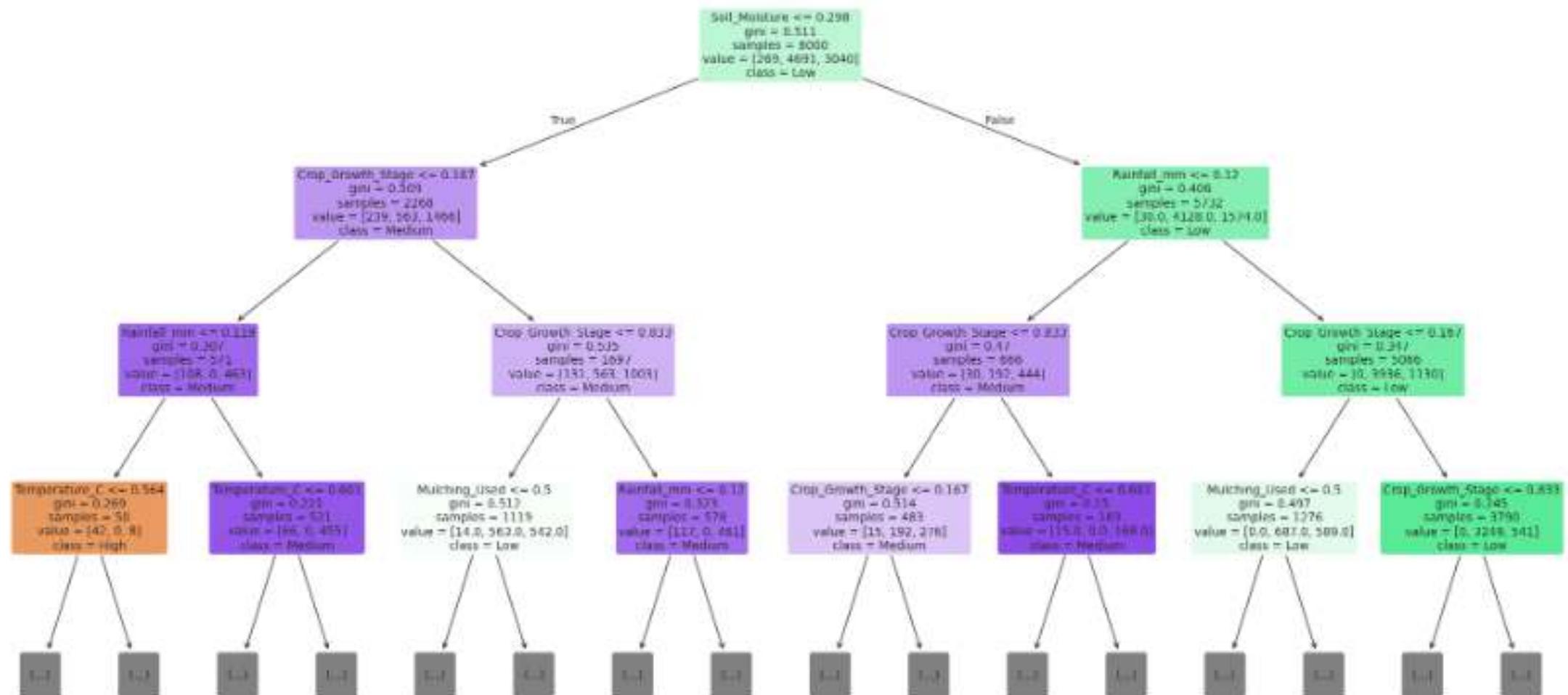
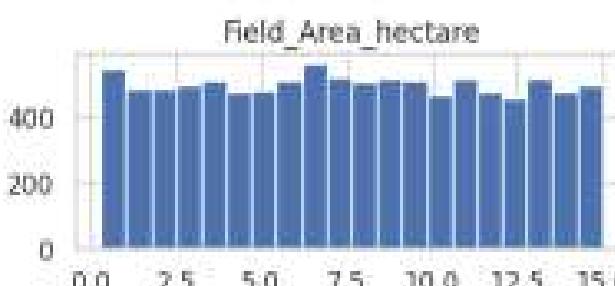
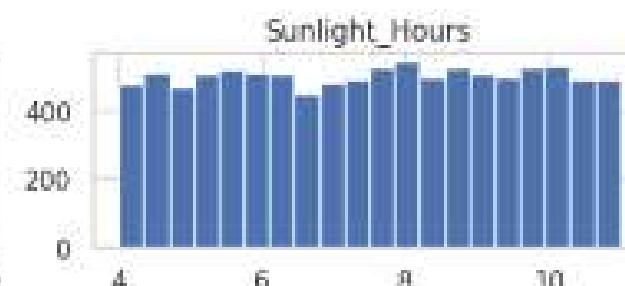
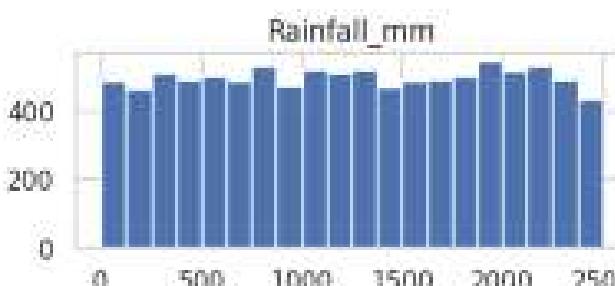
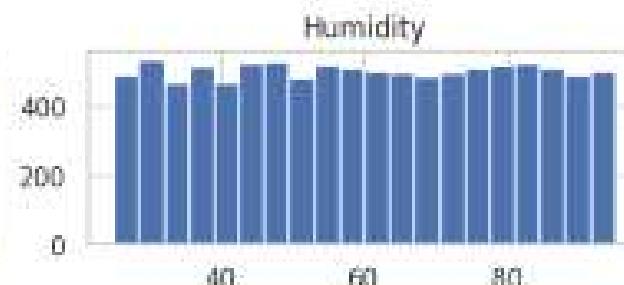
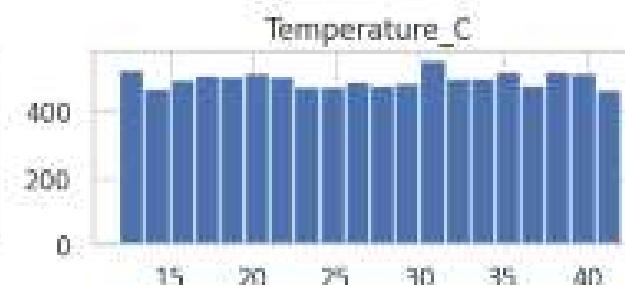
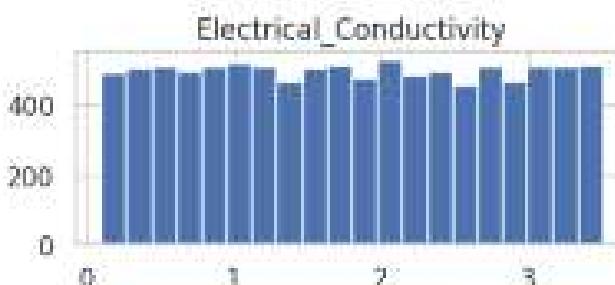
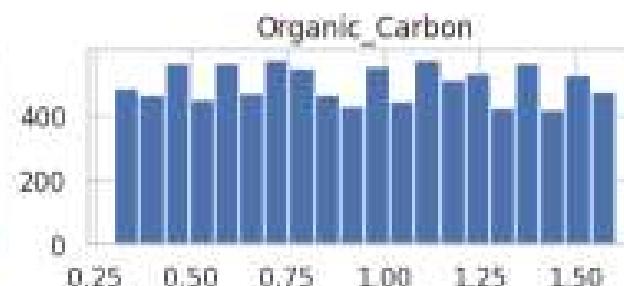
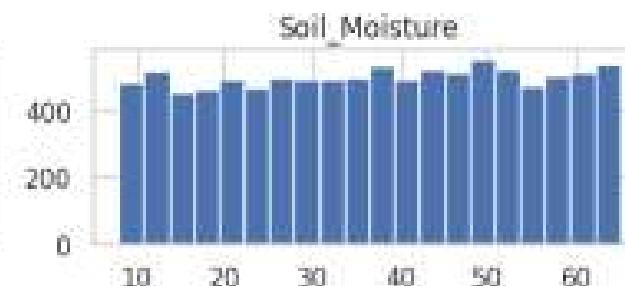
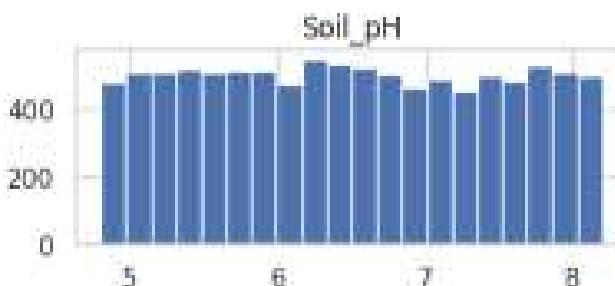


## Decision Tree - Smart Irrigation Prediction

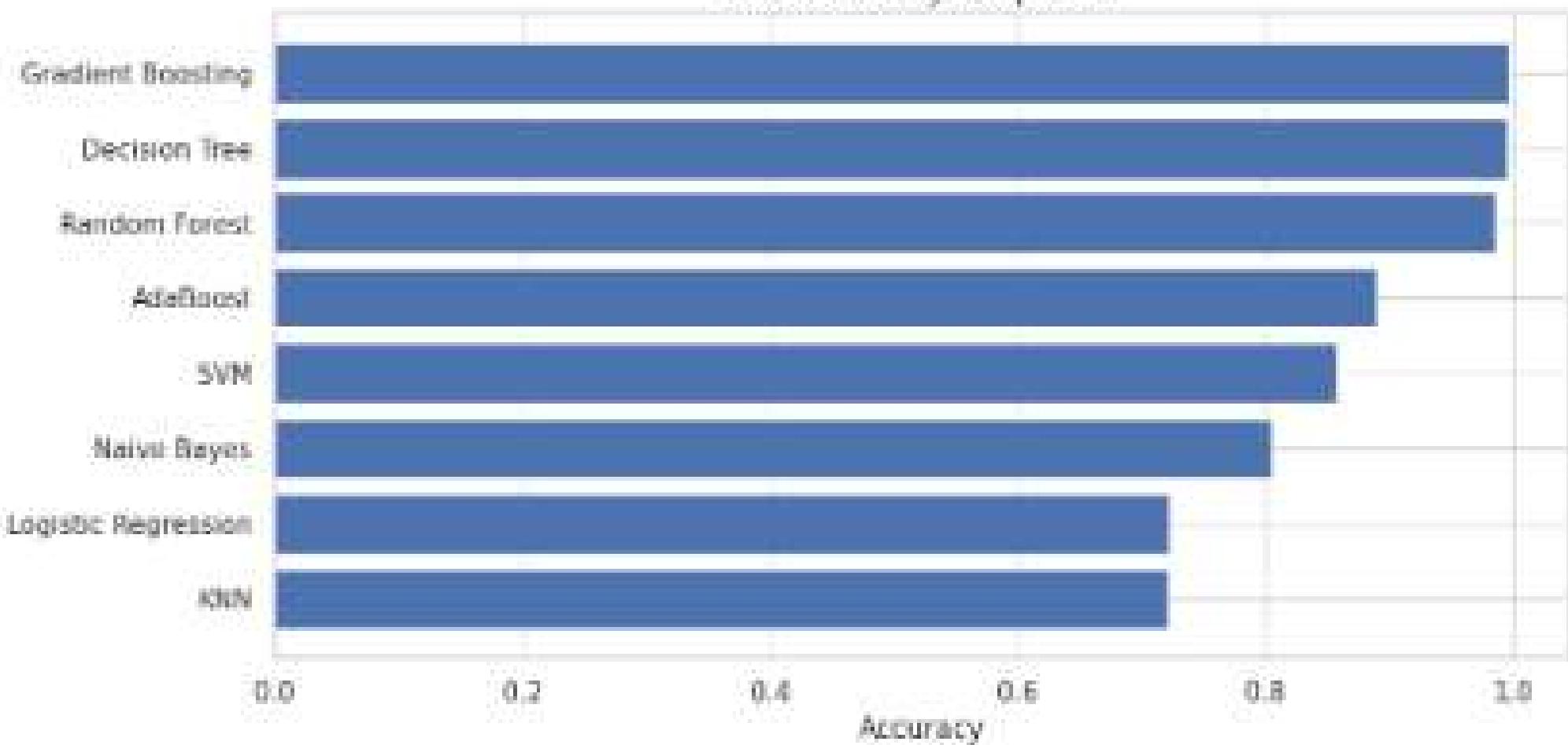


```
c  
df_numeric.hist(figsize=(11,8),bins=20)  
plt.suptitle("Histogram fo numeric Features", fontsize=14)  
plt.tight_layout()  
plt.show()  
...
```

Histogram fo numeric features

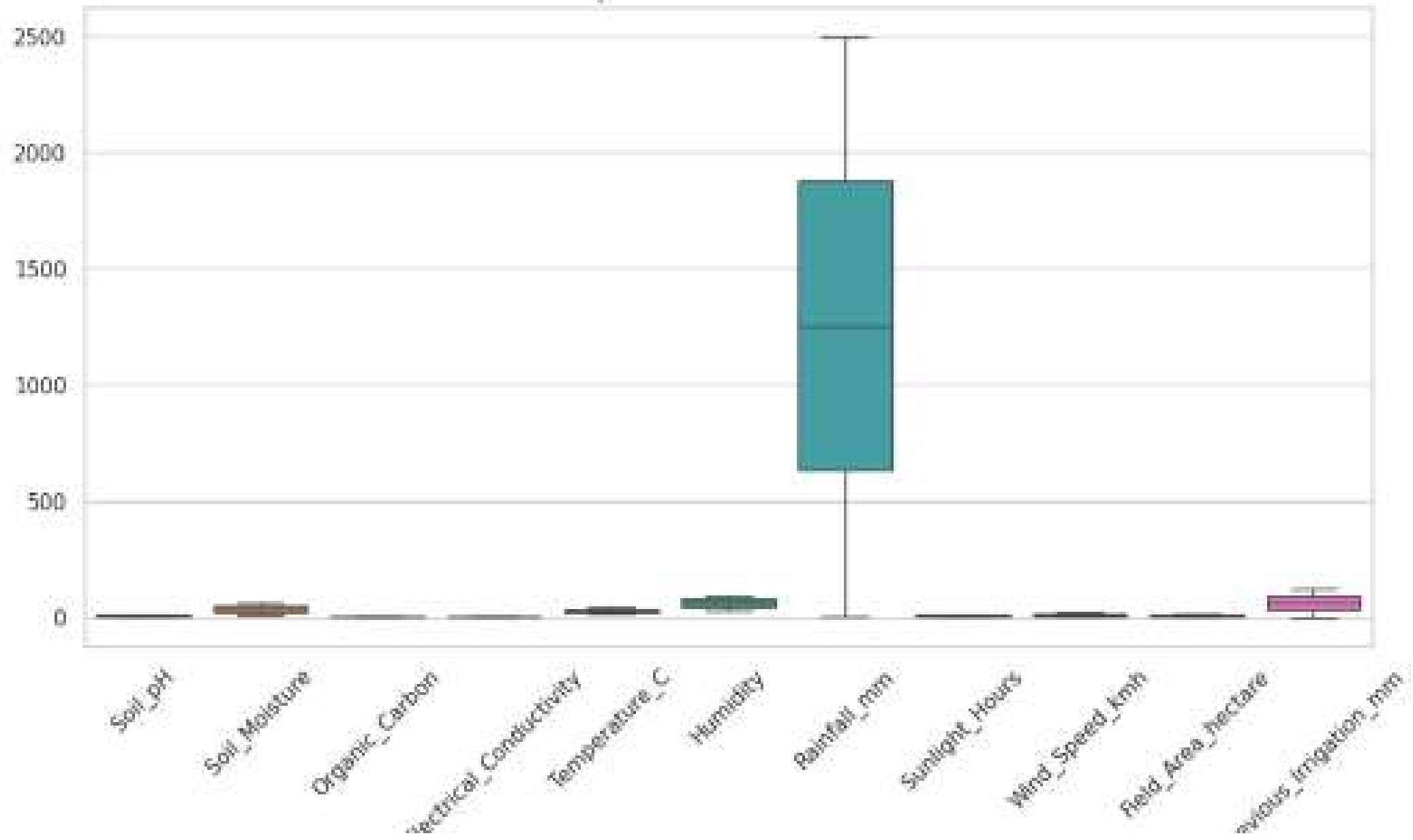


### Model Accuracy Comparison



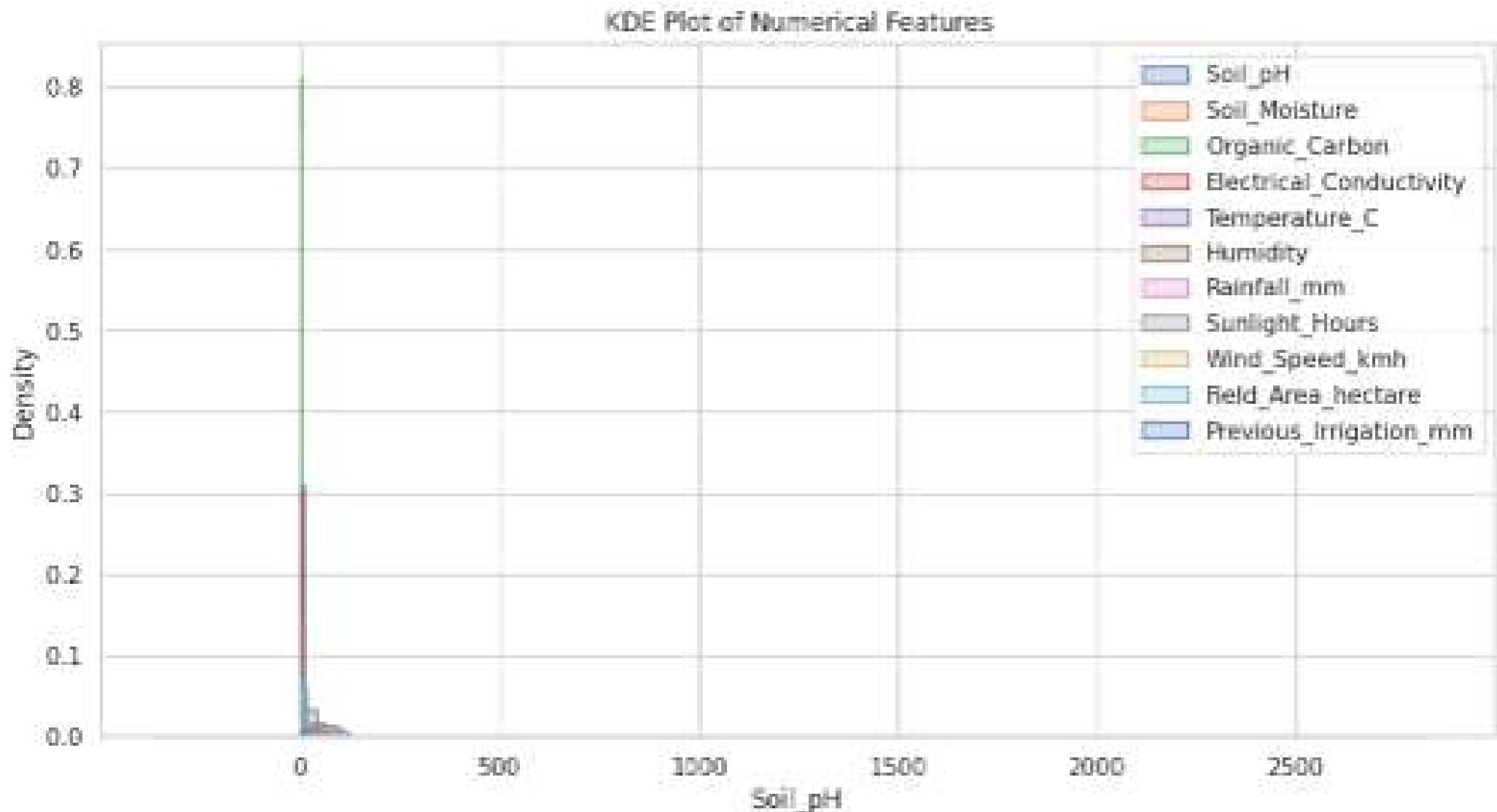
```
sns.boxplot(data=df_numeric)
plt.xticks(rotation=45)
plt.title("Boxplot of Numerical Features")
plt.show()
```

Boxplot of Numerical Features

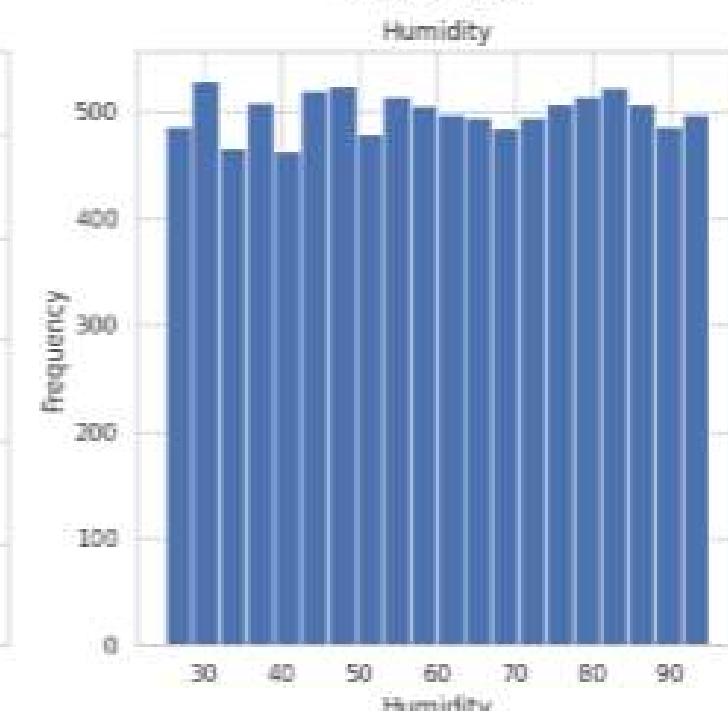
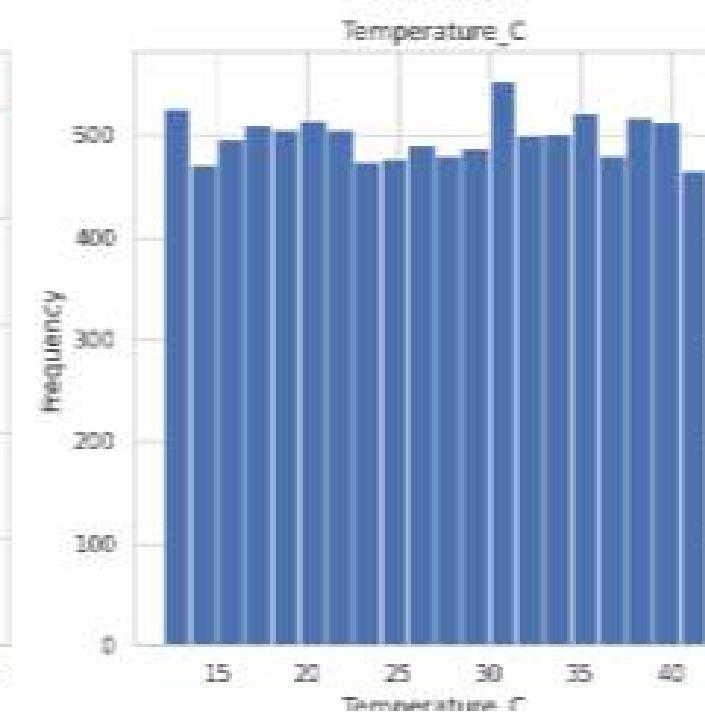
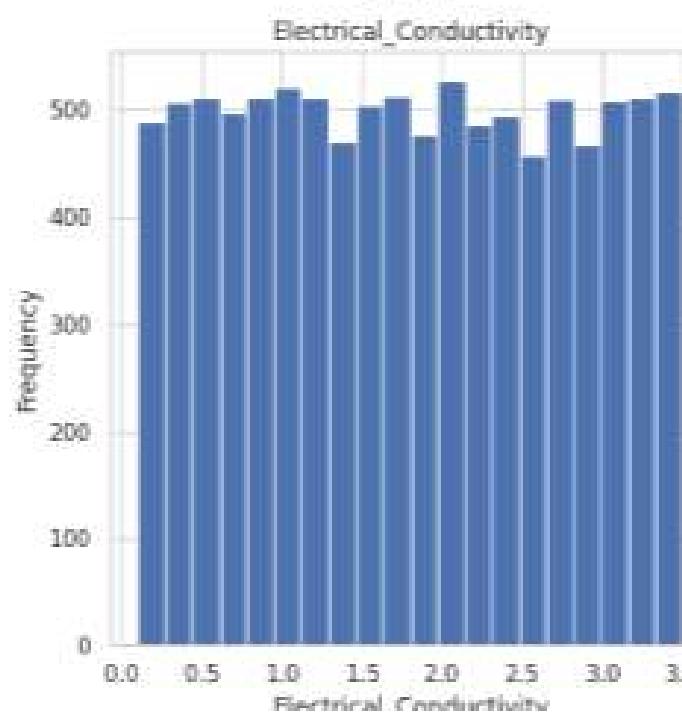
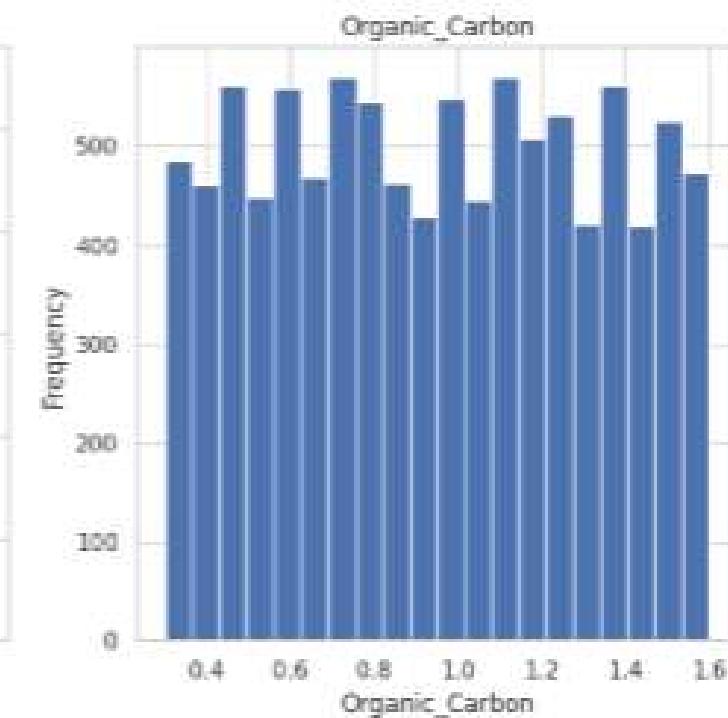
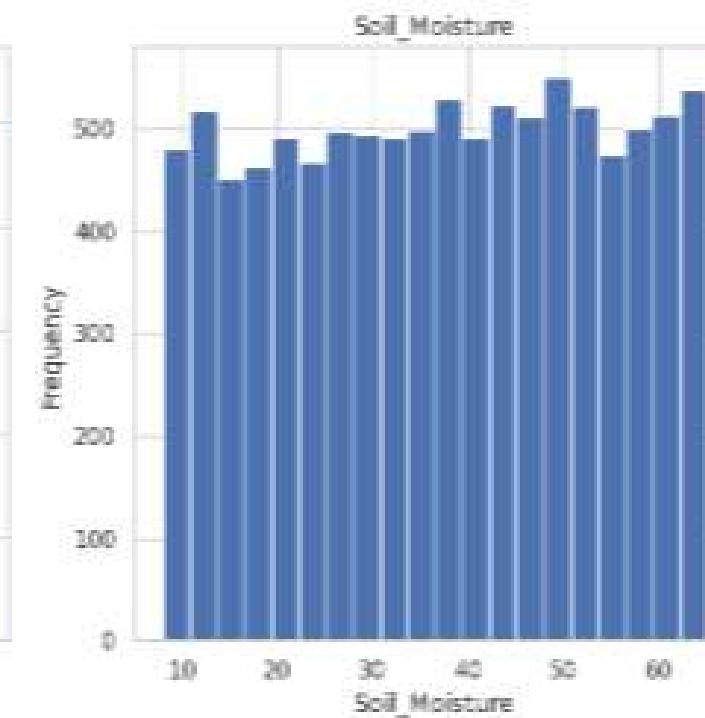
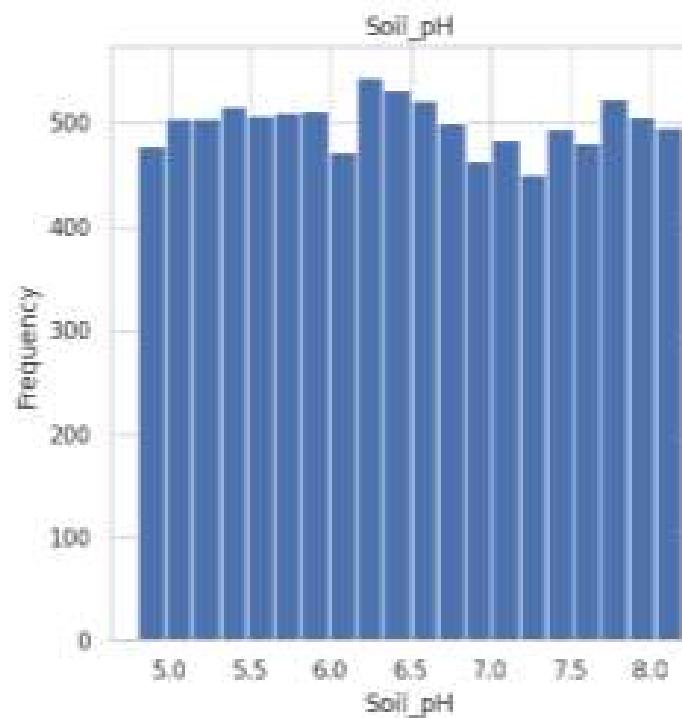


Code Text Run all

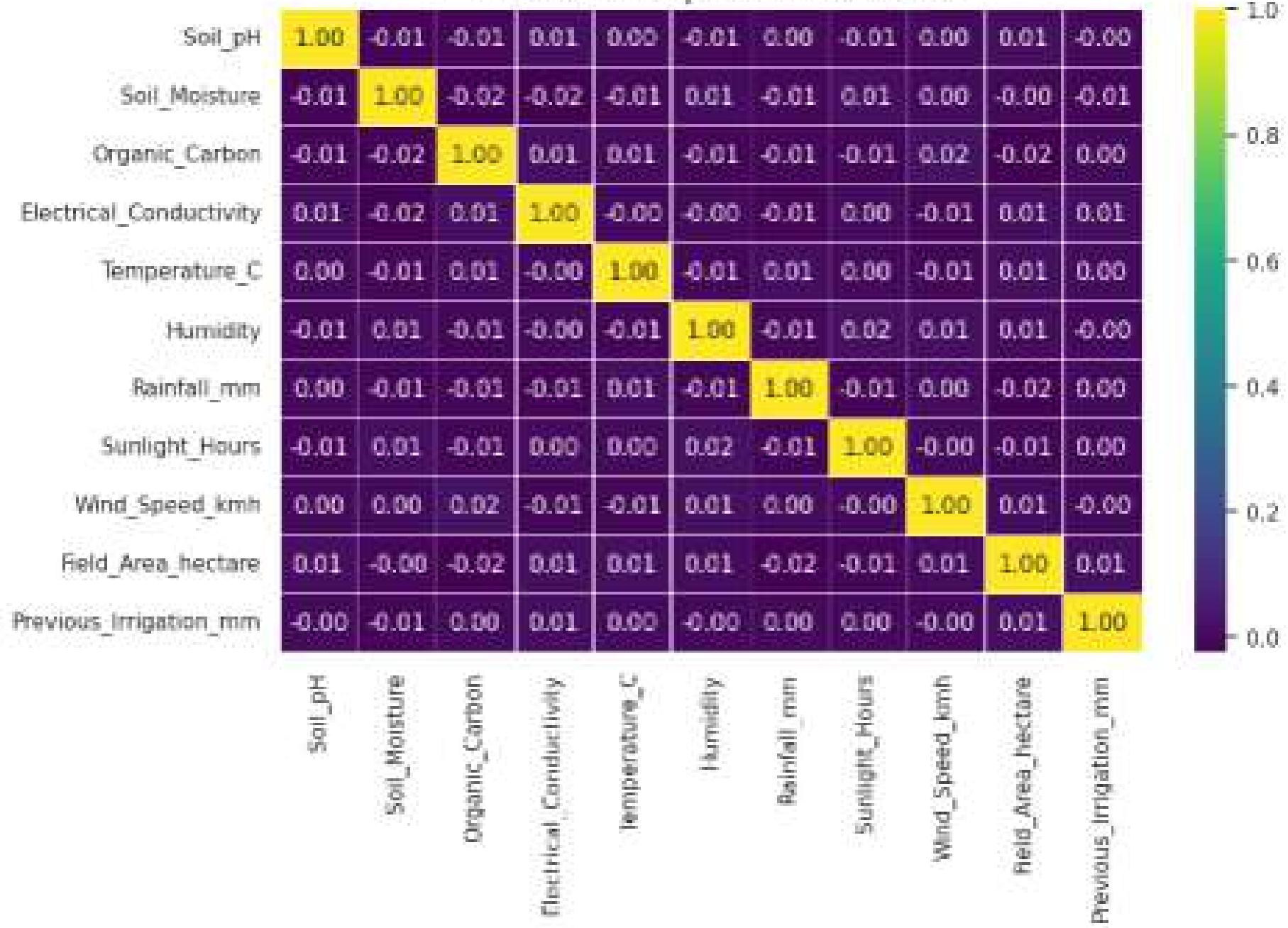
```
plt.figure(figsize=(12,8))
for col in df_numeric.columns:
    sns.kdeplot(df_numeric[col], label=col, fill=True)
plt.title("KDE Plot of Numerical Features")
plt.legend()
plt.show()
```

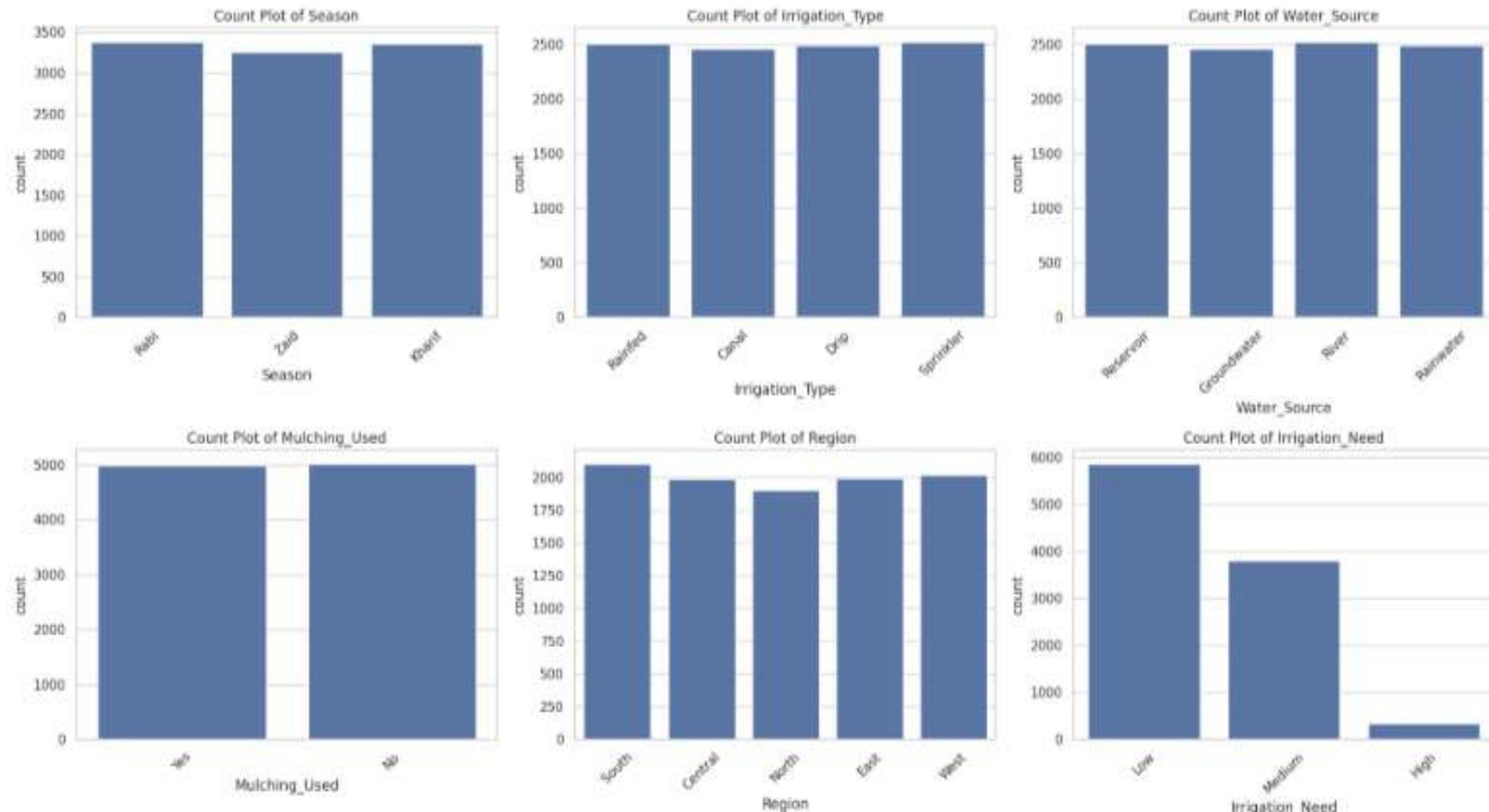


```
plt.show()
```

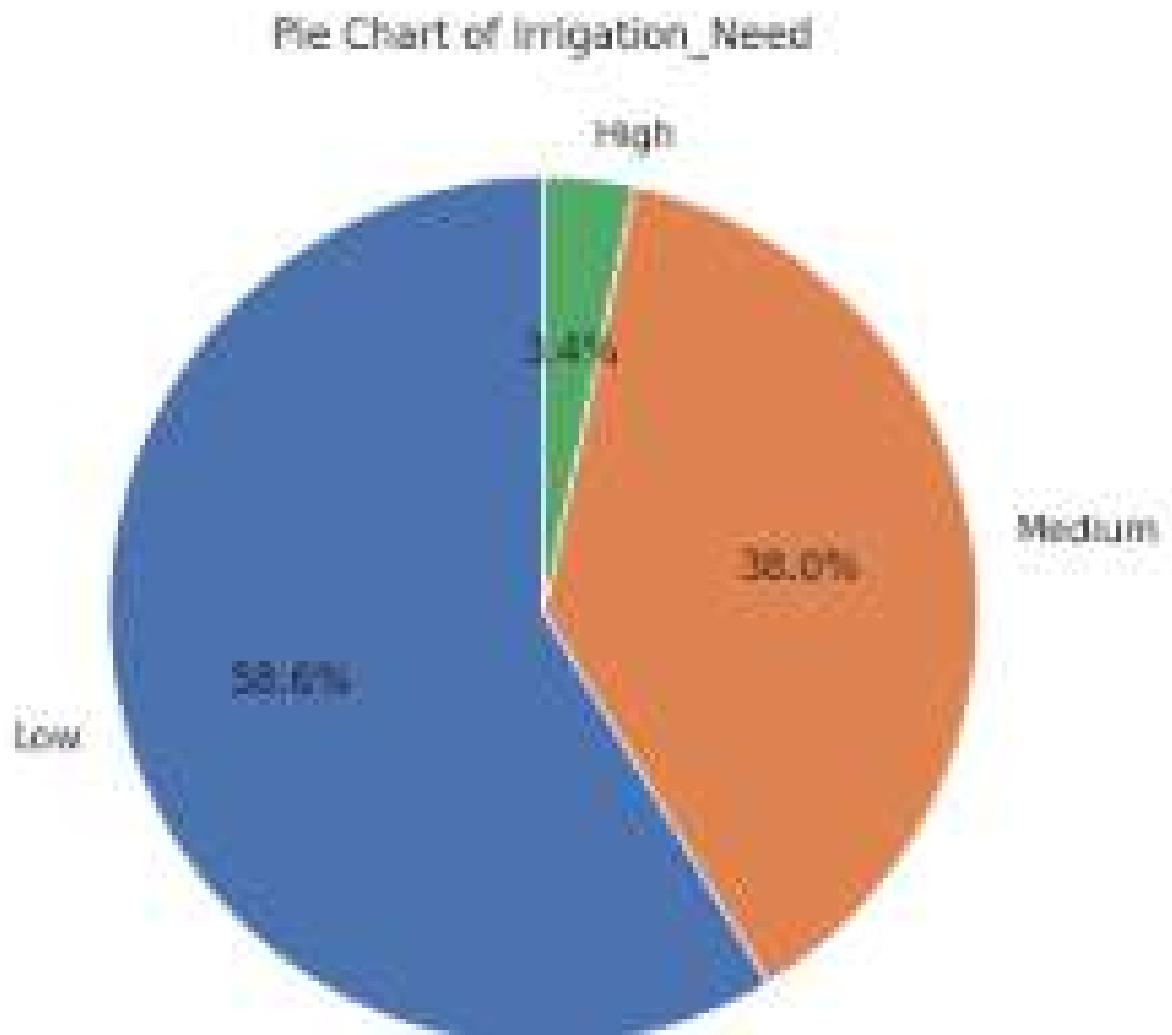


Correlation Heatmap of Numerical Features





```
❸ plt.figure(figsize=(6,6))  
st_category[cat].value_counts().plot()  
    kind='pie',  
    autopct='%.1f%%',  
    startangle=90  
    )  
  
plt.title("Pie Chart of "+cat)  
plt.ylabel("") # remove y-label  
plt.show()
```



```
plt.show()
```

```
... /tmp/ipython-input-2797911111.py:23: UserWarning: set_ticklabels() should only be used with a fixed number of ticks, i.e. after set_ticks() or using a FixedLocator.  
ax.set_ticklabels(models, rotation=45)  
/tmp/ipython-input-2797911111.py:23: UserWarning: set_ticklabels() should only be used with a fixed number of ticks, i.e. after set_ticks() or using a FixedLocator.  
ax.set_ticklabels(models, rotation=45)  
/tmp/ipython-input-2797911111.py:23: UserWarning: set_ticklabels() should only be used with a fixed number of ticks, i.e. after set_ticks() or using a FixedLocator.  
ax.set_ticklabels(models, rotation=45)  
/tmp/ipython-input-2797911111.py:23: UserWarning: set_ticklabels() should only be used with a fixed number of ticks, i.e. after set_ticks() or using a FixedLocator.  
ax.set_ticklabels(models, rotation=45)
```

Model Comparison Across Evaluation Metrics

