Agricultural Statistics in Practice

Forecasting Techniques in Agriculture

MS Excel Program – Forecasting components

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Q. A farmer wants to forecast the yield of tomatoes for the upcoming season. The farmer has collected yield data for the past 20 years as follows:

Year	Yield	Year	Yield
2000	20	2011	30
2001	22	2012	31
2002	23	2013	33
2003	24	2014	34
2005	25	2015	39
2006	28	2016	42
2007	27	2017	45
2008	24	2018	46
2009	22	2019	47
2010	29	2020	49
		2021	50

Using Microsoft Excel, apply a forecasting method (such as exponential smoothing or linear regression) to predict the yield of tomatoes for the year 2022, 2023 and 2024. Provide the forecasted yield value and explain the method used.

Please note that actual forecasting methods and calculations may vary based on the specific method chosen and the approach you prefer to take in Excel.

Solution

Step -1: We first prepare the table in MS Excel and respective graph with it as well

Step -2: We now plot a trendline by clicking on any point present on the curve, we choose to go by Linear trendline

Step -3: The important part here is to obtain the equation for the line which will be in the form of y=mx+c, y=yield and x = year

Step -4: The equation needs be pasted into the cell where you would like to forecast the yield for the desired years.

Step -5: Study the graph to interpret the areas of cyclical fluctuations and seasonal variations

Thank You