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Combining Data Mining and Agricultural Sciences

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Abstract:

Data mining is the analysis of Data from different approaches and conversion of the same to useful data, i.e. the data which can be effective in income increase and cost reduction one reason for the importance of data mining m Data industry, is availability of a vast range of data , out of which the useful data can be extracted . These extracted data can also be used in scientific research and engineering plans Data mining soft wares analyze data and discover data patterns which can be used in different fields such as agriculture, etc. this research analyzes data through regression between the effect of number of leaves in floral paints on the period of flowering.The data used in this research one obtained from the decoration plants original from kish Island. The results of the study can be useful in Agriculture.

Key words: Data-mining, Regression, Flowering Period, Agriculture

1. Introduction.

Data mining refers to knowledge extraction from a huge range of raw data. Knowledge mining, as a shortened substitution, can hot express the notion of data-mining based on so much data.Data mining is a term which in dictates a process to find out a small group of vital data from a vast range of raw data. There are other names suggested such as Knowledge extraction from data unit, Knowledge extraction Data patterns Analysis, Data archeology, and Data dredging which are different from data mining. But data-mining is a general term.Data-mining is the result of natural IT evolutionary procedure, which is due to the development in unit industry (1). The development of data Unit technology and its practical use in different sciences result in data gathering. Since the gathered data are raw, it is needed to apply powerful devices for data analysis. Although there is a vast range of data, in formation required is limited. Data-mining consists of following steps (2).

1. Data extraction: To choose a group of data and to focus on specific data.
2. Data purification to delete incongruent and contradicting data, i.e., deletion operation (3).
3. Data selection, to select the related data for unit analysis, including generalization, reduction, classification, regression, grouping, web-mining visual observation, finding link law and dependent relationship (3).
4. Data outline: To convert data to a figure, suitable for Data-mining(4).
5. Pattern evaluation: To clarify correct patterns by measurement criteria(5,6).
6. Interpretation: To interpret and analyze the discovered pattern.
7. Application: To use the discovered knowledge in executive systems (7).

Classification and Regression and two models, used in Data-mining, predictable.Regression is one of the oldest and significant learning model in Data-mining.Regression uses information and data and applies a mathematical formula matched to them. When you want to predict future, based on the results, you should convert new data to the formula produced by regression.Statistically, regression has been used in major is of researches. To predict the value of ore dependent Variable based on other Variables, according to a model is called non-linear regression or liner relationship (8). Regression includes different techniques for modelling and analysis of several variable, focusing on the relationship between dependent variable and one or more independent variables.If the data are classified or- a combination of numerical data and classified, grouping is needed. In this method, different groups of data can be processed in comparison to regression. The out puts can also be interpreted easily- regression and classification are tow usable methods in data grouping, but they are just parts of a whole.

The present study aims at investigating data extraction through regression, using a model for data analysis by spss. It also studies the factors affecting the Verdant nature of decoration plants in kish Island.

2 . Research Methodology

2.1. Research location

The data used in this research are those from decoration plants in Kish Island. The Island is geographically located53^0, 53′ to54^0, 3′ longitude line (G) and 26^0, 34′Latitudinal. The weather is hot and humid and a free zone, potrtially attractive for tourism and itsgreen atmosphere and artificial forest should be taken into consideration.

The data gathered are from:

Zone 1: high area

Zone 2: sadaf (shell).

Zone 3: pavion

Zone 4: sefeyn.

2.2. Data collection

The data were gathered from decorating plants in 2014 and each typed was numerated as follow:

1. Oleander 2.Cherish3.Techoma4.Lov5.Tevitia6. Chonockarpus 7.Silk 8.Bnjamin

9.Box tree.

Seasons: 1.cold season (winter) 2.hot season.

2.3. Growing factors

Factors for investigation the effect of number of leaves in floral plants and dry-leaf weight on flowering period are shown table(1).

Number of leaves	X3
Flowering period	X4
Dry leaf weight	X6
Number of leaves in floral plants in season(1)	X9
Flowering period in floral plants in season(1)	X10
Number of leaves in floral plants in season(1),zone(1)	X15
Flowering period in floral plants in zone(1),season(1)	X16
Number of leaves in floral plants in zone(1),season(1),species(1)	X21
Flowering period in floral plants in zone(1),season(1),species(1)	X22
Predicted interval	P1
Reliance interval	C1

Table1: species growing factor

3. The effect of number of leaves in floral plants on flowering period via regression

The effect of number of leaves in floral plants on flowering period is conducted through SPSS software, showed is table (2) [9,10].

Number of leaves observed	Exact value (per month)	error	Reliance interval	Predicted value(future)
4	5/04	0/1	4/7-5/39	0/216-9/94
6	6/271	0/223	5/8-6/7	1/28-9/94
8	7/487	0/293	6/9-8/60	3/20-11/59
10	8/703	0/398	7/69-9/34	4/21-13/19
12	9/920	0/456	9/20-10/18	5/4-14/43

Table2: the effect of number of leaves in floral plants on flowering period

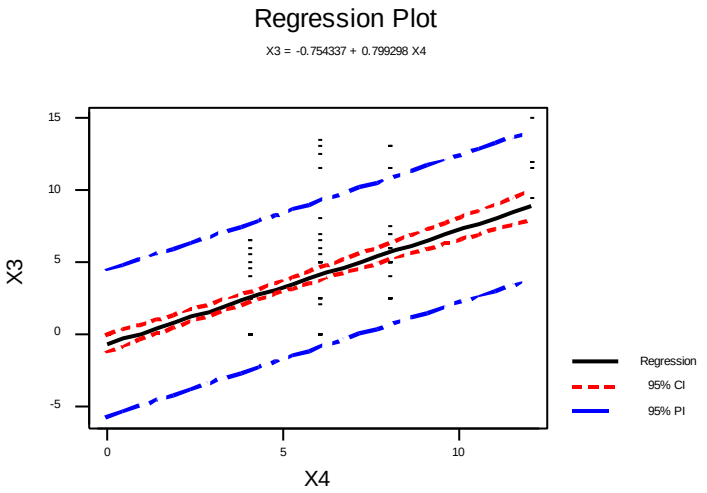


Figure 1.The effect of number of leaves in floral plants on flowering period, season (1)

According to table2. And figure1, the number of leaves positively completes to flowering period. Due to the increase of carbon Hydrate, photo synthesis on leaves of plants. For each observation a reliance interval is considered which shows the numerical value (Flowering period) changes. The predicted interval indicates the flowering period changes in future.

3.1. The effect of number of leaves in floral plants on flowering period, season (1) through regression

According to table 3 And figure 2, the number of leaves in floral plants, effect the flowery period in winter For examples, if the number of leaves, observed is four within a period of 5 months/yr. flowering reliance interval 4.55-5.54 and the flowing period is predicted about 0.5-9.59 month.

Number of leaves observed	Exact value(per month)	error	Reliance interval	Predicted value(future)
4	5/40	0/25	4/55-5/54	0/5-9/59
6	6/26	0/32	5/62-6/90	1/69-10/83
8	7/47	0/42	6/63-8/31	2/87-12/07
10	8/69	0/52	7/62-9/75	4/04-13/33
12	9/90	0/65	8/60-11/21	5/9-14/61

Table3: the effect of number of leaves in floral plants on flowering period, season (1)

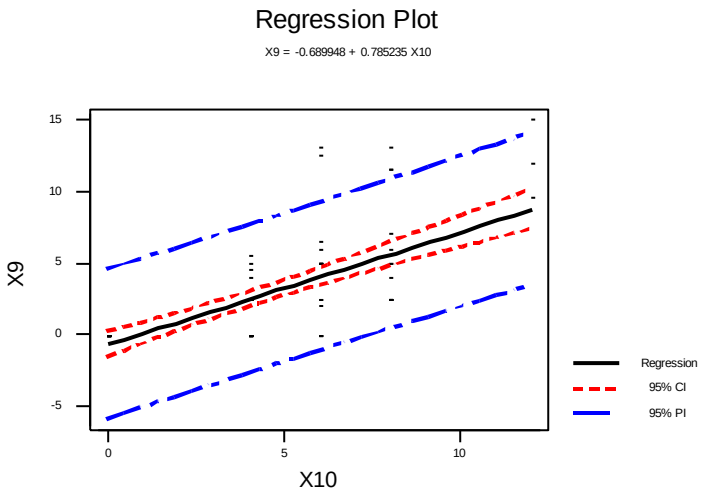


Figure 2: the effect of number of leaves in floral plants on flowering period season(1)

3.2. The effect of number of leaves in floral trees zone (1), season (1)

Number of leaves observed	Exact value(per month)	error	Reliance interval	Predicted value(future)
4	4/85	0/53	3/74-5/96	0-10/40
6	6/30	0/57	4/84-7/23	0/46-11/60
8	7/22	0/69	5/78-8/65	1/59-12/4
10	7/40	0/84	6/64-10/62	2/68-14/11
12	7/58	1/30	7/44-11/72	3/74-15/42

Table4: the effect of number of leaves in floral plants on flowering period, season (1), season (1)

According to table 4. And figure 3, bused on regression Analysis it can be concluded that the number of leaves correlates positively whit flowering period in cold season, in high area (zone).

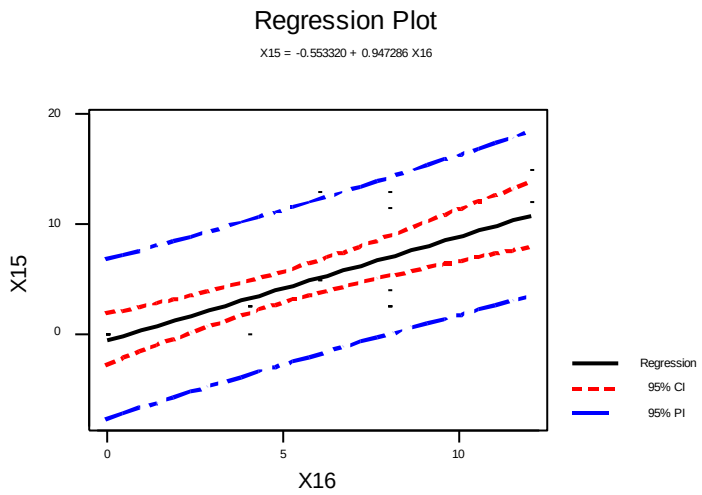


Figure 3: the effect of number of leaves in floral plants on flowering period, season (1), season (1)

3.3. The effect of number of leaves in floral trees zone (1), season (1), type (1)

Number of leaves observed	Exact value(per month)	error	Reliance interval	Predicted value(future)
4	7/63	2/51	0/66-14/61	0-17/72
6	8/00	1/98	2/52-13/49	0-17/12
8	8/37	1/50	4/21-12/53	0-16/76
10	8/74	1/16	5/53-11/95	0/78-16/7
12	9/11	1/09	6/09-12/12	1/23-16/99

Table5: The effect of number of leaves in floral trees zone (1), season (1), type (1)

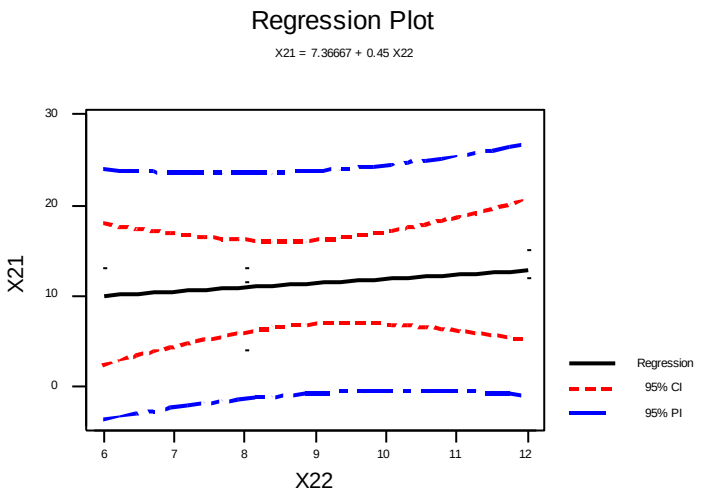


Figure4: The effect of number of leaves in floral trees zone (1), season (1), type (1)

According to table 5,figure 4, thenumber of leaves in oleander trees cornelates positively with flowering periodin high zone (sanaie), cold season, and the required data and presented and the predicted interval is about o-17/72 month.

Conclusion

Data-mining is a scientific approach and increasingly so many researches have been conducted in this approach. . Different researchers in various fields are doing researches related todata-mining it is very hard to conclude by means of data-mining methods. The present study showed the effect of number of leaves among decorating floral trees in kish Island on flowering period the results showed that they are positively correlated due to the photo synthesis in leaves of trees. It is possible to conduct a research based on the variables in hot season.

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