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A comparison of the geochemistry composition of soil in Malmö and Stockholm

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Abstract

Soil can be enriched in different elements such as arsenic, cadmium and lead that are of health concern to human and also a threat to the nature. Normally the enrichment depends on the local geology, but in populated areas the enrichment could also be due to anthropogenic activities. Stockholm and Malmö are two of the largest cities in Sweden and in this study the geochemistry composition of the soil in these cities has been studied and compared. In order to determine, if there are any differences in the soil composition depending on the local environmental conditions and contribution from anthropogenic activities. For the analysis the Geological Survey of Sweden provided data of topsoil and deeper till samples from the cities. The till samples are representative of the local geology as they remain from the c-horizon, a layer in soil which most often is not disturbed by anthropogenic activities. Compared to the till samples the topsoil of Stockholm resulted to be enriched in the elements Pb, Mo, W, Th, Bi, Ag, Ti and Al compared to the soil of Malmö. For the elements Pb, Mo, W, Th, Bi and Ag the median values were higher compared to the till of the city, and are therefore assumed to have a contribution from anthropogenic activities. In Malmö the topsoil resulted to be enriched in Ni, As, Zr, U, Cd, Y, Sr, Mn, K, Ca, Ba and P and of these elements Ni, Zr, Cd, Y and P showed to have a contribution from anthropogenic sources. The reasons why these elements are enriched in the soil of the cities and retention mechanism controlling their mobility is further on discussed in this report.

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1. Introduction

About 65 % of the European lives in urban areas today (Salminen, 2005). Stockholm, the capital of Sweden and Malmö, the third largest city in Sweden are two of the cities that are growing the fastest in EU. In 2040 the population in the county of Stockholm is predicted to increase with one million people. In the county of Skåne, in the south of Sweden which include Malmö is predicted to increase with 450 000 inhabitants within 30 years (Boverket, 2013).

Building of infrastructure, industries and the use of fossil fuel and high-tech technology are highly concentrated in urban cities and demand a great amount of metals, aggregates and other earth materials from mining and quarrying. In Sweden there is an environmental quality law implemented, which states that contaminated sites should be treated until they do not exposure any treat to health of human or the environment (Ministry of the Environment, 2012). Good knowledge of how metals and other elements are spread in cities to the environment is therefore of need and of great concern in order to be able to sustain and protect our living surrounding.

However, enrichment of different elements in soil can also be due to the local geology, which normally is the case on locations where no anthropogenic activities take place (Mc Lean and Bledsoe, 1992). To be able to prevent leakage and contamination in and from cities, we need to know from where the elements origin. Due to this the Geological Survey of Sweden (SGU) is determining and studying the urban geochemistry composition in larger cities in Sweden. Two of the cities that have been studied are Stockholm (Andersson et.al., 2007) and Malmö (Andersson and Ladenberger, 2010) which are the cities of focus in this study.

A commonly methodology used for these kind of studies is to look on the element content of topsoil and compare it to deeper soil samples from the C-horizon. The C-horizon is usually just affected by the bedrock and are therefore representative of the local geology. The Geological Survey of Europe for example used the same methodology when determining the geochemistry composition of soil over whole Europe (Salminen, 2005).

In this study data of topsoil and deeper till samples, provided by the Geological Survey of Sweden from the two cities have therefore been studied. In order to identify how the element composition differ between the two cities and what it could depend on.

1.1. Element composition in different rock types

Heavy metals, e.g. cadmium, lead, and arsenic are heavy metals, usually defined as elements with an atomic number of 20 or greater (Eby, 2004: 354), have given great attention in society due to their toxicity on organisms. Manganese, molybdenum, copper, zinc, selenium, chromium and nickel are also heavy metals but are only toxic at high concentrations, at low concentrations they are essential (Eriksson et.al., 2005: 251).

In table 1 the most common rock types enriched in heavy metals is presented with data from Andersson et.al., (2007).

<i>Table 1. Rock types most common to be enriched in certain heavy metals according to Andersson et.al., (2007).</i>	
Granites	Au, Ba, Be, Bi, Cl, K, La, Mo, Pb, Rb, Sn, Th, Tl, U, W, Y, Zr
Felsic volcanic rocks e.g. porphyries	Ag, As, Cd, Cu, Hg, Pb, Se, Zn
Mafic rocks e.g. gabbro, diorite, greenstone	Ca, Fe, Mg, P, Ag, Cd, Co, Cr, Cu, Ni, S, Sr, Ti, V, Zn
Shales e.g. black shales, alum shales	Al, Ag, As, Au, Ba, Bi, Cd, Cl, Co, Cu, La, Li, Mo, Ni, Pb, Rb, S, Sb, Sn, Se, Th, Tl, U, W, Y, Zn

Usually there is a low concentration of heavy metals in sedimentary sandstone and limestone. Also, felsic silica rich rocks that compose about 75 % of the rocks in Sweden usually have relative low concentrations (Fredén et.al., 1994).

The bedrock at the east coast of Sweden is in the region of Stockholm mainly composed of young magmatic rocks such as granite and pegmatite and by older granites for example tonalit and granodiorite. Metamorphic rocks such as gneiss is also common, composed of transformed sediment of clay and sand in the ocean under high temperature and pressure. Two common types is feld-spat and quartz rich graywacke and glimmer rich shales (Andersson et.al., 2007).

The rock in the region of Malmö, south west of Sweden, were formed under Cenozoikum (65,5 Ma – today). The bedrock of this region is rich in limestone with high concentrations of calcium and strontium. Sandstone, clay and silica concretions (paleogen) are also common. The soil has fairly good fertility, which depends on the relatively easy weathered minerals in the limestone, which release important nutrients for plants and humans to be spread to the upper soil layers (Andersson and Ladenberger 2010).

1.2. Soil types

Weathering of the bedrock and organic material from vegetation and animals build up and form soils (Finnish Environment Institute, 2012). In Sweden the soil mainly are composed of glacial till, unsorted rock material that continental ice sheet has transported over the country and deposited, which characterize the soil types (Fredén, 1994: 172).

In the Stockholm region there is a variety of the soil type spodosols and unstable inceptisols. With unstable inceptisols it is meant soils that have the potential to change to spodosols, which only can occur where the vegetation is changing from deciduous forest to coniferous forest (Eriksson et.al., 2005: 284). In Malmö the main soil type is stable incepticols, as can be shown in figure 1.

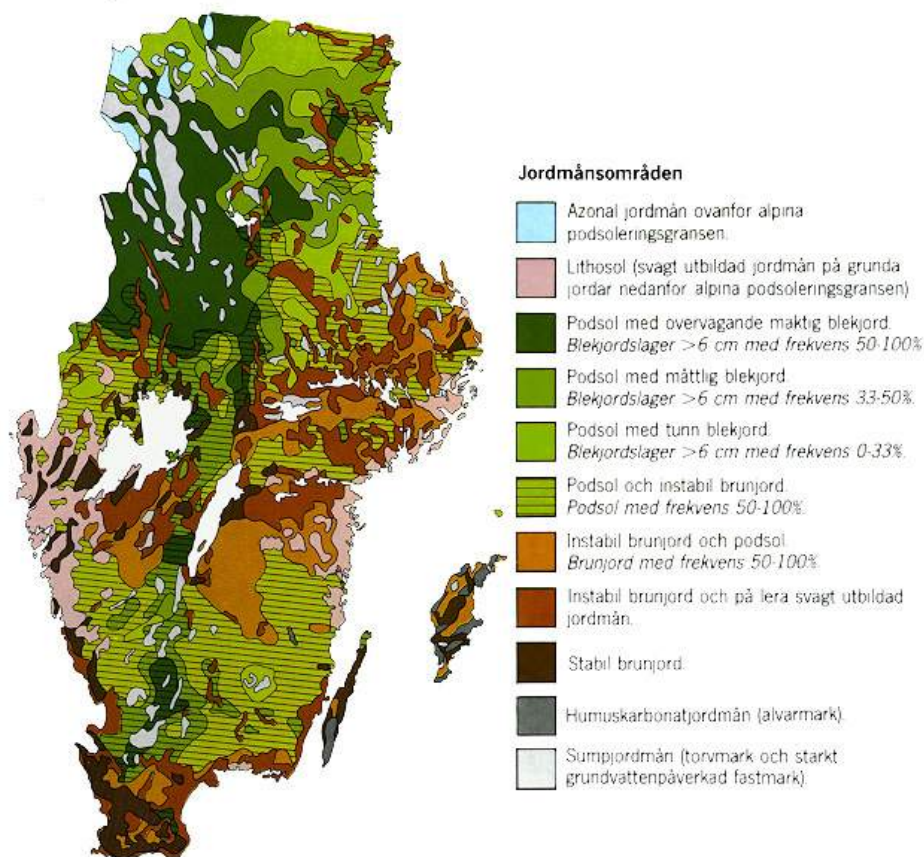


Figure 1. The map shows different soil types in the south of Sweden. The brown colour in the map refers to inceptisols, where the strongest brownish colour is stable inceptisols and more lighter colour refers to more instable ones. The green colour is spodosols. The green colour with black stripes refers to spodosol and instable inceptisol. Pink colour is lithosols.

Source: The complete/Part of the dataset used in this publication was made available by the Swedish National Survey of Forest Soils and Vegetation performed by the Department of Forest Soils, SLU. The author/authors are solely responsible for the interpretation of data. <http://www-markinfo.slu.se/eng/soildes/jman/jmsoder.html> Available on 2013-06-07

A coniferous forest, but also *Fagus sylvatica* and *Quercus* sp. with needles and leafs which leads to low pH in the upper soil is an important factor in the formation of spodosols. Areas where the till in the sediment is composed of big grains and felsic granits are also important factors for spodosol formation in Sweden (Eriksson et.al., 2005: 277).

An O-A-E-B-C soil profile is typical for spodosols (Eriksson et.al., 2005: 251). The upper top layer, called the litter layer, is the O-horizon and is composed of organic matter and semi-decomposed plant residues. The A-horizon consists of a layer of humus where the organic matter is more or less completely decomposed. In this layer, elements such as lead, selenium and mercury with low solubility have a tendency to be accumulated. In acidic environments other elements that are more dissoluble such as cadmium, copper, zinc, cobalt, and nickel are transported down to underlying layers. The E-horizon is an ash-grey bleached layer poor in

nutrients and metals as it has been leached by humic acids released by the vegetation (Fredén et.al., 1994: 172). Manganese, aluminum and iron are released from minerals of the till by weathering processes. In the underlying illuvial horizon, the B-horizon the acids have been neutralised and complexes of manganese, aluminum and iron precipitates (Eriksson et.al., 1994: 277-278). Also heavy metals tend to precipitate in this layer. (Fredén et.al., 1994: 172) This layer is also called the rust layer due to the presence of ferrous compounds, which gives the soil a red-rust colour. The final C-horizon is the parent material, which usually is not affected by either biological or anthropogenic activities.

Inceptisols are built up by an A-B-C profile. Compared to the spodosols worms and other degrading organism are more common in these soils due to the more favorable vegetation of deciduous forest. The presence of moving and degrading worms eliminates the transitions between horizons and the horizon of humus is not developed. In the B-horizon there is a low concentration of weathering processes. Inceptisols as well as spodosols are sensitive to acidification, but the buffering capacity in inceptisols is commonly higher. This depends on the mother material which is normally more enriched in limestone, fine grains and more easily weathered minerals (Eriksson et.al., 1994: 284).

1.3. Mobilisation of elements in soil

The minerals of rocks and in the till vary in grade of resistance to weathering. Minerals with increasing sensitivity to weathering processes can be ordered as follow: Quartz, rutile, titanite, zircon < potassium feldspar, muscovite, sodium rich plagioclases < hornblende, biotite, chlorite, some pyroxene and calcium rich plagioclases, and finally the very easily weathered carbonates such as calcite. (Andersson et.al., 2007)

The released elements to the soil solution from either weathered rocks or anthropogenic activities can naturally be removed by uptake by plants, leaching to ground water or through volatilisation. pH, reducing and oxidising conditions, the organic matter content and the presence of microorganisms are all factors that affect the retention of the elements in the soil (Eby, 2004: 354). Transport of metals downwards with soil water to the ground water for example does not occur to any great extent unless the metal retention capacity of the soil is overloaded (Mc Lean and Bledsoe, 1992).

In soil solution the elements can be present as free ions (eg.g Zn^{2+} and Cr^{3+}) but they can also form different complexes (eg.g ZnSO_4 and $\text{Cr}(\text{OH})_4^-$) with inorganic ligands (eg.g SO_4^{2-} or OH^-). Complexes with organic ligands such as low molecular weight aliphatic, aromatic, and amino acids and soluble constituents of fulvic acids can also be formed (Mc Lean and Bledsoe, 1992). Organic matter, clay minerals, iron and manganese oxides and hydroxides, carbonates and amorphous aluminosilicates in the soil matrix do all expose soil surfaces, to which the free ions or the formed complexes can be adsorbed. This can effectively decrease the movement of the elements to ground water. Stable complexes that do not get so strongly adsorbed can though instead increase the mobility of an element. The amount of available adsorption sites on Fe and Mn oxides, organic matter, carbonates, and on edges of clay

minerals depends on the pH of the soil. The available negative sites for cations decrease with low pH, due to that, the positively charged hydrogen ions compete about the sites (Mc Lean and Bledsoe, 1992). The mobilisation of elements such as aluminum, cadmium, lead, copper, magnesium and zinc which all have positively charged ions in soil solution, increase therefore in acidic conditions (Eby, 2004: 354). The number of adsorption sites for anions is though higher during low pH conditions (Mc Lean and Bledsoe, 1992).

Trace cationic and anionic metals are preferentially adsorbed to specific sites compared to major metals (Na, Ca, Mg). Competition of the specific sites occurs however when the sites are saturated and exchange reactions dominates. For example it has been showed that in saturated soils of calcium the adsorption of cadmium, lead and nickel decreased due to the competition with calcium about the specific sites. This increase the mobility of these elements (Mc Lean and Bledsoe, 1992).

Many elements are also affected by the redox potential in the soil. Reduced conditions occur in anaerobic environments, where the oxygen has been consumed by for example microorganism that degrade organic contaminants. Well-drained soils and soils that have not been exposed to contamination by spill or leaks do often have aerobic, oxidising condition (Mc Lean and Bledsoe, 1992). The heavy metals arsenic, selenium, cadmium, molybdenum and lead do all have chalcophile characteristics (Salminen et al., 2005), which means that they form insoluble sulfides in the presence of sulfur under reducing conditions. This makes the elements immobile. However if the conditions are changing, becoming less reducing or there is a lack of sulfur, mobilization of metals can increase depending on the chemical properties of the metals (Eby, 2004: 354).

2. Methods and materials

2.1.Data

For this study The Geological Survey of Sweden (SGU) has provided data of the element content in soil and till in the cities of Malmö and Stockholm. The sampling sites were pre-selected in a dialog with the local communities in order to get sites representative for the urban environment. Playgrounds, industry areas and other sites strongly affected by anthropogenic inputs were not selected.

The till samples from SGU are hand-dug and origin from the C-horizon, about 0.7 - 0.8 meters down in the ground and analyzed on the fraction of <2 mm. The element composition of till in the C-horizon is normally representative for the local geology and is usually not influenced by anthropogenic activities. Mankind can however interfere sometimes with the layer, such as during building processes in urban cities. At these sampling sites it is therefore not known if the underlying sediment has been disturbed by anthropogenic activities or not.

From every site were samples of till have been selected, also soil samples have been taken on the depth of 5-15 cm, under humus and hairy roots. (Andersson and Ladenberger 2010) (Andersson et.al., 2007)

Both till and soil samples has been leached with 7 M HNO₃ and analyzed at SGU with ICP-MS. In this study the following elements was analyzed and as well pH of the different samples.

Trace elements: Cobolt (Co), nickel (Ni), copper (Cu), lead (Pb), arsenic (As), thorium (Th), lithium (Li), chromium (Cr), lantan (La), molybdenum (Mo), Tin (Sn), tungsten (W), zirconium (Zr), uranium (U), beryllium (Be), silver (Ag), cadmium (Cd), selenium (Se), chromium (Cr), vanadium (V), rubidium (Rb), strontium (Sr), ytterbium (Y),

Major elements: Titanium (Ti), iron (Fe), manganese (Mn), calcium (Ca), magnesium (Mg), potassium (K), barium (Ba), phosphorous (P), sodium (Na) and aluminium (Al).

The major elements and trace elements where organised separately when analyzed at SGU. Therefore they were analyzed separately in this study. The elements Cr, V, Rb, Sr, Y and La have been analyzed as major elements in Malmö and as trace elements in Stockholm, so these were also simply analyzed separately in this study. In Stockholm the major elements was reported as the oxides TiO₂, Fe₂O₃, MnO, CaO, MgO, K₂O, BaO, P₂O₅, Na₂O, Al₂O₃ in Stockholm and in Malmö as single elements. The elements of the oxides was therefore calculated to single elements. For exampl the TiO₂ witch had a concentraion of 813 mg/kg was firstly divided with 1000 to get it into g/kg and the following calcultations where made:

$$\text{Moles (TiO}_2\text{)} = \text{mass (TiO}_2\text{)}/\text{Molar mass (TiO}_2\text{)}$$

$$1 \text{ mole TiO}_2 = 1 \text{ mole Ti}$$

$$\text{mass (Ti)} = \text{Molar mass (Ti)} \times \text{moles (TiO}_2\text{)}$$

The received mass of the element was further on mulitilicated with 1000 in order to get the element concentration back to mg/kg or ppm, which the rest of the data is presented in.

2.2. Maps

With a program in Geographic Information Systems (ArcGIS) the sampling coordinates were plotted on a map. By doing this, till and soil samples were ensured to come from the same sites and non-matching samples were deselected in the following statistical analysis.

2.3. Statistical analysis

For all statistical analysis the desktop statistical discovery software JMP from SAS has been used.

2.4. Boxplots

In this study boxplots, such as the example in figure 2 has been done for each element in order to get an overview of the data and the differences of the element content in the samples.

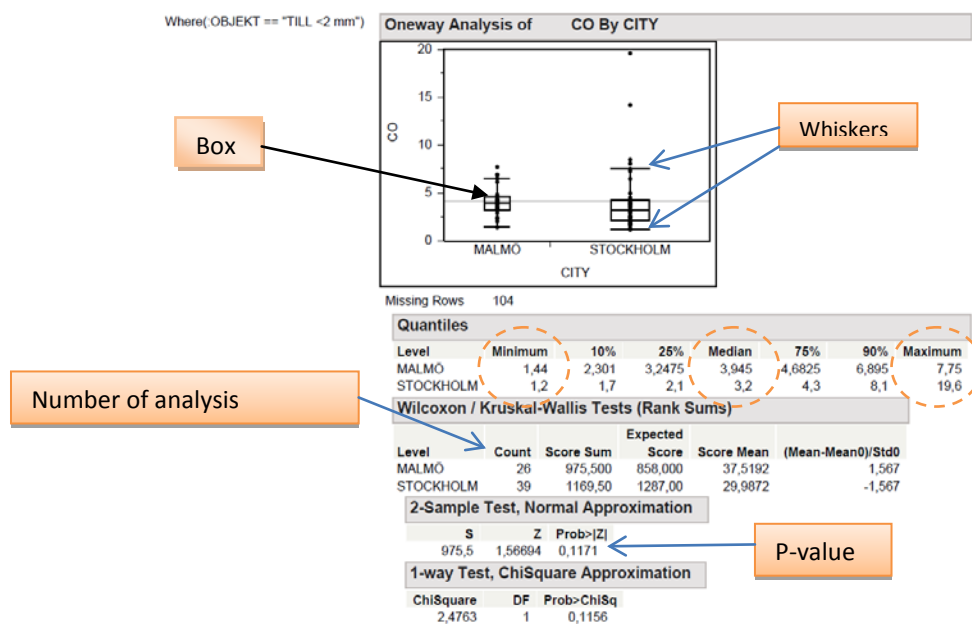


Figure 2. An example of a resulting boxplot made in this study. The line through each box is the median value of the data. The middle half of the data is enclosed within the box and between the two whiskers the majority of the data falls. Outliers or extreme values are those points outside the whiskers.

The resulting p value from the Wilcoxon rank sum test (SAS Institute Inc., 2012) is also shown in the figure and the number of counts/data points for each city, as well as median, max and minimum values.

2.5. Wilcoxon rank sum test

The data used in this study is not entirely randomly selected, which is something that most statistical test requires (Townend, 2002: 50-51). This requirement has been ignored as a statistical method was needed in order to be able to tell if there was any significant difference between the geochemical compositions in the soil and till data between the two cities.

The element data of till and soil from Stockholm and Malmö does not have a normal distribution, see histogram over the samples in appendix 1,2 and 3. For this reason the non parametric test, called Wilcoxon rank sum test has been used for the statistical analysis. The Wilcoxon rank sum test, uses the median values of the data instead of the mean as most

parametric tests do. The median value describes a ‘typical’ value of the data and extremely low and high data points are excluded (Townend, 2002: 186).

Each element in the soil and till data of Stockholm was compared to the element content in soil respectively till data of Malmö.

The following null and alternative hypothesis was implemented:

H_0 : The medians of the two populations are the same

H_1 : The medians of the two populations are *not* the same

The resulting p-values, see figure 2, of the 5% significance level were used when reading the results and the following conclusions were made:

If the resulting p-value $> 0,05$ there is no significant difference between the medians of the populations.

If the resulting p-value $\leq 0,05$ The null hypothesis can be rejected. We are 95 % confident that one of the populations has a significant higher median than the other.

The resulting elements, with a significant higher median than the other city were further on compared to the till of its city, also with the Wilcoxon rank sum test. If the median resulted to be significant higher than in the till it was concluded that there is a contribution of anthropogenic sources to the soil. If the median is lower than the median of till it is assumed that the element content mainly depends on the local geology.

2.6. Guideline values

The Environmental protection Agency of Sweden has provided guideline values for the elements As, Cd, Cr, Cu, Pb, Mo, Ni, V and Zn in soil regarding different protection objects, depending on element and use of the soil. The median values of these elements of the soil in the two cities were compared to the guideline values in order to see if any of the cities had an indication of too high values.

Table 2. Guideline values provided by the Environmental Protection Survey of Sweden (2009).

Element	KM (ppm)	Object of protection
As	10	Background
Cd	0,5	Health/intake by plants
Cr	In totalt 80, Cr (VI) 2	Soil ecosystem
Co	15	Health/intake by plants
Cu	80	Soil ecosystem
Pb	50	Health/intake by soil
Mo	40	Health/groundwater
Ni	40	Health/groundwater
V	100	Soil ecosystem
Zn	250	Soil ecosystem

3. Results

3.1. Location of selected soil and till samples

In figure 3 the locations of topsoil and deeper till samples in Stockholm are shown, and in figure 4 the sample locations of Malmö is presented. The exact coordinates of the sample locations in each city is found in appendix 13. In Stockholm there are in total 39 matching till and soil samples and in Malmö the number of matching sites is 24.

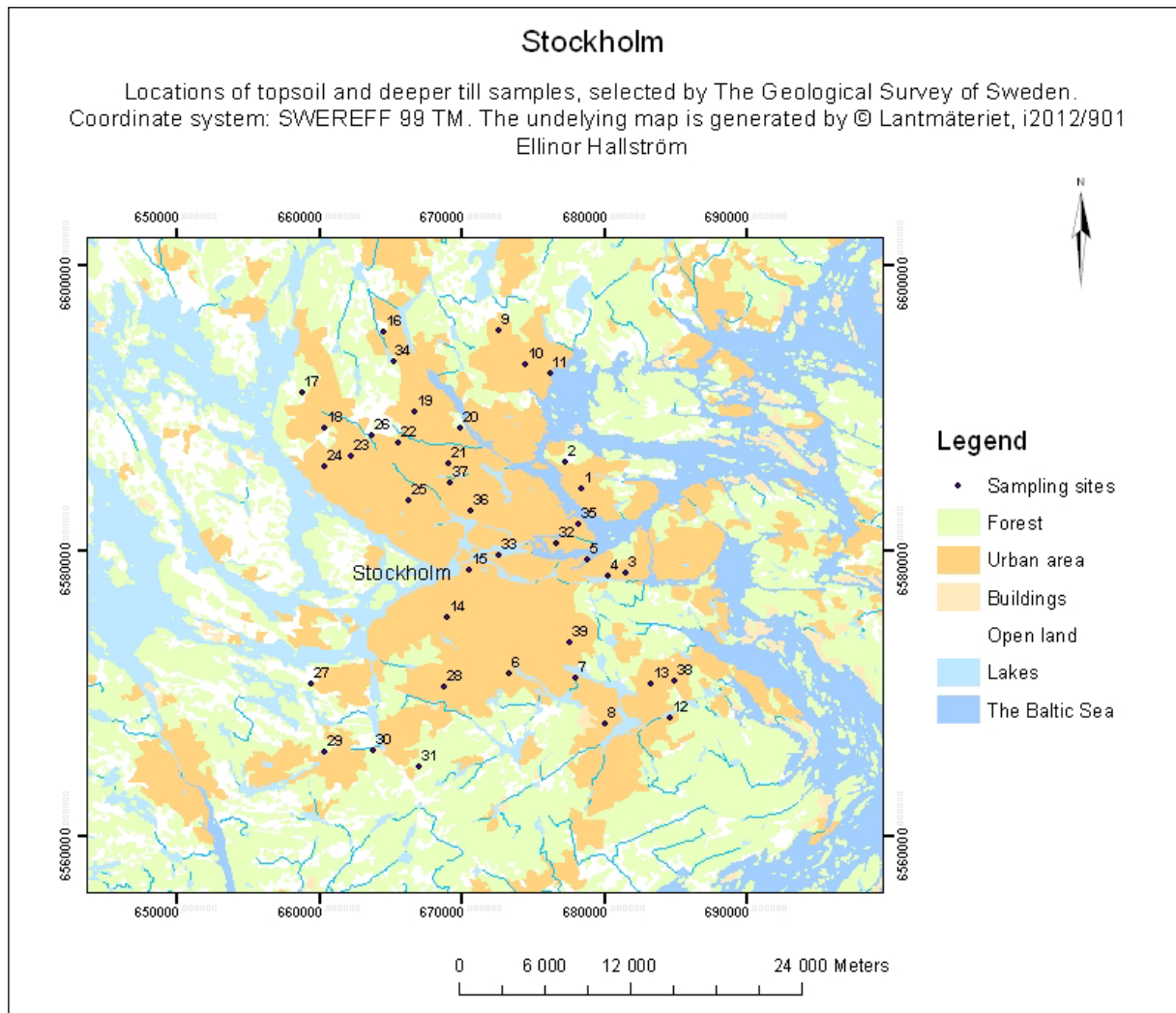


Figure 3. Locations of deeper till and topsoil samples, selected by the Geological Survey of Sweden.

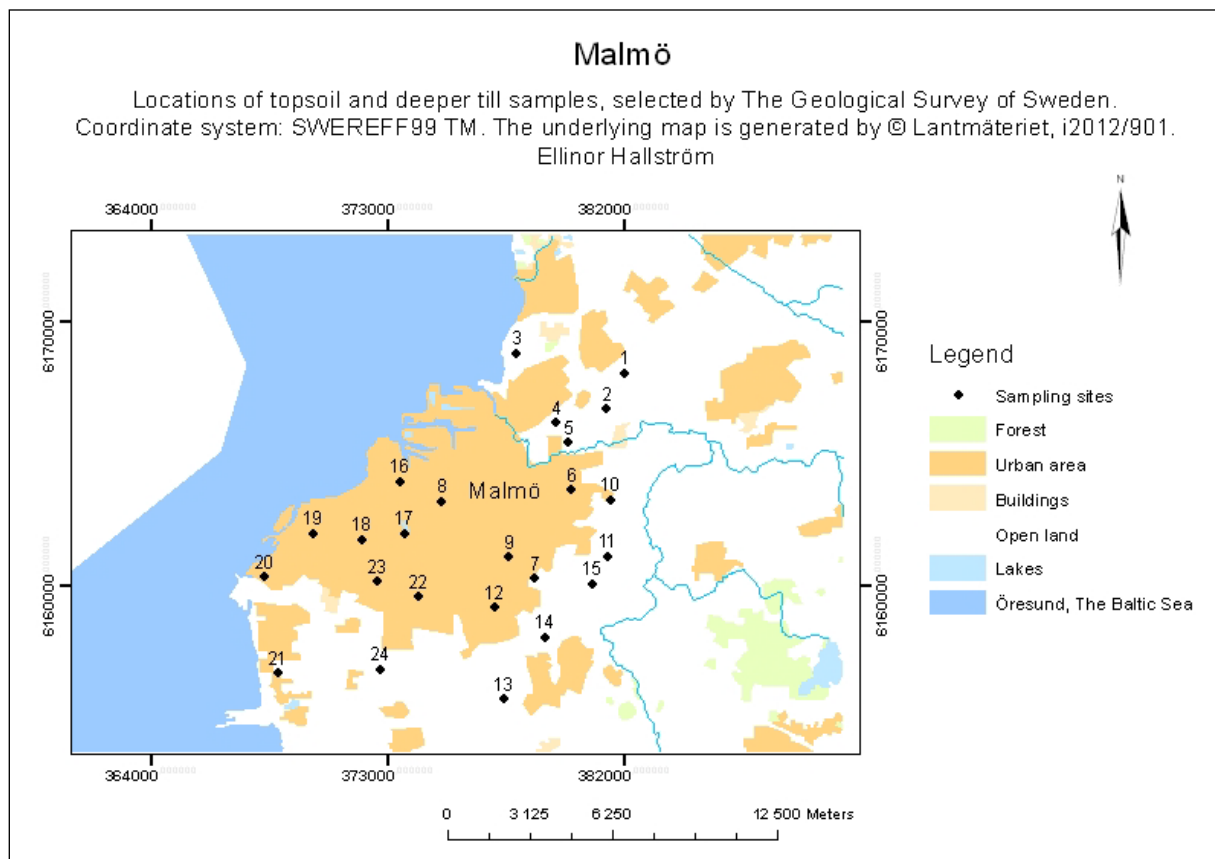


Figure 4. Location of deeper till and topsoil samples in Malmö, selected by the Geological Survey of Sweden.

3.2. Median concentrations of the elements in soil and till of Malmö and Stockholm

Figure 5 gives an overview of all median values of the elements in the till and soil data of Malmö and Stockholm. Some of the elements have a notable difference in median concentration compared to the other city for example Sr in the soil and till data of Malmö compared to Stockholm. For some other elements such as the median concentration of silver in the till samples, it is more difficult to distinguish a difference between the cities and the concentration could therefore be better viewed in table 3.

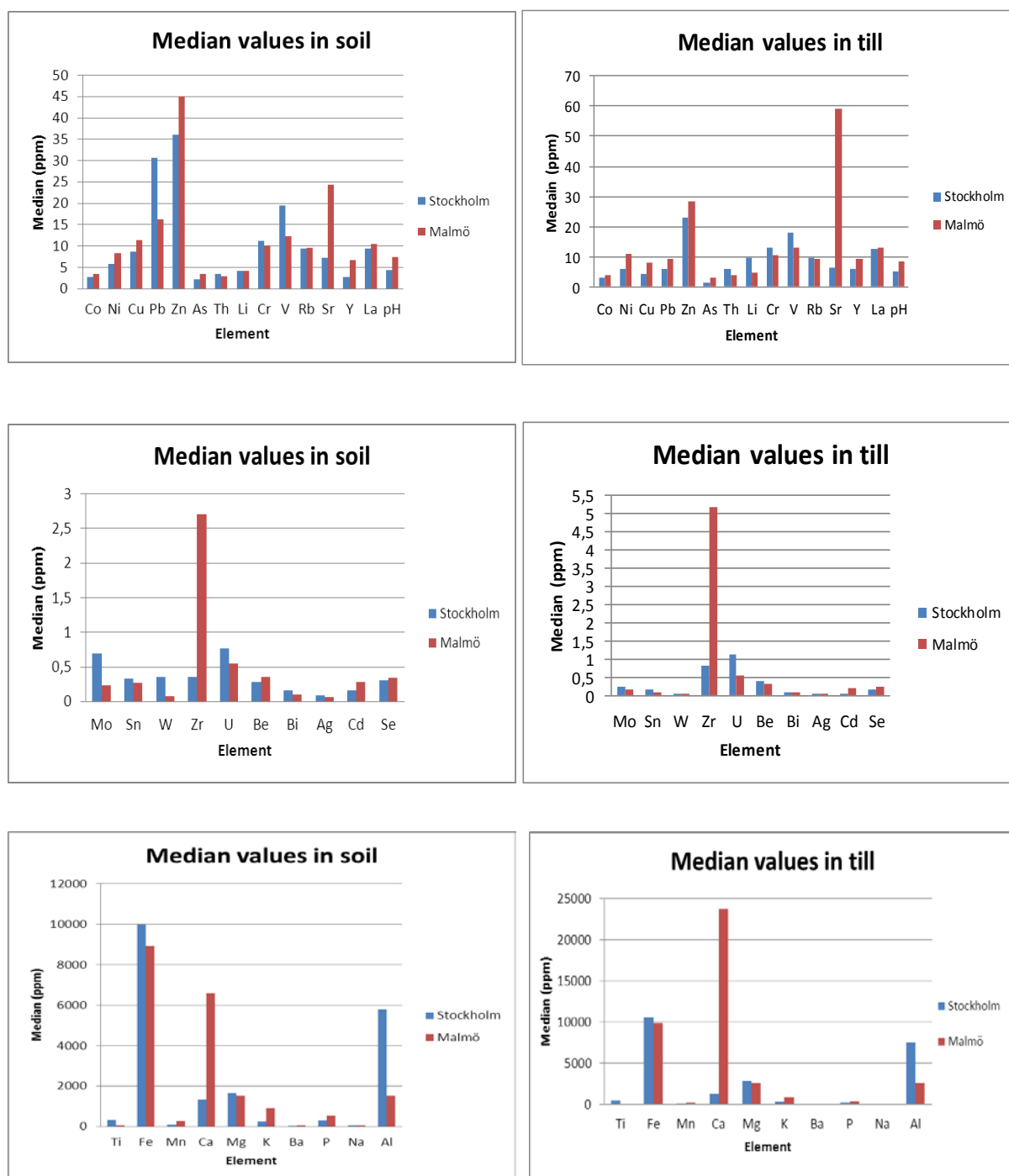


Figure 5. Diagrams of the median values of the elements in the topsoil and deeper till data from Stockholm and Malmö.

Table 3. Median concentrations (ppm) of the elements in soil and till.

	Soil		Till	
	Stockholm	Malmö	Stockholm	Malmö
As	2,120	3,365	1,330	3,140
Ag	0,091	0,060	0,035	0,050
Be	0,280	0,350	0,390	0,315
Bi	0,166	0,100	0,072	0,080
Cd	0,164	0,280	0,043	0,195
Cr	11,100	10,050	13,000	10,550
Co	2,700	3,430	3,200	4,065
Cu	8,600	11,375	4,300	7,870
K	239,083	920,000	288,477	878,500
La	9,400	10,400	12,400	13,000
Li	4,200	4,235	9,500	4,625
Mo	0,690	0,230	0,250	0,185
Ni	5,700	8,215	6,100	11,000
Pb	30,600	16,230	5,900	9,330
Rb	9,400	9,600	9,600	9,250
Se	0,310	0,340	0,160	0,226
Sn	0,330	0,270	0,170	0,100
Sr	7,200	24,350	6,400	59,300
Th	3,500	2,840	5,900	3,770
U	0,770	0,550	1,140	0,540
V	19,500	12,200	18,100	12,900
W	0,360	0,080	0,060	0,060
Y	2,800	6,750	6,000	9,100
Zn	36,000	44,975	22,800	28,340
Zr	0,350	2,705	0,820	5,195
pH	4,430	7,425	5,07	8,295
Al	5790,12	1507,50	7547,27	2554,50
Ba	38,51321	50,80	17,017	46,95
Ca	1353,634	6588,50	1319,329	23704,50
Fe	9989,27	8909,00	10541,12	9888,50
Mg	1649,32	1507,50	2828,266	2554,50
Mn	99,13	255,50	97,58	261,00
Na	54,419	63,00	54,419	93,00
P	289,35	543,50	257,492	394,00
Ti	340,43	59,50	470,488	80,00
K	239,0832	920	239,0832	878,5

3.3. Elements enriched in the data from Stockholm respectively Malmö

The elements that with 95 % confidence have a higher median in the till or soil than the other city, based on the results in Appendix 4-6 are presented in table 4. The soil of Stockholm has higher median values of the elements Pb, Mo, W, Th, Bi, Ag, Ti and Al. The till of Stockholm had higher medians of U, Sn, Be, Th, Li and V compared to the till of Malmö. In Malmö however the soil has higher median values of Ni, As, Zr, U, Cd, Y, Mn, K, Ca, Ba, and P. These elements, except from P and Na, had also higher medians in the till compared to Stockholm. The medians of Pb, Ag, Se, Cd, Zr were also higher in the till of Malmö than the till in Stockholm.

<i>Table 4. Elements that with 95 % confidence have higher median values in soil or till compared to the other city. The boxplots of these results is presented in Appendix 4-6.</i>				
	Stockholm		Malmö	
	Trace elements	Major elements	Trace elements	Major elements
Soil	Pb, Mo, W, Th, Bi, Ag	Ti, Al	Ni, As, Zr, U, Cd, Y, Sr	Mn, K, Ca, Ba, P
Till <2mm	U, Sn, Be, Th, Li, V	Ti, Al	Ni, Cu, Pb, Zn, As, Zr, Ag, Se, Cd, Y, Sr	Mn, K, Ca, Ba

The elements that was enriched in the soil of Malmö respectively Stockholm, where further on compared to the concentration of the underlying till. In table 5 the elements which resulted to have a anthropogenic contribution to the topsoil is presentes, based on the results in Appendix 7-12.

<i>Table 5. Elements in soil that with 95 % confidence higher median values than in the till of the same city. The resulting boxplots of these statistical test are shown in Appendix 7-12.</i>	
City	Element
Stockholm	Pb, Mo, W, Th, Bi, Ag
Malmö	Ni, Zr, Cd, Y, P

None of the elements with guideline values in soil provided by the Swedish Environmental Protection Agency resulted to have too high median concentration. Only the median concentration of chromium in its oxidising state (VI) in the soil of Stockholm, see table 6, where exeeing the guideline value.

Table 6. Median values of the elements in soil compared to guideline values in soil, provided by the Swedish Environmental Protection Agency (2009).

**If the content of chromium is higher than 1% of the total content of chromium, it should also be under risk analyse.*

Medium: Soil Element	Stockholm	Malmö	Swedish Environmental Protection Agency
As	2,12	3,37	10
Cd	0,04	0,28	0,5
Cr *	11,1	10,05	In totalt 80, Cr (VI) 2
Co	2,7	3,43	15
Cu	8,6	11,375	80
Pb	30,6	16,23	50
Mo	0,69	0,23	40
Ni	5,7	8,215	40
V	19,5	12,2	100
Zn	36	44,975	250

4. Discussion

The mobility of many of the elements enriched in the soil of either Malmö or Stockholm depends not only of the pH, but also on reducing and oxidizing condition and the content of organic matter. To be able to give a comprehensive analyse of why the element composition differ in the soil between the two cities, data from e.g. loss on ignition measurement and redox potential would be needed.

In the studies of Malmö by Andersson and Ladenberger (2010) and of Stockholm by Andersson et.al., (2007) also water and moss samples from nearby streams were collected. In further analysis it could be of interest to compare the element content of those samples to the results in this study, as it would give a better understanding of how the mobility of the elements differ between the cities and is affected by local environmental conditions.

In the following section a deeper discussion about the elements enriched in the different soil types in the cities, with resulting anthropogenic contributions is further on discussed.

Stockholm

Andersson et.al., (2007) from SGU also concluded in their study that the soil of Stockholm was enriched in the elements Ag, Bi, Mo, Pb and W due to influences from anthropogenic sources. The enrichment of the elements Al_2O_3 and also Th they concluded to have an origin from the local geology. When Andersson et.al., (2007) analysed which element that origin from the local geology or anthropogenic sources, they looked on the soil fraction between both deeper till and sediment samples. If the element showed the same trend of higher concentrations in topsoil regardless underlying till or sediment, the element was assumed to have contribution from anthropogenic sources. If the trend was not the same, the element was assumed to remain from the local geology, which was the case for Th in the soil of Stockholm.

Lead was found to be enriched in the soil of Stockholm and had a median concentration of 30,6 ppm compared to the soil in Malmö which had a concentration of 16,230 ppm. None of the concentrations are exceeding the guideline value of 50 ppm in soil. The concentration in Stockholm is though of concern due to that lead is a toxic element, especially to embryos and children, to which already low exposure levels can cause serious health problems. (WHO, 2012) Lead can replace K^+ and Ca^{2+} in K-feldspar as the Pb^{2+} ion is of similar size (Salminen et al., 2005). This makes felsic igneous rocks commonly enriched in Pb. However Pb is also used in a wide range of anthropogenic purposes. According to the Environmental Department of Stockholm (2012), the greatest sources of lead in Stockholm are ammunition, brake pads of cars and paint, for example the red paint “falu rödfärg”, which is commonly used for wooden houses in Sweden. Lead is one of the least mobile heavy metals. Organic matter, clay, secondary iron and manganese oxides effectively restrict its mobility by adsorption. (SGU, 2006) The commonly occurring soil type spodosols in Stockholm and its layer of humus and organic matter where lead easily is accumulated could be an explanation to the enrichment of the upper part of the soil in Stockholm. The pH in the soil of Stockholm is though relatively

low (4,09) and adsorption of lead by oxides is negligible at low pH conditions, which could result that Pb becomes more mobile in the soil (Eby, 2004: 355).

In contrast to lead is molybdenum an essential element for organism, but both too low and too high amounts of Mo can cause serious health problems (Salminen et al., 2005). In the soil of Stockholm the median concentrations was 0,69 ppm compared to the soil of Malmö which had a concentration of 0,23 ppm. Granites, that are more common in Stockholm than in Malmö can be enriched in Mo (Fredén, 1994: 174) while carbonate rocks generally tend to have a low content (Salminen et al., 2005). Mo strongly forms complexes with organic matter, which therefore is an important factor in predicting the mobility of Mo in soil. However under alkaline conditions Mo is mobile while in acidic conditions it is stable in the mineral form molybdenite MoS_2 . The soil of Malmö is slightly basic (pH 7,425) and could be an explanation why the concentration is higher in the soil of Stockholm which have pH of 4,43.

Tungsten is a relatively rare element and its chemistry is similar to Mo and is amongst the most complex. W is strongly lithophile, and granitic rocks tend to have higher levels of W than mafic and ultramafic rocks and limestone. In the soil of Stockholm the median concentration was 0,36 ppm and in Malmö the concentration was 0,08 ppm. W is used in a wide range of products by mankind including light-bulb filaments, electron and television tubes, abrasives and alloys. It is also important in metal-working, mining and petroleum industries. (Salminen et al., 2005)

Minerals of the element bismuth are quite rare to find in nature, but can be bearing in different host sulphide minerals. Bi is not an essential element and it is not very toxic. The soil of Stockholm had a concentration of 0,166 ppm and the soil in Malmö had a concentration of 0,100 ppm. As W, Bi is also used in a wide range of anthropogenic products. For example used in manufacture of pharmaceuticals, cosmetics, pearl scent pigments, ceramic glazes, permanent magnets and safety device in fire detection and extinguishing systems. It is also used in production of catalysers, aluminum, steel and fusible and in the electronic industry. Anthropogenic sources can also be lead, copper, gold and silver smelting, wastewater and sewage sludge. The most common occurring oxidizing state of bismuth is Bi^{3+} and under most environmental conditions Bi has low mobility due to adsorption of Fe and Mn oxides and organic matter in soil. (Salminen et al., 2005) The content of Mn in the soil of Malmö is though higher than in Stockholm and there are no major difference between the Fe content between the two cities, which otherwise could have been an explanation why the concentration of Bi in Stockholm is higher.

Silver is a rare element that mostly is present in sulphide minerals. Granites are not commonly enriched in Ag, but clay minerals can be more enriched as Ag^+ can substitute K^+ under acidic conditions. This makes it more reliable that the concentration of Ag in the soil of Stockholm (0,091 ppm compared to the concentration in Malmö 0,060 ppm) has a contribution from anthropogenic sources. In natural soils the content is generally low and is largely controlled by pH and Eh conditions. In acidic and highly oxidising conditions it is though more mobile (Salminen et al., 2005), but most often silver is highly immobile in soils. It can precipitate to AgCl , Ag_2SO_4 and AgCO_3 which are all highly insoluble, and except to clay it is also

strongly adsorbed to organic matter (Mc Lean and Bledsoe, 1992). Contribution from anthropogenic sources could be sewage sludge and waste products from the photographic. Jewellery, silverware, dental products, solder and brazing alloys, electrical contacts, high capacity silver-zinc and silver-cadmium batteries are also potential sources from society (Salminen et al., 2005).

Malmö

The elements ytterbium and zirconium was found to be enriched in the soil of Malmö. The elements showed also to have higher concentration in the soil compared to the deeper till samples. These elements are usually not spread by anthropogenic sources, but can be transported with the wind as soil particles and further on be spread with dust from the roads. According to Andersson and Ladenberger (2010) it is of this reason unlikely that they have a contribution from anthropogenic sources and the sampling sites could instead have been disturbed by anthropogenic activities and the elements exposed to the earth surface.

Ytterbium is though widely used in many house hold appliance, in colour television, fluorescent lamps, energy-saving lamps and glasses. It is not an essential element and it is not very toxic. Y is a lithophile metal slightly more enriched in granitic rocks compared to intermediate and basaltic igneous rocks. Shales and greywacke tend to be more enriched of Y than sandstone and carbonate rocks. In the soil of Malmö the concentration was 6,7 ppm compared to the soil in Stockholm which had a concentration of 2,8 ppm. In soil the behavior of Y is not so known but in stream sediments it has a very low mobility under most environmental condition. An explanation is the host minerals such as garnet, apatite, monazite and zircon that all are resistant to weathering. (Salminen et al., 2005)

In Malmö the concentration of zirconium resulted to be 2,705 ppm and in Stockholm 0,350 ppm. Zr is a metal that is lithophile and can substitute Ti in minerals. In trace levels it can also be found in clinopyroxene, amphibole, mica and garnet. Due to its presence in amphibole and mica it is generally more enriched in felsic rocks compared to mafic rocks. In limestone the abundance tends to be low. Anthropogenic sources of Zr are ceramic dust and alloys of catalytic converters, percussion caps, furnace bricks, laboratory crucible and surgical appliances. Zr is not an essential element and little is known about its toxicity. It is though not likely to be an environmental hazard but the use of the isotope ^{95}Zr , a long-lived radionuclide, in atmospheric testing of nuclear weapons can cause cancer. (Salminen et al., 2005)

Cadmium is an element of concern due to its toxicity to plant metabolism, soil biological activity and health of human and animals. Anthropogenic sources of Cd include electroplating, battery and manufacturing of paint, ink and plastic. (Salminen et al., 2005) The content of cadmium is generally higher in shales than in igneous and metamorphic rocks and in sandstone and limestone. The main factor controlling the behavior of Cd in soil is pH due to that Cd^{2+} is the only stable oxidizing state. Cd does not form very stable complexes with organic matter as other metals such as Pb and Cu and is therefore not affected as much of dissolved organic matter in the soil solution. However in soil with pH over 6 Cd may precipitate or may be adsorbed by clay minerals, hydrous oxides of iron and manganese and effectively be removed from the soil solution. Cadmium has also almost the same ionic radii

as calcium and can therefore substitute Ca in carbonate mineral, which could be an explanation why the soil in Malmö is more enriched in Cd. The pH in the soil of Malmö (7,425), is near neutral and the released cadmium from anthropogenic sources to the soil should therefore be less mobile in Malmö than in the soil of Stockholm which has lower pH (4,43). In Stockholm the mobility could be fairly high, also between pH 4,0 to 4,5 a drop in pH of merely 0,2 units results in a 3 to 5 times increase of Cd concentration in soil solution. (Salminen et al., 2005)

In the soil of Malmö the concentration of Ni resulted to be 8,215 ppm compared to 5,7 ppm in Stockholm. Nickel can substitute Mg^{2+} and Fe^{2+} as the ion size of Ni is of similar size. Ultramafic and mafic rocks with high content of Mg and Fe can thus be strongly enriched in Ni. It is more enriched in shales relative to greywacke and compared to quartzitic sandstone and limestone. This explains why the enrichment of Ni in the soil of Malmö could have a contribution from anthropogenic sources. Ni may be removed from the soil solution by adsorption to clays, hydrous oxides of Fe and Mn and organic matter. However Ni forms also complexes with inorganic and organic ligands, which increase its mobility. Also in acidic conditions it is highly mobile, which likely is the case in the soil of Stockholm. On the countryside of Malmö agriculture is common and also the use of fertilisers, a potential sources of Ni. Coinage and fuel combustion are other anthropogenic sources. For microorganism Ni is an essential element, but some compounds of Ni can be highly toxic and cause dermatitis and gastric irritation and carcinogenic illness. (Salminen et al., 2005)

Phosphorous has many functions in organism and is a major element for all organisms. Due to this the mineral apatite is highly mined for its content of phosphorous and used in fertilisers. The county Skåne is one of the most important agriculture regions in Sweden (the County Administrative Board of Skåne, 2012) and the use of fertilisers in the countryside of Malmö could therefore likely contribute to the higher concentration of phosphorous in the soil of the city (543,5 ppm) compared to Stockholm (289,35 ppm). Other anthropogenic sources are wastewater and detergents (Salminen et al., 2005). Phosphorus can have lithophile, siderophile and biophile characteristics depending on the environment. Orthophosphate PO_4^{3-} is almost exclusively the form occurring in nature, which mostly is found in the mineral apatite. In minerals such as olivine, pyroxene, amphibole and mica trace levels of orthophosphate can be found. Ultra mafic, basaltic and granitic rocks can vary in content while in metamorphic rocks the content is generally low. In shales, sandstone and carbonate rocks the content is in contrast generally high. Apatite is soluble in acidic environments. The formation of mineral of Fe-Al phosphate limits the mobility of P in soil and in stream sediments due to its insolubility, except in very acid conditions ($pH < 3,0$). (Salminen et al., 2005)

5. Conclusions

The soil in Stockholm is compared to Malmö enriched in the elements Ag, Al, Bi, Mo, Pb, Th, Ti and W. Of these elements Pb, Mo, W, Bi, Th and Ag have probably a contribution from anthropogenic sources.

The soil in Malmö, compared to Stockholm resulted to be enriched in the elements Ni, As, Zr, U Cd, Y, Sr, Mn, K, Ca, Ba and P. Of these elements Ni, Zr, Cd, Y and P have likely a contribution from anthropogenic sources.

Data of the organic matter content and also redox potential of the soil solution would be needed in order to give a complete explanation why the soil in the cities resulted to be enriched in the elements just mentioned. A comparison to concentrations in nearby streams could also be of interest to qualify the discussed predictions of the elements mobilisation in this study.

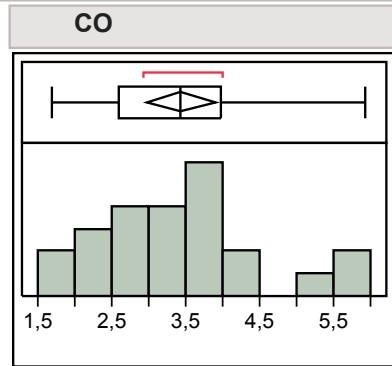
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Distributions OBJEKT=SOIL, CITY=MALMÖ

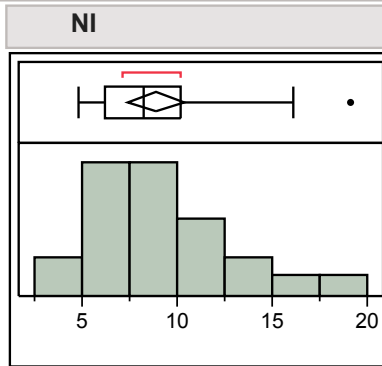


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0.0%	minimum	1,68

Summary Statistics

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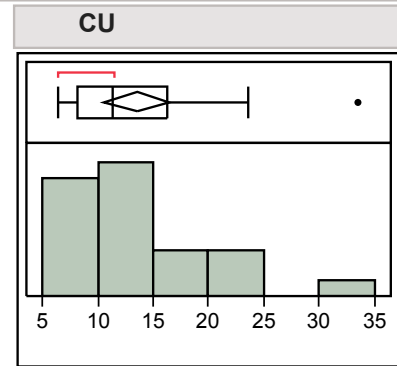


Quantiles

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50.0%	median	8,215
25.0%	quartile	6,16
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2.5%		4,75
0.5%		4,75
0.0%	minimum	4,75

Summary Statistics

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Upper 95% Mean	10,378058
Lower 95% Mean	7,3486089
N	24



Quantiles

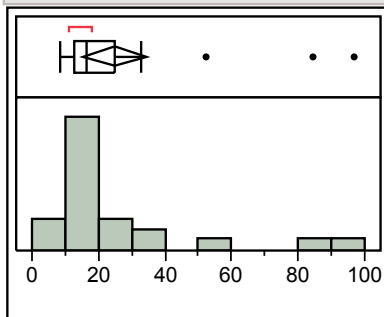
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75.0%	quartile	16,33
50.0%	median	11,375
25.0%	quartile	8,1
10.0%		6,875
2.5%		6,43
0.5%		6,43
0.0%	minimum	6,43

Summary Statistics

Mean	13,49375
Std Dev	6,8493851
Std Err Mean	1,3981249
Upper 95% Mean	16,385992
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N	24

Distributions OBJEKT=SOIL, CITY=MALMÖ

PB



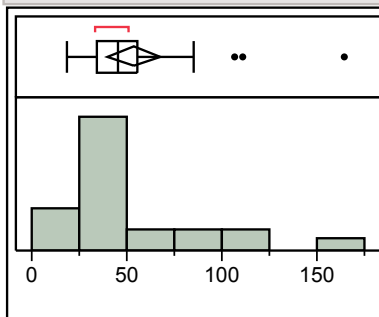
Quantiles

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25.0%	quartile	12,6225
10.0%		9,485
2.5%		8,24
0.5%		8,24
0.0%	minimum	8,24

Summary Statistics

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Std Err Mean	4,6116088
Upper 95% Mean	34,097756
Lower 95% Mean	15,018077
N	24

ZN



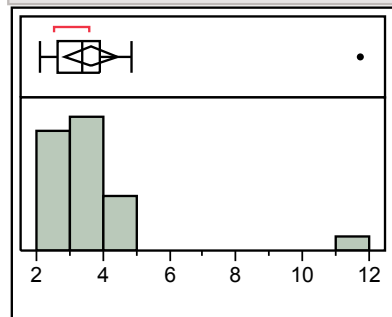
Quantiles

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75.0%	quartile	55,7275
50.0%	median	44,975
25.0%	quartile	34,3175
10.0%		22,315
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0.5%		18,21
0.0%	minimum	18,21

Summary Statistics

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Std Err Mean	6,9402184
Upper 95% Mean	67,949852
Lower 95% Mean	39,235981
N	24

AS_



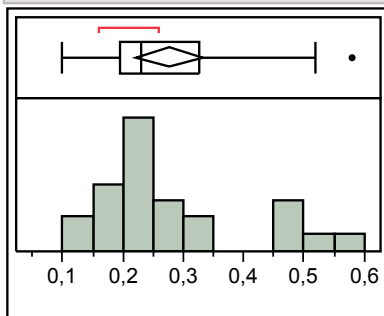
Quantiles

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25.0%	quartile	2,635
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2.5%		2,07
0.5%		2,07
0.0%	minimum	2,07

Summary Statistics

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Std Err Mean	0,3815594
Upper 95% Mean	4,4359824
Lower 95% Mean	2,857351
N	24

MO



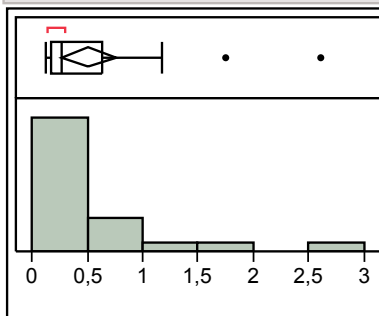
Quantiles

100.0%	maximum	0,58
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97.5%		0,58
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75.0%	quartile	0,325
50.0%	median	0,23
25.0%	quartile	0,195
10.0%		0,14
2.5%		0,1
0.5%		0,1
0.0%	minimum	0,1

Summary Statistics

Mean	0,2758333
Std Dev	0,1303479
Std Err Mean	0,0266072
Upper 95% Mean	0,3308744
Lower 95% Mean	0,2207922
N	24

SN



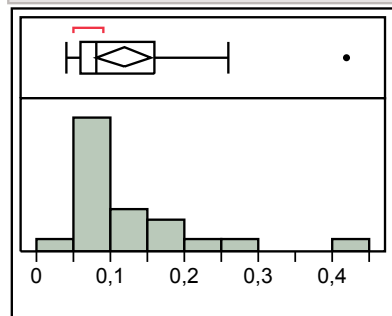
Quantiles

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75.0%	quartile	0,635
50.0%	median	0,27
25.0%	quartile	0,1625
10.0%		0,145
2.5%		0,12
0.5%		0,12
0.0%	minimum	0,12

Summary Statistics

Mean	0,5066667
Std Dev	0,5885846
Std Err Mean	0,1201443
Upper 95% Mean	0,7552042
Lower 95% Mean	0,2581292
N	24

W



Quantiles

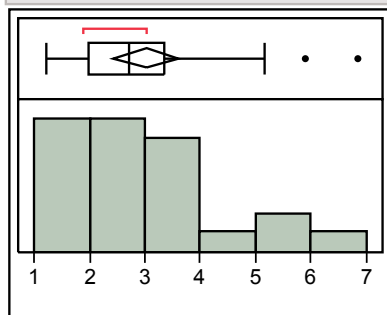
100.0%	maximum	0,42
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97.5%		0,42
90.0%		0,24
75.0%	quartile	0,16
50.0%	median	0,08
25.0%	quartile	0,06
10.0%		0,055
2.5%		0,04
0.5%		0,04
0.0%	minimum	0,04

Summary Statistics

Mean	0,1175
Std Dev	0,0860359
Std Err Mean	0,017562
Upper 95% Mean	0,1538298
Lower 95% Mean	0,0811702
N	24

Distributions OBJEKT=SOIL, CITY=MALMÖ

ZR



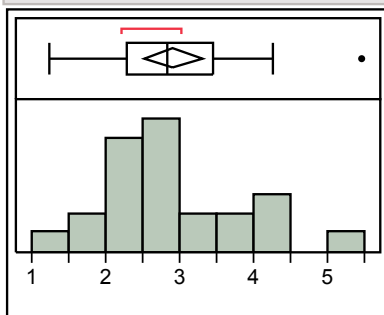
Quantiles

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75.0%	quartile	3,3475
50.0%	median	2,705
25.0%	quartile	1,975
10.0%		1,59
2.5%		1,21
0.5%		1,21
0.0%	minimum	1,21

Summary Statistics

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Std Dev	1,4104545
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Upper 95% Mean	3,6147494
Lower 95% Mean	2,423584
N	24

TH



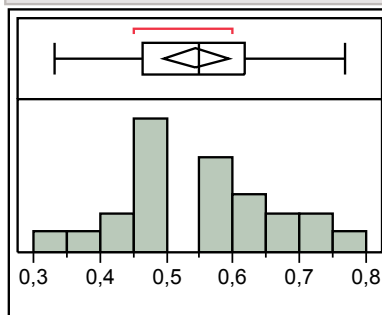
Quantiles

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50.0%	median	2,84
25.0%	quartile	2,2725
10.0%		1,795
2.5%		1,22
0.5%		1,22
0.0%	minimum	1,22

Summary Statistics

Mean	2,9129167
Std Dev	0,9350726
Std Err Mean	0,1908709
Upper 95% Mean	3,3077632
Lower 95% Mean	2,5180702
N	24

U



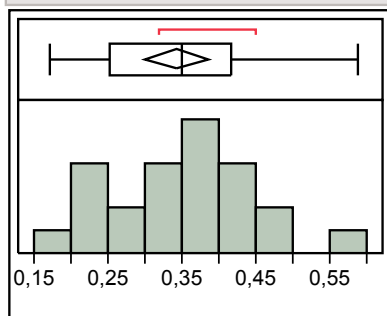
Quantiles

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75.0%	quartile	0,6175
50.0%	median	0,55
25.0%	quartile	0,4625
10.0%		0,38
2.5%		0,33
0.5%		0,33
0.0%	minimum	0,33

Summary Statistics

Mean	0,5441667
Std Dev	0,1168394
Std Err Mean	0,0238497
Upper 95% Mean	0,5935036
Lower 95% Mean	0,4948297
N	24

BE



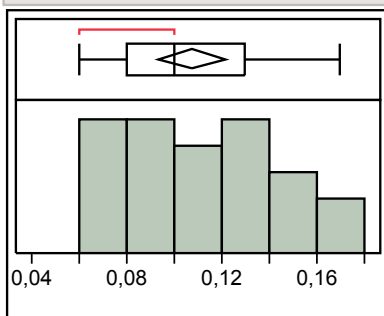
Quantiles

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25.0%	quartile	0,2525
10.0%		0,21
2.5%		0,17
0.5%		0,17
0.0%	minimum	0,17

Summary Statistics

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Std Err Mean	0,020551
Upper 95% Mean	0,3858463
Lower 95% Mean	0,3008204
N	24

BI



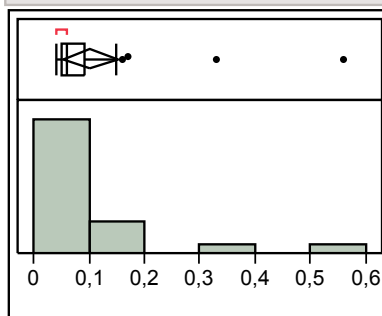
Quantiles

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97.5%		0,17
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75.0%	quartile	0,13
50.0%	median	0,1
25.0%	quartile	0,08
10.0%		0,065
2.5%		0,06
0.5%		0,06
0.0%	minimum	0,06

Summary Statistics

Mean	0,1075
Std Dev	0,0333949
Std Err Mean	0,0068167
Upper 95% Mean	0,1216014
Lower 95% Mean	0,0933986
N	24

AG



Quantiles

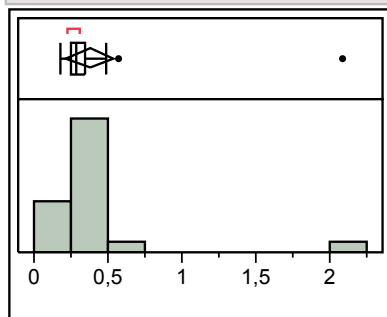
100.0%	maximum	0,56
99.5%		0,56
97.5%		0,56
90.0%		0,25
75.0%	quartile	0,0925
50.0%	median	0,06
25.0%	quartile	0,05
10.0%		0,04
2.5%		0,04
0.5%		0,04
0.0%	minimum	0,04

Summary Statistics

Mean	0,1016667
Std Dev	0,1170903
Std Err Mean	0,023901
Upper 95% Mean	0,1511096
Lower 95% Mean	0,0522238
N	24

Distributions OBJEKT=SOIL, CITY=MALMÖ

CD



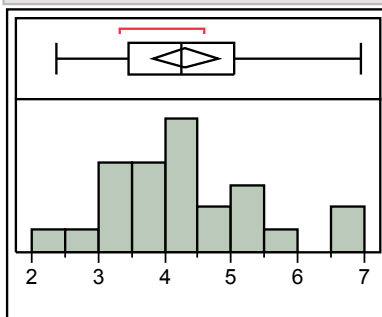
Quantiles

100.0%	maximum	2,09
99.5%		2,09
97.5%		2,09
90.0%		0,53
75.0%	quartile	0,3475
50.0%	median	0,28
25.0%	quartile	0,2425
10.0%		0,195
2.5%		0,18
0.5%		0,18
0.0%	minimum	0,18

Summary Statistics

Mean	0,3733333
Std Dev	0,3768481
Std Err Mean	0,0769238
Upper 95% Mean	0,5324623
Lower 95% Mean	0,2142043
N	24

LI



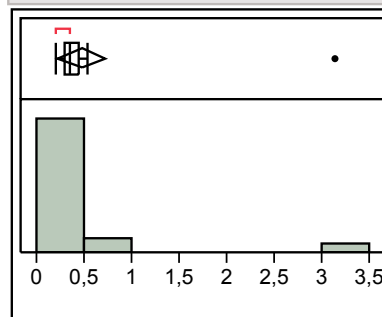
Quantiles

100.0%	maximum	6,96
99.5%		6,96
97.5%		6,96
90.0%		6,31
75.0%	quartile	5,0425
50.0%	median	4,235
25.0%	quartile	3,455
10.0%		2,91
2.5%		2,37
0.5%		2,37
0.0%	minimum	2,37

Summary Statistics

Mean	4,3133333
Std Dev	1,15995
Std Err Mean	0,2367738
Upper 95% Mean	4,8031373
Lower 95% Mean	3,8235294
N	24

SE



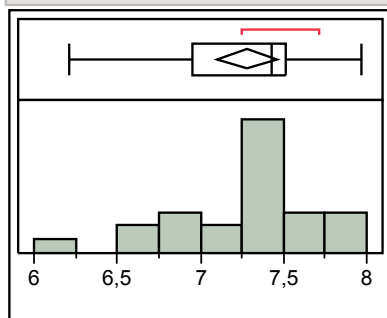
Quantiles

100.0%	maximum	3,145
99.5%		3,145
97.5%		3,145
90.0%		0,5245
75.0%	quartile	0,4465
50.0%	median	0,34
25.0%	quartile	0,2925
10.0%		0,229
2.5%		0,207
0.5%		0,207
0.0%	minimum	0,207

Summary Statistics

Mean	0,46975
Std Dev	0,5770552
Std Err Mean	0,1177909
Upper 95% Mean	0,713419
Lower 95% Mean	0,226081
N	24

PH



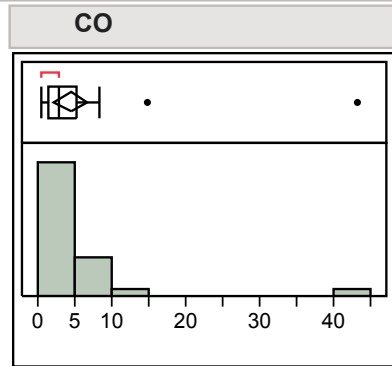
Quantiles

100.0%	maximum	7,97
99.5%		7,97
97.5%		7,97
90.0%		7,8
75.0%	quartile	7,52
50.0%	median	7,425
25.0%	quartile	6,955
10.0%		6,705
2.5%		6,21
0.5%		6,21
0.0%	minimum	6,21

Summary Statistics

Mean	7,28125
Std Dev	0,4204792
Std Err Mean	0,0858299
Upper 95% Mean	7,4588028
Lower 95% Mean	7,1036972
N	24

Distributions OBJEKT=SOIL, CITY=STOCKHOLM

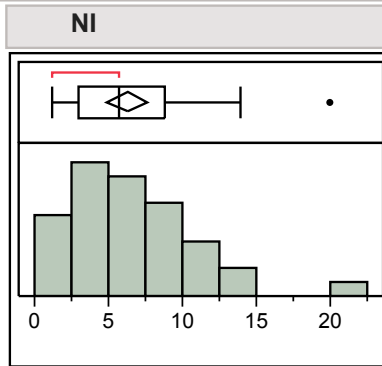


Quantiles

100.0%	maximum	43,3
99.5%		43,3
97.5%		43,3
90.0%		6,8
75.0%	quartile	5,1
50.0%	median	2,7
25.0%	quartile	1,4
10.0%		0,6
2.5%		0,5
0.5%		0,5
0.0%	minimum	0,5

Summary Statistics

Mean	4,4076923
Std Dev	6,9471079
Std Err Mean	1,1124276
Upper 95% Mean	6,6596842
Lower 95% Mean	2,1557005
N	39

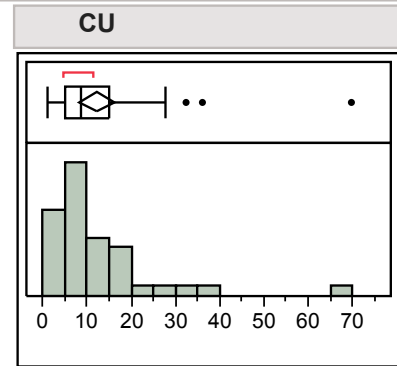


Quantiles

100.0%	maximum	20
99.5%		20
97.5%		20
90.0%		12,2
75.0%	quartile	8,8
50.0%	median	5,7
25.0%	quartile	2,9
10.0%		1,6
2.5%		1,1
0.5%		1,1
0.0%	minimum	1,1

Summary Statistics

Mean	6,2666667
Std Dev	4,1673754
Std Err Mean	0,6673141
Upper 95% Mean	7,6175735
Lower 95% Mean	4,9157598
N	39



Quantiles

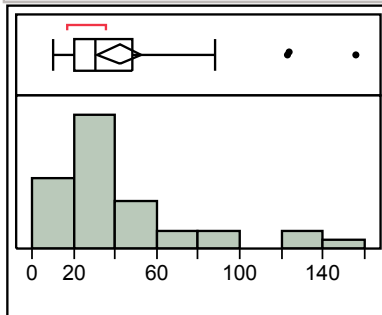
100.0%	maximum	69,8
99.5%		69,8
97.5%		69,8
90.0%		27,9
75.0%	quartile	15,1
50.0%	median	8,6
25.0%	quartile	5,1
10.0%		2,3
2.5%		1,1
0.5%		1,1
0.0%	minimum	1,1

Summary Statistics

Mean	12,05641
Std Dev	12,375545
Std Err Mean	1,9816731
Upper 95% Mean	16,068098
Lower 95% Mean	8,0447228
N	39

Distributions OBJEKT=SOIL, CITY=STOCKHOLM

PB



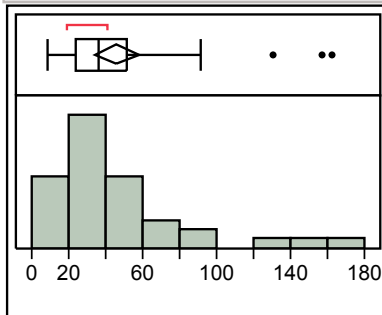
Quantiles

100.0%	maximum	156
99.5%		156
97.5%		156
90.0%		87,8
75.0%	quartile	48
50.0%	median	30,6
25.0%	quartile	20,2
10.0%		16,8
2.5%		9,9
0.5%		9,9
0.0%	minimum	9,9

Summary Statistics

Mean	41,802564
Std Dev	32,949639
Std Err Mean	5,2761648
Upper 95% Mean	52,483601
Lower 95% Mean	31,121527
N	39

ZN



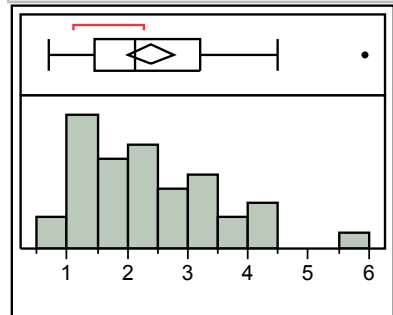
Quantiles

100.0%	maximum	162,7
99.5%		162,7
97.5%		162,7
90.0%		91,5
75.0%	quartile	51,7
50.0%	median	36
25.0%	quartile	23,7
10.0%		13
2.5%		8,2
0.5%		8,2
0.0%	minimum	8,2

Summary Statistics

Mean	45,994872
Std Dev	36,616555
Std Err Mean	5,8633413
Upper 95% Mean	57,864586
Lower 95% Mean	34,125158
N	39

AS_



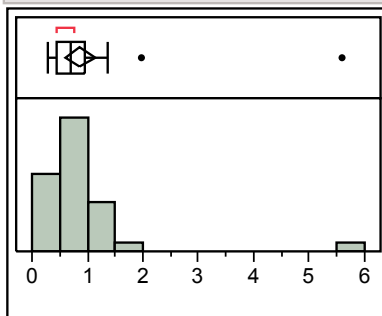
Quantiles

100.0%	maximum	5,94
99.5%		5,94
97.5%		5,94
90.0%		4,23
75.0%	quartile	3,2
50.0%	median	2,12
25.0%	quartile	1,45
10.0%		1,19
2.5%		0,69
0.5%		0,69
0.0%	minimum	0,69

Summary Statistics

Mean	2,3925641
Std Dev	1,1727065
Std Err Mean	0,1877833
Upper 95% Mean	2,7727116
Lower 95% Mean	2,0124166
N	39

MO



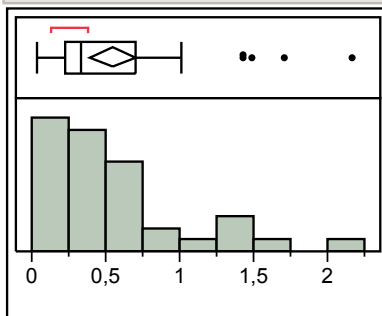
Quantiles

100.0%	maximum	5,6
99.5%		5,6
97.5%		5,6
90.0%		1,32
75.0%	quartile	0,93
50.0%	median	0,69
25.0%	quartile	0,45
10.0%		0,34
2.5%		0,27
0.5%		0,27
0.0%	minimum	0,27

Summary Statistics

Mean	0,8582051
Std Dev	0,8525777
Std Err Mean	0,1365217
Upper 95% Mean	1,1345789
Lower 95% Mean	0,5818314
N	39

SN



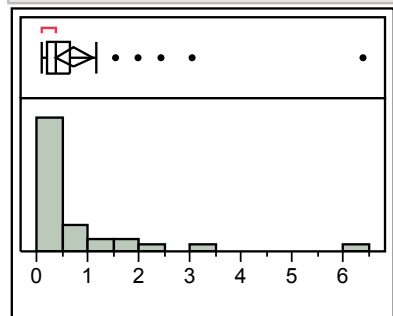
Quantiles

100.0%	maximum	2,17
99.5%		2,17
97.5%		2,17
90.0%		1,43
75.0%	quartile	0,7
50.0%	median	0,33
25.0%	quartile	0,22
10.0%		0,16
2.5%		0,03
0.5%		0,03
0.0%	minimum	0,03

Summary Statistics

Mean	0,5458974
Std Dev	0,4932637
Std Err Mean	0,0789854
Upper 95% Mean	0,705795
Lower 95% Mean	0,3859999
N	39

W



Quantiles

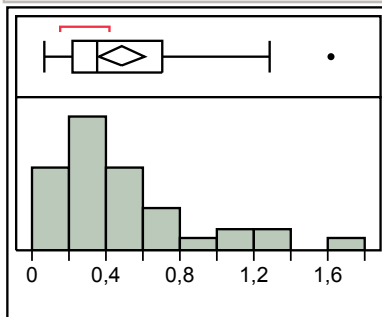
100.0%	maximum	6,39
99.5%		6,39
97.5%		6,39
90.0%		1,98
75.0%	quartile	0,64
50.0%	median	0,36
25.0%	quartile	0,19
10.0%		0,1
2.5%		0,08
0.5%		0,08
0.0%	minimum	0,08

Summary Statistics

Mean	0,7279487
Std Dev	1,1365302
Std Err Mean	0,1819905
Upper 95% Mean	1,0963692
Lower 95% Mean	0,3595282
N	39

Distributions OBJEKT=SOIL, CITY=STOCKHOLM

ZR



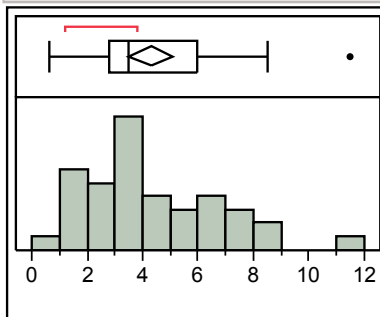
Quantiles

100.0%	maximum	1,62
99.5%		1,62
97.5%		1,62
90.0%		1,17
75.0%	quartile	0,7
50.0%	median	0,35
25.0%	quartile	0,22
10.0%		0,15
2.5%		0,06
0.5%		0,06
0.0%	minimum	0,06

Summary Statistics

Mean	0,4823077
Std Dev	0,3772299
Std Err Mean	0,0604051
Upper 95% Mean	0,6045915
Lower 95% Mean	0,3600239
N	39

TH



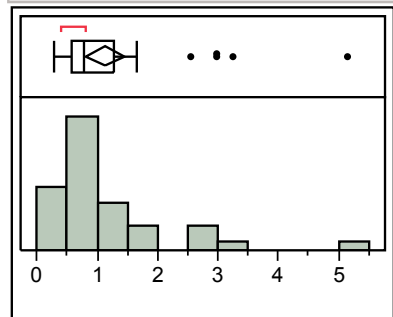
Quantiles

100.0%	maximum	11,5
99.5%		11,5
97.5%		11,5
90.0%		7,6
75.0%	quartile	6
50.0%	median	3,5
25.0%	quartile	2,8
10.0%		1,4
2.5%		0,6
0.5%		0,6
0.0%	minimum	0,6

Summary Statistics

Mean	4,2846154
Std Dev	2,4276411
Std Err Mean	0,3887337
Upper 95% Mean	5,0715656
Lower 95% Mean	3,4976652
N	39

U



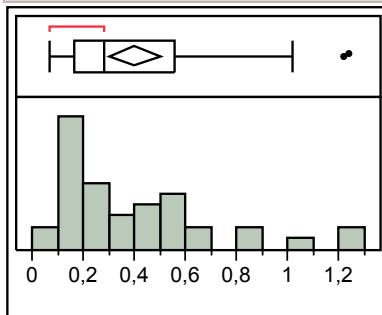
Quantiles

100.0%	maximum	5,15
99.5%		5,15
97.5%		5,15
90.0%		2,98
75.0%	quartile	1,29
50.0%	median	0,77
25.0%	quartile	0,58
10.0%		0,39
2.5%		0,29
0.5%		0,29
0.0%	minimum	0,29

Summary Statistics

Mean	1,1379487
Std Dev	0,9979167
Std Err Mean	0,1597946
Upper 95% Mean	1,4614359
Lower 95% Mean	0,8144615
N	39

BE



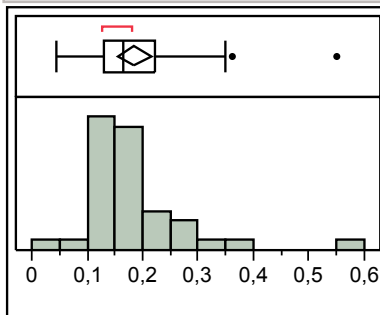
Quantiles

100.0%	maximum	1,24
99.5%		1,24
97.5%		1,24
90.0%		0,88
75.0%	quartile	0,56
50.0%	median	0,28
25.0%	quartile	0,16
10.0%		0,13
2.5%		0,07
0.5%		0,07
0.0%	minimum	0,07

Summary Statistics

Mean	0,4010256
Std Dev	0,3037207
Std Err Mean	0,0486342
Upper 95% Mean	0,4994805
Lower 95% Mean	0,3025708
N	39

BI



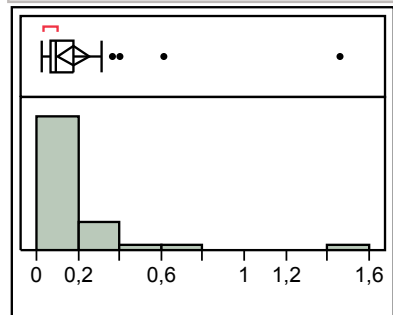
Quantiles

100.0%	maximum	0,551
99.5%		0,551
97.5%		0,551
90.0%		0,282
75.0%	quartile	0,221
50.0%	median	0,166
25.0%	quartile	0,129
10.0%		0,109
2.5%		0,045
0.5%		0,045
0.0%	minimum	0,045

Summary Statistics

Mean	0,1852308
Std Dev	0,0892048
Std Err Mean	0,0142842
Upper 95% Mean	0,2141476
Lower 95% Mean	0,1563139
N	39

AG



Quantiles

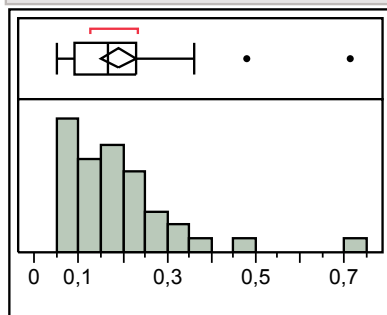
100.0%	maximum	1,462
99.5%		1,462
97.5%		1,462
90.0%		0,364
75.0%	quartile	0,178
50.0%	median	0,091
25.0%	quartile	0,067
10.0%		0,034
2.5%		0,023
0.5%		0,023
0.0%	minimum	0,023

Summary Statistics

Mean	0,1743846
Std Dev	0,2438467
Std Err Mean	0,0390467
Upper 95% Mean	0,2534306
Lower 95% Mean	0,0953387
N	39

Distributions OBJEKT=SOIL, CITY=STOCKHOLM

CD



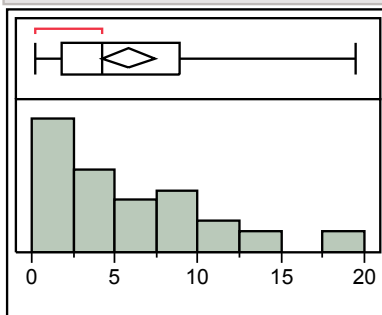
Quantiles

100.0%	maximum	0,714
99.5%		0,714
97.5%		0,714
90.0%		0,32
75.0%	quartile	0,228
50.0%	median	0,164
25.0%	quartile	0,092
10.0%		0,068
2.5%		0,051
0.5%		0,051
0.0%	minimum	0,051

Summary Statistics

Mean	0,1898718
Std Dev	0,126266
Std Err Mean	0,0202187
Upper 95% Mean	0,2308025
Lower 95% Mean	0,1489411
N	39

LI



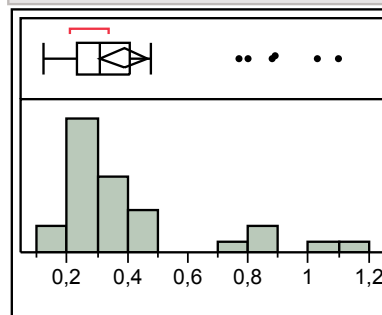
Quantiles

100.0%	maximum	19,5
99.5%		19,5
97.5%		19,5
90.0%		13,1
75.0%	quartile	8,9
50.0%	median	4,2
25.0%	quartile	1,8
10.0%		0,6
2.5%		0,2
0.5%		0,2
0.0%	minimum	0,2

Summary Statistics

Mean	5,7897436
Std Dev	4,9144682
Std Err Mean	0,7869447
Upper 95% Mean	7,3828299
Lower 95% Mean	4,1966573
N	39

SE



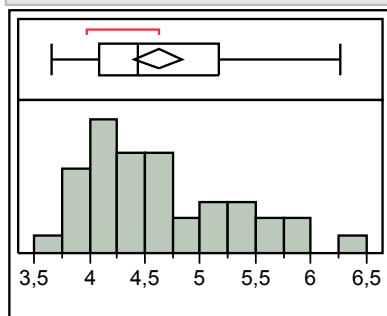
Quantiles

100.0%	maximum	1,1
99.5%		1,1
97.5%		1,1
90.0%		0,88
75.0%	quartile	0,41
50.0%	median	0,31
25.0%	quartile	0,23
10.0%		0,21
2.5%		0,12
0.5%		0,12
0.0%	minimum	0,12

Summary Statistics

Mean	0,3887179
Std Dev	0,2441546
Std Err Mean	0,039096
Upper 95% Mean	0,4678637
Lower 95% Mean	0,3095722
N	39

PH



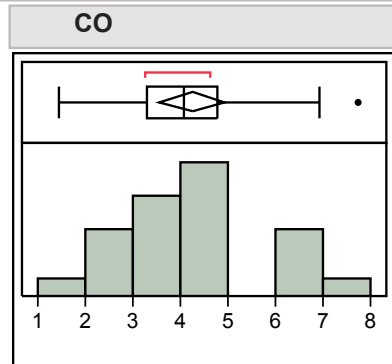
Quantiles

100.0%	maximum	6,26
99.5%		6,26
97.5%		6,26
90.0%		5,67
75.0%	quartile	5,16
50.0%	median	4,43
25.0%	quartile	4,09
10.0%		3,88
2.5%		3,65
0.5%		3,65
0.0%	minimum	3,65

Summary Statistics

Mean	4,6251282
Std Dev	0,6641491
Std Err Mean	0,106349
Upper 95% Mean	4,8404204
Lower 95% Mean	4,409836
N	39

Distributions OBJEKT=TILL <2 mm, CITY=MALMÖ

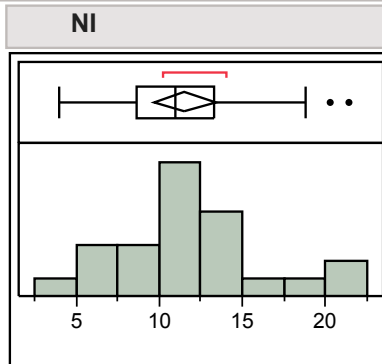


Quantiles

100.0%	maximum	7,75
99.5%		7,75
97.5%		7,75
90.0%		6,905
75.0%	quartile	4,7875
50.0%	median	4,065
25.0%	quartile	3,3025
10.0%		2,235
2.5%		1,44
0.5%		1,44
0.0%	minimum	1,44

Summary Statistics

Mean	4,2470833
Std Dev	1,6125149
Std Err Mean	0,3291532
Upper 95% Mean	4,9279886
Lower 95% Mean	3,566178
N	24

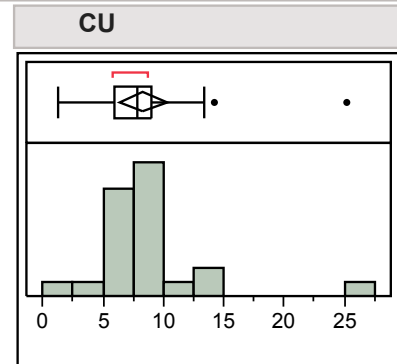


Quantiles

100.0%	maximum	21,43
99.5%		21,43
97.5%		21,43
90.0%		19,555
75.0%	quartile	13,2725
50.0%	median	11
25.0%	quartile	8,64
10.0%		5,335
2.5%		3,97
0.5%		3,97
0.0%	minimum	3,97

Summary Statistics

Mean	11,539167
Std Dev	4,4028468
Std Err Mean	0,8987273
Upper 95% Mean	13,398326
Lower 95% Mean	9,6800075
N	24



Quantiles

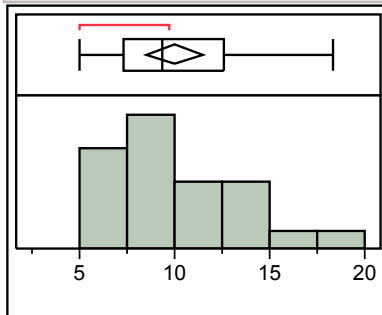
100.0%	maximum	25,21
99.5%		25,21
97.5%		25,21
90.0%		13,82
75.0%	quartile	9,065
50.0%	median	7,87
25.0%	quartile	5,88
10.0%		4,285
2.5%		1,27
0.5%		1,27
0.0%	minimum	1,27

Summary Statistics

Mean	8,3441667
Std Dev	4,5992172
Std Err Mean	0,9388113
Upper 95% Mean	10,286246
Lower 95% Mean	6,4020875
N	24

Distributions OBJEKT=TILL <2 mm, CITY=MALMÖ

PB



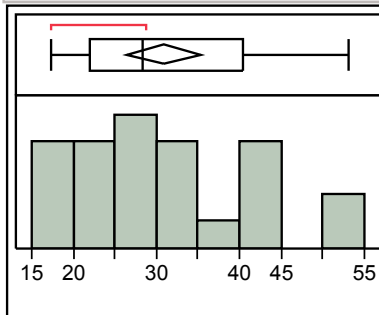
Quantiles

100.0%	maximum	18,38
99.5%		18,38
97.5%		18,38
90.0%		15,08
75.0%	quartile	12,5525
50.0%	median	9,33
25.0%	quartile	7,2775
10.0%		5,245
2.5%		5,02
0.5%		5,02
0.0%	minimum	5,02

Summary Statistics

Mean	9,97
Std Dev	3,4929631
Std Err Mean	0,7129981
Upper 95% Mean	11,444949
Lower 95% Mean	8,495051
N	24

ZN



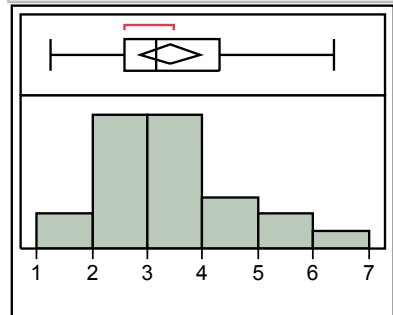
Quantiles

100.0%	maximum	53,06
99.5%		53,06
97.5%		53,06
90.0%		47,57
75.0%	quartile	40,5025
50.0%	median	28,34
25.0%	quartile	21,93
10.0%		17,755
2.5%		17,27
0.5%		17,27
0.0%	minimum	17,27

Summary Statistics

Mean	30,8675
Std Dev	10,567459
Std Err Mean	2,1570736
Upper 95% Mean	35,329747
Lower 95% Mean	26,405253
N	24

AS_



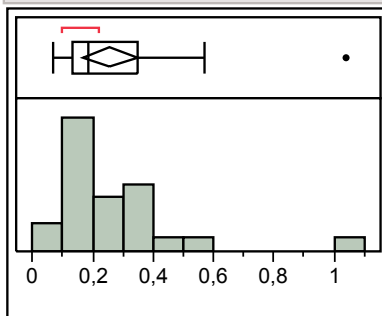
Quantiles

100.0%	maximum	6,38
99.5%		6,38
97.5%		6,38
90.0%		5,68
75.0%	quartile	4,305
50.0%	median	3,14
25.0%	quartile	2,5925
10.0%		1,77
2.5%		1,26
0.5%		1,26
0.0%	minimum	1,26

Summary Statistics

Mean	3,40875
Std Dev	1,3006664
Std Err Mean	0,2654974
Upper 95% Mean	3,9579733
Lower 95% Mean	2,8595267
N	24

MO



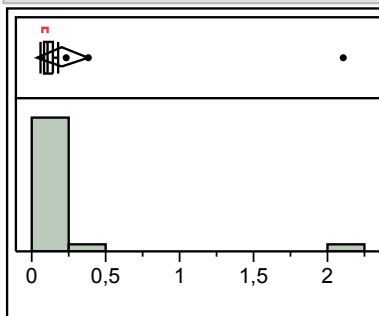
Quantiles

100.0%	maximum	1,04
99.5%		1,04
97.5%		1,04
90.0%		0,515
75.0%	quartile	0,35
50.0%	median	0,185
25.0%	quartile	0,13
10.0%		0,085
2.5%		0,07
0.5%		0,07
0.0%	minimum	0,07

Summary Statistics

Mean	0,2579167
Std Dev	0,2113719
Std Err Mean	0,0431461
Upper 95% Mean	0,3471712
Lower 95% Mean	0,1686621
N	24

SN



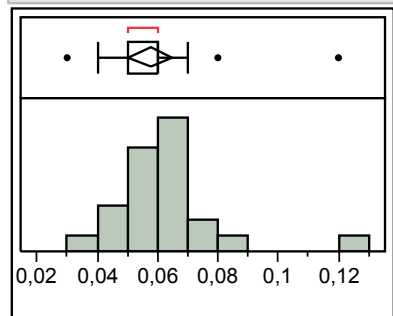
Quantiles

100.0%	maximum	2,11
99.5%		2,11
97.5%		2,11
90.0%		0,305
75.0%	quartile	0,14
50.0%	median	0,1
25.0%	quartile	0,0825
10.0%		0,07
2.5%		0,06
0.5%		0,06
0.0%	minimum	0,06

Summary Statistics

Mean	0,20375
Std Dev	0,4114852
Std Err Mean	0,0839941
Upper 95% Mean	0,377505
Lower 95% Mean	0,029995
N	24

W



Quantiles

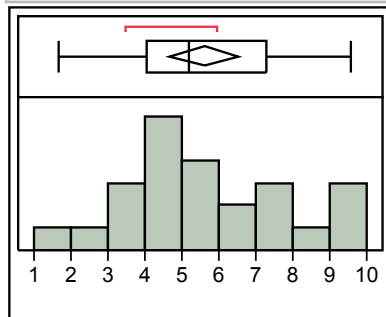
100.0%	maximum	0,12
99.5%		0,12
97.5%		0,12
90.0%		0,075
75.0%	quartile	0,06
50.0%	median	0,06
25.0%	quartile	0,05
10.0%		0,04
2.5%		0,03
0.5%		0,03
0.0%	minimum	0,03

Summary Statistics

Mean	0,0575
Std Dev	0,0172576
Std Err Mean	0,0035227
Upper 95% Mean	0,0647873
Lower 95% Mean	0,0502127
N	24

Distributions OBJEKT=TILL <2 mm, CITY=MALMÖ

ZR



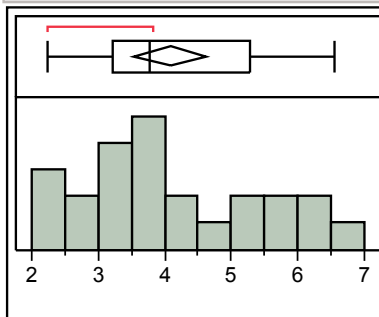
Quantiles

100.0%	maximum	9,58
99.5%		9,58
97.5%		9,58
90.0%		9,37
75.0%	quartile	7,2925
50.0%	median	5,195
25.0%	quartile	4,0275
10.0%		2,76
2.5%		1,67
0.5%		1,67
0.0%	minimum	1,67

Summary Statistics

Mean	5,6070833
Std Dev	2,2346568
Std Err Mean	0,4561474
Upper 95% Mean	6,5506962
Lower 95% Mean	4,6634705
N	24

TH



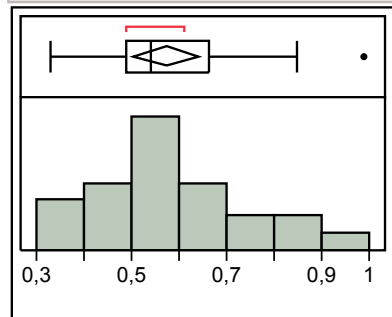
Quantiles

100.0%	maximum	6,56
99.5%		6,56
97.5%		6,56
90.0%		6,14
75.0%	quartile	5,2725
50.0%	median	3,77
25.0%	quartile	3,2175
10.0%		2,42
2.5%		2,24
0.5%		2,24
0.0%	minimum	2,24

Summary Statistics

Mean	4,08375
Std Dev	1,2994073
Std Err Mean	0,2652404
Upper 95% Mean	4,6324416
Lower 95% Mean	3,5350584
N	24

U



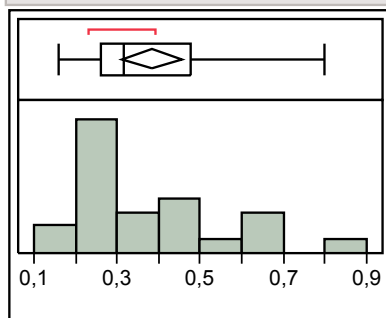
Quantiles

100.0%	maximum	0,99
99.5%		0,99
97.5%		0,99
90.0%		0,84
75.0%	quartile	0,6625
50.0%	median	0,54
25.0%	quartile	0,49
10.0%		0,34
2.5%		0,33
0.5%		0,33
0.0%	minimum	0,33

Summary Statistics

Mean	0,5725
Std Dev	0,160901
Std Err Mean	0,0328438
Upper 95% Mean	0,6404425
Lower 95% Mean	0,5045575
N	24

BE



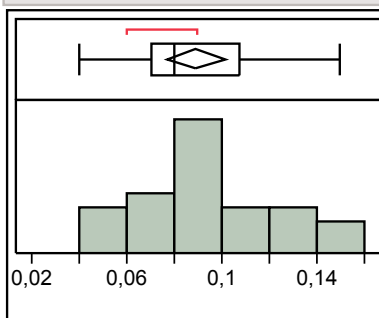
Quantiles

100.0%	maximum	0,8
99.5%		0,8
97.5%		0,8
90.0%		0,67
75.0%	quartile	0,4775
50.0%	median	0,315
25.0%	quartile	0,26
10.0%		0,205
2.5%		0,16
0.5%		0,16
0.0%	minimum	0,16

Summary Statistics

Mean	0,3833333
Std Dev	0,1718105
Std Err Mean	0,0350707
Upper 95% Mean	0,4558825
Lower 95% Mean	0,3107841
N	24

BI



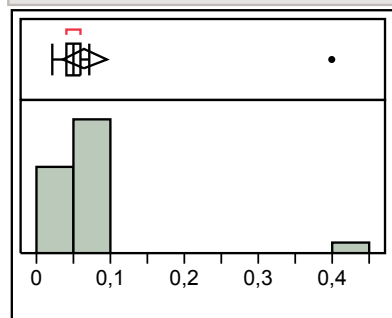
Quantiles

100.0%	maximum	0,15
99.5%		0,15
97.5%		0,15
90.0%		0,135
75.0%	quartile	0,1075
50.0%	median	0,08
25.0%	quartile	0,07
10.0%		0,05
2.5%		0,04
0.5%		0,04
0.0%	minimum	0,04

Summary Statistics

Mean	0,0891667
Std Dev	0,0288801
Std Err Mean	0,0058951
Upper 95% Mean	0,1013616
Lower 95% Mean	0,0769717
N	24

AG



Quantiles

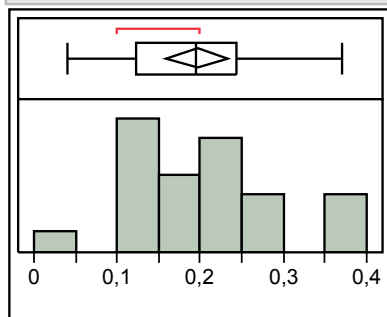
100.0%	maximum	0,4
99.5%		0,4
97.5%		0,4
90.0%		0,07
75.0%	quartile	0,06
50.0%	median	0,05
25.0%	quartile	0,04
10.0%		0,035
2.5%		0,02
0.5%		0,02
0.0%	minimum	0,02

Summary Statistics

Mean	0,0645833
Std Dev	0,0725905
Std Err Mean	0,0148175
Upper 95% Mean	0,0952356
Lower 95% Mean	0,033931
N	24

Distributions OBJEKT=TILL <2 mm, CITY=MALMÖ

CD



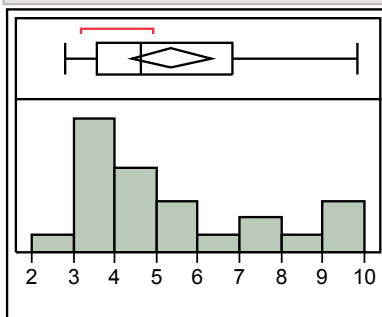
Quantiles

100.0%	maximum	0,37
99.5%		0,37
97.5%		0,37
90.0%		0,355
75.0%	quartile	0,2425
50.0%	median	0,195
25.0%	quartile	0,1225
10.0%		0,1
2.5%		0,04
0.5%		0,04
0.0%	minimum	0,04

Summary Statistics

Mean	0,19625
Std Dev	0,0867687
Std Err Mean	0,0177116
Upper 95% Mean	0,2328892
Lower 95% Mean	0,1596108
N	24

LI



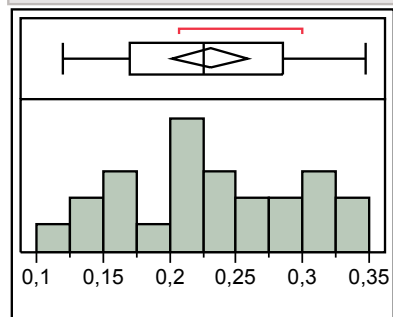
Quantiles

100.0%	maximum	9,85
99.5%		9,85
97.5%		9,85
90.0%		9,675
75.0%	quartile	6,825
50.0%	median	4,625
25.0%	quartile	3,5725
10.0%		3,225
2.5%		2,78
0.5%		2,78
0.0%	minimum	2,78

Summary Statistics

Mean	5,3554167
Std Dev	2,2430704
Std Err Mean	0,4578648
Upper 95% Mean	6,3025822
Lower 95% Mean	4,4082511
N	24

SE



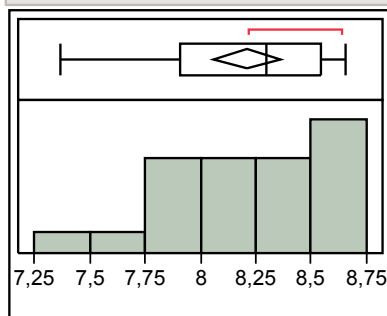
Quantiles

100.0%	maximum	0,348
99.5%		0,348
97.5%		0,348
90.0%		0,329
75.0%	quartile	0,28575
50.0%	median	0,226
25.0%	quartile	0,1695
10.0%		0,132
2.5%		0,12
0.5%		0,12
0.0%	minimum	0,12

Summary Statistics

Mean	0,2305417
Std Dev	0,0673324
Std Err Mean	0,0137442
Upper 95% Mean	0,2589736
Lower 95% Mean	0,2021097
N	24

PH



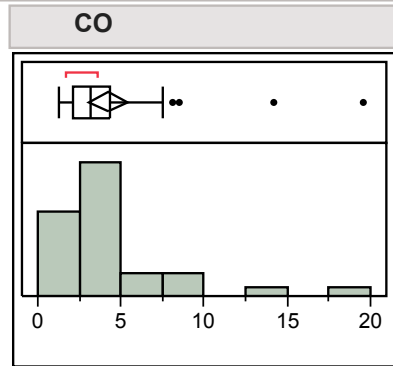
Quantiles

100.0%	maximum	8,66
99.5%		8,66
97.5%		8,66
90.0%		8,62
75.0%	quartile	8,545
50.0%	median	8,295
25.0%	quartile	7,91
10.0%		7,675
2.5%		7,37
0.5%		7,37
0.0%	minimum	7,37

Summary Statistics

Mean	8,2104167
Std Dev	0,3613318
Std Err Mean	0,0737566
Upper 95% Mean	8,3629937
Lower 95% Mean	8,0578396
N	24

Distributions OBJEKT=TILL <2 mm, CITY=STOCKHOLM

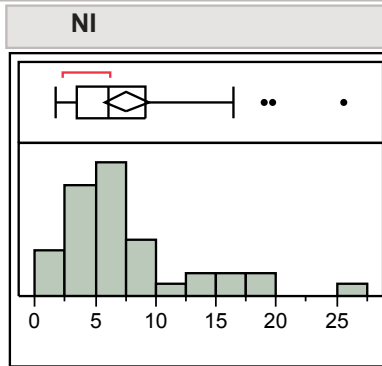


Quantiles

100.0%	maximum	19,6
99.5%		19,6
97.5%		19,6
90.0%		8,1
75.0%	quartile	4,3
50.0%	median	3,2
25.0%	quartile	2,1
10.0%		1,7
2.5%		1,2
0.5%		1,2
0.0%	minimum	1,2

Summary Statistics

Mean	4,2179487
Std Dev	3,5677556
Std Err Mean	0,5712981
Upper 95% Mean	5,3744813
Lower 95% Mean	3,0614161
N	39

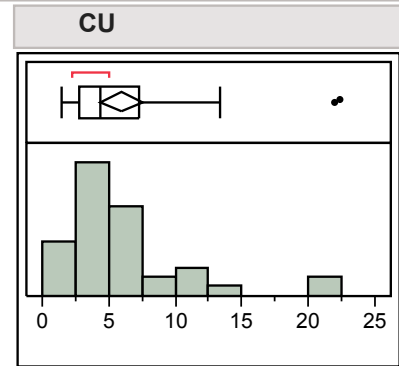


Quantiles

100.0%	maximum	25,6
99.5%		25,6
97.5%		25,6
90.0%		16,4
75.0%	quartile	9,1
50.0%	median	6,1
25.0%	quartile	3,5
10.0%		2,4
2.5%		1,7
0.5%		1,7
0.0%	minimum	1,7

Summary Statistics

Mean	7,6153846
Std Dev	5,5770931
Std Err Mean	0,8930496
Upper 95% Mean	9,4232691
Lower 95% Mean	5,8075002
N	39



Quantiles

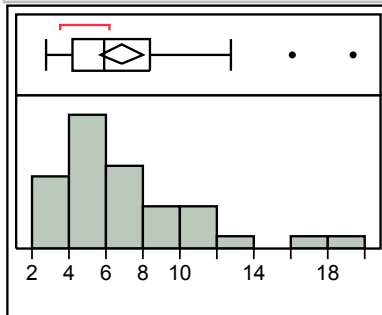
100.0%	maximum	22,4
99.5%		22,4
97.5%		22,4
90.0%		12,2
75.0%	quartile	7,2
50.0%	median	4,3
25.0%	quartile	2,8
10.0%		2,3
2.5%		1,4
0.5%		1,4
0.0%	minimum	1,4

Summary Statistics

Mean	5,9538462
Std Dev	4,8407723
Std Err Mean	0,7751439
Upper 95% Mean	7,523043
Lower 95% Mean	4,3846493
N	39

Distributions OBJEKT=TILL <2 mm, CITY=STOCKHOLM

PB



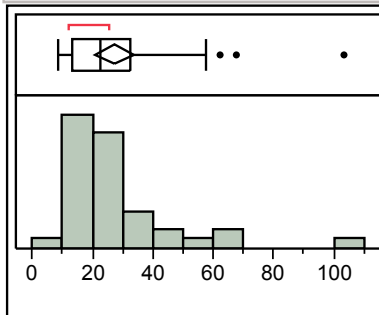
Quantiles

100.0%	maximum	19,4
99.5%		19,4
97.5%		19,4
90.0%		11,3
75.0%	quartile	8,4
50.0%	median	5,9
25.0%	quartile	4,2
10.0%		3,5
2.5%		2,7
0.5%		2,7
0.0%	minimum	2,7

Summary Statistics

Mean	6,8538462
Std Dev	3,6207622
Std Err Mean	0,579786
Upper 95% Mean	8,0275615
Lower 95% Mean	5,6801308
N	39

ZN



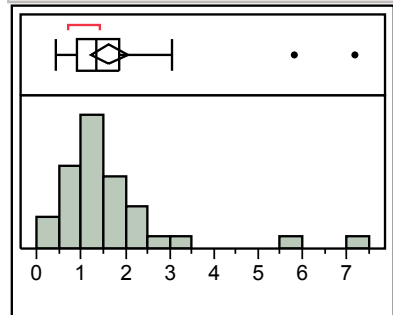
Quantiles

100.0%	maximum	103,4
99.5%		103,4
97.5%		103,4
90.0%		57,8
75.0%	quartile	32,8
50.0%	median	22,8
25.0%	quartile	13,4
10.0%		11,4
2.5%		8,6
0.5%		8,6
0.0%	minimum	8,6

Summary Statistics

Mean	27,261538
Std Dev	18,941539
Std Err Mean	3,0330737
Upper 95% Mean	33,401675
Lower 95% Mean	21,121402
N	39

AS_



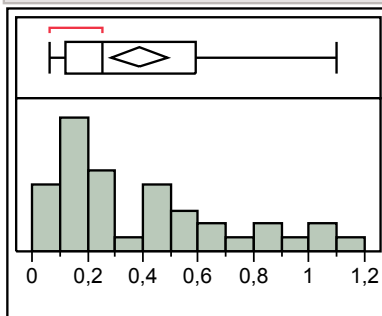
Quantiles

100.0%	maximum	7,19
99.5%		7,19
97.5%		7,19
90.0%		2,63
75.0%	quartile	1,86
50.0%	median	1,33
25.0%	quartile	0,92
10.0%		0,59
2.5%		0,41
0.5%		0,41
0.0%	minimum	0,41

Summary Statistics

Mean	1,6264103
Std Dev	1,3024481
Std Err Mean	0,2085586
Upper 95% Mean	2,0486151
Lower 95% Mean	1,2042054
N	39

MO



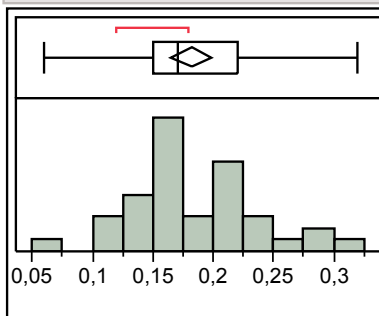
Quantiles

100.0%	maximum	1,1
99.5%		1,1
97.5%		1,1
90.0%		0,92
75.0%	quartile	0,59
50.0%	median	0,25
25.0%	quartile	0,12
10.0%		0,08
2.5%		0,06
0.5%		0,06
0.0%	minimum	0,06

Summary Statistics

Mean	0,3879487
Std Dev	0,3100609
Std Err Mean	0,0496495
Upper 95% Mean	0,4884588
Lower 95% Mean	0,2874386
N	39

SN



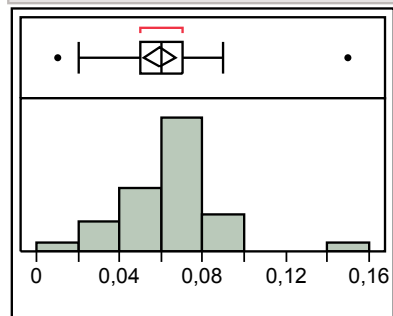
Quantiles

100.0%	maximum	0,32
99.5%		0,32
97.5%		0,32
90.0%		0,25
75.0%	quartile	0,22
50.0%	median	0,17
25.0%	quartile	0,15
10.0%		0,12
2.5%		0,06
0.5%		0,06
0.0%	minimum	0,06

Summary Statistics

Mean	0,1817949
Std Dev	0,0512923
Std Err Mean	0,0082133
Upper 95% Mean	0,1984219
Lower 95% Mean	0,1651678
N	39

W

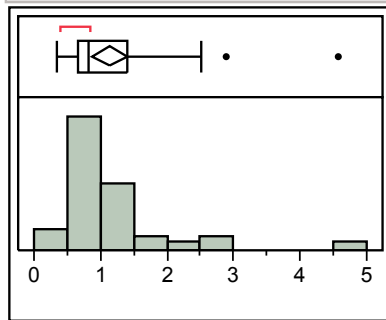


Quantiles

100.0%	maximum	0,15
99.5%		0,15
97.5%		0,15
90.0%		0,08
75.0%	quartile	0,07
50.0%	median	0,06
25.0%	quartile	0,05
10.0%		0,03
2.5%		0,01
0.5%		0,01
0.0%	minimum	0,01

Summary Statistics

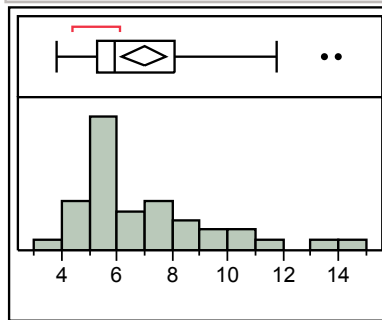
Mean	0,0592308
Std Dev	0,0235511
Std Err Mean	0,0037712
Upper 95% Mean	0,0668652
Lower 95% Mean	0,0515964
N	39

Distributions OBJEKT=TILL <2 mm, CITY=STOCKHOLM**ZR****Quantiles**

100.0%	maximum	4,58
99.5%		4,58
97.5%		4,58
90.0%		2,23
75.0%	quartile	1,41
50.0%	median	0,82
25.0%	quartile	0,66
10.0%		0,51
2.5%		0,33
0.5%		0,33
0.0%	minimum	0,33

Summary Statistics

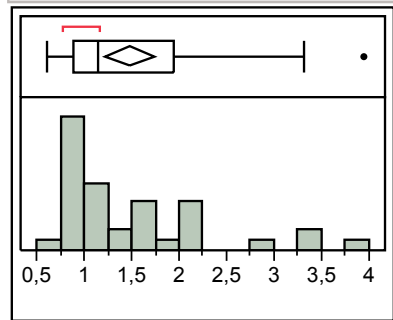
Mean	1,1366667
Std Dev	0,7976358
Std Err Mean	0,1277239
Upper 95% Mean	1,3952303
Lower 95% Mean	0,8781031
N	39

TH**Quantiles**

100.0%	maximum	14
99.5%		14
97.5%		14
90.0%		10,6
75.0%	quartile	8,1
50.0%	median	5,9
25.0%	quartile	5,3
10.0%		4,8
2.5%		3,8
0.5%		3,8
0.0%	minimum	3,8

Summary Statistics

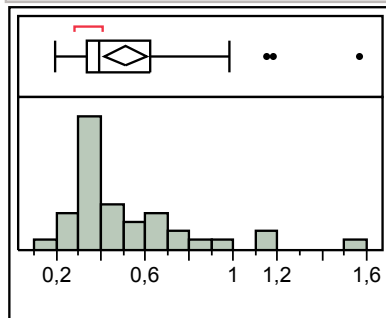
Mean	6,9794872
Std Dev	2,434422
Std Err Mean	0,3898195
Upper 95% Mean	7,7686355
Lower 95% Mean	6,1903389
N	39

U**Quantiles**

100.0%	maximum	3,95
99.5%		3,95
97.5%		3,95
90.0%		2,9
75.0%	quartile	1,94
50.0%	median	1,14
25.0%	quartile	0,89
10.0%		0,84
2.5%		0,61
0.5%		0,61
0.0%	minimum	0,61

Summary Statistics

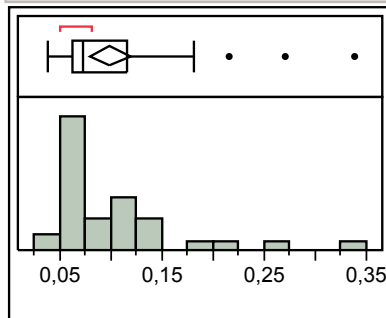
Mean	1,4812821
Std Dev	0,7957359
Std Err Mean	0,1274197
Upper 95% Mean	1,7392298
Lower 95% Mean	1,2233343
N	39

BE**Quantiles**

100.0%	maximum	1,57
99.5%		1,57
97.5%		1,57
90.0%		0,98
75.0%	quartile	0,62
50.0%	median	0,39
25.0%	quartile	0,34
10.0%		0,29
2.5%		0,19
0.5%		0,19
0.0%	minimum	0,19

Summary Statistics

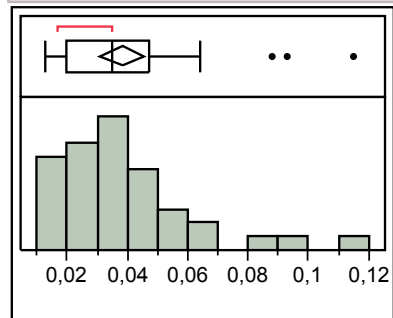
Mean	0,5141026
Std Dev	0,2905233
Std Err Mean	0,046521
Upper 95% Mean	0,6082793
Lower 95% Mean	0,4199258
N	39

BI**Quantiles**

100.0%	maximum	0,339
99.5%		0,339
97.5%		0,339
90.0%		0,181
75.0%	quartile	0,116
50.0%	median	0,072
25.0%	quartile	0,062
10.0%		0,051
2.5%		0,038
0.5%		0,038
0.0%	minimum	0,038

Summary Statistics

Mean	0,0991282
Std Dev	0,0625684
Std Err Mean	0,010019
Upper 95% Mean	0,1194105
Lower 95% Mean	0,0788459
N	39

AG**Quantiles**

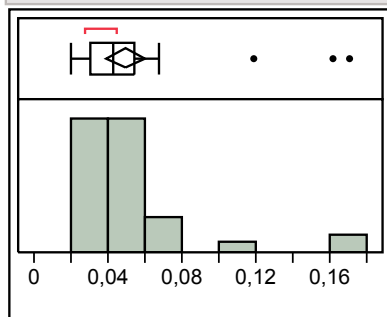
100.0%	maximum	0,115
99.5%		0,115
97.5%		0,115
90.0%		0,064
75.0%	quartile	0,047
50.0%	median	0,035
25.0%	quartile	0,02
10.0%		0,017
2.5%		0,013
0.5%		0,013
0.0%	minimum	0,013

Summary Statistics

Mean	0,038359
Std Dev	0,0223212
Std Err Mean	0,0035743
Upper 95% Mean	0,0455947
Lower 95% Mean	0,0311233
N	39

Distributions OBJEKT=TILL <2 mm, CITY=STOCKHOLM

CD



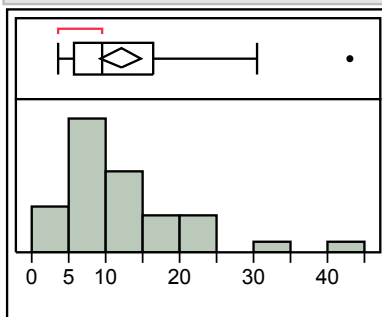
Quantiles

100.0%	maximum	0,171
99.5%		0,171
97.5%		0,171
90.0%		0,068
75.0%	quartile	0,054
50.0%	median	0,043
25.0%	quartile	0,03
10.0%		0,024
2.5%		0,02
0.5%		0,02
0.0%	minimum	0,02

Summary Statistics

Mean	0,0493846
Std Dev	0,032859
Std Err Mean	0,0052617
Upper 95% Mean	0,0600363
Lower 95% Mean	0,0387329
N	39

LI



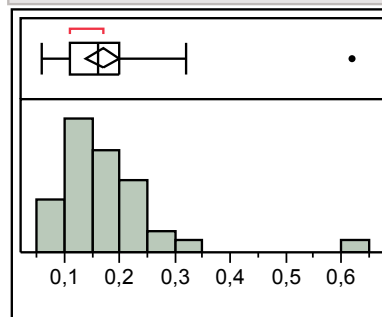
Quantiles

100.0%	maximum	43,1
99.5%		43,1
97.5%		43,1
90.0%		22,8
75.0%	quartile	16,3
50.0%	median	9,5
25.0%	quartile	5,7
10.0%		3,8
2.5%		3,6
0.5%		3,6
0.0%	minimum	3,6

Summary Statistics

Mean	12,038462
Std Dev	8,3239545
Std Err Mean	1,3328995
Upper 95% Mean	14,736775
Lower 95% Mean	9,3401476
N	39

SE



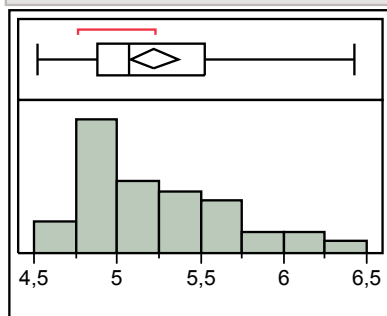
Quantiles

100.0%	maximum	0,62
99.5%		0,62
97.5%		0,62
90.0%		0,25
75.0%	quartile	0,2
50.0%	median	0,16
25.0%	quartile	0,11
10.0%		0,07
2.5%		0,06
0.5%		0,06
0.0%	minimum	0,06

Summary Statistics

Mean	0,1684615
Std Dev	0,0939075
Std Err Mean	0,0150372
Upper 95% Mean	0,1989028
Lower 95% Mean	0,1380202
N	39

PH



Quantiles

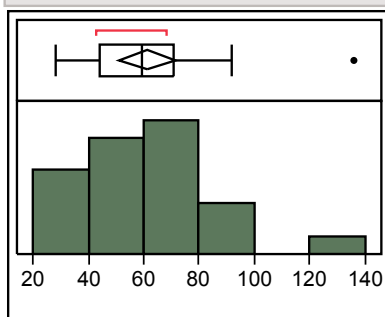
100.0%	maximum	6,43
99.5%		6,43
97.5%		6,43
90.0%		5,91
75.0%	quartile	5,53
50.0%	median	5,07
25.0%	quartile	4,88
10.0%		4,76
2.5%		4,52
0.5%		4,52
0.0%	minimum	4,52

Summary Statistics

Mean	5,2228205
Std Dev	0,4433838
Std Err Mean	0,0709982
Upper 95% Mean	5,3665489
Lower 95% Mean	5,0790921
N	39

Distributions OBJEKT=SOIL, CITY=MALMÖ

TI



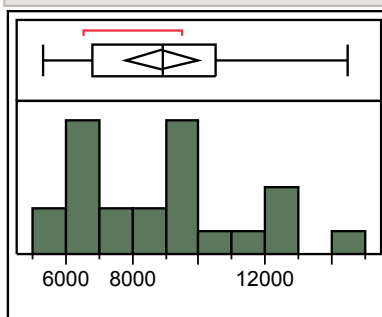
Quantiles

100.0%	maximum	136
99.5%		136
97.5%		136
90.0%		90
75.0%	quartile	71
50.0%	median	59,5
25.0%	quartile	43,75
10.0%		33,5
2.5%		28
0.5%		28
0.0%	minimum	28

Summary Statistics

Mean	61,166667
Std Dev	23,759056
Std Err Mean	4,849797
Upper 95% Mean	71,199236
Lower 95% Mean	51,134097
N	24

FE



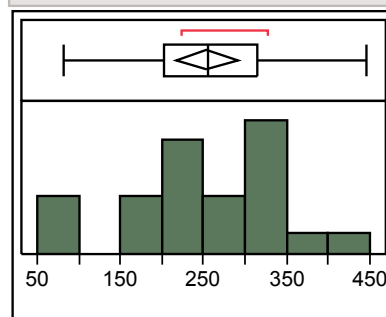
Quantiles

100.0%	maximum	14495
99.5%		14495
97.5%		14495
90.0%		12612
75.0%	quartile	10527,8
50.0%	median	8909
25.0%	quartile	6806,75
10.0%		5777
2.5%		5291
0.5%		5291
0.0%	minimum	5291

Summary Statistics

Mean	8881,25
Std Dev	2533,2355
Std Err Mean	517,09453
Upper 95% Mean	9950,9415
Lower 95% Mean	7811,5585
N	24

MN



Quantiles

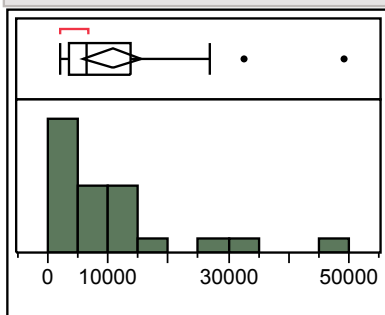
100.0%	maximum	446
99.5%		446
97.5%		446
90.0%		365
75.0%	quartile	314,75
50.0%	median	255,5
25.0%	quartile	202,25
10.0%		95
2.5%		81
0.5%		81
0.0%	minimum	81

Summary Statistics

Mean	254,04167
Std Dev	88,964321
Std Err Mean	18,159766
Upper 95% Mean	291,608
Lower 95% Mean	216,47533
N	24

Distributions OBJEKT=SOIL, CITY=MALMÖ

CA



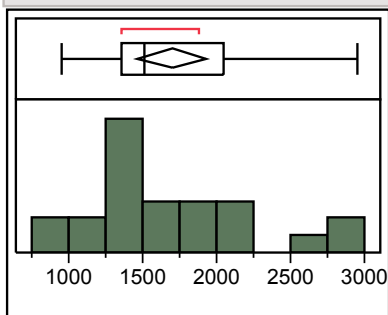
Quantiles

100.0%	maximum	49147
99.5%		49147
97.5%		49147
90.0%		29740,5
75.0%	quartile	13681,8
50.0%	median	6588,5
25.0%	quartile	3446,5
10.0%		2779,5
2.5%		2169
0.5%		2169
0.0%	minimum	2169

Summary Statistics

Mean	10803,583
Std Dev	11329,467
Std Err Mean	2312,6178
Upper 95% Mean	15587,598
Lower 95% Mean	6019,569
N	24

MG



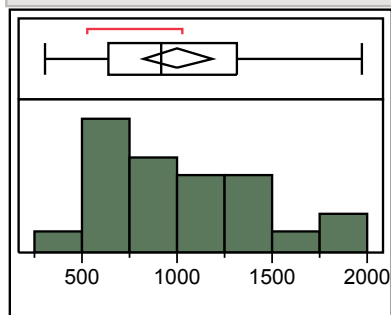
Quantiles

100.0%	maximum	2953
99.5%		2953
97.5%		2953
90.0%		2738,5
75.0%	quartile	2048
50.0%	median	1507,5
25.0%	quartile	1358
10.0%		1061
2.5%		950
0.5%		950
0.0%	minimum	950

Summary Statistics

Mean	1699,125
Std Dev	550,30152
Std Err Mean	112,32983
Upper 95% Mean	1931,497
Lower 95% Mean	1466,753
N	24

K



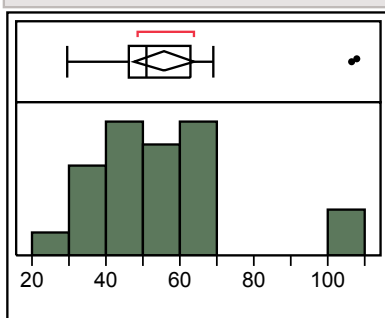
Quantiles

100.0%	maximum	1976
99.5%		1976
97.5%		1976
90.0%		1717
75.0%	quartile	1315,5
50.0%	median	920
25.0%	quartile	639,75
10.0%		529,5
2.5%		302
0.5%		302
0.0%	minimum	302

Summary Statistics

Mean	1001,5
Std Dev	427,3985
Std Err Mean	87,242354
Upper 95% Mean	1181,9746
Lower 95% Mean	821,02544
N	24

BA



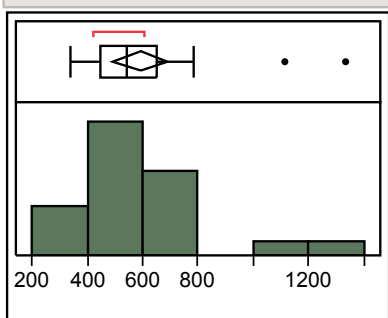
Quantiles

100.0%	maximum	108
99.5%		108
97.5%		108
90.0%		87,9
75.0%	quartile	63
50.0%	median	50,8
25.0%	quartile	45,9
10.0%		33,9
2.5%		29,6
0.5%		29,6
0.0%	minimum	29,6

Summary Statistics

Mean	55,570833
Std Dev	19,14772
Std Err Mean	3,9085121
Upper 95% Mean	63,656207
Lower 95% Mean	47,48546
N	24

P



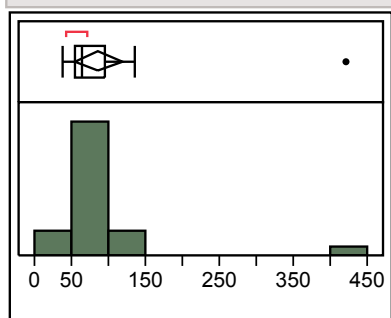
Quantiles

100.0%	maximum	1334
99.5%		1334
97.5%		1334
90.0%		949,5
75.0%	quartile	651,75
50.0%	median	543,5
25.0%	quartile	445,75
10.0%		373
2.5%		336
0.5%		336
0.0%	minimum	336

Summary Statistics

Mean	590,95833
Std Dev	229,26375
Std Err Mean	46,798267
Upper 95% Mean	687,76793
Lower 95% Mean	494,14874
N	24

NA



Quantiles

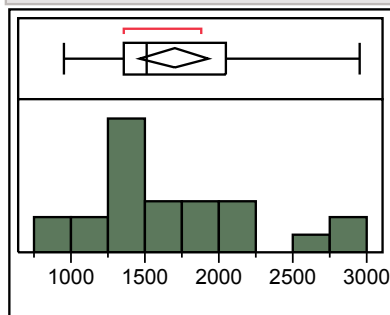
100.0%	maximum	422
99.5%		422
97.5%		422
90.0%		120,5
75.0%	quartile	95
50.0%	median	63
25.0%	quartile	54
10.0%		44
2.5%		37
0.5%		37
0.0%	minimum	37

Summary Statistics

Mean	85,625
Std Dev	75,600099
Std Err Mean	15,431806
Upper 95% Mean	117,54812
Lower 95% Mean	53,701878
N	24

Distributions OBJEKT=SOIL, CITY=MALMÖ

AL



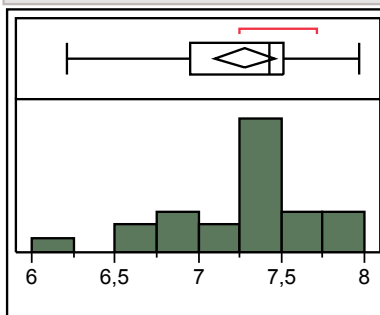
Quantiles

100.0%	maximum	2953
99.5%		2953
97.5%		2953
90.0%		2738,5
75.0%	quartile	2048
50.0%	median	1507,5
25.0%	quartile	1358
10.0%		1061
2.5%		950
0.5%		950
0.0%	minimum	950

Summary Statistics

Mean	1699,125
Std Dev	550,30152
Std Err Mean	112,32983
Upper 95% Mean	1931,497
Lower 95% Mean	1466,753
N	24

PH



Quantiles

100.0%	maximum	7,97
99.5%		7,97
97.5%		7,97
90.0%		7,8
75.0%	quartile	7,52
50.0%	median	7,425
25.0%	quartile	6,955
10.0%		6,705
2.5%		6,21
0.5%		6,21
0.0%	minimum	6,21

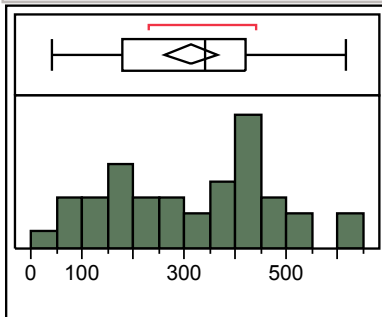
Summary Statistics

Mean	7,28125
Std Dev	0,4204792
Std Err Mean	0,0858299
Upper 95% Mean	7,4588028
Lower 95% Mean	7,1036972
N	24

Distributions OBJEKT=SOIL, CITY=STOCKHOLM

Distributions OBJEKT=SOIL, CITY=STOCKHOLM

TI



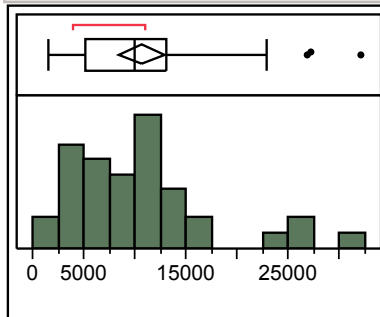
Quantiles

100.0%	maximum	617,929
99.5%		617,929
97.5%		617,929
90.0%		502,254
75.0%	quartile	420,743
50.0%	median	340,43
25.0%	quartile	179,205
10.0%		77,9154
2.5%		38,9577
0.5%		38,9577
0.0%	minimum	38,9577

Summary Statistics

Mean	313,24432
Std Dev	156,1854
Std Err Mean	25,00968
Upper 95% Mean	363,87377
Lower 95% Mean	262,61487
N	39

FE



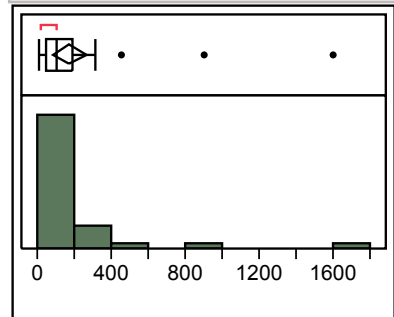
Quantiles

100.0%	maximum	32127
99.5%		32127
97.5%		32127
90.0%		22909,2
75.0%	quartile	12989,8
50.0%	median	9989,27
25.0%	quartile	5110,04
10.0%		3309,71
2.5%		1493,28
0.5%		1493,28
0.0%	minimum	1493,28

Summary Statistics

Mean	10620,749
Std Dev	7038,7554
Std Err Mean	1127,1029
Upper 95% Mean	12902,449
Lower 95% Mean	8339,048
N	39

MN



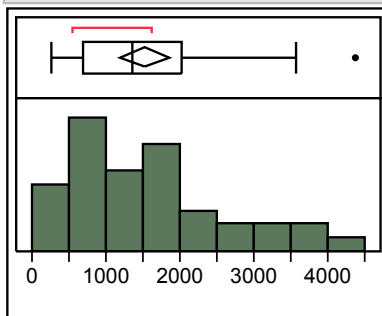
Quantiles

100.0%	maximum	1603,14
99.5%		1603,14
97.5%		1603,14
90.0%		310,559
75.0%	quartile	185,096
50.0%	median	99,1311
25.0%	quartile	41,0465
10.0%		13,1659
2.5%		10,8425
0.5%		10,8425
0.0%	minimum	10,8425

Summary Statistics

Mean	172,96315
Std Dev	283,53122
Std Err Mean	45,401332
Upper 95% Mean	264,87334
Lower 95% Mean	81,052955
N	39

CA



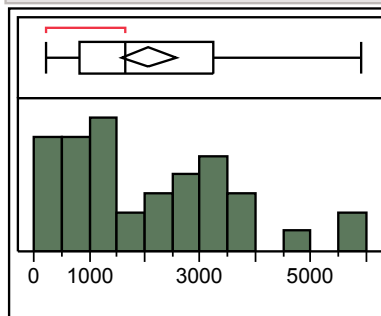
Quantiles

100.0%	maximum	4381,09
99.5%		4381,09
97.5%		4381,09
90.0%		3076,05
75.0%	quartile	2012,58
50.0%	median	1353,63
25.0%	quartile	688,967
10.0%		337,336
2.5%		254,432
0.5%		254,432
0.0%	minimum	254,432

Summary Statistics

Mean	1514,3306
Std Dev	1020,2462
Std Err Mean	163,37015
Upper 95% Mean	1845,0562
Lower 95% Mean	1183,605
N	39

MG



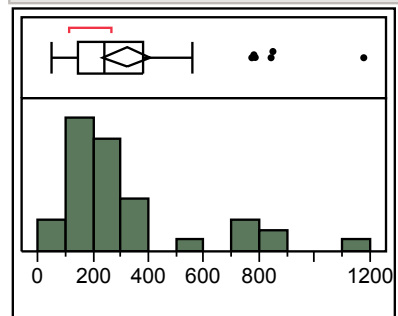
Quantiles

100.0%	maximum	5912,22
99.5%		5912,22
97.5%		5912,22
90.0%		3717,75
75.0%	quartile	3232,91
50.0%	median	1649,32
25.0%	quartile	808,679
10.0%		271,369
2.5%		211,065
0.5%		211,065
0.0%	minimum	211,065

Summary Statistics

Mean	2069,5624
Std Dev	1528,6962
Std Err Mean	244,7873
Upper 95% Mean	2565,1084
Lower 95% Mean	1574,0164
N	39

K



Quantiles

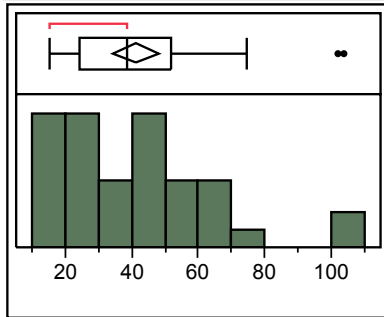
100.0%	maximum	1178,86
99.5%		1178,86
97.5%		1178,86
90.0%		786,152
75.0%	quartile	382,284
50.0%	median	239,083
25.0%	quartile	141,541
10.0%		105,844
2.5%		46,4884
0.5%		46,4884
0.0%	minimum	46,4884

Summary Statistics

Mean	319,82179
Std Dev	264,8194
Std Err Mean	42,405041
Upper 95% Mean	405,66631
Lower 95% Mean	233,97728
N	39

Distributions OBJEKT=SOIL, CITY=STOCKHOLM

BA



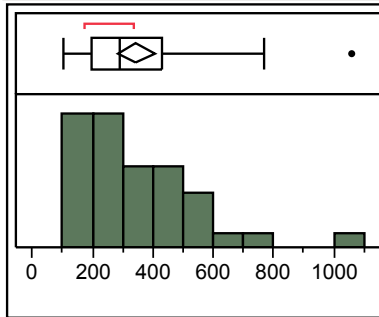
Quantiles

100.0%	maximum	103,896
99.5%		103,896
97.5%		103,896
90.0%		66,2785
75.0%	quartile	51,948
50.0%	median	38,5132
25.0%	quartile	24,1827
10.0%		17,0175
2.5%		15,2262
0.5%		15,2262
0.0%	minimum	15,2262

Summary Statistics

Mean	41,085348
Std Dev	21,785643
Std Err Mean	3,4884948
Upper 95% Mean	48,147436
Lower 95% Mean	34,02326
N	39

P



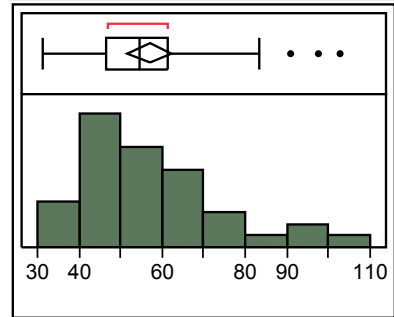
Quantiles

100.0%	maximum	1059,65
99.5%		1059,65
97.5%		1059,65
90.0%		561,684
75.0%	quartile	432,937
50.0%	median	289,352
25.0%	quartile	195,956
10.0%		151,877
2.5%		104,743
0.5%		104,743
0.0%	minimum	104,743

Summary Statistics

Mean	345,37177
Std Dev	192,32056
Std Err Mean	30,795936
Upper 95% Mean	407,71489
Lower 95% Mean	283,02866
N	39

NA



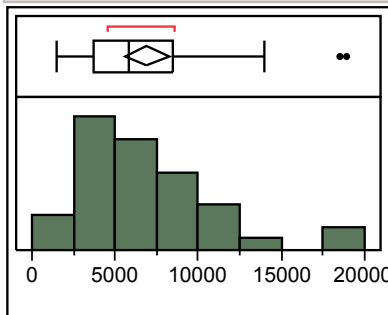
Quantiles

100.0%	maximum	102,875
99.5%		102,875
97.5%		102,875
90.0%		83,4929
75.0%	quartile	61,1287
50.0%	median	54,4195
25.0%	quartile	46,2193
10.0%		38,7646
2.5%		31,3098
0.5%		31,3098
0.0%	minimum	31,3098

Summary Statistics

Mean	56,904403
Std Dev	16,732612
Std Err Mean	2,6793623
Upper 95% Mean	62,328488
Lower 95% Mean	51,480317
N	39

AL



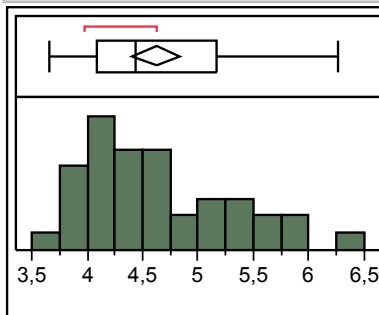
Quantiles

100.0%	maximum	18941,7
99.5%		18941,7
97.5%		18941,7
90.0%		11993,6
75.0%	quartile	8485,64
50.0%	median	5790,12
25.0%	quartile	3718,06
10.0%		2682,3
2.5%		1457,59
0.5%		1457,59
0.0%	minimum	1457,59

Summary Statistics

Mean	6917,3216
Std Dev	4126,5037
Std Err Mean	660,76941
Upper 95% Mean	8254,9793
Lower 95% Mean	5579,6638
N	39

PH



Quantiles

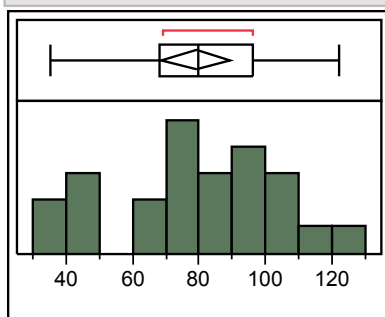
100.0%	maximum	6,26
99.5%		6,26
97.5%		6,26
90.0%		5,67
75.0%	quartile	5,16
50.0%	median	4,43
25.0%	quartile	4,09
10.0%		3,88
2.5%		3,65
0.5%		3,65
0.0%	minimum	3,65

Summary Statistics

Mean	4,6251282
Std Dev	0,6641491
Std Err Mean	0,106349
Upper 95% Mean	4,8404204
Lower 95% Mean	4,409836
N	39

Distributions OBJEKT=TILL <2 mm, CITY=MALMÖ

TI



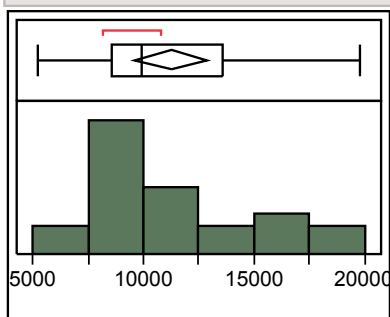
Quantiles

100.0%	maximum	122
99.5%		122
97.5%		122
90.0%		110
75.0%	quartile	96
50.0%	median	80
25.0%	quartile	68,25
10.0%		40,5
2.5%		35
0.5%		35
0.0%	minimum	35

Summary Statistics

Mean	79,083333
Std Dev	24,450334
Std Err Mean	4,9909036
Upper 95% Mean	89,407804
Lower 95% Mean	68,758863
N	24

FE



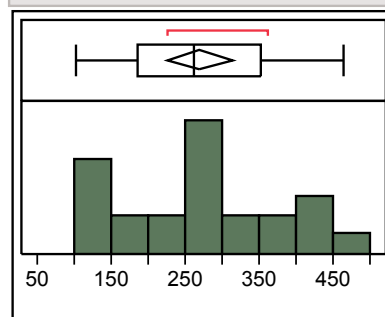
Quantiles

100.0%	maximum	19815
99.5%		19815
97.5%		19815
90.0%		17956,5
75.0%	quartile	13546,5
50.0%	median	9888,5
25.0%	quartile	8568
10.0%		6878,5
2.5%		5247
0.5%		5247
0.0%	minimum	5247

Summary Statistics

Mean	11234,667
Std Dev	3889,0446
Std Err Mean	793,84791
Upper 95% Mean	12876,866
Lower 95% Mean	9592,4671
N	24

MN



Quantiles

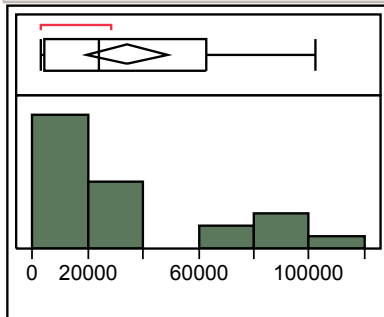
100.0%	maximum	465
99.5%		465
97.5%		465
90.0%		422
75.0%	quartile	352
50.0%	median	261
25.0%	quartile	185,25
10.0%		132,5
2.5%		101
0.5%		101
0.0%	minimum	101

Summary Statistics

Mean	270
Std Dev	102,64502
Std Err Mean	20,952327
Upper 95% Mean	313,34319
Lower 95% Mean	226,65681
N	24

Distributions OBJEKT=TILL <2 mm, CITY=MALMÖ

CA



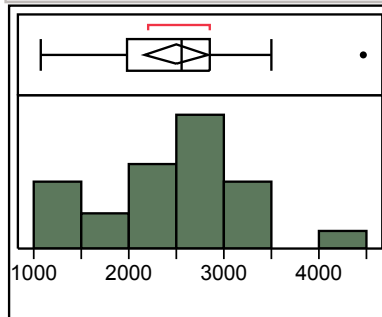
Quantiles

100.0%	maximum	102592
99.5%		102592
97.5%		102592
90.0%		98713,5
75.0%	quartile	62668,3
50.0%	median	23704,5
25.0%	quartile	4275,75
10.0%		3131
2.5%		3062
0.5%		3062
0.0%	minimum	3062

Summary Statistics

Mean	34188,042
Std Dev	34847,733
Std Err Mean	7113,2636
Upper 95% Mean	48902,949
Lower 95% Mean	19473,135
N	24

MG



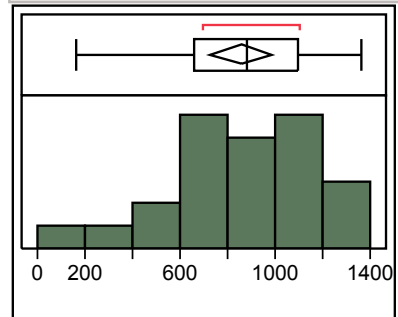
Quantiles

100.0%	maximum	4473
99.5%		4473
97.5%		4473
90.0%		3412,5
75.0%	quartile	2860
50.0%	median	2554,5
25.0%	quartile	1982,75
10.0%		1333
2.5%		1067
0.5%		1067
0.0%	minimum	1067

Summary Statistics

Mean	2500,5417
Std Dev	778,58428
Std Err Mean	158,92785
Upper 95% Mean	2829,309
Lower 95% Mean	2171,7744
N	24

K



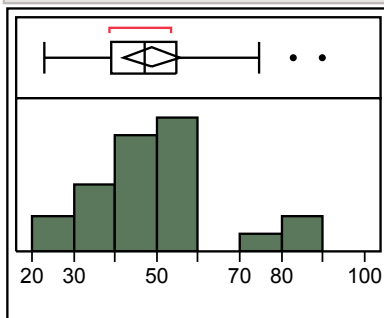
Quantiles

100.0%	maximum	1364
99.5%		1364
97.5%		1364
90.0%		1270,5
75.0%	quartile	1095,25
50.0%	median	878,5
25.0%	quartile	657
10.0%		400,5
2.5%		164
0.5%		164
0.0%	minimum	164

Summary Statistics

Mean	858,54167
Std Dev	305,42315
Std Err Mean	62,34424
Upper 95% Mean	987,51055
Lower 95% Mean	729,57278
N	24

BA



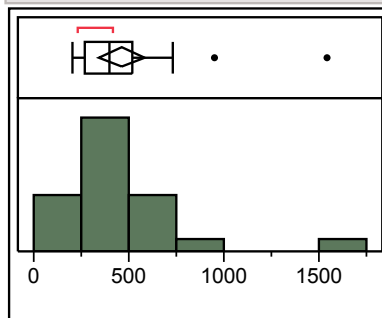
Quantiles

100.0%	maximum	89,9
99.5%		89,9
97.5%		89,9
90.0%		78,8
75.0%	quartile	54,9
50.0%	median	46,95
25.0%	quartile	38,9
10.0%		28,7
2.5%		22,8
0.5%		22,8
0.0%	minimum	22,8

Summary Statistics

Mean	48,654167
Std Dev	16,268641
Std Err Mean	3,3208224
Upper 95% Mean	55,523811
Lower 95% Mean	41,784522
N	24

P



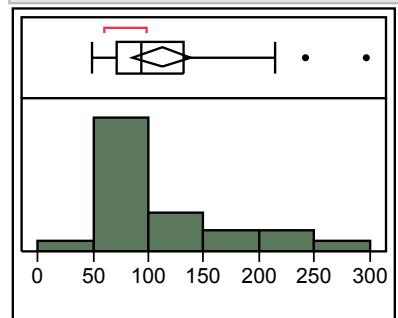
Quantiles

100.0%	maximum	1545
99.5%		1545
97.5%		1545
90.0%		839,5
75.0%	quartile	520,5
50.0%	median	394
25.0%	quartile	266,75
10.0%		227
2.5%		199
0.5%		199
0.0%	minimum	199

Summary Statistics

Mean	459,45833
Std Dev	289,94377
Std Err Mean	59,184524
Upper 95% Mean	581,89085
Lower 95% Mean	337,02582
N	24

NA



Quantiles

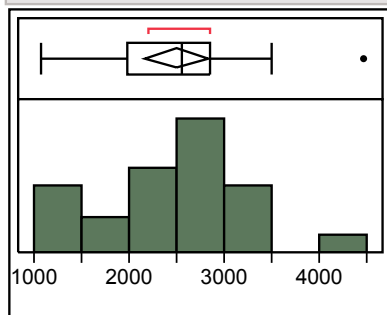
100.0%	maximum	297
99.5%		297
97.5%		297
90.0%		228
75.0%	quartile	131,75
50.0%	median	93
25.0%	quartile	71
10.0%		57,5
2.5%		49
0.5%		49
0.0%	minimum	49

Summary Statistics

Mean	112,16667
Std Dev	61,710169
Std Err Mean	12,596535
Upper 95% Mean	138,22459
Lower 95% Mean	86,108748
N	24

Distributions OBJEKT=TILL <2 mm, CITY=MALMÖ

AL



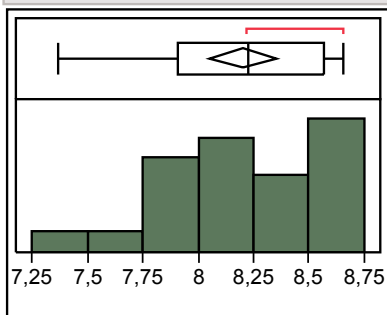
Quantiles

100.0%	maximum	4473
99.5%		4473
97.5%		4473
90.0%		3412,5
75.0%	quartile	2860
50.0%	median	2554,5
25.0%	quartile	1982,75
10.0%		1333
2.5%		1067
0.5%		1067
0.0%	minimum	1067

Summary Statistics

Mean	2500,5417
Std Dev	778,58428
Std Err Mean	158,92785
Upper 95% Mean	2829,309
Lower 95% Mean	2171,7744
N	24

PH



Quantiles

100.0%	maximum	8,66
99.5%		8,66
97.5%		8,66
90.0%		8,64
75.0%	quartile	8,5675
50.0%	median	8,23
25.0%	quartile	7,91
10.0%		7,675
2.5%		7,37
0.5%		7,37
0.0%	minimum	7,37

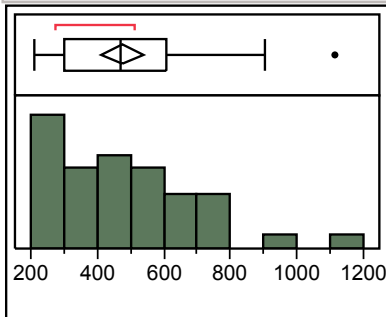
Summary Statistics

Mean	8,2008333
Std Dev	0,3621664
Std Err Mean	0,0739269
Upper 95% Mean	8,3537628
Lower 95% Mean	8,0479039
N	24

Distributions OBJEKT=TILL <2 mm, CITY=STOCKHOLM

Distributions OBJEKT=TILL <2 mm, CITY=STOCKHOLM

TI



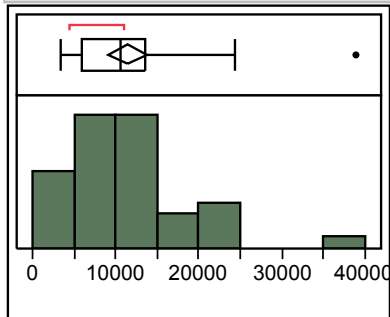
Quantiles

100.0%	maximum	1115,39
99.5%		1115,39
97.5%		1115,39
90.0%		718,619
75.0%	quartile	605,942
50.0%	median	470,489
25.0%	quartile	297,876
10.0%		236,143
2.5%		209,772
0.5%		209,772
0.0%	minimum	209,772

Summary Statistics

Mean	474,25403
Std Dev	202,17121
Std Err Mean	32,373302
Upper 95% Mean	539,79035
Lower 95% Mean	408,7177
N	39

FE



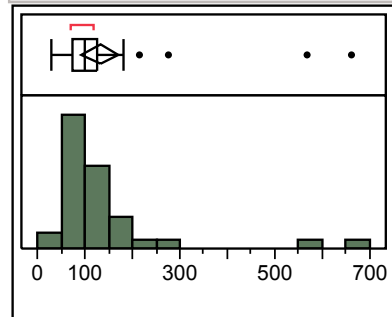
Quantiles

100.0%	maximum	38943,6
99.5%		38943,6
97.5%		38943,6
90.0%		22080,3
75.0%	quartile	13461,2
50.0%	median	10541,1
25.0%	quartile	5785,69
10.0%		4310,59
2.5%		3389,44
0.5%		3389,44
0.0%	minimum	3389,44

Summary Statistics

Mean	11403,125
Std Dev	7158,3306
Std Err Mean	1146,2503
Upper 95% Mean	13723,587
Lower 95% Mean	9082,6622
N	39

MN



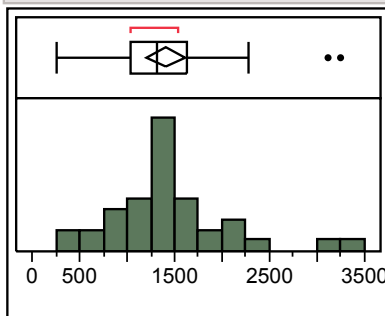
Quantiles

100.0%	maximum	662,165
99.5%		662,165
97.5%		662,165
90.0%		214,526
75.0%	quartile	127,012
50.0%	median	97,5822
25.0%	quartile	72,025
10.0%		58,0846
2.5%		30,204
0.5%		30,204
0.0%	minimum	30,204

Summary Statistics

Mean	131,0032
Std Dev	124,35379
Std Err Mean	19,912542
Upper 95% Mean	171,31403
Lower 95% Mean	90,692366
N	39

CA



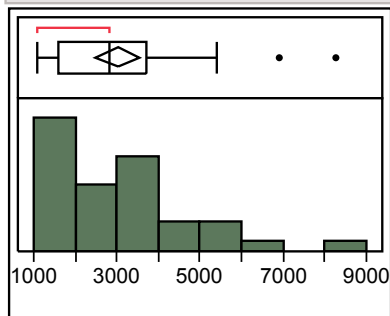
Quantiles

100.0%	maximum	3251,15
99.5%		3251,15
97.5%		3251,15
90.0%		2127,65
75.0%	quartile	1629,51
50.0%	median	1319,33
25.0%	quartile	1037,02
10.0%		674,673
2.5%		256,576
0.5%		256,576
0.0%	minimum	256,576

Summary Statistics

Mean	1407,3278
Std Dev	612,19764
Std Err Mean	98,030078
Upper 95% Mean	1605,7793
Lower 95% Mean	1208,8763
N	39

MG



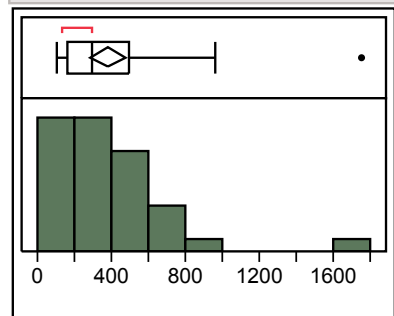
Quantiles

100.0%	maximum	8276,15
99.5%		8276,15
97.5%		8276,15
90.0%		5163,24
75.0%	quartile	3683,98
50.0%	median	2828,27
25.0%	quartile	1593,24
10.0%		1270,01
2.5%		1064,97
0.5%		1064,97
0.0%	minimum	1064,97

Summary Statistics

Mean	3009,3491
Std Dev	1648,6149
Std Err Mean	263,98965
Upper 95% Mean	3543,7682
Lower 95% Mean	2474,93
N	39

K



Quantiles

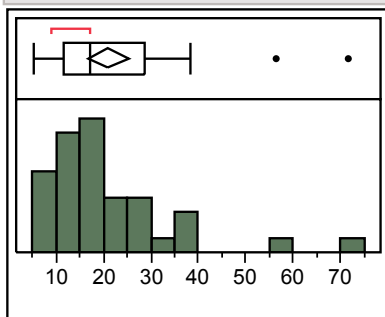
100.0%	maximum	1756,18
99.5%		1756,18
97.5%		1756,18
90.0%		669,516
75.0%	quartile	495,184
50.0%	median	288,477
25.0%	quartile	157,729
10.0%		133,654
2.5%		105,844
0.5%		105,844
0.0%	minimum	105,844

Summary Statistics

Mean	378,30361
Std Dev	304,56753
Std Err Mean	48,769836
Upper 95% Mean	477,03298
Lower 95% Mean	279,57424
N	39

Distributions OBJEKT=TILL <2 mm, CITY=STOCKHOLM

BA



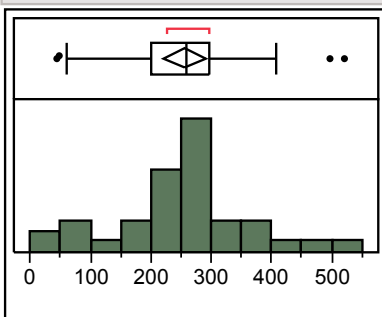
Quantiles

100.0%	maximum	71,6525
99.5%		71,6525
97.5%		71,6525
90.0%		38,5132
75.0%	quartile	28,661
50.0%	median	17,0175
25.0%	quartile	11,6435
10.0%		9,85222
2.5%		5,37394
0.5%		5,37394
0.0%	minimum	5,37394

Summary Statistics

Mean	20,944571
Std Dev	13,387011
Std Err Mean	2,1436373
Upper 95% Mean	25,284138
Lower 95% Mean	16,605004
N	39

P



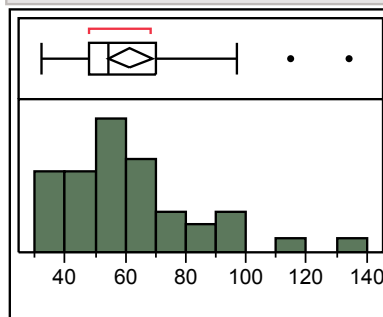
Quantiles

100.0%	maximum	521,096
99.5%		521,096
97.5%		521,096
90.0%		390,604
75.0%	quartile	298,081
50.0%	median	257,493
25.0%	quartile	200,757
10.0%		89,9043
2.5%		44,0793
0.5%		44,0793
0.0%	minimum	44,0793

Summary Statistics

Mean	255,99341
Std Dev	107,65578
Std Err Mean	17,238722
Upper 95% Mean	290,89138
Lower 95% Mean	221,09545
N	39

NA



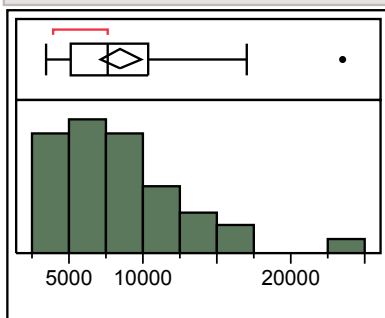
Quantiles

100.0%	maximum	134,185
99.5%		134,185
97.5%		134,185
90.0%		96,166
75.0%	quartile	70,0744
50.0%	median	54,4195
25.0%	quartile	47,7102
10.0%		38,0191
2.5%		32,0553
0.5%		32,0553
0.0%	minimum	32,0553

Summary Statistics

Mean	61,472811
Std Dev	22,544485
Std Err Mean	3,6100068
Upper 95% Mean	68,780888
Lower 95% Mean	54,164735
N	39

AL



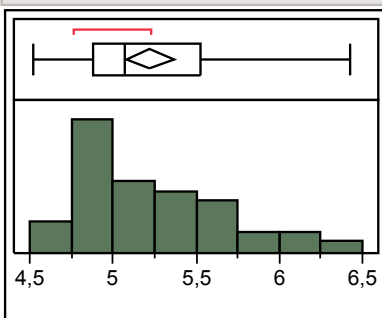
Quantiles

100.0%	maximum	23540,5
99.5%		23540,5
97.5%		23540,5
90.0%		14590,1
75.0%	quartile	10306,3
50.0%	median	7547,26
25.0%	quartile	5056,56
10.0%		4482,31
2.5%		3431,2
0.5%		3431,2
0.0%	minimum	3431,2

Summary Statistics

Mean	8452,5454
Std Dev	4254,9593
Std Err Mean	681,33878
Upper 95% Mean	9831,8437
Lower 95% Mean	7073,2472
N	39

PH



Quantiles

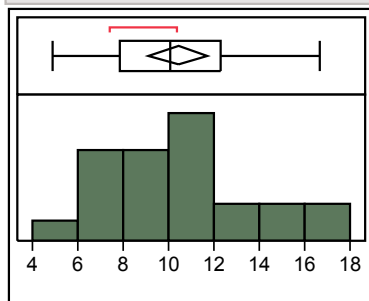
100.0%	maximum	6,43
99.5%		6,43
97.5%		6,43
90.0%		5,91
75.0%	quartile	5,53
50.0%	median	5,07
25.0%	quartile	4,88
10.0%		4,76
2.5%		4,52
0.5%		4,52
0.0%	minimum	4,52

Summary Statistics

Mean	5,2228205
Std Dev	0,4433838
Std Err Mean	0,0709982
Upper 95% Mean	5,3665489
Lower 95% Mean	5,0790921
N	39

Distributions OBJEKT=SOIL, CITY=MALMÖ

CR



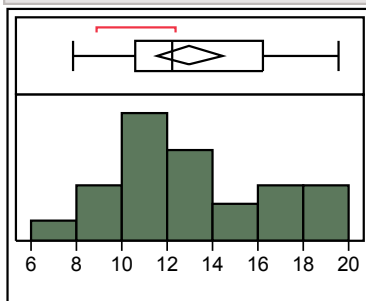
Quantiles

100.0%	maximum	16,7
99.5%		16,7
97.5%		16,7
90.0%		15,95
75.0%	quartile	12,325
50.0%	median	10,05
25.0%	quartile	7,875
10.0%		6,95
2.5%		4,9
0.5%		4,9
0.0%	minimum	4,9

Summary Statistics

Mean	10,420833
Std Dev	3,126601
Std Err Mean	0,6382148
Upper 95% Mean	11,741081
Lower 95% Mean	9,1005855
N	24

V



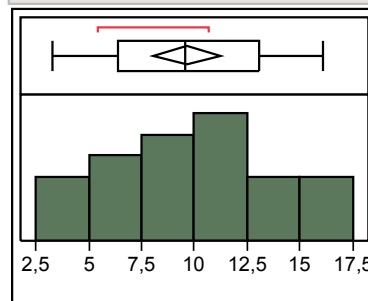
Quantiles

100.0%	maximum	19,6
99.5%		19,6
97.5%		19,6
90.0%		18,55
75.0%	quartile	16,25
50.0%	median	12,2
25.0%	quartile	10,6
10.0%		9,05
2.5%		7,8
0.5%		7,8
0.0%	minimum	7,8

Summary Statistics

Mean	12,991667
Std Dev	3,3656728
Std Err Mean	0,6870151
Upper 95% Mean	14,412866
Lower 95% Mean	11,570468
N	24

RB



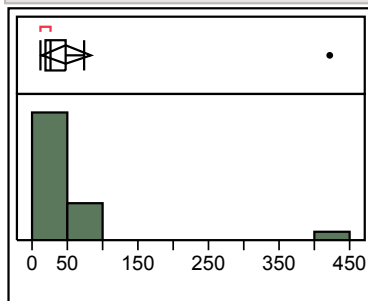
Quantiles

100.0%	maximum	16,1
99.5%		16,1
97.5%		16,1
90.0%		15
75.0%	quartile	13,1
50.0%	median	9,6
25.0%	quartile	6,4
10.0%		4,35
2.5%		3,3
0.5%		3,3
0.0%	minimum	3,3

Summary Statistics

Mean	9,6375
Std Dev	3,7526585
Std Err Mean	0,7660082
Upper 95% Mean	11,222109
Lower 95% Mean	8,0528913
N	24

SR



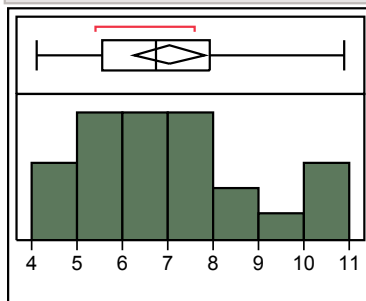
Quantiles

100.0%	maximum	422,5
99.5%		422,5
97.5%		422,5
90.0%		67,5
75.0%	quartile	46,45
50.0%	median	24,35
25.0%	quartile	19,175
10.0%		13,6
2.5%		12,1
0.5%		12,1
0.0%	minimum	12,1

Summary Statistics

Mean	47,220833
Std Dev	81,668455
Std Err Mean	16,670504
Upper 95% Mean	81,706397
Lower 95% Mean	12,735269
N	24

Y



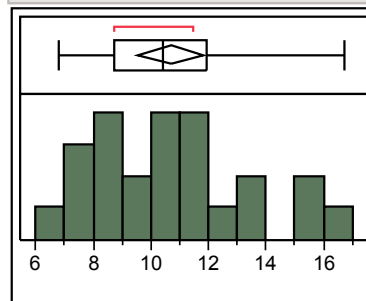
Quantiles

100.0%	maximum	10,9
99.5%		10,9
97.5%		10,9
90.0%		10,35
75.0%	quartile	7,925
50.0%	median	6,75
25.0%	quartile	5,55
10.0%		4,7
2.5%		4,1
0.5%		4,1
0.0%	minimum	4,1

Summary Statistics

Mean	7,0333333
Std Dev	1,8553487
Std Err Mean	0,3787215
Upper 95% Mean	7,8167784
Lower 95% Mean	6,2498883
N	24

LA



Quantiles

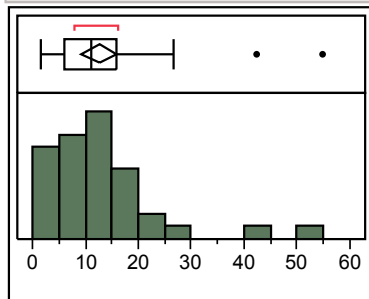
100.0%	maximum	16,7
99.5%		16,7
97.5%		16,7
90.0%		15,75
75.0%	quartile	11,95
50.0%	median	10,4
25.0%	quartile	8,7
10.0%		7,55
2.5%		6,8
0.5%		6,8
0.0%	minimum	6,8

Summary Statistics

Mean	10,7
Std Dev	2,6837676
Std Err Mean	0,5478218
Upper 95% Mean	11,833256
Lower 95% Mean	9,5667443
N	24

Distributions OBJEKT=SOIL, CITY=STOCKHOLM

CR



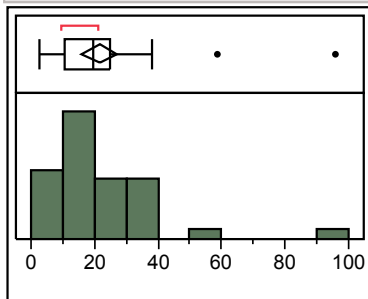
Quantiles

100.0%	maximum	54,9
99.5%		54,9
97.5%		54,9
90.0%		21,8
75.0%	quartile	15,7
50.0%	median	11,1
25.0%	quartile	5,9
10.0%		2,6
2.5%		1,5
0.5%		1,5
0.0%	minimum	1,5

Summary Statistics

Mean	12,530769
Std Dev	10,479608
Std Err Mean	1,6780803
Upper 95% Mean	15,927865
Lower 95% Mean	9,1336733
N	39

V



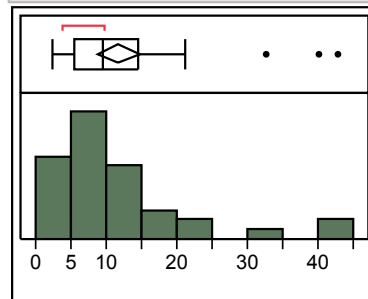
Quantiles

100.0%	maximum	96
99.5%		96
97.5%		96
90.0%		36,3
75.0%	quartile	24,7
50.0%	median	19,5
25.0%	quartile	10,7
10.0%		5,2
2.5%		2,5
0.5%		2,5
0.0%	minimum	2,5

Summary Statistics

Mean	21,446154
Std Dev	16,797804
Std Err Mean	2,6898014
Upper 95% Mean	26,891372
Lower 95% Mean	16,000936
N	39

RB



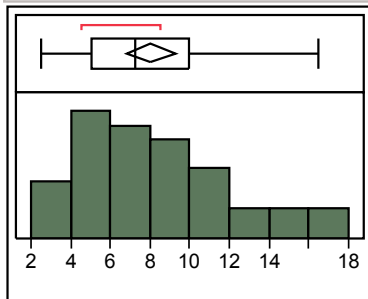
Quantiles

100.0%	maximum	42,9
99.5%		42,9
97.5%		42,9
90.0%		21,2
75.0%	quartile	14,4
50.0%	median	9,4
25.0%	quartile	5,3
10.0%		3,8
2.5%		2,2
0.5%		2,2
0.0%	minimum	2,2

Summary Statistics

Mean	11,746154
Std Dev	9,4958951
Std Err Mean	1,5205602
Upper 95% Mean	14,824367
Lower 95% Mean	8,6679407
N	39

SR



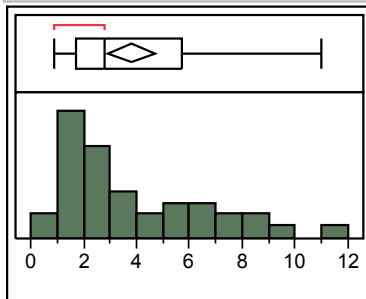
Quantiles

100.0%	maximum	16,5
99.5%		16,5
97.5%		16,5
90.0%		14,3
75.0%	quartile	10
50.0%	median	7,2
25.0%	quartile	5
10.0%		3,5
2.5%		2,5
0.5%		2,5
0.0%	minimum	2,5

Summary Statistics

Mean	8,0410256
Std Dev	3,7850619
Std Err Mean	0,606095
Upper 95% Mean	9,2680008
Lower 95% Mean	6,8140505
N	39

Y



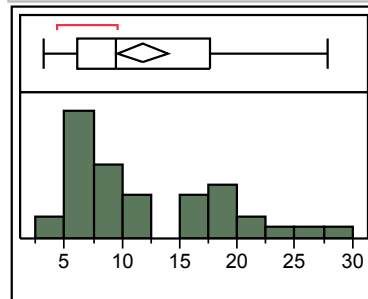
Quantiles

100.0%	maximum	11
99.5%		11
97.5%		11
90.0%		8,5
75.0%	quartile	5,7
50.0%	median	2,8
25.0%	quartile	1,7
10.0%		1,1
2.5%		0,9
0.5%		0,9
0.0%	minimum	0,9

Summary Statistics

Mean	3,7948718
Std Dev	2,733799
Std Err Mean	0,4377582
Upper 95% Mean	4,6810669
Lower 95% Mean	2,9086767
N	39

LA



Quantiles

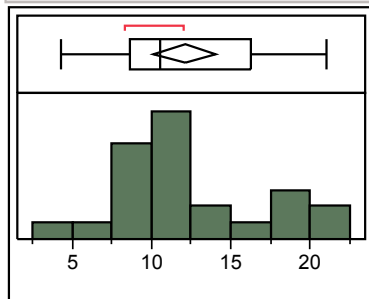
100.0%	maximum	27,8
99.5%		27,8
97.5%		27,8
90.0%		21,4
75.0%	quartile	17,7
50.0%	median	9,4
25.0%	quartile	6,1
10.0%		5,3
2.5%		3,2
0.5%		3,2
0.0%	minimum	3,2

Summary Statistics

Mean	11,825641
Std Dev	6,6303417
Std Err Mean	1,0617044
Upper 95% Mean	13,974949
Lower 95% Mean	9,6763329
N	39

Distributions OBJEKT=TILL <2 mm, CITY=MALMÖ

CR



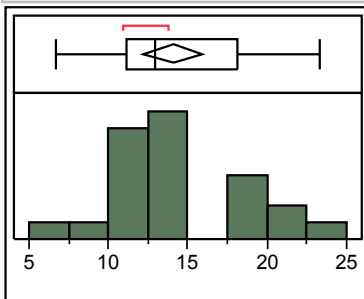
Quantiles

100.0%	maximum	21
99.5%		21
97.5%		21
90.0%		19,75
75.0%	quartile	16,225
50.0%	median	10,55
25.0%	quartile	8,65
10.0%		7,35
2.5%		4,3
0.5%		4,3
0.0%	minimum	4,3

Summary Statistics

Mean	12,108333
Std Dev	4,6095286
Std Err Mean	0,9409161
Upper 95% Mean	14,054767
Lower 95% Mean	10,1619
N	24

V



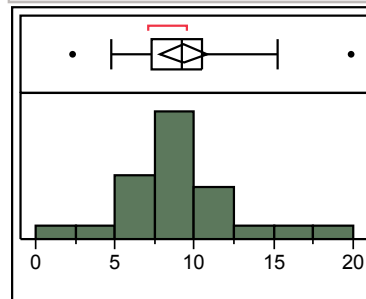
Quantiles

100.0%	maximum	23,3
99.5%		23,3
97.5%		23,3
90.0%		20,9
75.0%	quartile	18,15
50.0%	median	12,9
25.0%	quartile	11,1
10.0%		9,15
2.5%		6,7
0.5%		6,7
0.0%	minimum	6,7

Summary Statistics

Mean	14,05
Std Dev	4,3175073
Std Err Mean	0,8813075
Upper 95% Mean	15,873123
Lower 95% Mean	12,226877
N	24

RB



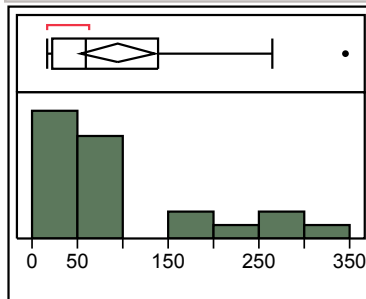
Quantiles

100.0%	maximum	19,9
99.5%		19,9
97.5%		19,9
90.0%		14,25
75.0%	quartile	10,5
50.0%	median	9,25
25.0%	quartile	7,25
10.0%		4,95
2.5%		2,3
0.5%		2,3
0.0%	minimum	2,3

Summary Statistics

Mean	9,3125
Std Dev	3,5221427
Std Err Mean	0,7189544
Upper 95% Mean	10,79977
Lower 95% Mean	7,8252296
N	24

SR



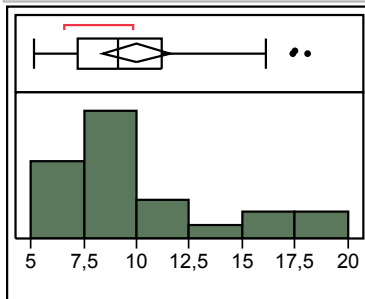
Quantiles

100.0%	maximum	346
99.5%		346
97.5%		346
90.0%		262,1
75.0%	quartile	139
50.0%	median	59,3
25.0%	quartile	21,975
10.0%		16,1
2.5%		15,7
0.5%		15,7
0.0%	minimum	15,7

Summary Statistics

Mean	94,0875
Std Dev	96,28993
Std Err Mean	19,6551
Upper 95% Mean	134,74717
Lower 95% Mean	53,427828
N	24

Y



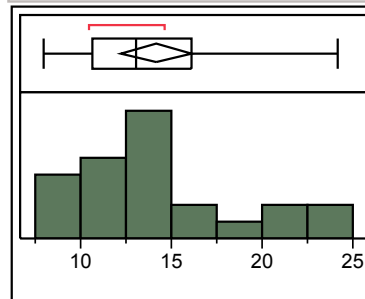
Quantiles

100.0%	maximum	18,1
99.5%		18,1
97.5%		18,1
90.0%		17,45
75.0%	quartile	11,15
50.0%	median	9,1
25.0%	quartile	7,175
10.0%		5,85
2.5%		5,1
0.5%		5,1
0.0%	minimum	5,1

Summary Statistics

Mean	10,025
Std Dev	3,7855848
Std Err Mean	0,7727293
Upper 95% Mean	11,623512
Lower 95% Mean	8,4264877
N	24

LA



Quantiles

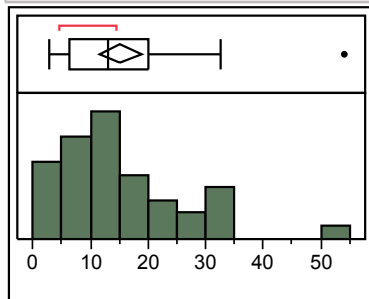
100.0%	maximum	24,2
99.5%		24,2
97.5%		24,2
90.0%		22,6
75.0%	quartile	16,1
50.0%	median	13
25.0%	quartile	10,6
10.0%		8,8
2.5%		7,9
0.5%		7,9
0.0%	minimum	7,9

Summary Statistics

Mean	14,166667
Std Dev	4,6629592
Std Err Mean	0,9518226
Upper 95% Mean	16,135662
Lower 95% Mean	12,197672
N	24

Distributions OBJEKT=TILL <2 mm, CITY=STOCKHOLM

CR



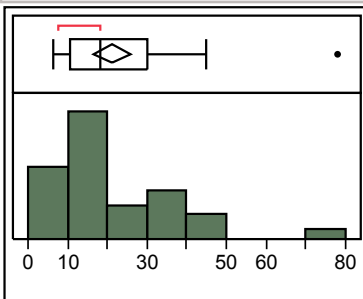
Quantiles

100.0%	maximum	54,1
99.5%		54,1
97.5%		54,1
90.0%		31,8
75.0%	quartile	20
50.0%	median	13
25.0%	quartile	6,4
10.0%		4,1
2.5%		2,8
0.5%		2,8
0.0%	minimum	2,8

Summary Statistics

Mean	15,192308
Std Dev	10,965937
Std Err Mean	1,7559553
Upper 95% Mean	18,747053
Lower 95% Mean	11,637562
N	39

V



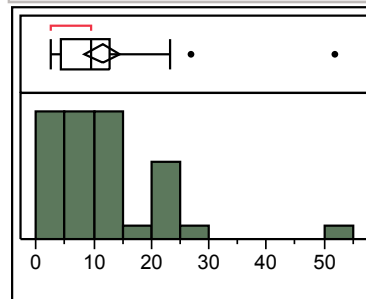
Quantiles

100.0%	maximum	78,1
99.5%		78,1
97.5%		78,1
90.0%		41,2
75.0%	quartile	30,2
50.0%	median	18,1
25.0%	quartile	10,5
10.0%		8
2.5%		6,2
0.5%		6,2
0.0%	minimum	6,2

Summary Statistics

Mean	21,25641
Std Dev	14,446121
Std Err Mean	2,3132307
Upper 95% Mean	25,939301
Lower 95% Mean	16,573519
N	39

RB



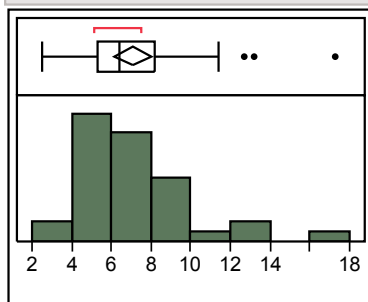
Quantiles

100.0%	maximum	51,9
99.5%		51,9
97.5%		51,9
90.0%		21,9
75.0%	quartile	12,9
50.0%	median	9,6
25.0%	quartile	4,3
10.0%		3,1
2.5%		2,4
0.5%		2,4
0.0%	minimum	2,4

Summary Statistics

Mean	11,538462
Std Dev	9,3496303
Std Err Mean	1,497139
Upper 95% Mean	14,569261
Lower 95% Mean	8,507662
N	39

SR



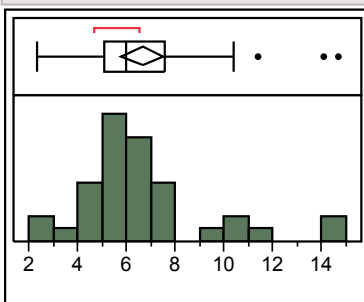
Quantiles

100.0%	maximum	17,3
99.5%		17,3
97.5%		17,3
90.0%		11,4
75.0%	quartile	8,2
50.0%	median	6,4
25.0%	quartile	5,3
10.0%		4,2
2.5%		2,5
0.5%		2,5
0.0%	minimum	2,5

Summary Statistics

Mean	7,0846154
Std Dev	2,8741624
Std Err Mean	0,4602343
Upper 95% Mean	8,0163111
Lower 95% Mean	6,1529197
N	39

Y



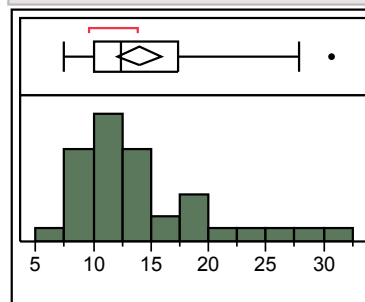
Quantiles

100.0%	maximum	14,7
99.5%		14,7
97.5%		14,7
90.0%		10,4
75.0%	quartile	7,6
50.0%	median	6
25.0%	quartile	5,1
10.0%		4
2.5%		2,3
0.5%		2,3
0.0%	minimum	2,3

Summary Statistics

Mean	6,6435897
Std Dev	2,6363646
Std Err Mean	0,4221562
Upper 95% Mean	7,4982003
Lower 95% Mean	5,7889792
N	39

LA



Quantiles

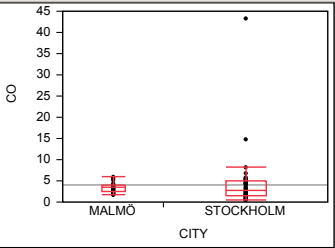
100.0%	maximum	30,7
99.5%		30,7
97.5%		30,7
90.0%		24,2
75.0%	quartile	17,4
50.0%	median	12,4
25.0%	quartile	10
10.0%		8
2.5%		7,4
0.5%		7,4
0.0%	minimum	7,4

Summary Statistics

Mean	14
Std Dev	5,694873
Std Err Mean	0,9119095
Upper 95% Mean	15,846064
Lower 95% Mean	12,153936
N	39

Where:(OBJEKT == "SOIL")

Oneway Analysis of CO By CITY



Excluded Rows 102

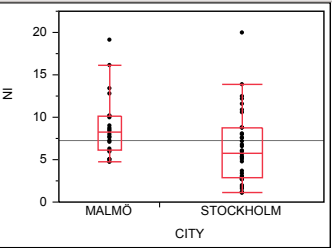
Quantiles							
Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	1,68	2,02	2,595	3,43	3,9675	5,435	5,94
STOCKHOLM	0,5	0,6	1,4	2,7	5,1	6,8	43,3

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)						
Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0	
MALMÖ	24	820,000	768,000	34,1667	0,729	
STOCKHOLM	39	1196,00	1248,00	30,6667	-0,729	

2-Sample Test, Normal Approximation			
S	Z	Prob> Z	
820	0,72903	0,4660	

1-way Test, ChiSquare Approximation			
ChiSquare	DF	Prob>ChiSq	
0,5419	1	0,4617	

Oneway Analysis of NI By CITY



Excluded Rows 102

Quantiles							
Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	4,75	4,935	6,16	8,215	10,17	14,795	19,15
STOCKHOLM	1,1	1,6	2,9	5,7	8,8	12,2	20

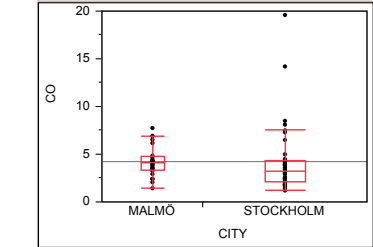
Wilcoxon / Kruskal-Wallis Tests (Rank Sums)						
Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0	
MALMÖ	24	955,000	768,000	39,7917	2,640	
STOCKHOLM	39	1061,00	1248,00	27,2051	-2,640	

2-Sample Test, Normal Approximation			
S	Z	Prob> Z	
955	2,63997	0,0083 *	

1-way Test, ChiSquare Approximation			
ChiSquare	DF	Prob>ChiSq	
7,0069	1	0,0081 *	

Where:(OBJEKT == "TILL <2 mm")

Oneway Analysis of CO By CITY



Excluded Rows 102

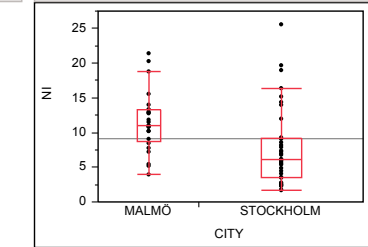
Quantiles							
Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	1,44	2,235	3,3025	4,065	4,7875	6,905	7,75
STOCKHOLM	1,2	1,7	2,1	3,2	4,3	8,1	19,6

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)						
Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0	
MALMÖ	24	884,500	768,000	36,8542	1,642	
STOCKHOLM	39	1131,50	1248,00	29,0128	-1,642	

2-Sample Test, Normal Approximation			
S	Z	Prob> Z	
884,5	1,64208	0,1006	

1-way Test, ChiSquare Approximation			
ChiSquare	DF	Prob>ChiSq	
2,7197	1	0,0991	

Oneway Analysis of NI By CITY



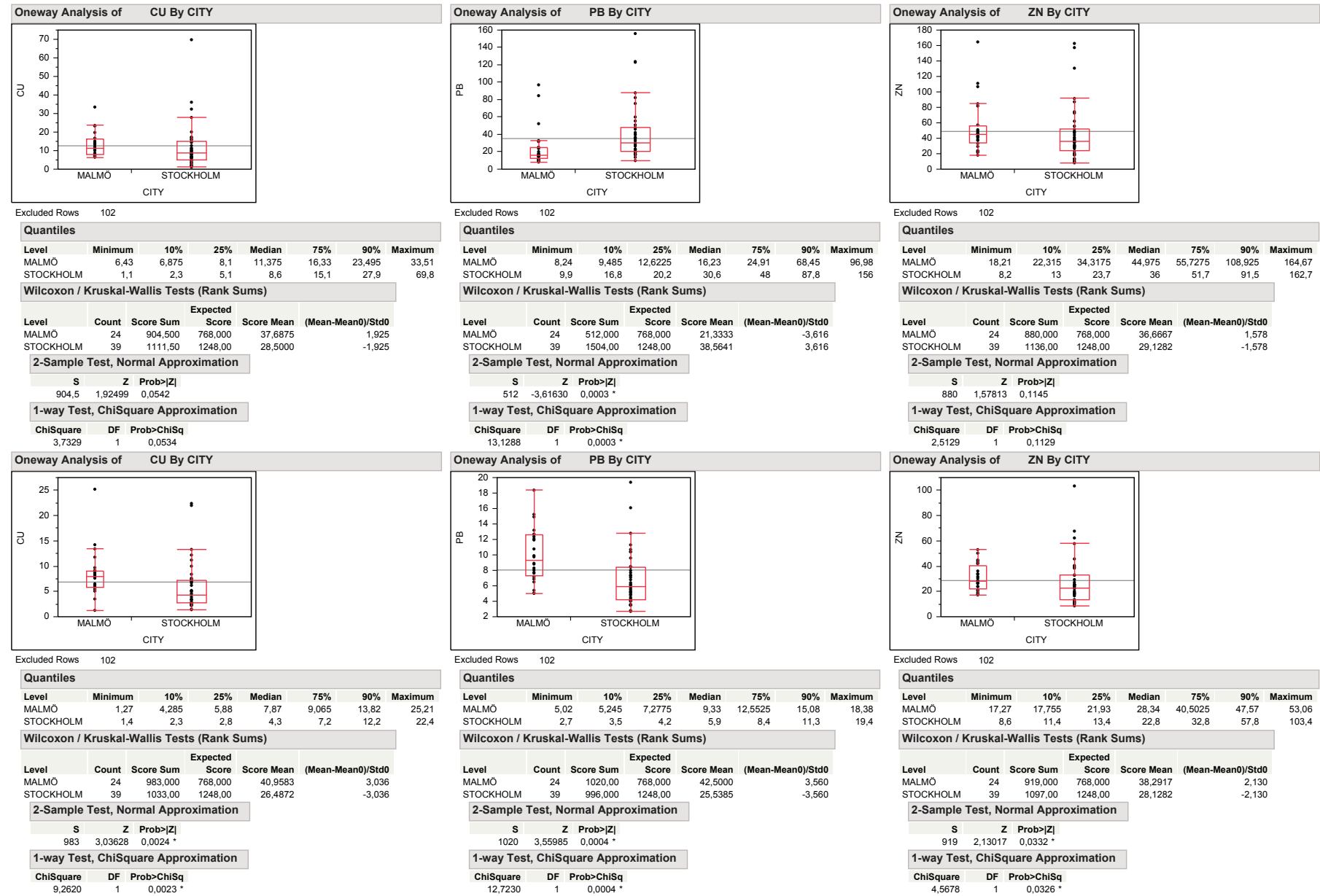
Excluded Rows 102

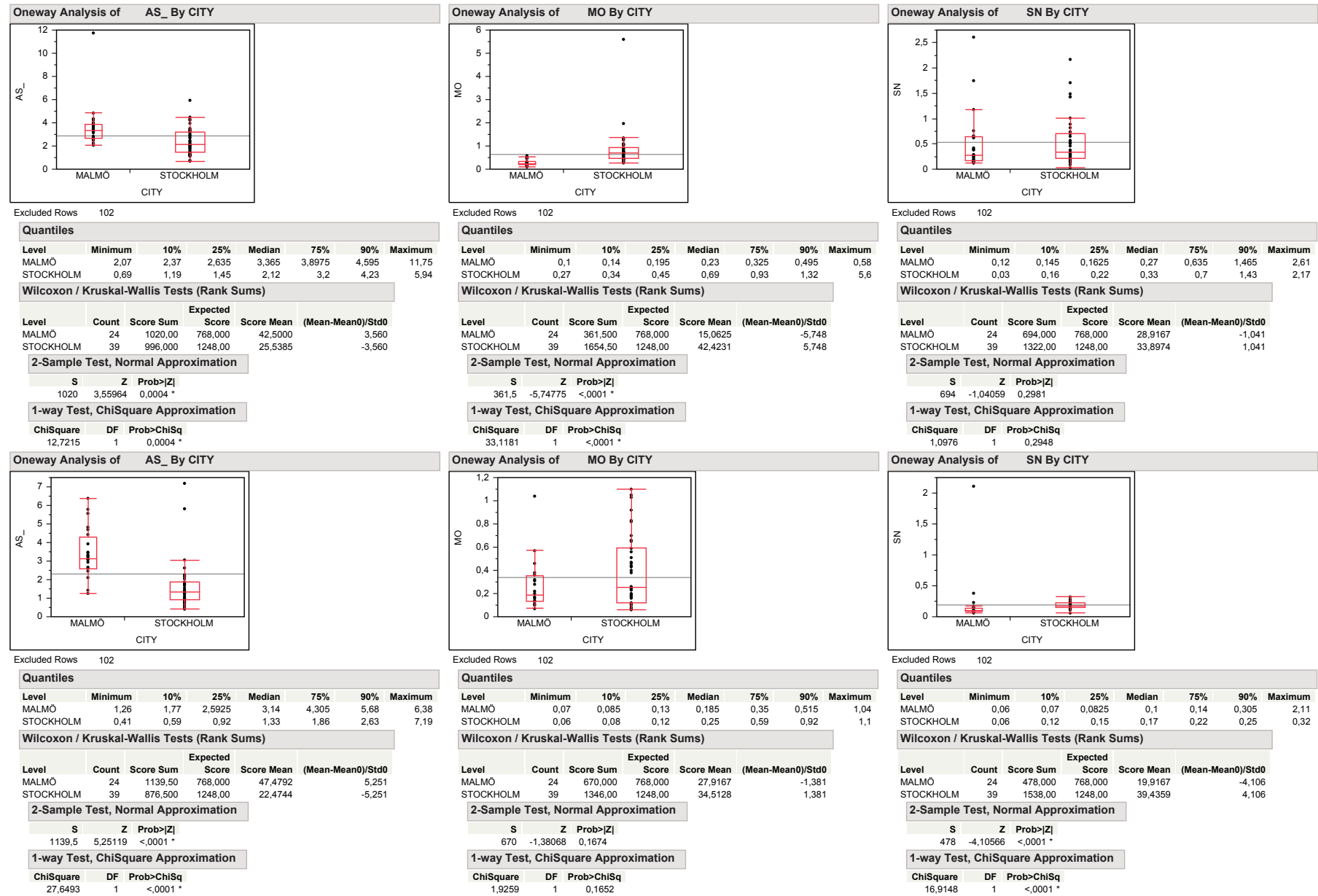
Quantiles							
Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	3,97	5,335	8,64	11	13,2725	19,555	21,43
STOCKHOLM	1,7	2,4	3,5	6,1	9,1	16,4	25,6

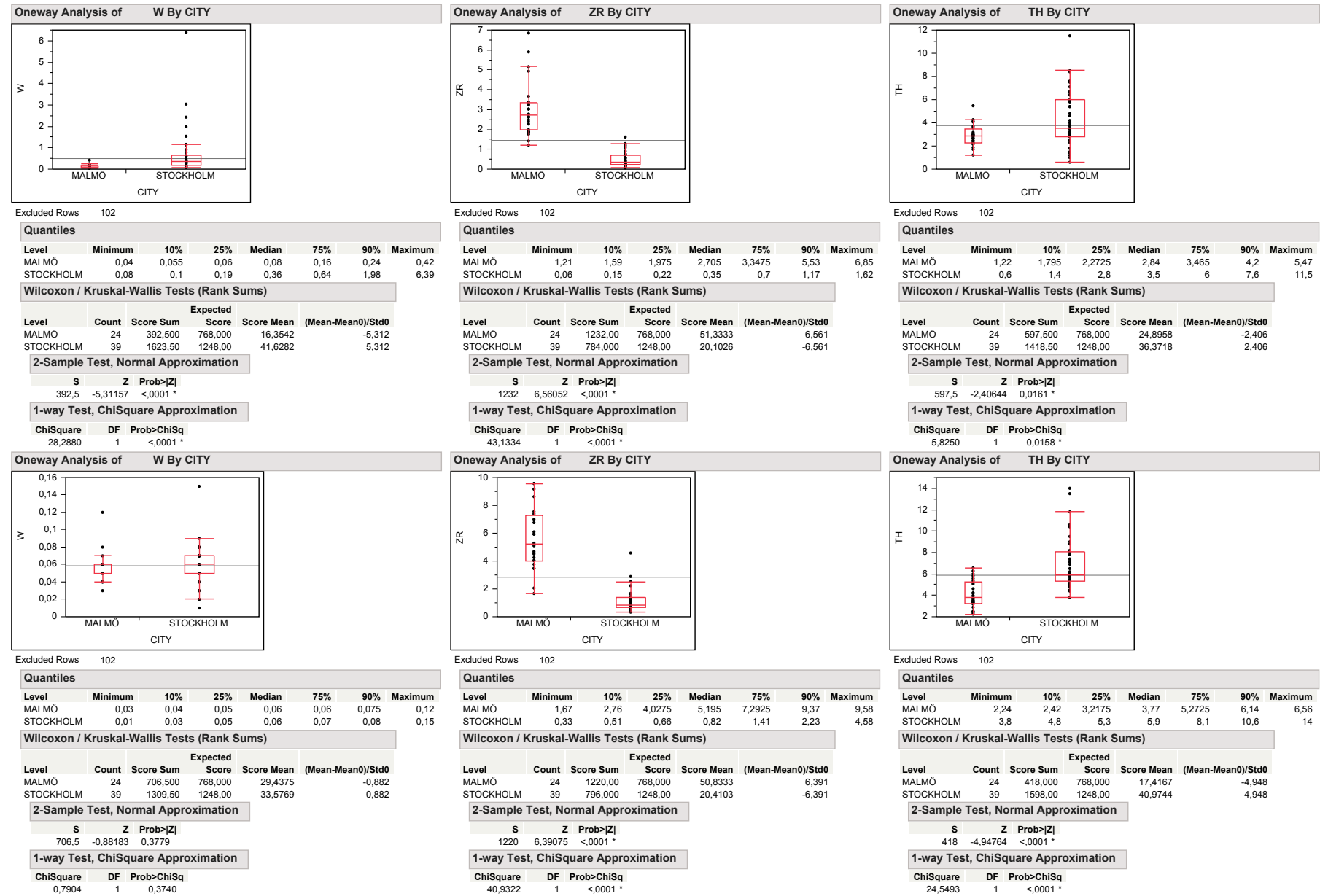
Wilcoxon / Kruskal-Wallis Tests (Rank Sums)						
Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0	
MALMÖ	24	1003,00	768,000	41,7917	3,319	
STOCKHOLM	39	1013,00	1248,00	25,9744	-3,319	

2-Sample Test, Normal Approximation			
S	Z	Prob> Z	
1003	3,31923	0,0009 *	

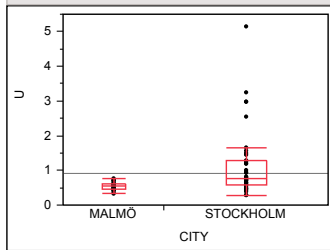
1-way Test, ChiSquare Approximation			
ChiSquare	DF	Prob>ChiSq	
11,0643	1	0,0009 *	







Oneway Analysis of U By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	0,33	0,38	0,4625	0,55	0,6175	0,72	0,77
STOCKHOLM	0,29	0,39	0,58	0,77	1,29	2,98	5,15

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	524,000	768,000	21,8333	-3,448
STOCKHOLM	39	1492,00	1248,00	38,2564	3,448

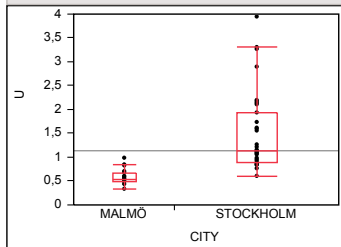
2-Sample Test, Normal Approximation

S	Z	Prob> Z
524	-3,44757	0,0006 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
11,9346	1	0,0006 *

Oneway Analysis of U By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	0,33	0,34	0,49	0,54	0,6625	0,84	0,99
STOCKHOLM	0,61	0,84	0,89	1,14	1,94	2,9	3,95

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	326,000	768,000	13,5833	-6,250
STOCKHOLM	39	1690,00	1248,00	43,3333	6,250

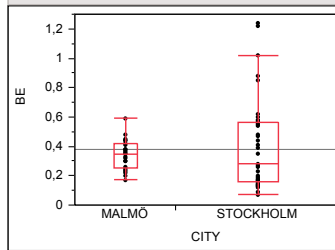
2-Sample Test, Normal Approximation

S	Z	Prob> Z
326	-6,24995	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
39,1505	1	<,0001 *

Oneway Analysis of BE By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	0,17	0,21	0,2525	0,35	0,4175	0,465	0,59
STOCKHOLM	0,07	0,13	0,16	0,28	0,56	0,88	1,24

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	794,500	768,000	33,1042	0,368
STOCKHOLM	39	1221,50	1248,00	31,3205	-0,368

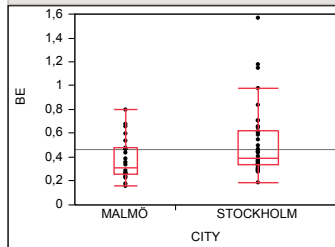
2-Sample Test, Normal Approximation

S	Z	Prob> Z
794,5	0,36812	0,7128

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,1408	1	0,7075

Oneway Analysis of BE By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	0,16	0,205	0,26	0,315	0,4775	0,67	0,8
STOCKHOLM	0,19	0,29	0,34	0,39	0,62	0,98	1,57

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	608,500	768,000	25,3542	-2,253
STOCKHOLM	39	1407,50	1248,00	36,0897	2,253

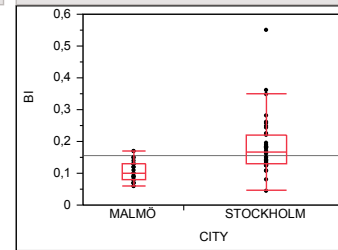
2-Sample Test, Normal Approximation

S	Z	Prob> Z
608,5	-2,25251	0,0243 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
5,1058	1	0,0238 *

Oneway Analysis of BI By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	0,06	0,065	0,08	0,1	0,13	0,16	0,17
STOCKHOLM	0,045	0,109	0,129	0,166	0,221	0,282	0,551

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	446,500	768,000	18,6042	-4,545
STOCKHOLM	39	1569,50	1248,00	40,2436	4,545

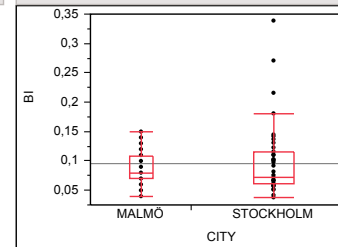
2-Sample Test, Normal Approximation

S	Z	Prob> Z
446,5	-4,54490	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
20,7205	1	<,0001 *

Oneway Analysis of BI By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	0,04	0,05	0,07	0,08	0,1075	0,135	0,15
STOCKHOLM	0,038	0,051	0,062	0,072	0,116	0,181	0,339

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

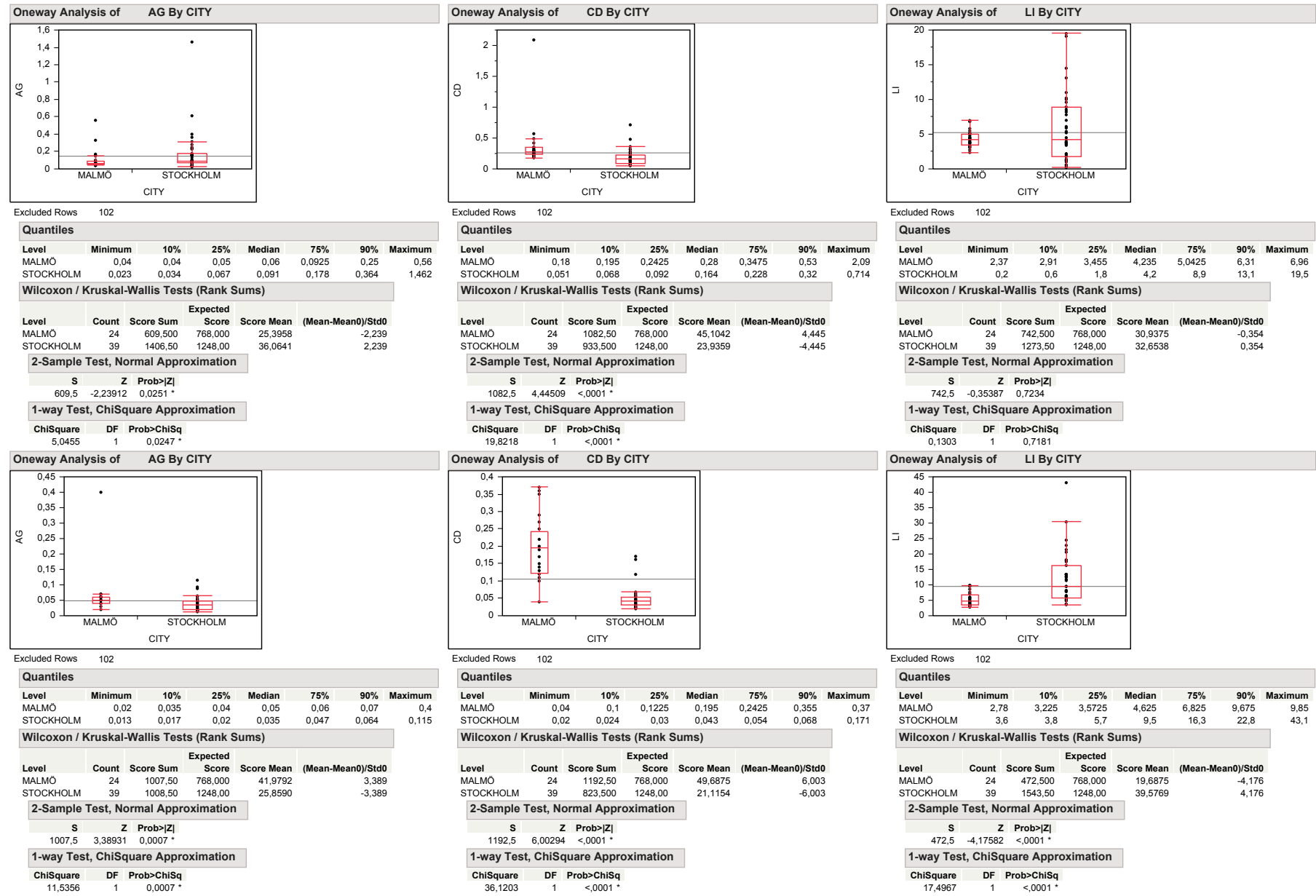
Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	798,000	768,000	33,2500	0,418
STOCKHOLM	39	1218,00	1248,00	31,2308	-0,418

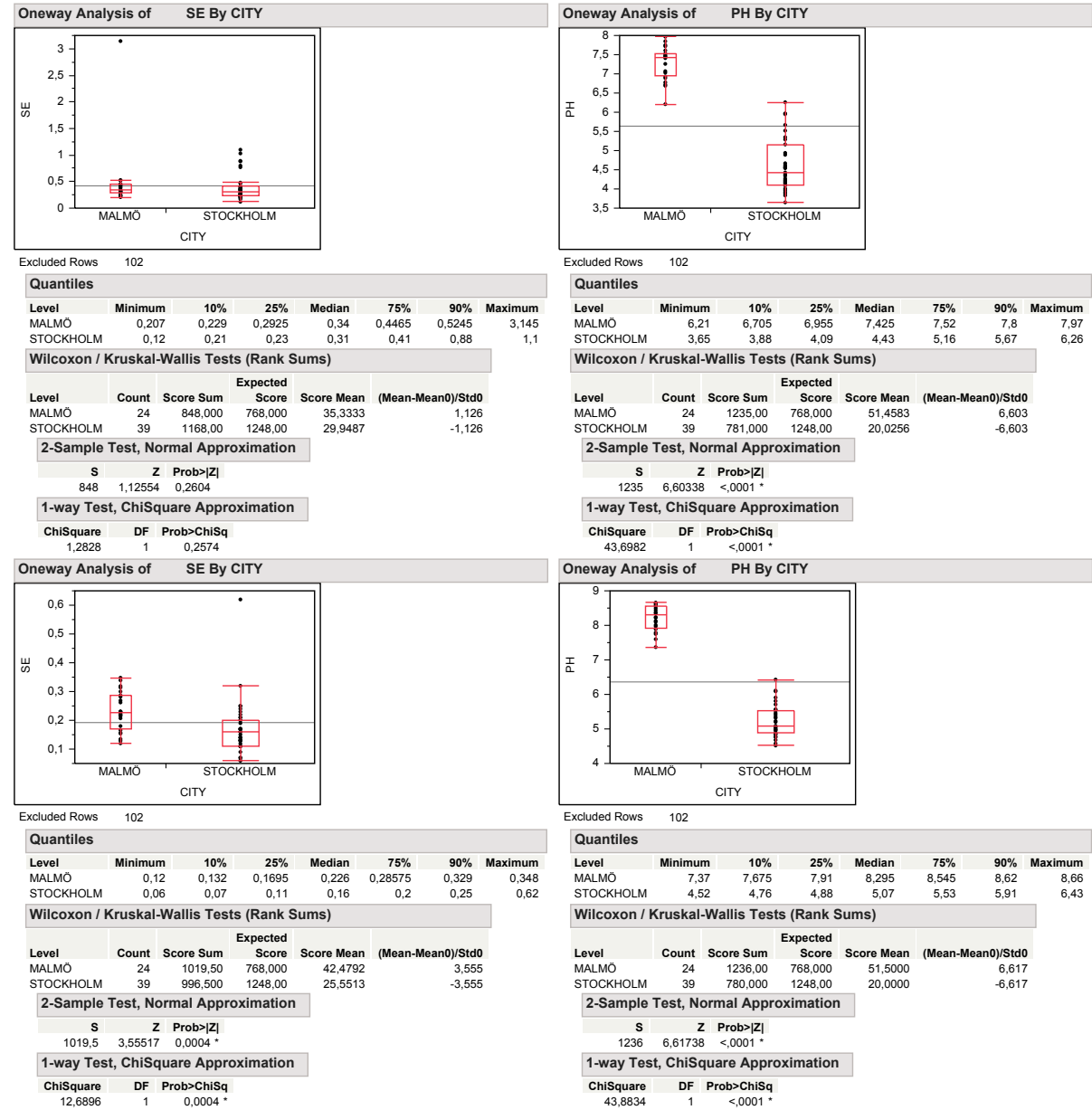
2-Sample Test, Normal Approximation

S	Z	Prob> Z
798	0,41784	0,6761

1-way Test, ChiSquare Approximation

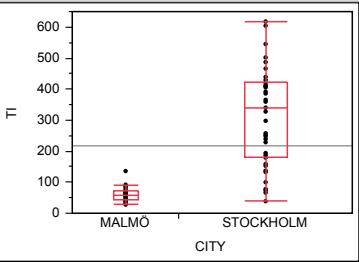
ChiSquare	DF	Prob>ChiSq
0,1806	1	0,6709





Where(:OBJEKT == "SOIL")

Oneway Analysis of TI By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	28	33,5	43,75	59,5	71	90	136
STOCKHOLM	38,95768	77,91536	179,2053	340,4302	420,7429	502,2544	617,9287

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	340,000	768,000	14,1667	-6,051
STOCKHOLM	39	1676,00	1248,00	42,9744	6,051

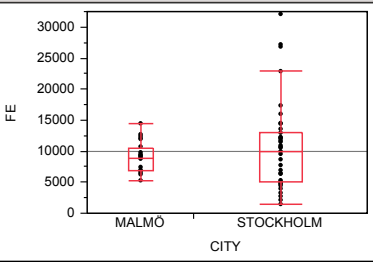
2-Sample Test, Normal Approximation

S	Z	Prob> Z
340	-6,05075	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
36,6973	1	<,0001 *

Oneway Analysis of FE By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	5291	5777	6806,75	8909	10527,75	12612	14495
STOCKHOLM	1493,285	3309,706	5110,041	9989,27	12989,83	22909,16	32126,95

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	740,000	768,000	30,8333	-0,389
STOCKHOLM	39	1276,00	1248,00	32,7179	0,389

2-Sample Test, Normal Approximation

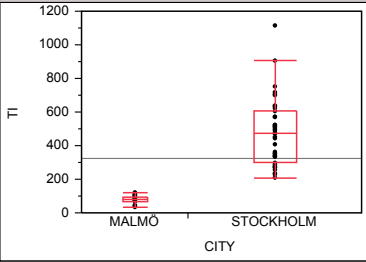
S	Z	Prob> Z
740	-0,38922	0,6971

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,1571	1	0,6919

Where(:OBJEKT == "TILL <2 mm")

Oneway Analysis of TI By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	35	40,5	68,25	80	96	110	122
STOCKHOLM	209,7721	236,1435	297,8764	470,4889	605,9417	718,6193	1115,388

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	300,000	768,000	12,5000	-6,617
STOCKHOLM	39	1716,00	1248,00	44,0000	6,617

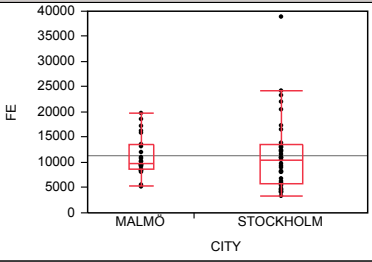
2-Sample Test, Normal Approximation

S	Z	Prob> Z
300	-6,61698	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
43,8782	1	<,0001 *

Oneway Analysis of FE By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	5247	6878,5	8568	9888,5	13546,5	17956,5	19815
STOCKHOLM	3389,441	4310,592	5785,691	10541,12	13461,24	22080,33	38943,61

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	808,000	768,000	33,6667	0,559
STOCKHOLM	39	1208,00	1248,00	30,9744	-0,559

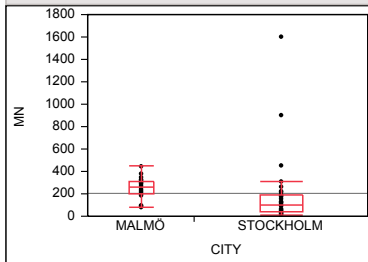
2-Sample Test, Normal Approximation

S	Z	Prob> Z
808	0,55906	0,5761

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,3205	1	0,5713

Oneway Analysis of MN By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	81	95	202,25	255,5	314,75	365	446
STOCKHOLM	10,84247	13,16585	41,04648	99,13112	185,0964	310,5592	1603,136

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	1072,00	768,000	44,6667	4,296
STOCKHOLM	39	944,000	1248,00	24,2051	-4,296

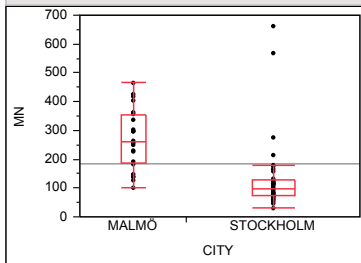
2-Sample Test, Normal Approximation

S	Z	Prob> Z
1072	4,29568	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
18,5137	1	<,0001 *

Oneway Analysis of MN By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	101	132,5	185,25	261	352	422	465
STOCKHOLM	30,20401	58,08464	72,02495	97,58219	127,0117	214,5259	662,1649

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	1135,00	768,000	47,2917	5,187
STOCKHOLM	39	881,000	1248,00	22,5897	-5,187

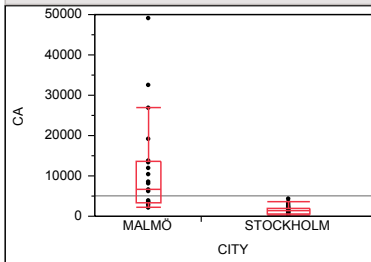
2-Sample Test, Normal Approximation

S	Z	Prob> Z
1135	5,18743	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
26,9829	1	<,0001 *

Oneway Analysis of CA By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	2169	2779,5	3446,5	6588,5	13681,75	29740,5	49147
STOCKHOLM	254,4317	337,3364	688,9668	1353,634	2012,584	3076,051	4381,086

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	1199,00	768,000	49,9583	6,093
STOCKHOLM	39	817,000	1248,00	20,9487	-6,093

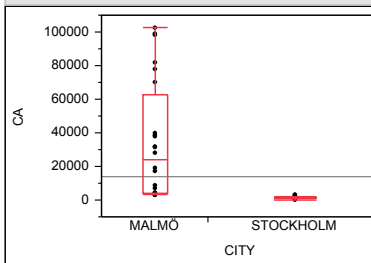
2-Sample Test, Normal Approximation

S	Z	Prob> Z
1199	6,09307	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
37,2117	1	<,0001 *

Oneway Analysis of CA By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	3062	3131	4275,75	23704,5	62668,25	98713,5	102592
STOCKHOLM	256,5758	674,6729	1037,024	1319,329	1629,507	2127,65	3251,151

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	1231,00	768,000	51,2917	6,546
STOCKHOLM	39	785,000	1248,00	20,1282	-6,546

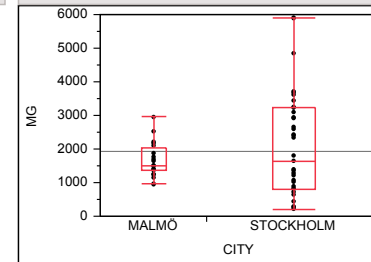
2-Sample Test, Normal Approximation

S	Z	Prob> Z
1231	6,54606	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
42,9435	1	<,0001 *

Oneway Analysis of MG By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	950	1061	1358	1507,5	2048	2738,5	2953
STOCKHOLM	211,0647	271,3688	808,6792	1649,32	3232,908	3717,753	5912,223

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	761,000	768,000	31,7083	-0,092
STOCKHOLM	39	1255,00	1248,00	32,1795	0,092

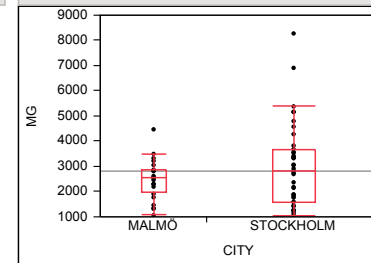
2-Sample Test, Normal Approximation

S	Z	Prob> Z
761	-0,09200	0,9267

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,0098	1	0,9211

Oneway Analysis of MG By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	1067	1333	1982,75	2554,5	2860	3412,5	4473
STOCKHOLM	1064,972	1270,006	1593,237	2828,266	3683,983	5163,245	8276,147

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	705,000	768,000	29,3750	-0,885
STOCKHOLM	39	1311,00	1248,00	33,6154	0,885

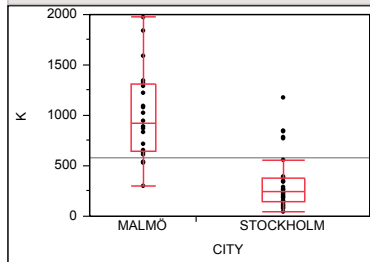
2-Sample Test, Normal Approximation

S	Z	Prob> Z
705	-0,88460	0,3764

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,7951	1	0,3726

Oneway Analysis of K By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	302	529,5	639,75	920	1315,5	1717	1976
STOCKHOLM	46,4884	105,8441	141,5406	239,0832	382,2841	786,1521	1178,859

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	1167,00	768,000	48,6250	5,640
STOCKHOLM	39	849,000	1248,00	21,7692	-5,640

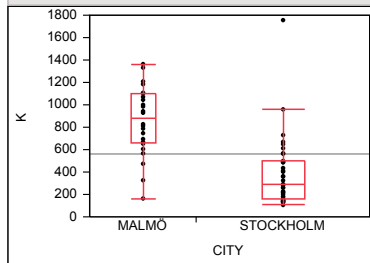
2-Sample Test, Normal Approximation

S	Z	Prob> Z
1167	5,64022	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
31,8920	1	<,0001 *

Oneway Analysis of K By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	164	400,5	657	878,5	1095,25	1270,5	1364
STOCKHOLM	105,8441	133,6542	157,7285	288,4771	495,1845	669,516	1756,182

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	1132,00	768,000	47,1667	5,145
STOCKHOLM	39	884,000	1248,00	22,6667	-5,145

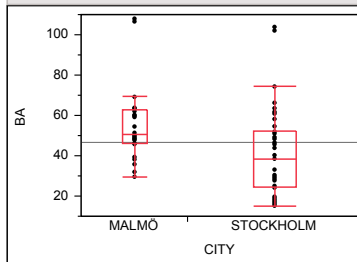
2-Sample Test, Normal Approximation

S	Z	Prob> Z
1132	5,14485	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
26,5423	1	<,0001 *

Oneway Analysis of BA By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	29,6	33,9	45,9	50,8	63	87,9	108
STOCKHOLM	15,22615	17,01746	24,18271	38,51321	51,94805	66,27854	103,8961

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	982,000	768,000	40,9167	3,022
STOCKHOLM	39	1034,00	1248,00	26,5128	-3,022

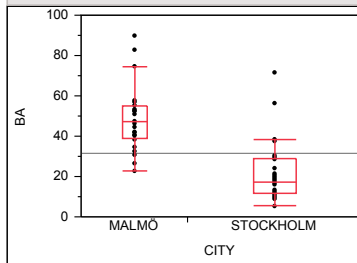
2-Sample Test, Normal Approximation

S	Z	Prob> Z
982	3,02205	0,0025 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
9,1756	1	0,0025 *

Oneway Analysis of BA By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	22,8	28,7	38,9	46,95	54,9	78,8	89,9
STOCKHOLM	5,373936	9,852216	11,64353	17,01746	28,66099	38,51321	71,65248

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	1168,00	768,000	48,6667	5,656
STOCKHOLM	39	848,000	1248,00	21,7436	-5,656

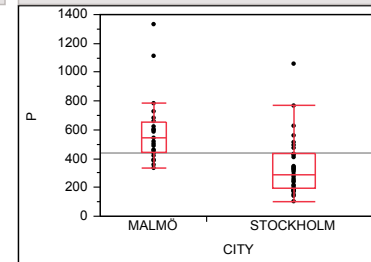
2-Sample Test, Normal Approximation

S	Z	Prob> Z
1168	5,65621	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
32,0728	1	<,0001 *

Oneway Analysis of P By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	336	373	445,75	543,5	651,75	949,5	1334
STOCKHOLM	104,7429	151,8772	195,9565	289,3522	432,9373	561,6837	1059,649

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	1091,00	768,000	45,4583	4,565
STOCKHOLM	39	925,000	1248,00	23,7179	-4,565

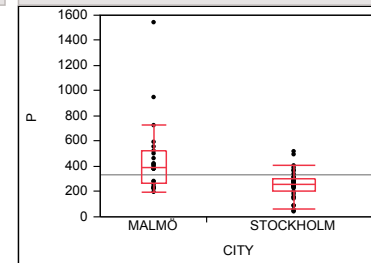
2-Sample Test, Normal Approximation

S	Z	Prob> Z
1091	4,56455	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
20,8997	1	<,0001 *

Oneway Analysis of P By CITY



Excluded Rows 102

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	199	227	266,75	394	520,5	839,5	1545
STOCKHOLM	44,0793	89,90431	200,7572	257,4929	298,0808	390,6037	521,0959

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

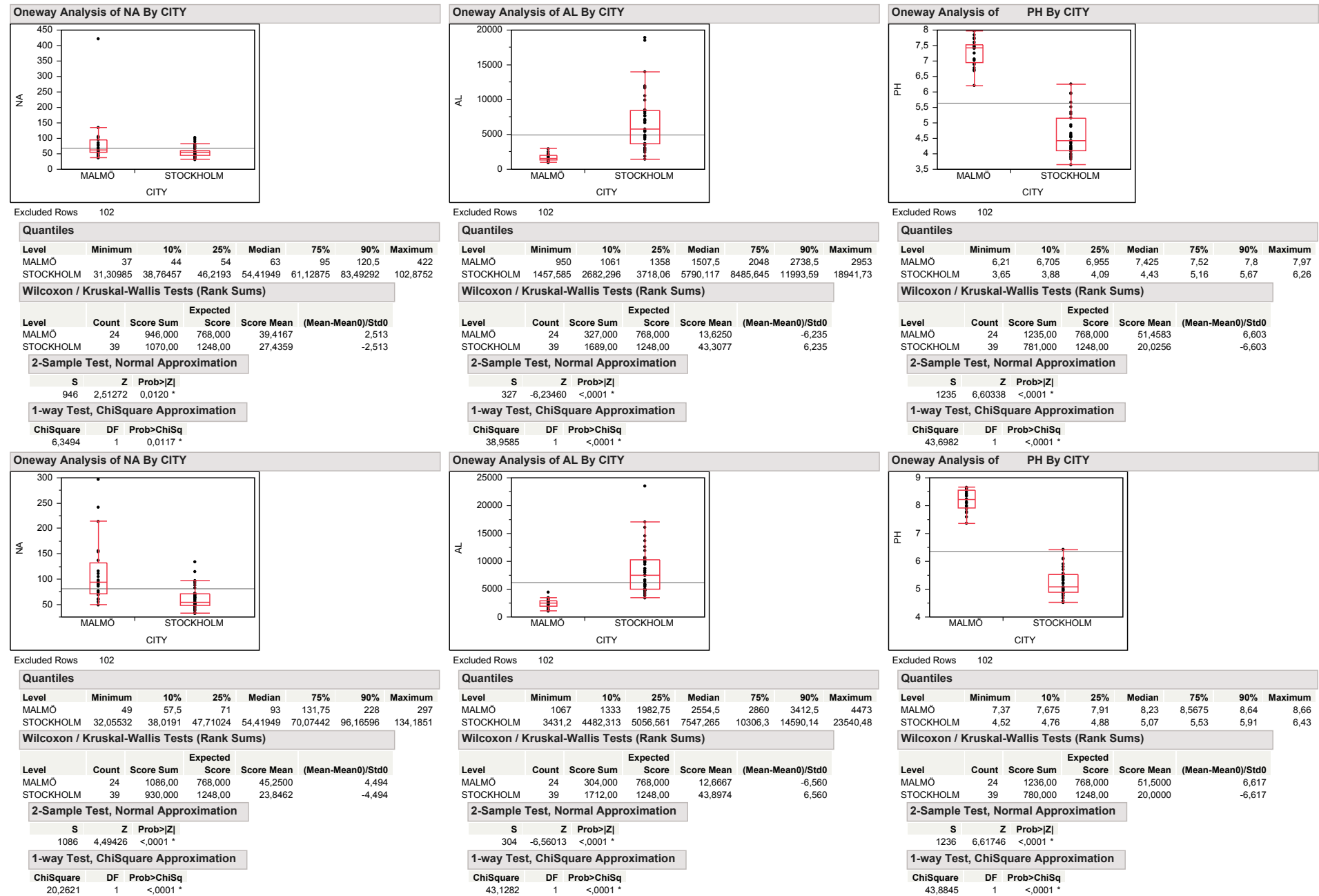
Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	1023,00	768,000	42,6250	3,602
STOCKHOLM	39	993,000	1248,00	25,4615	-3,602

2-Sample Test, Normal Approximation

S	Z	Prob> Z
1023	3,60206	0,0003 *

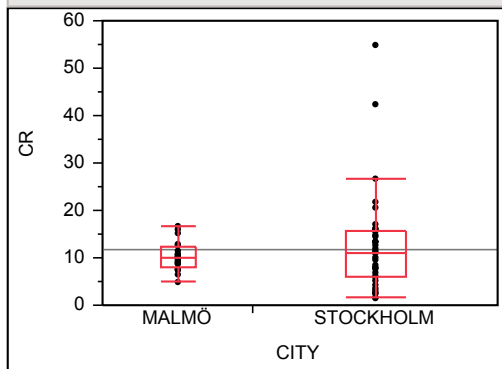
1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
13,0258	1	0,0003 *



Fit Y by X Group

Oneway Analysis of CR By CITY OBJEKT=SOIL



Missing Rows 63

Excluded Rows 39

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	4,9	6,95	7,875	10,05	12,325	15,95	16,7
STOCKHOLM	1,5	2,6	5,9	11,1	15,7	21,8	54,9

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	742,500	768,000	30,9375	-0,354
STOCKHOLM	39	1273,50	1248,00	32,6538	0,354

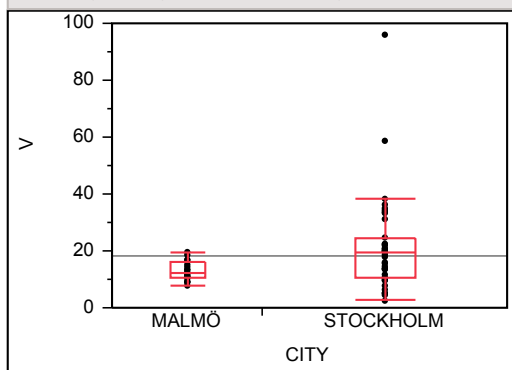
2-Sample Test, Normal Approximation

S	Z	Prob> Z
742,5	-0,35387	0,7234

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,1303	1	0,7181

Oneway Analysis of V By CITY OBJEKT=SOIL



Missing Rows 63

Excluded Rows 39

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	7,8	9,05	10,6	12,2	16,25	18,55	19,6
STOCKHOLM	2,5	5,2	10,7	19,5	24,7	36,3	96

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	583,000	768,000	24,2917	-2,612
STOCKHOLM	39	1433,00	1248,00	36,7436	2,612

2-Sample Test, Normal Approximation

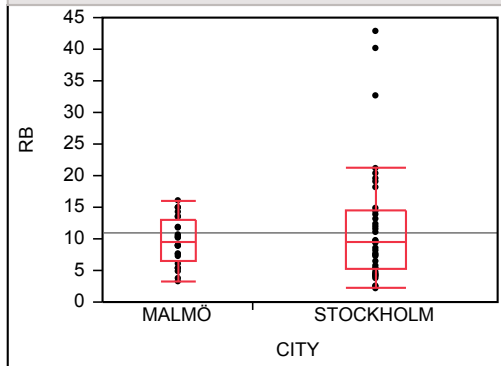
S	Z	Prob> Z
583	-2,61153	0,0090 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
6,8571	1	0,0088 *

Fit Y by X Group

Oneway Analysis of RB By CITY OBJEKT=SOIL



Missing Rows 63

Excluded Rows 39

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Malmö	3,3	4,35	6,4	9,6	13,1	15	16,1
STOCKHOLM	2,2	3,8	5,3	9,4	14,4	21,2	42,9

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
Malmö	24	772,500	768,000	32,1875	0,057
STOCKHOLM	39	1243,50	1248,00	31,8846	-0,057

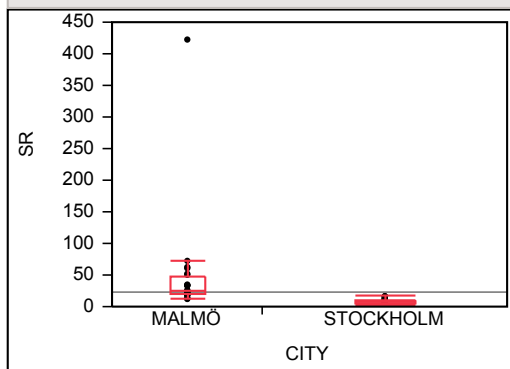
2-Sample Test, Normal Approximation

S	Z	Prob> Z
772,5	0,05662	0,9548

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,0041	1	0,9492

Oneway Analysis of SR By CITY OBJEKT=SOIL



Missing Rows 63

Excluded Rows 39

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Malmö	12,1	13,6	19,175	24,35	46,45	67,5	422,5
STOCKHOLM	2,5	3,5	5	7,2	10	14,3	16,5

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
Malmö	24	1222,00	768,000	50,9167	6,419
STOCKHOLM	39	794,000	1248,00	20,3590	-6,419

2-Sample Test, Normal Approximation

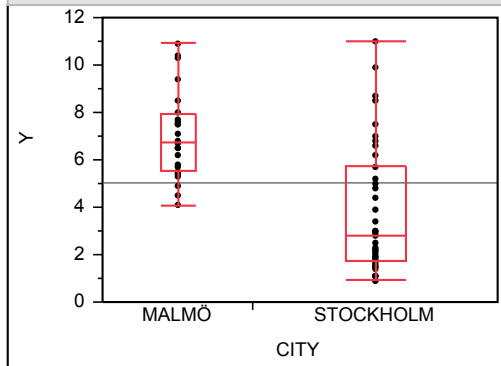
S	Z	Prob> Z
1222	6,41906	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
41,2952	1	<,0001 *

Fit Y by X Group

Oneway Analysis of Y By CITY OBJEKT=SOIL



Missing Rows 63

Excluded Rows 39

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	4,1	4,7	5,55	6,75	7,925	10,35	10,9
STOCKHOLM	0,9	1,1	1,7	2,8	5,7	8,5	11

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	1076,00	768,000	44,8333	4,353
STOCKHOLM	39	940,000	1248,00	24,1026	-4,353

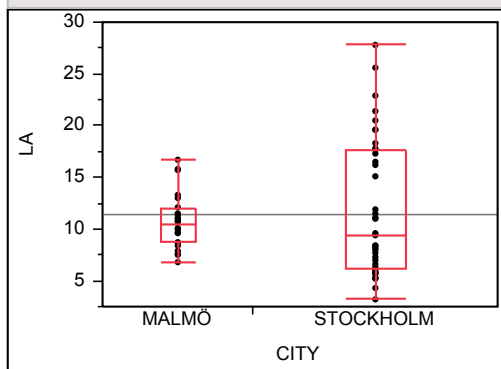
2-Sample Test, Normal Approximation

S	Z	Prob> Z
1076	4,35313	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
19,0114	1	<,0001 *

Oneway Analysis of LA By CITY OBJEKT=SOIL



Missing Rows 63

Excluded Rows 39

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	6,8	7,55	8,7	10,4	11,95	15,75	16,7
STOCKHOLM	3,2	5,3	6,1	9,4	17,7	21,4	27,8

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	801,000	768,000	33,3750	0,460
STOCKHOLM	39	1215,00	1248,00	31,1538	-0,460

2-Sample Test, Normal Approximation

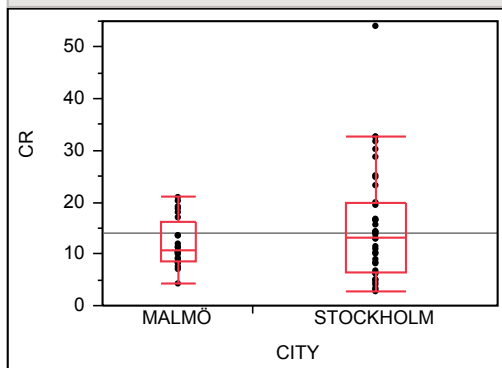
S	Z	Prob> Z
801	0,46007	0,6455

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,2182	1	0,6404

Fit Y by X Group

Oneway Analysis of CR By CITY OBJEKT=TILL <2 mm



Missing Rows 63

Excluded Rows 39

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	4,3	7,35	8,65	10,55	16,225	19,75	21
STOCKHOLM	2,8	4,1	6,4	13	20	31,8	54,1

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	732,500	768,000	30,5208	-0,495
STOCKHOLM	39	1283,50	1248,00	32,9103	0,495

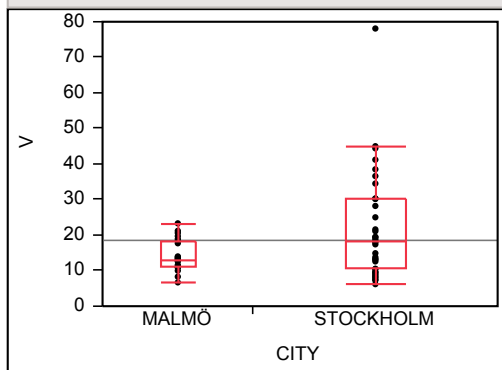
2-Sample Test, Normal Approximation

S	Z	Prob> Z
732,5	-0,49540	0,6203

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,2525	1	0,6153

Oneway Analysis of V By CITY OBJEKT=TILL <2 mm



Missing Rows 63

Excluded Rows 39

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	6,7	9,15	11,1	12,9	18,15	20,9	23,3
STOCKHOLM	6,2	8	10,5	18,1	30,2	41,2	78,1

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	653,000	768,000	27,2083	-1,621
STOCKHOLM	39	1363,00	1248,00	34,9487	1,621

2-Sample Test, Normal Approximation

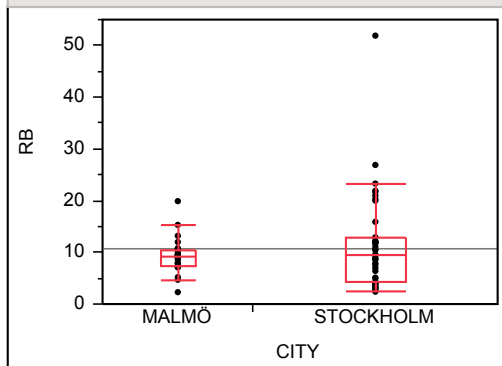
S	Z	Prob> Z
653	-1,62080	0,1051

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
2,6500	1	0,1035

Fit Y by X Group

Oneway Analysis of RB By CITY OBJEKT=TILL <2 mm



Missing Rows 63

Excluded Rows 39

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Malmö	2,3	4,95	7,25	9,25	10,5	14,25	19,9
Stockholm	2,4	3,1	4,3	9,6	12,9	21,9	51,9

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
Malmö	24	738,500	768,000	30,7708	-0,411
Stockholm	39	1277,50	1248,00	32,7564	0,411

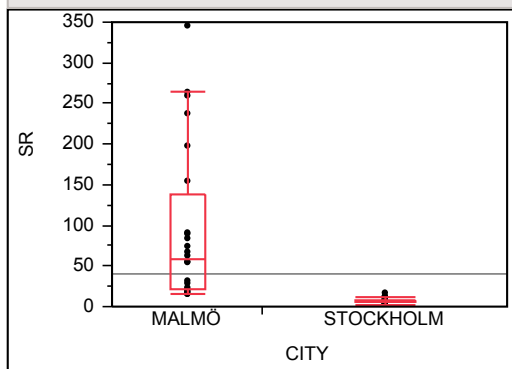
2-Sample Test, Normal Approximation

S	Z	Prob> Z
738,5	-0,41057	0,6814

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,1744	1	0,6762

Oneway Analysis of SR By CITY OBJEKT=TILL <2 mm



Missing Rows 63

Excluded Rows 39

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
Malmö	15,7	16,1	21,975	59,3	139	262,1	346
Stockholm	2,5	4,2	5,3	6,4	8,2	11,4	17,3

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
Malmö	24	1233,00	768,000	51,3750	6,575
Stockholm	39	783,000	1248,00	20,0769	-6,575

2-Sample Test, Normal Approximation

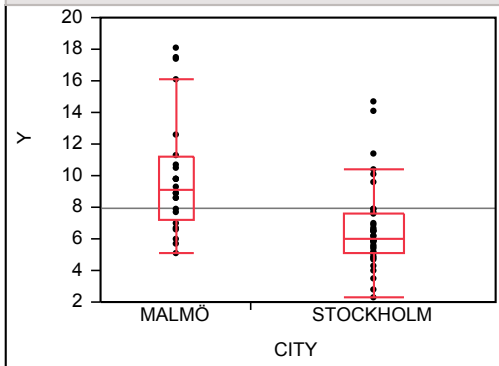
S	Z	Prob> Z
1233	6,57491	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
43,3226	1	<,0001 *

Fit Y by X Group

Oneway Analysis of Y By CITY OBJEKT=TILL <2 mm



Missing Rows 63

Excluded Rows 39

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	5,1	5,85	7,175	9,1	11,15	17,45	18,1
STOCKHOLM	2,3	4	5,1	6	7,6	10,4	14,7

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	1053,50	768,000	43,8958	4,035
STOCKHOLM	39	962,500	1248,00	24,6795	-4,035

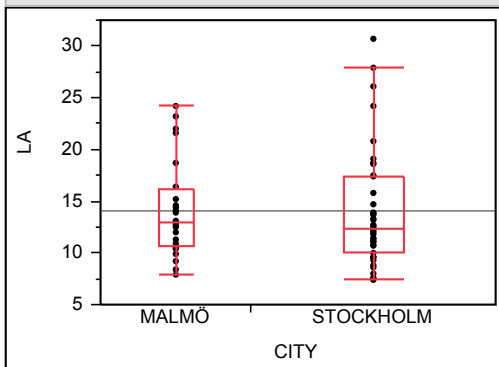
2-Sample Test, Normal Approximation

S	Z	Prob> Z
1053,5	4,03538	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
16,3415	1	<,0001 *

Oneway Analysis of LA By CITY OBJEKT=TILL <2 mm



Missing Rows 63

Excluded Rows 39

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
MALMÖ	7,9	8,8	10,6	13	16,1	22,6	24,2
STOCKHOLM	7,4	8	10	12,4	17,4	24,2	30,7

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
MALMÖ	24	808,500	768,000	33,6875	0,566
STOCKHOLM	39	1207,50	1248,00	30,9615	-0,566

2-Sample Test, Normal Approximation

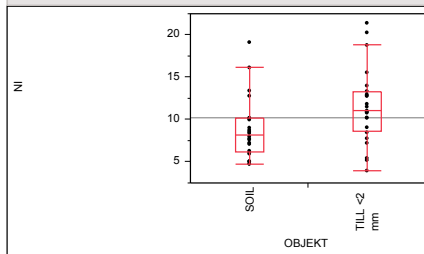
S	Z	Prob> Z
808,5	0,56619	0,5713

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,3286	1	0,5665

Where(CITY == "MALMÖ")

Oneway Analysis of NI By OBJEKT



Excluded Rows 48

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	4,75	4,935	6,16	8,215	10,17	14,795	19,15
TILL <2 mm	3,97	5,335	8,64	11	13,2725	19,555	21,43

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	24	462,000	588,000	19,2500	-2,588
TILL <2 mm	24	714,000	588,000	29,7500	2,588

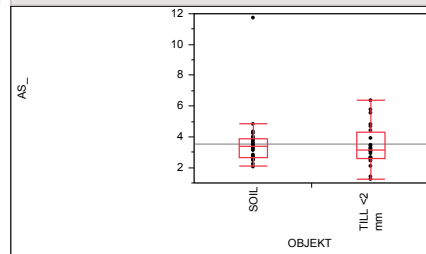
2-Sample Test, Normal Approximation

S	Z	Prob> Z
714	2,58777	0,0097 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
6,7500	1	0,0094 *

Oneway Analysis of AS_ By OBJEKT



Excluded Rows 48

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	2,07	2,37	2,635	3,365	3,8975	4,595	11,75
TILL <2 mm	1,26	1,77	2,5925	3,14	4,305	5,68	6,38

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	24	607,000	588,000	25,2917	0,381
TILL <2 mm	24	569,000	588,000	23,7083	-0,381

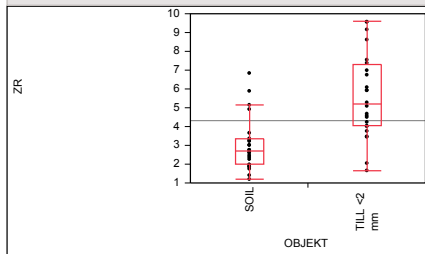
2-Sample Test, Normal Approximation

S	Z	Prob> Z
569	-0,38147	0,7029

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,1535	1	0,6952

Oneway Analysis of ZR By OBJEKT



Excluded Rows 48

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	1,21	1,59	1,975	2,705	3,3475	5,53	6,85
TILL <2 mm	1,67	2,76	4,0275	5,195	7,2925	9,37	9,58

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Expected		Score Mean	(Mean-Mean0)/Std0
		Score Sum	Score		
SOIL	24	386,000	588,000	16,0833	-4,155
TILL <2 mm	24	790,000	588,000	32,9167	4,155

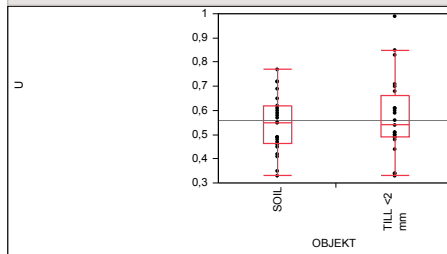
2-Sample Test, Normal Approximation

S	Z	Prob> Z
790	4,15486	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
17,3486	1	<,0001 *

Oneway Analysis of U By OBJEKT



Excluded Rows 48

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	0,33	0,38	0,4625	0,55	0,6175	0,72	0,77
TILL <2 mm	0,33	0,34	0,49	0,54	0,6625	0,84	0,99

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

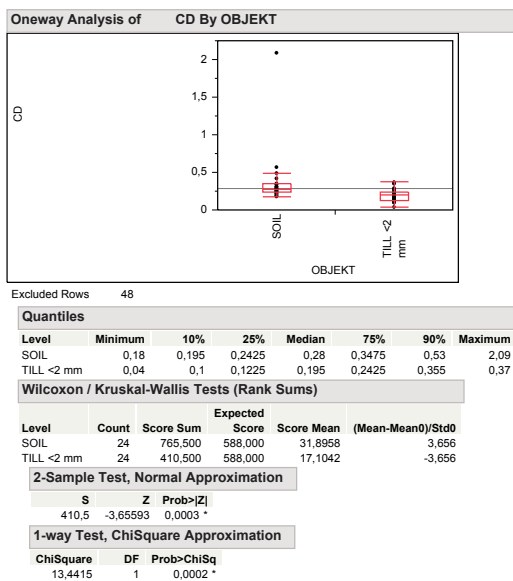
Level	Count	Expected		Score Mean	(Mean-Mean0)/Std0
		Score Sum	Score		
SOIL	24	563,000	588,000	23,4583	-0,506
TILL <2 mm	24	613,000	588,000	25,5417	0,506

2-Sample Test, Normal Approximation

S	Z	Prob> Z
613	0,50565	0,6131

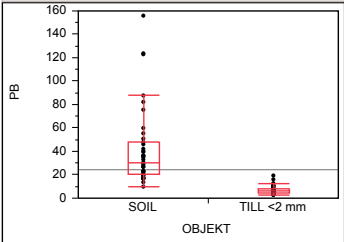
1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,2662	1	0,6059



Where(CITY == "STOCKHOLM")

Oneway Analysis of PB By OBJEKT



Excluded Rows 156

Quantiles							
Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	9,9	16,8	20,2	30,6	48	87,8	156
TILL <2 mm	2,7	3,5	4,2	5,9	8,4	11,3	19,4

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	39	2286,00	1540,50	58,6154	7,445
TILL <2 mm	39	795,000	1540,50	20,3846	-7,445

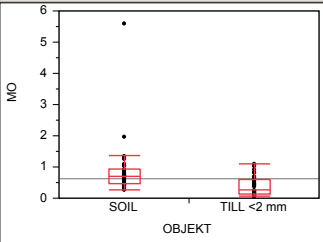
2-Sample Test, Normal Approximation

S	Z	Prob> Z
795	-7,44545	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
55,5091	1	<,0001 *

Oneway Analysis of MO By OBJEKT



Excluded Rows 156

Quantiles							
Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	0,27	0,34	0,45	0,69	0,93	1,32	5,6
TILL <2 mm	0,06	0,08	0,12	0,25	0,59	0,92	1,1

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	39	1987,50	1540,50	50,9615	4,463
TILL <2 mm	39	1093,50	1540,50	28,0385	-4,463

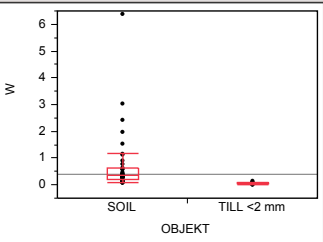
2-Sample Test, Normal Approximation

S	Z	Prob> Z
1093,5	-4,46269	<,0001 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
19,9603	1	<,0001 *

Oneway Analysis of W By OBJEKT



Excluded Rows 156

Quantiles							
Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	0,08	0,1	0,19	0,36	0,64	1,98	6,39
TILL <2 mm	0,01	0,03	0,05	0,06	0,07	0,08	0,15

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

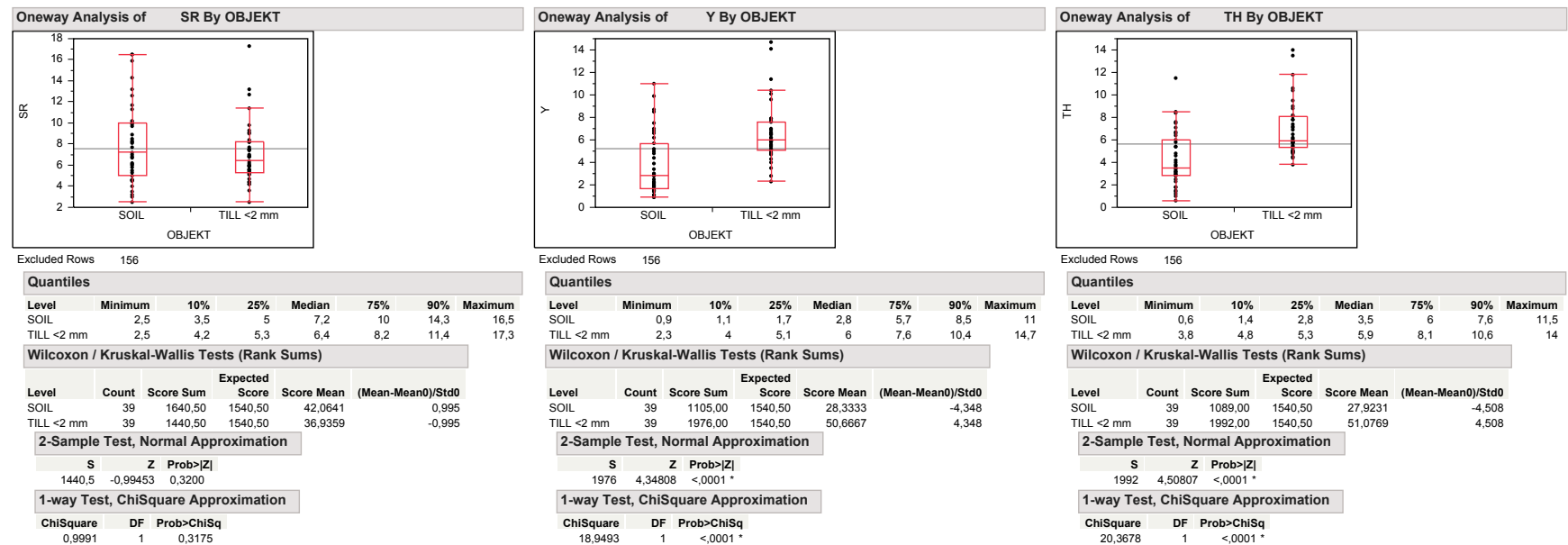
Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	39	2291,00	1540,50	58,7436	7,512
TILL <2 mm	39	790,000	1540,50	20,2564	-7,512

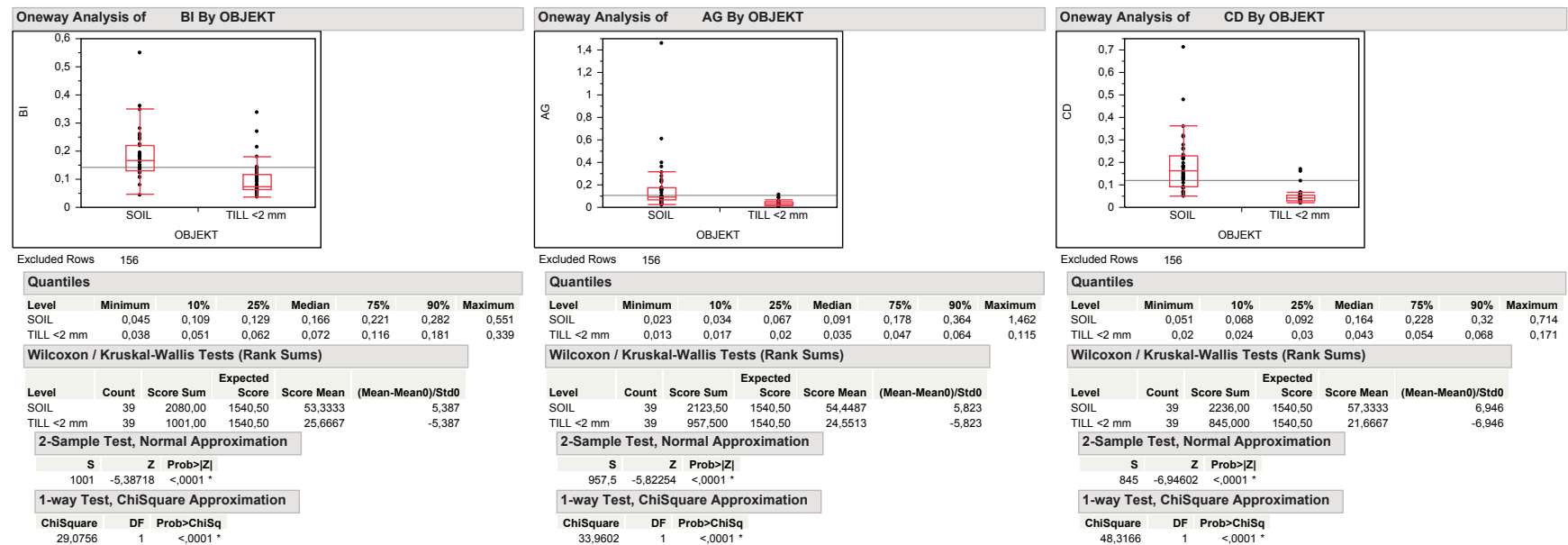
2-Sample Test, Normal Approximation

S	Z	Prob> Z
790	-7,51153	<,0001 *

1-way Test, ChiSquare Approximation

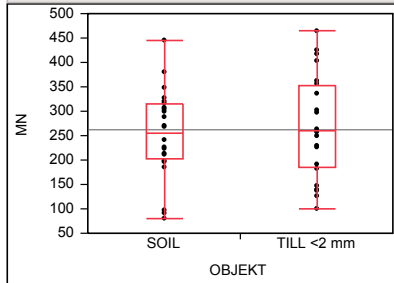
ChiSquare	DF	Prob>ChiSq
56,4984	1	<,0001 *





Fit Y by X Group

Oneway Analysis of MN By OBJEKT CITY=MALMÖ



Excluded Rows 48

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	81	95	202,25	255,5	314,75	365	446
TILL <2 mm	101	132,5	185,25	261	352	422	465

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	24	567,500	588,000	23,6458	-0,412
TILL <2 mm	24	608,500	588,000	25,3542	0,412

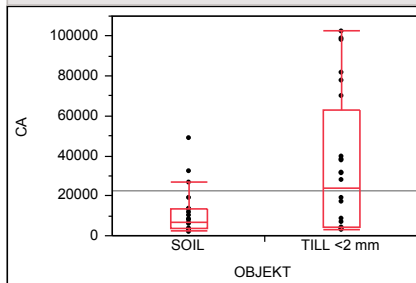
2-Sample Test, Normal Approximation

S	Z	Prob> Z
608,5	0,41242	0,6800

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,1787	1	0,6725

Oneway Analysis of CA By OBJEKT CITY=MALMÖ



Excluded Rows 48

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	2169	2779,5	3446,5	6588,5	13681,75	29740,5	49147
TILL <2 mm	3062	3131	4275,75	23704,5	62668,25	98713,5	102592

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	24	468,000	588,000	19,5000	-2,464
TILL <2 mm	24	708,000	588,000	29,5000	2,464

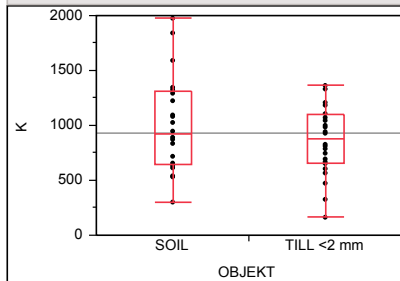
2-Sample Test, Normal Approximation

S	Z	Prob> Z
708	2,46412	0,0137 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
6,1228	1	0,0133 *

Oneway Analysis of K By OBJEKT CITY=MALMÖ



Excluded Rows 48

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	302	529,5	639,75	920	1315,5	1717	1976
TILL <2 mm	164	400,5	657	878,5	1095,25	1270,5	1364

Fit Y by X Group

Oneway Analysis of K By OBJEKT CITY=MALMÖ

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	24	631,000	588,000	26,2917	0,876
TILL <2 mm	24	545,000	588,000	22,7083	-0,876

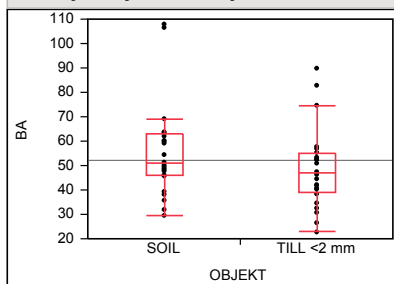
2-Sample Test, Normal Approximation

S	Z	Prob> Z
545	-0,87634	0,3808

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,7861	1	0,3753

Oneway Analysis of BA By OBJEKT CITY=MALMÖ



Excluded Rows 48

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	29,6	33,9	45,9	50,8	63	87,9	108
TILL <2 mm	22,8	28,7	38,9	46,95	54,9	78,8	89,9

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	24	657,000	588,000	27,3750	1,412
TILL <2 mm	24	519,000	588,000	21,6250	-1,412

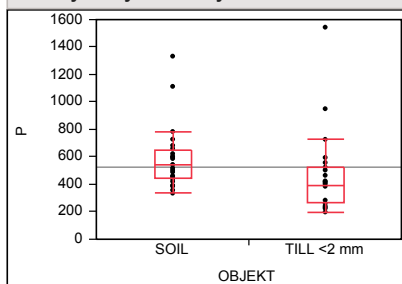
2-Sample Test, Normal Approximation

S	Z	Prob> Z
519	-1,41245	0,1578

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
2,0242	1	0,1548

Oneway Analysis of P By OBJEKT CITY=MALMÖ



Excluded Rows 48

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	336	373	445,75	543,5	651,75	949,5	1334
TILL <2 mm	199	227	266,75	394	520,5	839,5	1545

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	24	729,500	588,000	30,3958	2,907
TILL <2 mm	24	446,500	588,000	18,6042	-2,907

2-Sample Test, Normal Approximation

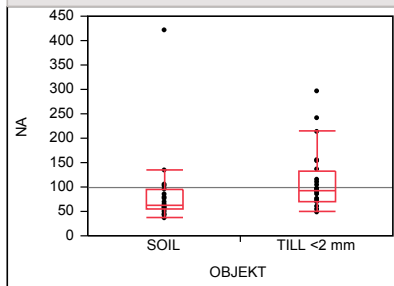
S	Z	Prob> Z
446,5	-2,90745	0,0036 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
8,5133	1	0,0035 *

Fit Y by X Group

Oneway Analysis of NA By OBJEKT CITY=MALMÖ



Excluded Rows 48

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	37	44	54	63	95	120,5	422
TILL <2 mm	49	57,5	71	93	131,75	228	297

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	24	461,500	588,000	19,2292	-2,599
TILL <2 mm	24	714,500	588,000	29,7708	2,599

2-Sample Test, Normal Approximation

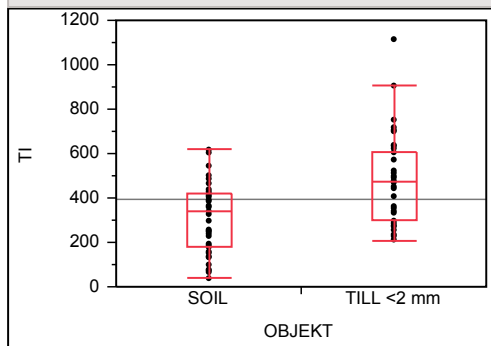
S	Z	Prob> Z
714,5	2,59878	0,0094 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
6,8074	1	0,0091 *

Fit Y by X Group

Oneway Analysis of TI By OBJEKT CITY=STOCKHOLM



Excluded Rows 156

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	38,95768	77,91536	179,2053	340,4302	420,7429	502,2544	617,9287
TILL <2 mm	209,7721	236,1435	297,8764	470,4889	605,9417	718,6193	1115,388

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	39	1196,00	1540,50	30,6667	-3,438
TILL <2 mm	39	1885,00	1540,50	48,3333	3,438

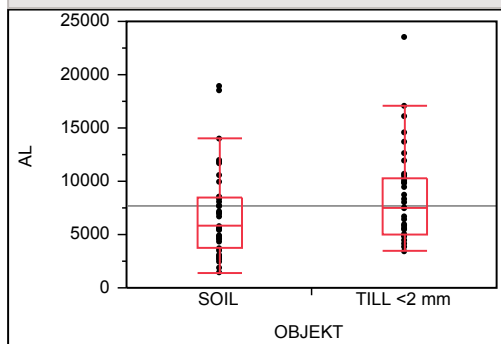
2-Sample Test, Normal Approximation

S	Z	Prob> Z
1885	3,43777	0,0006 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
11,8526	1	0,0006 *

Oneway Analysis of AL By OBJEKT CITY=STOCKHOLM



Excluded Rows 156

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	1457,585	2682,296	3718,06	5790,117	8485,645	11993,59	18941,73
TILL <2 mm	3431,2	4482,313	5056,561	7547,265	10306,3	14590,14	23540,48

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	39	1353,00	1540,50	34,6923	-1,869
TILL <2 mm	39	1728,00	1540,50	44,3077	1,869

2-Sample Test, Normal Approximation

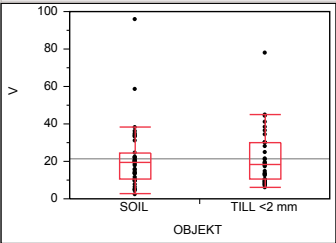
S	Z	Prob> Z
1728	1,86876	0,0617

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
3,5110	1	0,0610

Where(:CITY == "STOCKHOLM")

Oneway Analysis of V By OBJEKT



Missing Rows 156

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	2,5	5,2	10,7	19,5	24,7	36,3	96
TILL <2 mm	6,2	8	10,5	18,1	30,2	41,2	78,1

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	39	1554,50	1540,50	39,8590	0,135
TILL <2 mm	39	1526,50	1540,50	39,1410	-0,135

2-Sample Test, Normal Approximation

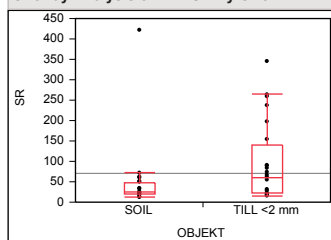
S	Z	Prob> Z
1526,5	-0,13491	0,8927

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
0,0196	1	0,8887

Where(CITY == "MALMÖ")

Oneway Analysis of SR By OBJEKT



Missing Rows 48

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	12,1	13,6	19,175	24,35	46,45	67,5	422,5
TILL <2 mm	15,7	16,1	21,975	59,3	139	262,1	346

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	24	486,500	588,000	20,2708	-2,083
TILL <2 mm	24	689,500	588,000	28,7292	2,083

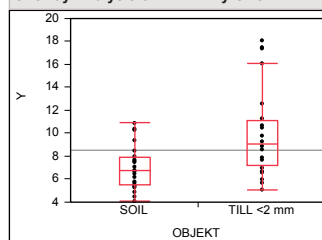
2-Sample Test, Normal Approximation

S	Z	Prob> Z
689,5	2,08264	0,0373 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
4,3804	1	0,0364 *

Oneway Analysis of Y By OBJEKT



Missing Rows 48

Quantiles

Level	Minimum	10%	25%	Median	75%	90%	Maximum
SOIL	4,1	4,7	5,55	6,75	7,925	10,35	10,9
TILL <2 mm	5,1	5,85	7,175	9,1	11,15	17,45	18,1

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Expected Score	Score Mean	(Mean-Mean0)/Std0
SOIL	24	434,500	588,000	18,1042	-3,156
TILL <2 mm	24	741,500	588,000	30,8958	3,156

2-Sample Test, Normal Approximation

S	Z	Prob> Z
741,5	3,15575	0,0016 *

1-way Test, ChiSquare Approximation

ChiSquare	DF	Prob>ChiSq
10,0239	1	0,0015 *

Appendix 13. Coordinates of the topsoil and deeper till samples

Sampling sites in Stockholm			Sampling sites in Malmö		
Label	N	E	Label	N	E
1	6584335	678376	1	6168083	381998
2	6586258	677213	2	6166698	381301
3	6578436	681507	3	6168821	377843
4	6578202	680271	4	6166174	379401
5	6579411	678797	5	6165419	379836
6	6571427	673326	6	6163624	379961
7	6571071	678007	7	6160253	378578
8	6567900	680046	8	6163181	375017
9	6595469	672570	9	6161063	377563
10	6593108	674450	10	6163230	381444
11	6592414	676187	11	6161103	381369
12	6568342	684601	12	6159137	377022
13	6570692	683255	13	6155653	377382
14	6575365	668988	14	6158014	378939
15	6578620	670489	15	6160061	380773
16	6595383	664536	16	6163944	373471
17	6591101	658761	17	6161957	373607
18	6588660	660336	18	6161737	371990
19	6589743	666682	19	6161952	370126
20	6588560	669948	20	6160308	368274
21	6586119	669049	21	6156653	368773
22	6587575	665556	22	6159551	374121
23	6586609	662242	23	6160131	372570
24	6585952	660401	24	6156776	372693
25	6583542	666237			
26	6588060	663676			
27	6570639	659470			
28	6570490	668735			
29	6565887	660402			
30	6566038	663780			
31	6564866	666967			
32	6580485	676597			
33	6579747	672567			
34	6593281	665187			
35	6581857	678153			
36	6582814	670585			
37	6584799	669176			
38	6570883	684959			
39	6573599	677612			