SoyaBeans: The coefficient is 0.003, with a p-value of <0.001, indicating a significant positive relationship between SoyaBeans and Beef_Value_SlaughterMarket. As SoyaBeans increases by 1 unit, the Beef_Value_SlaughterMarket increases by 0.003 units, holding other variables constant.

Regression – No Precipitation, No Avg Temperature, No Beef Production, No Maize, No Sorghum, No Barley

Model Summary: The model summary indicates that the adjusted R-squared is 0.709, which means that approximately 70.9% of the variability in the Beef_Value_SlaughterMarket can be explained by the model with the given predictor variables (BeefConsumption_US and SoyaBeans). The model's standard error of the estimate is 6.61327, which reflects the average distance that the observed values fall from the regression line.

ANOVA: The ANOVA table shows that the model is statistically significant at a <0.001 level. This means that there is a significant relationship between the dependent variable (Beef_Value_SlaughterMarket) and the predictor variables. The F-value of 24.132 indicates that the model is a good fit to the data, as it is significantly different from a model with no predictors.

Coefficients: The coefficients table provides information about the relationship between each predictor variable and the dependent variable (Beef_Value_SlaughterMarket).

BeefConsumption_US: The coefficient is -5.840, with a p-value of <0.001, indicating a significant negative relationship between BeefConsumption_US and Beef_Value_SlaughterMarket. As BeefConsumption_US increases by 1 unit, the Beef_Value_SlaughterMarket decreases by 5.840 units, holding other variables constant.
SoyaBeans: The coefficient is 0.002, with a p-value of <0.001, indicating a significant positive relationship between SoyaBeans and Beef_Value_SlaughterMarket. As SoyaBeans increases by 1 unit, the Beef_Value_SlaughterMarket increases by 0.002 units, holding other variables constant.

This simplified model with only significant variables (BeefConsumption_US and SoyaBeans) explains about 70.9% of the variability in the Beef_Value_SlaughterMarket.

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	SoyaBeans, BeefConsumption_US[b]	.	Enter

a. Dependent Variable: Beef_Value_SlaughterMarket
b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.860[a]	.740	.709	6.61327	.740	24.132	2	17	<.001

a. Predictors: (Constant), SoyaBeans, BeefConsumption_US

b. Dependent Variable: Beef_Value_SlaughterMarket

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2110.798	2	1055.399	24.132	<.001[b]
	Residual	743.500	17	43.735		
	Total	2854.298	19			

a. Dependent Variable: Beef_Value_SlaughterMarket

b. Predictors: (Constant), SoyaBeans, BeefConsumption_US

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	149.724	42.184		3.549	.002	60.723	238.724		
	BeefConsumption_US	-5.840	1.393	-.528	-4.194	<.001	-8.778	-2.902	.966	1.035
	SoyaBeans	.002	.000	.588	4.669	<.001	.001	.003	.966	1.035

a. Dependent Variable: Beef_Value_SlaughterMarket

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	BeefConsumption_US	SoyaBeans
1	1	2.991	1.000	.00	.00	.00
	2	.009	18.725	.01	.04	.85
	3	.001	65.233	.99	.96	.15

a. Dependent Variable: Beef_Value_SlaughterMarket

Residuals Statistics[a]

|	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	41.6968	75.8221	58.8900	10.54014	20
Residual	-14.05064	11.35390	.00000	6.25552	20
Std. Predicted Value	-1.631	1.606	.000	1.000	20
Std. Residual	-2.125	1.717	.000	.946	20

a. Dependent Variable: Beef_Value_SlaughterMarket

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Beef_Value_SlaughterMarket

Scatterplot

### Dependent Variable: Beef_Value_SlaughterMarket
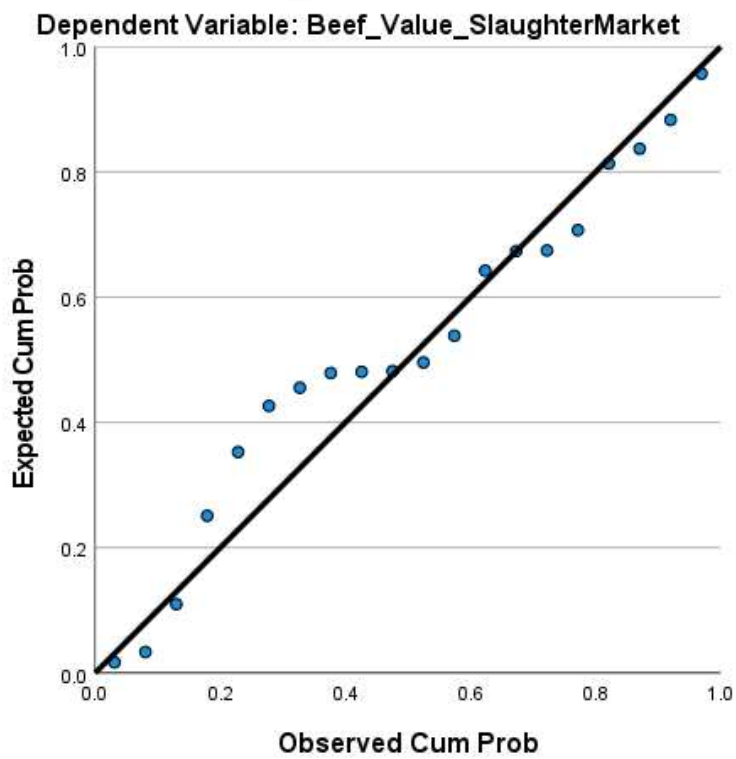
Scatterplot
Dependent Variable: Beef_Value_SlaughterMarket
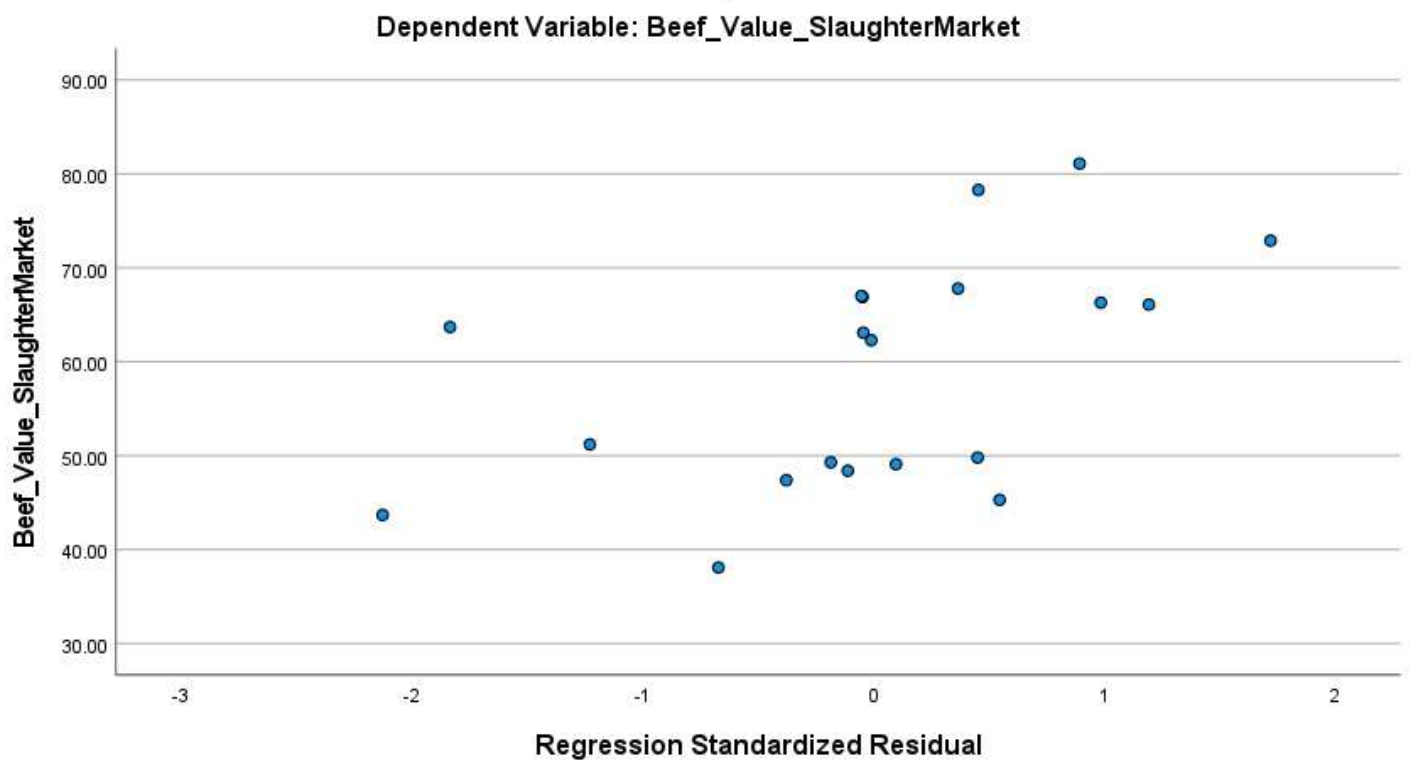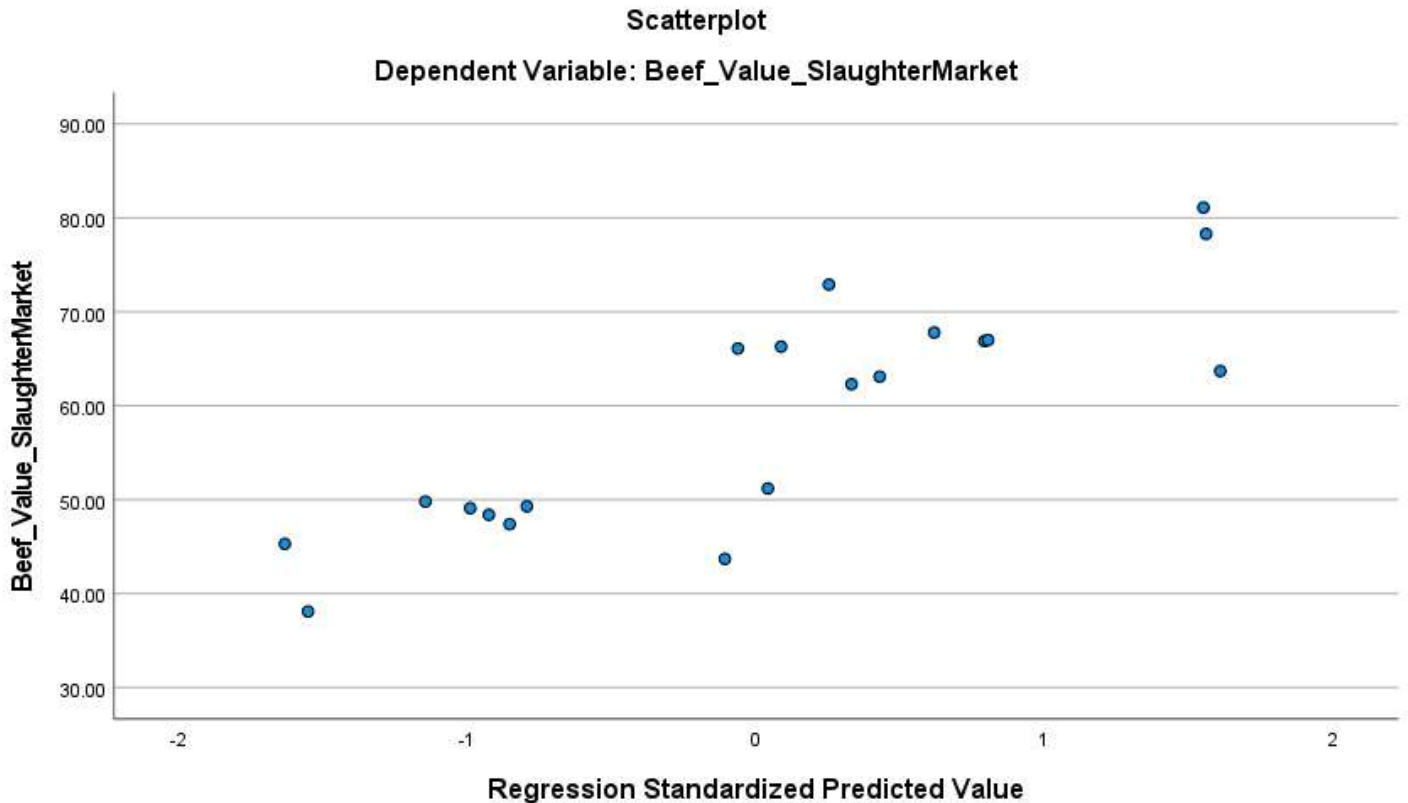
Section IV: SPSS Stepwise Variable Removal

In this stepwise regression model, SoyaBeans was entered in the first step, and BeefConsumption_US was entered in the second step, based on the specified criteria.

Correlations: The Pearson Correlation table displays the correlations between the dependent variable (Beef_Value_SlaughterMarket) and each of the predictor variables. The significant correlations are with BeefConsumption_US (-0.637, $p<0.001$) and SoyaBeans (0.686, $p<0.001$).

Model Summary:

Step 1: In the first step, only SoyaBeans is included as a predictor. The adjusted R-squared is 0.441, which means that 44.1% of the variability in the Beef_Value_SlaughterMarket can be explained by SoyaBeans alone.

Step 2: In the second step, BeefConsumption_US is added as a predictor. The adjusted R-squared increases to 0.709, indicating that 70.9% of the variability in the Beef_Value_SlaughterMarket can be explained by both SoyaBeans and BeefConsumption_US.

ANOVA: The ANOVA table shows that both models are statistically significant at a <0.001 level. This indicates that there is a significant relationship between the dependent variable (Beef_Value_SlaughterMarket) and the predictor variables in both models.