EXPORT QUALITY MOGRA CLASSIFICATION USING :

1. Calculating size of each Mogra bud using Contours and Euclidean Distance.
   - This method was implemented first for calculating size of entire bud.
   - Later changed it to calculate only size of bud(white portion)

2.Template matching
   -Simple template matching and Multiscale matching
   - This method is not effective as for simple matching requires same size image always

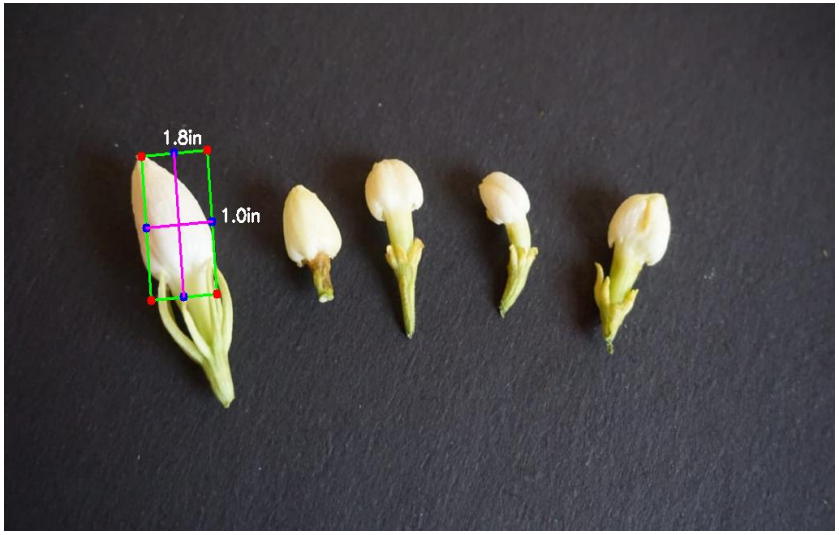
3. Deep Learning using Tensorflow object-detection API
   - Specifically trained model to classify Mogra in two classes as
     mogra-gradeI(export quality)
     mogra-gradeII(not good quality)
   -ssd_mobilenet model used.

1. Size of Mogra calculated:

size in ppm 0.29017757 0.95499999
Eucledian Distance 90.13878188
296.6546814

size in ppm 0.22474753 0.40773821
Eucledian Distance 69.81403871
126.65701717

Size of mogra bud(white portion) calcuated:

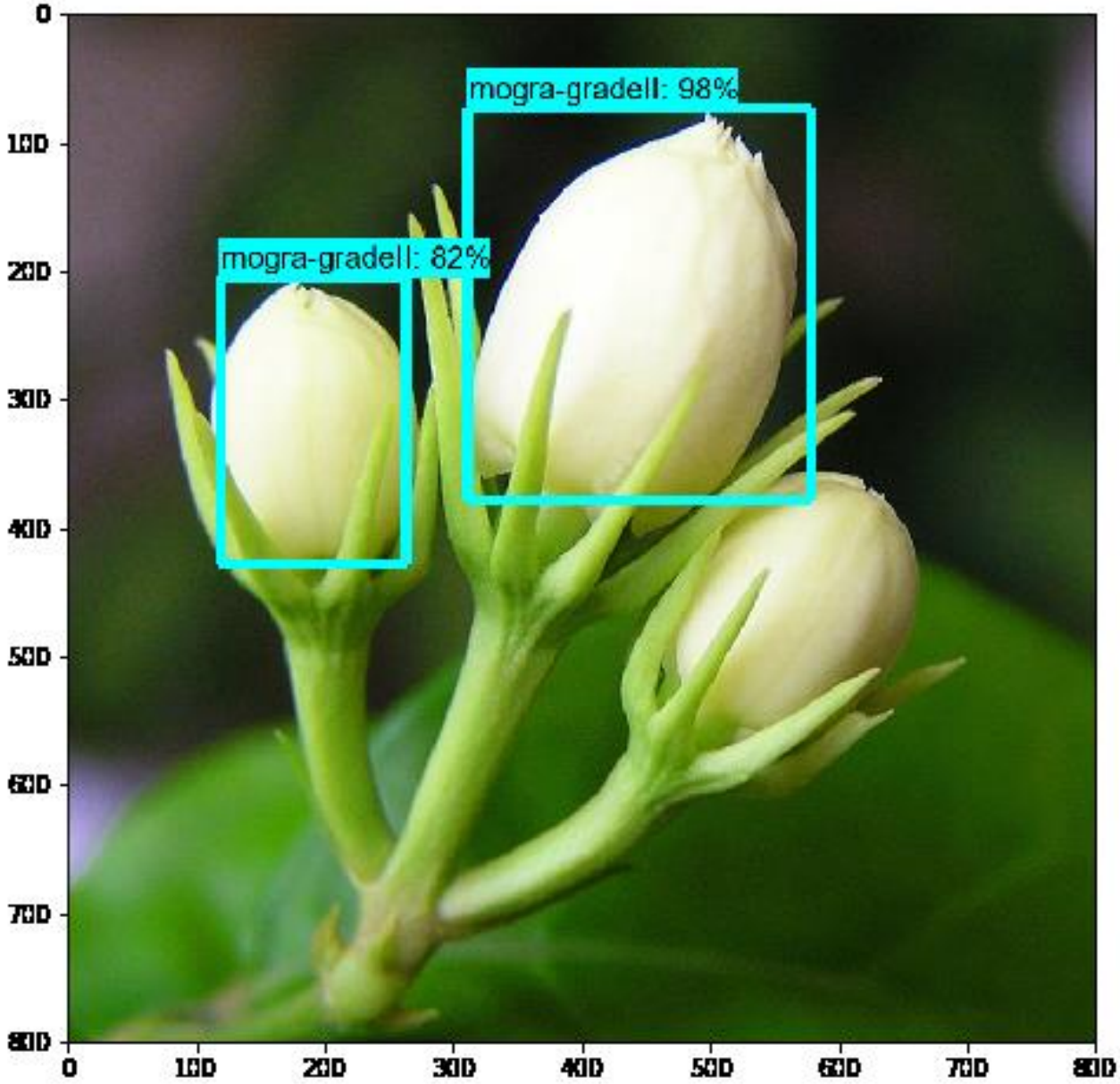


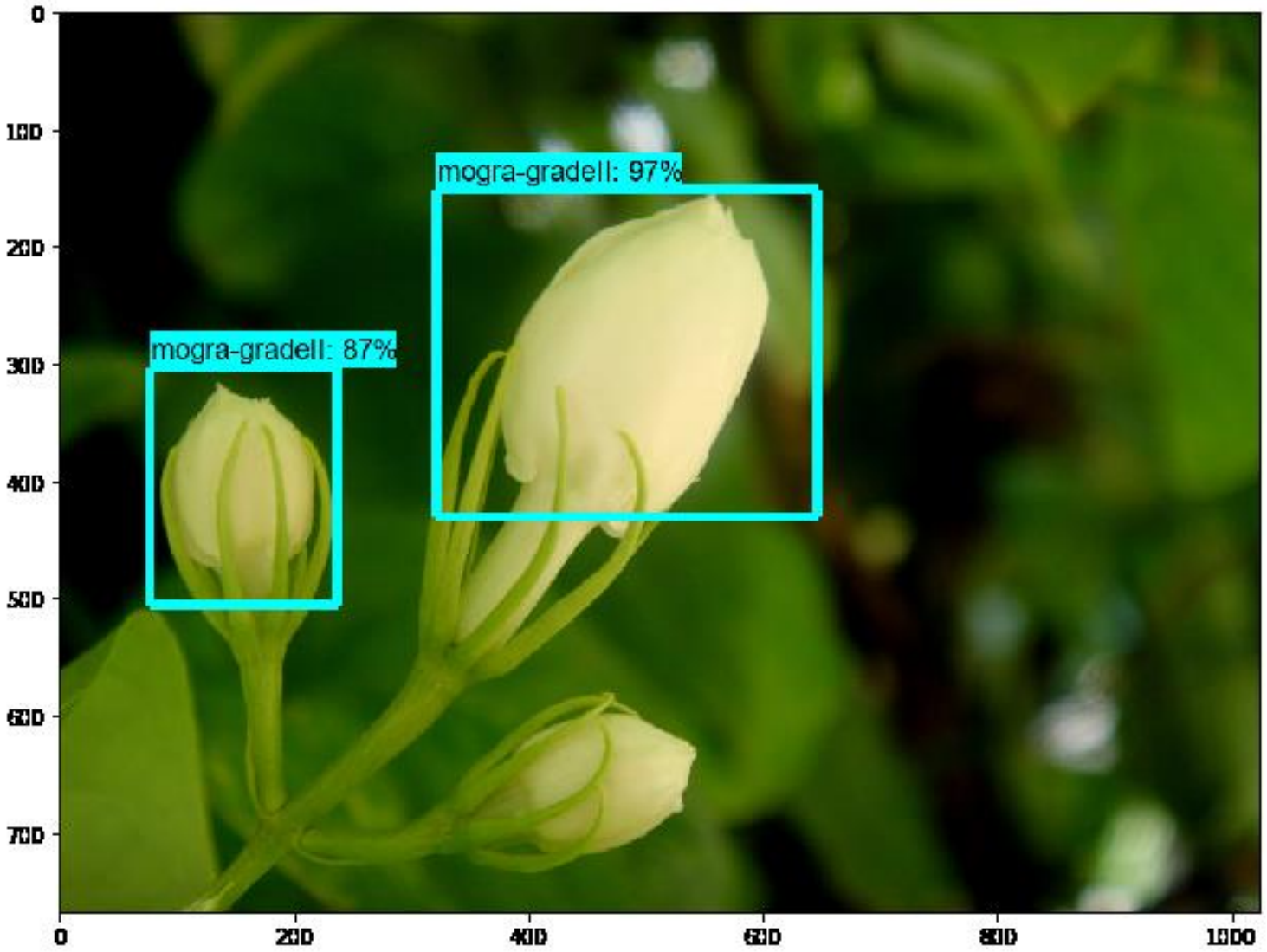
size in ppm 1.849554 0.955
Eucledian Distance 157.4579308
81.3019064

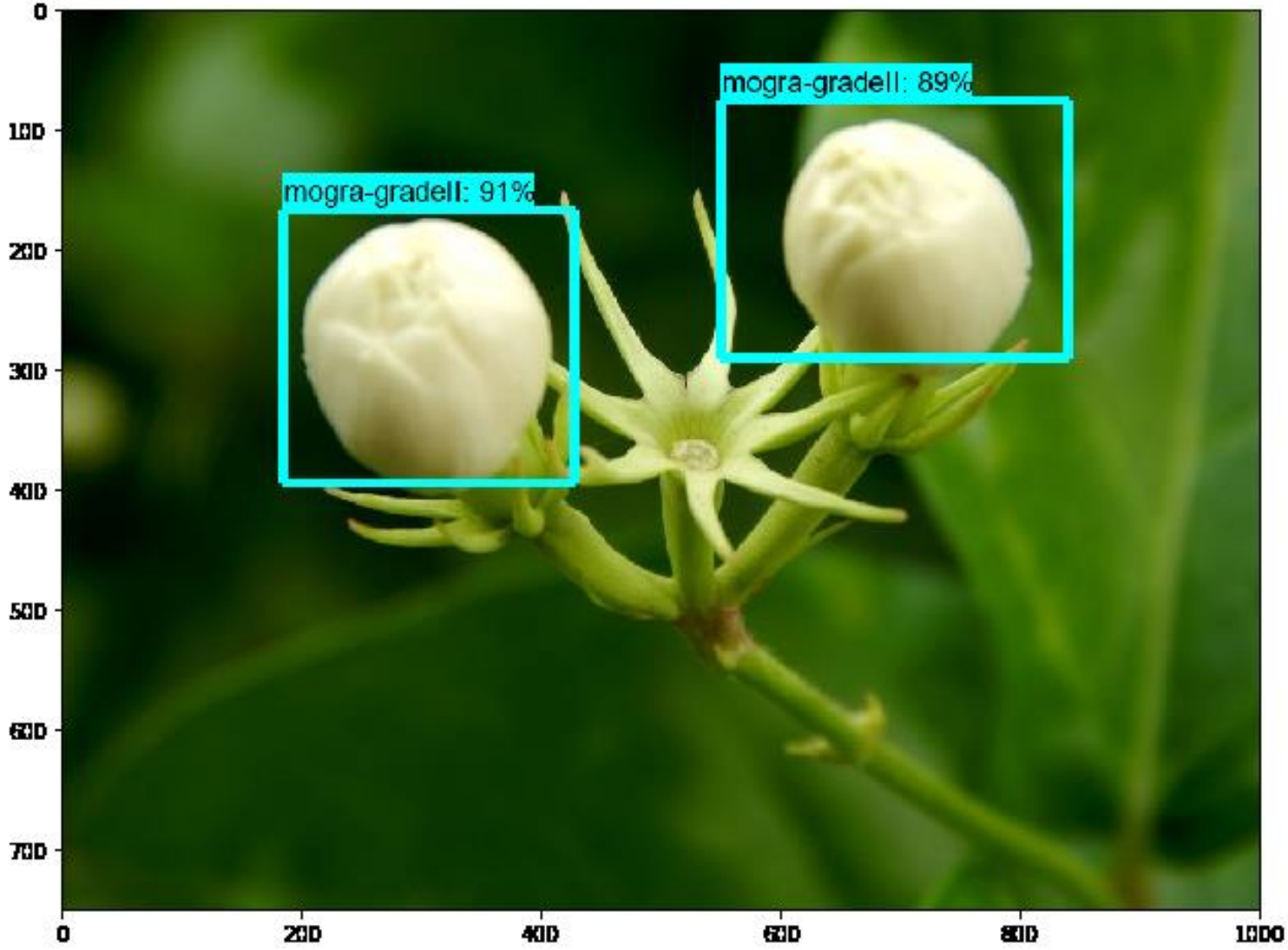
size in ppm 0.8351682 0.7199127
Eucledian Distance 71.100281
61.288253

3.Tensorflow Results:

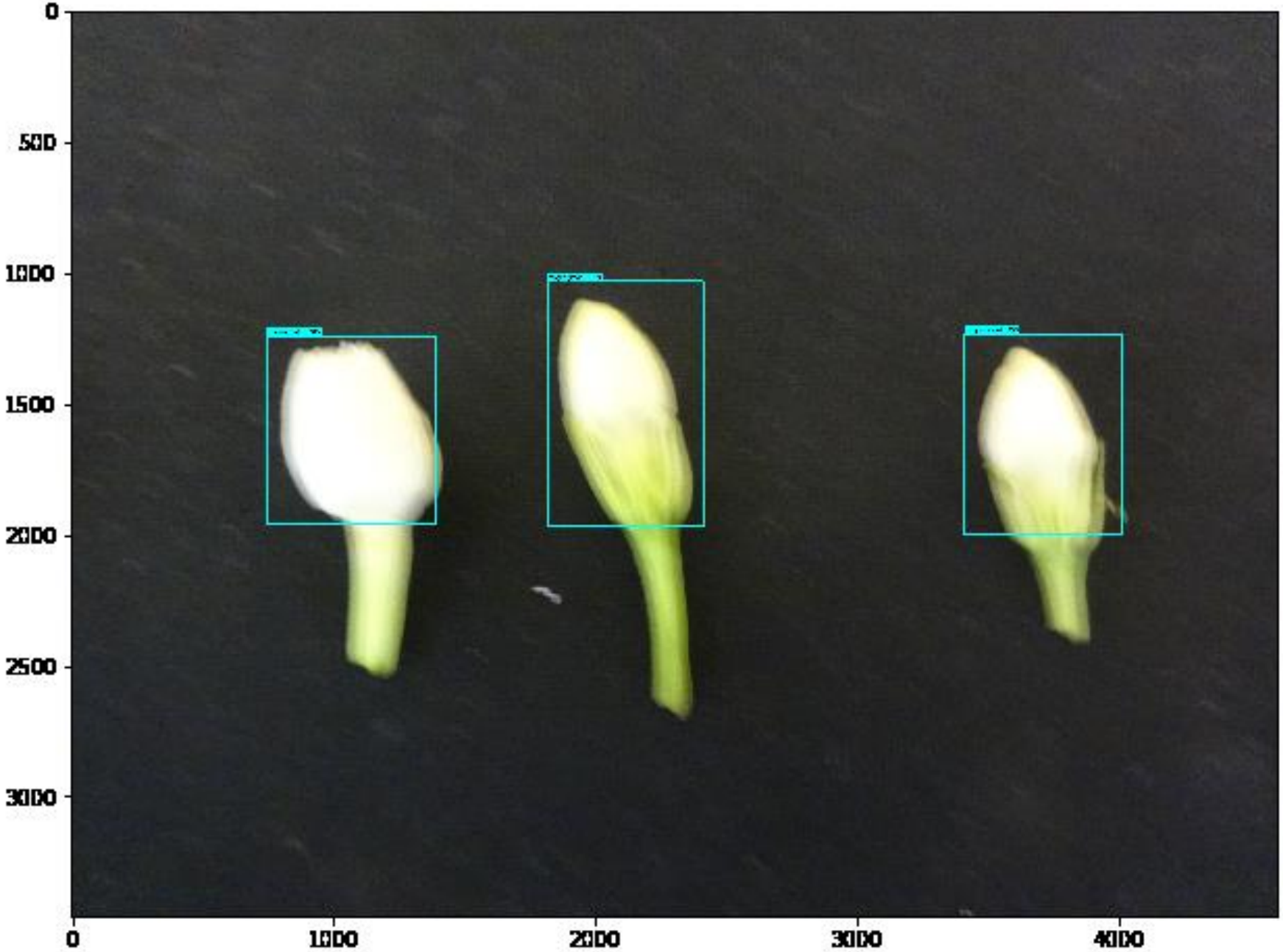
This loss graph after training and loss obtained around 2 and 3. This loss can be reduced to close to 1 if added more dataset.


mogra-gradell: 98%
mogra-gradell: 82%
0
100
200
300
400
500
600
700
800


mogra-gradeII: 97%
mogra-gradeII: 87%
0
100
200
300
400
500
600
700
0
200
400
600
800
1000


mogra-gradeII: 89%
mogra-gradeII: 91%
0
100
200
300
400
500
600
700
0
200
400
600
800
1000


mogra-gradell: 58


0
500
1000
1500
2000
2500
3000
0
1000
2000
3000
4000