Test the Model

In [23]:

```
import numpy as np
from tensorflow.keras.models import load_model
from tensorflow.keras.preprocessing import image
```

In [24]:

```
model=load_model('vegetable.h5')
```

In [28]:

```
img=image.load_img(r"E:\IBM\Fertilizers_Recommendation_ System_For_Disease_ Prediction\Dataset Plant Disease\Veg-dataset\Veg-dataset\test_set\Pepper,_bell___Bacterial_spot\bcf56f7d-d584-4fed-b42e-5cbf3b8707b7___JR_B.Spot 3197.JPG")
```

In [29]:

```
img
```

Out[29]:

In [30]:

```
img=image.load_img(r"E:\IBM\Fertilizers_Recommendation_ System_For_Disease_ Prediction\Dataset Plant Disease\Veg-dataset\Veg-dataset\test_set\Pepper,_bell___Bacterial_spot\c27c09cc-acf8-4e46-a828-a48a96249642___JR_B.Spot 3232.JPG")
```

In [31]:

```
img
```

Out[31]:

In [32]:

```
x=image.img_to_array(img)
```

In [33]:

```
x
```

Out[33]:

```
array([[[120., 115., 145.],
        [116., 111., 141.],
        [130., 125., 155.],
        ...,
        [102.,  94., 118.],
        [ 42.,  34.,  58.],
        [ 69.,  61.,  85.]],

       [[121., 116., 146.],
        [124., 119., 149.],
        [125., 120., 150.],
        ...,
        [ 52.,  44.,  68.],
        [ 76.,  68.,  92.],
        [ 75.,  67.,  91.]],

       [[131., 126., 156.],
        [135., 130., 160.],
        [126., 121., 151.],
        ...,
        [ 84.,  76., 100.],
        [ 80.,  72.,  96.],
        [ 84.,  76., 100.]],

       ...,

       [[ 65.,  56.,  75.],
        [ 62.,  53.,  72.],
        [115., 106., 125.],
        ...,
        [ 52.,  37.,  56.],
        [ 96.,  81., 100.],
        [ 80.,  65.,  84.]],

       [[ 87.,  78.,  97.],
        [ 72.,  63.,  82.],
        [ 53.,  44.,  63.],
        ...,
        [ 43.,  28.,  47.],
        [ 99.,  84., 103.],
        [ 89.,  74.,  93.]],

       [[ 81.,  72.,  91.],
        [ 66.,  57.,  76.],
        [ 64.,  55.,  74.],
        ...,
        [100.,  85., 104.],
        [ 81.,  66.,  85.],
        [117., 102., 121.]]], dtype=float32)
```

In [ ]:

```
x=np.expand_dims(x,axis=0)
```

In [35]:

```
x
```

Out[35]:

```
array([[[[120., 115., 145.],
         [116., 111., 141.],
         [130., 125., 155.],
         ...,
         [102.,  94., 118.],
         [ 42.,  34.,  58.],
```

```
         [ 69.,  61.,  85.]],

        [[121., 116., 146.],
         [124., 119., 149.],
         [125., 120., 150.],
         ...,
         [ 52.,  44.,  68.],
         [ 76.,  68.,  92.],
         [ 75.,  67.,  91.]],

        [[131., 126., 156.],
         [135., 130., 160.],
         [126., 121., 151.],
         ...,
         [ 84.,  76., 100.],
         [ 80.,  72.,  96.],
         [ 84.,  76., 100.]],

        ...,

        [[ 65.,  56.,  75.],
         [ 62.,  53.,  72.],
         [115., 106., 125.],
         ...,
         [ 52.,  37.,  56.],
         [ 96.,  81., 100.],
         [ 80.,  65.,  84.]],

        [[ 87.,  78.,  97.],
         [ 72.,  63.,  82.],
         [ 53.,  44.,  63.],
         ...,
         [ 43.,  28.,  47.],
         [ 99.,  84., 103.],
         [ 89.,  74.,  93.]],

        [[ 81.,  72.,  91.],
         [ 66.,  57.,  76.],
         [ 64.,  55.,  74.],
         ...,
         [100.,  85., 104.],
         [ 81.,  66.,  85.],
         [117., 102., 121.]]]], dtype=float32)
```

In [ ]:

```
y=np.argmax(model.predict(x),axis=1)
```

In [ ]:

```
1/1 [==============================] - 0s 92ms/step
```

In [47]:

```
x_train.class_indices
```

Out[47]:

```
{'Pepper,_bell___Bacterial_spot': 0,
 'Pepper,_bell___healthy': 1,
 'Potato___Early_blight': 2,
 'Potato___Late_blight': 3,
 'Potato___healthy': 4,
 'Tomato___Bacterial_spot': 5,
 'Tomato___Late_blight': 6,
 'Tomato___Leaf_Mold': 7,
 'Tomato___Septoria_leaf_spot': 8}
```

In [48]:

```
index=['Pepper,_bell___Bacterial_spot','Pepper,_bell___healthy','Potato___Early_blight','
```

```
Potato___Late_blight','Potato___healthy','Tomato___Bacterial_spot','Tomato___Late_blight'
,'Tomato___Leaf_Mold','Tomato___Septoria_leaf_spot']
```

In [ ]:

```
index[y[0]]
```

In [ ]:

```
'Potato___Late_blight'
```

In [ ]:

```
img=image.load_img(r"E:\IBM\Fertilizers_Recommendation_ System_For_Disease_ Prediction\Da
taset Plant Disease\Veg-dataset\Veg-dataset\test_set\Potato___healthy\f4b5ec24-d318-4309-
8294-9126450d5d7f___RS_HL 1824".JPG",target_size=(128,128))
x=image.img_to_array(img)
x=np.expand_dims(x,axis=0)
y=np.argmax(model.predict(x),axis=1)
index=['Pepper,_bell___Bacterial_spot','Pepper,_bell___healthy','Potato___Early_blight','
Potato___Late_blight','Potato___healthy','Tomato___Bacterial_spot','Tomato___Leaf_Mold','
Tomato___Septoria_leaf_spot']
index[y[0]]
```

In [ ]:

```
1/1 [==============================] - 0s 25ms/step
'Potato___Late_blight'
```