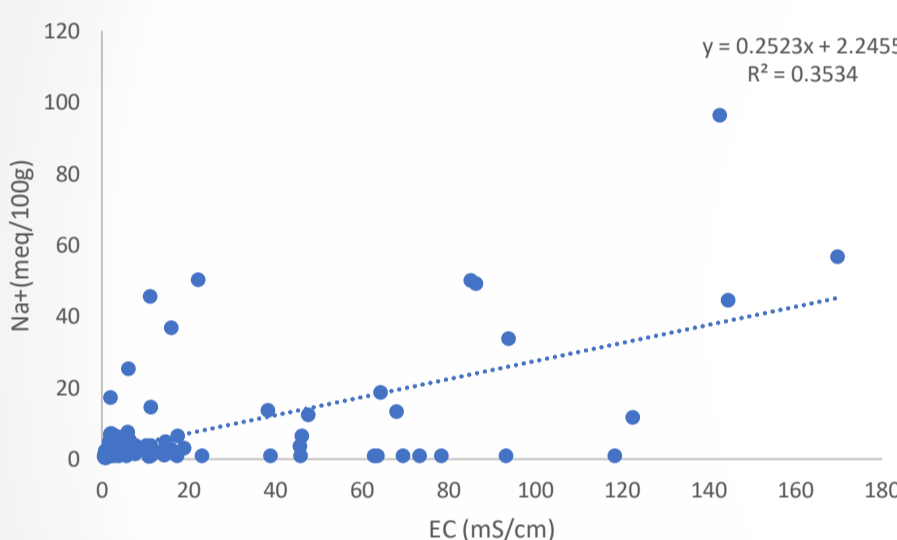
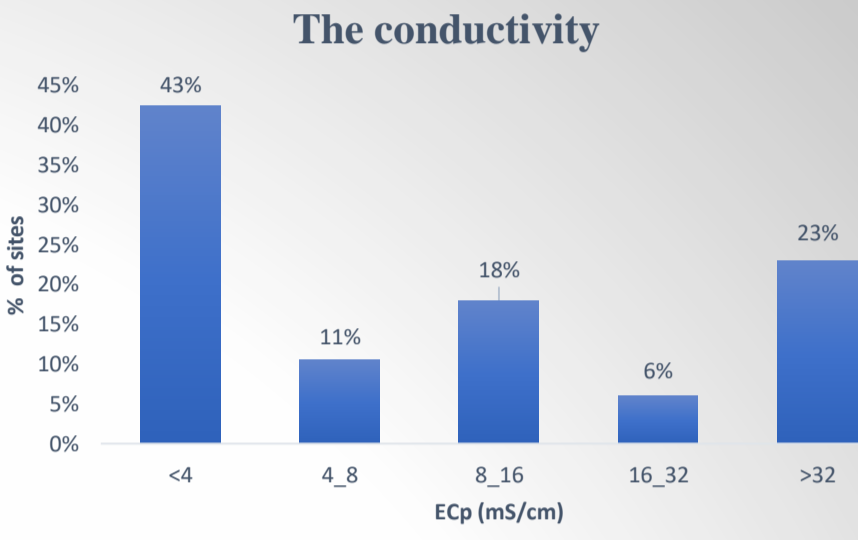
K2O

The results of the studied samples show that 78% of the soils are very rich in potassium, this excess can be due to the poor management of fertilization in this zone.



ECp

Regarding ECp, Soils are highly variable (CV=155%). 43 % of soils found to be non-saline, but the total of 47% was shared between the different levels of salinity.



Soil sodicity:

Sodium can explain only 35% of soil salinity, which is confirmed by the distribution of ESP. therefore, the problem of sodicity found to be minor.

Effect of agricultural inputs on soil texture:

	Clay %	Silt %	Sand %	Lime %
Fertilizer	(38,9 ± 7,3) a	(17,2 ± 5,6) d	(43,9 ± 8,3) a	(13,1 ± 7,9) a
Manure	(33,6 ± 10,4) ab	(22,4 ± 6,4) c	(44,1 ± 9,5) a	(4,9 ± 5,6) b
Manure and Fertilizer	(27,5 ± 9,3) b	(28,9 ± 13,7) a	(43,5 ± 13,4) a	(5,9 ± 6,2) b
Neither manure nor fertilizer	(37,8 ± 13,4) a	(23,7 ± 6,9) cb	(38,4 ± 16,2) a	(6,7 ± 7,2) b
Non-agricultural soil	(28,5 ± 9,6) b	(27,7 ± 7,7) ab	(43,8 ± 10,5) a	(15,7± 10,4) a

- ❖ The combinate use of manure and fertilizer decrease the percentage of clay as the same level of that of non-agricultural soil.
- ❖ The use of fertilizer alone declines the quantity of silt in soil and remain the quantity of lime as the non-agricultural soil.
- ❖ There is no effect of amendments on the percentage of sand.

Conclusion

The situation of soils around the sabkha of Sed el Mesjoune is inadequate generally for crops production, under the effect of environmental conditions and agricultural practices, which require careful management for sustainable and environmentally friendly agriculture

Bibliography

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