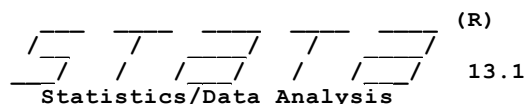


User: Pulak Mishra
Project: Regression Analysis



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Notes:

1 . *(3 variables, 25 observations pasted into data editor)

2 . reg yield pest fert **Model: Yield=f(Pesticides, Fertilizers)**

Source	SS	df	MS	Number of obs =	25
Model	25.4123142	2	12.7061571	F(2, 22) =	188.30
Residual	1.48450845	22	.067477657	Prob > F	= 0.0000
				R-squared	= 0.9448
				Adj R-squared	= 0.9398
Total	26.8968227	24	1.12070094	Root MSE	= .25976

The estimated model is statistically significant with best high explanatory power

yield	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
pest	.0046581	.0091051	0.51	0.614	-.0142247 .0235409
fert	.0510474	.0027646	18.46	0.000	.045314 .0567808
_cons	4.058665	.3863197	10.51	0.000	3.257487 4.859843

Fertilizers have statistically significantly positive impact on yield

3 . test pest= fert **Test: If the coefficient of Fertilizers is statistically significantly different from that of Pesticides**

(1) pest - fert = 0

F(1, 22) = 29.16
Prob > F = 0.0000

The null hypothesis is rejected - implies that the coefficients are statistically significant different

4 . *(3 variables, 25 observations pasted into data editor)

5 . reg prod area irri **Model: Output=f(Area, Irrigation)**

Source	SS	df	MS	Number of obs =	25
Model	.712100371	2	.356050186	F(2, 22) =	548.35
Residual	.014284822	22	.00064931	Prob > F	= 0.0000
				R-squared	= 0.9803
				Adj R-squared	= 0.9785
Total	.726385193	24	.03026605	Root MSE	= .02548

The estimated model is statistically significant with best high explanatory power

prod	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
area	.5154585	.2748485	1.88	0.074	-.0545424 1.085459
irri	1.005028	.0648547	15.50	0.000	.8705271 1.139528
_cons	.3534554	1.208421	0.29	0.773	-2.152657 2.859568

Both Area and Irrigation have statistically significantly positive impact on Output

6 . test area+irri=1 **Test: If the production function follows constant returns to scale**

(1) **area + irri = 1**

F(1, 22) = 5.50 **The null hypothesis is rejected - implies that the production function follows**
Prob > F = 0.0284 **constant returns to scale**

7 .