

ICT International MP406 Lookup Table and Conversion Formulas

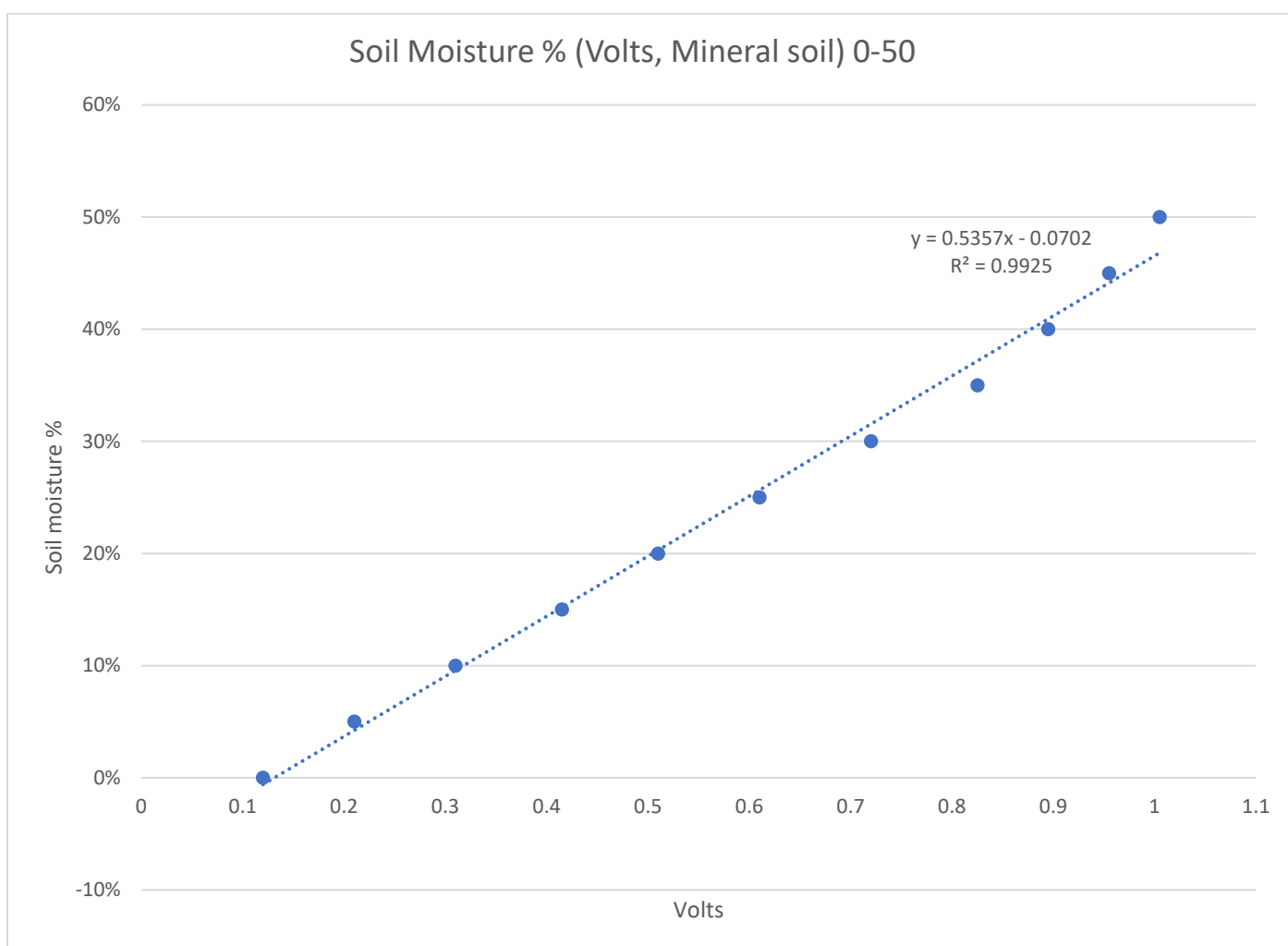
The lookup table covers the full range of measurement – from 0 to 100% VSW. It is recommended to use the values between 0% and 50% (Output of 0 to 1.005V) as this follows a linear relationship ($R^2 = 0.9925$) that can be improved with a polynomial equation ($R^2 = 0.9990$).

Soil moisture	Millivolts	Volts		Soil moisture	Millivolts	Volts
0%	120	0.120		55%	1015	1.015
5%	210	0.210		60%	1025	1.025
10%	310	0.310		65%	1035	1.035
15%	415	0.415		70%	1045	1.045
20%	510	0.510		75%	1055	1.055
25%	610	0.610		80%	1065	1.065
30%	720	0.720		85%	1070	1.070
35%	825	0.825		90%	1080	1.080
40%	895	0.895		95%	1095	1.095
45%	955	0.955		100%	1106	1.106
50%	1005	1.005				

The following have been calculated for your use. We recommend the use of Volts as opposed to Millivolts for ease of programming.

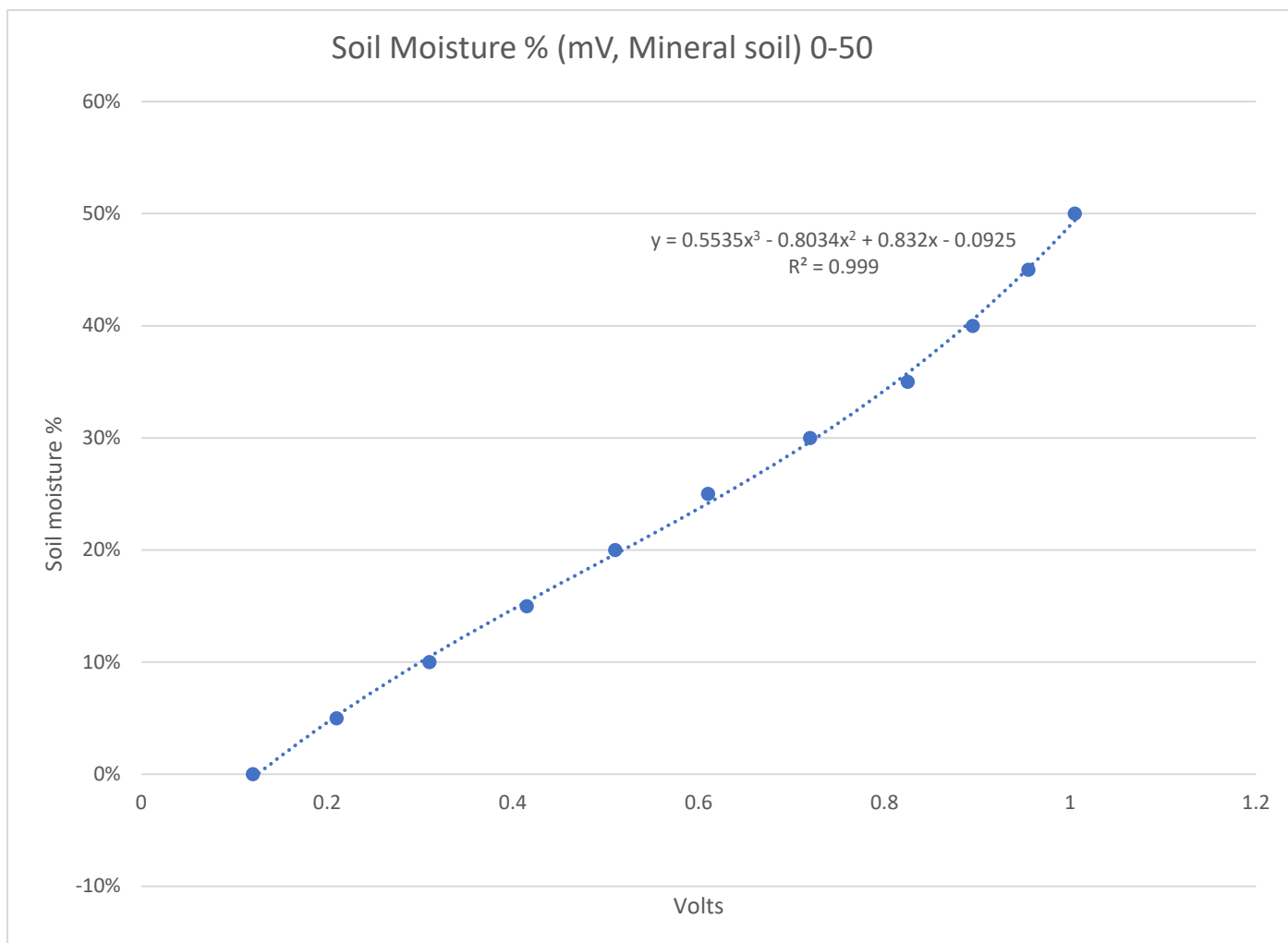
Linear Equation:

Range	Equation	R ² Value
%VSW ₀₋₅₀	$0.535713432x - 0.070210529$ Where x = MP406 output in volts	$R^2 = 0.992530886$



Polynomial Equation (3rd order):

Range	Equation	R ² Value
%VSW ₀₋₅₀	$0.553468761x^3 - 0.803400945x^2 + 0.831990437x - 0.092549007$ Where x = MP406 output in volts	$R^2 = 0.999000195$



The formulas to derive these equations are available as both Microsoft Excel files and as an R Script on request.