

ASSESSING THE IMPACTS OF TROPOSPHERIC OZONE ON CROP LOSSES IN BANGLADESH



Methodology

Crop (Biomonitoring indicator): *White clover*

Two genotype were used such as ozone resistant
(NC-R) and ozone sensitive (NS-S)

Tiny tag: For recording temperature and relative humidity

Ozone passive sampler: To measure the tropospheric ozone

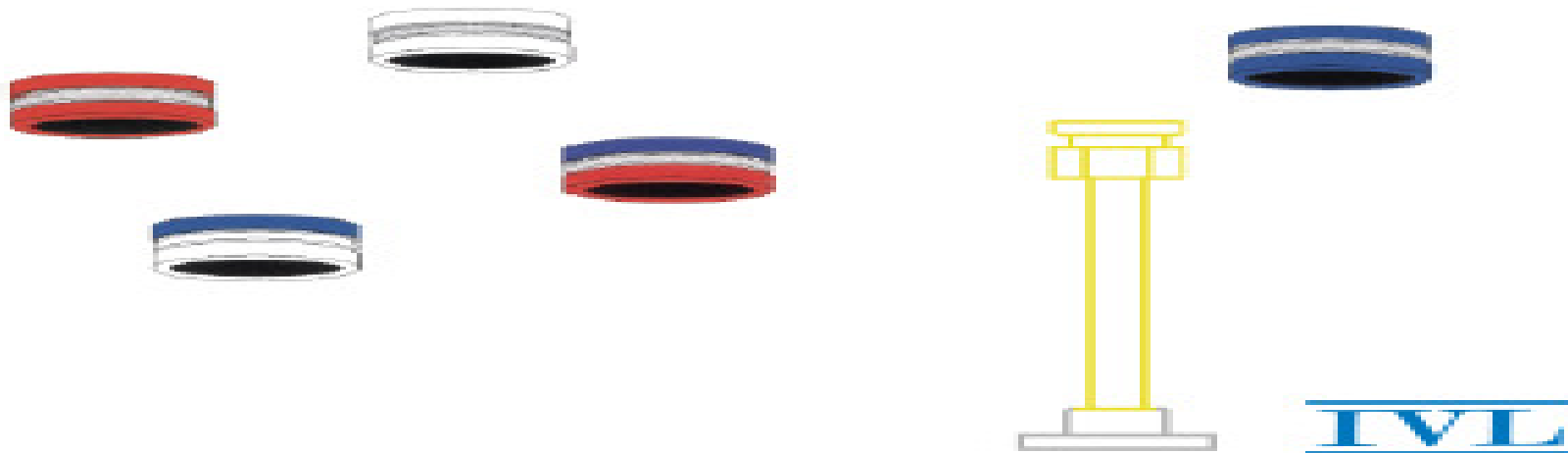


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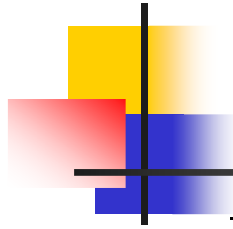


Diffusive Samplers for Air Monitoring

A reliable, simple and inexpensive measurement technique with many applications



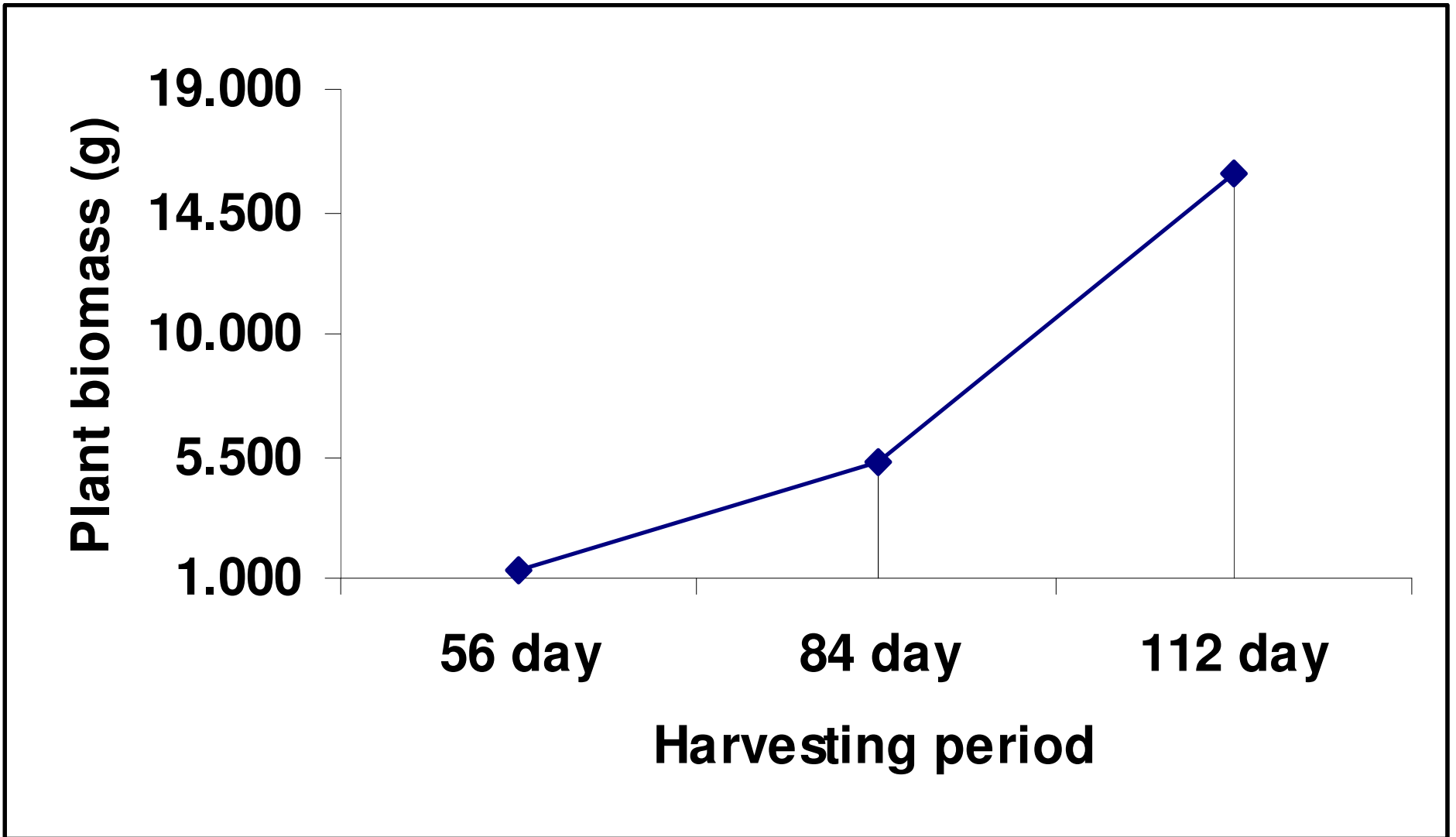
Measurement of Tropospheric ozone in Bangladesh



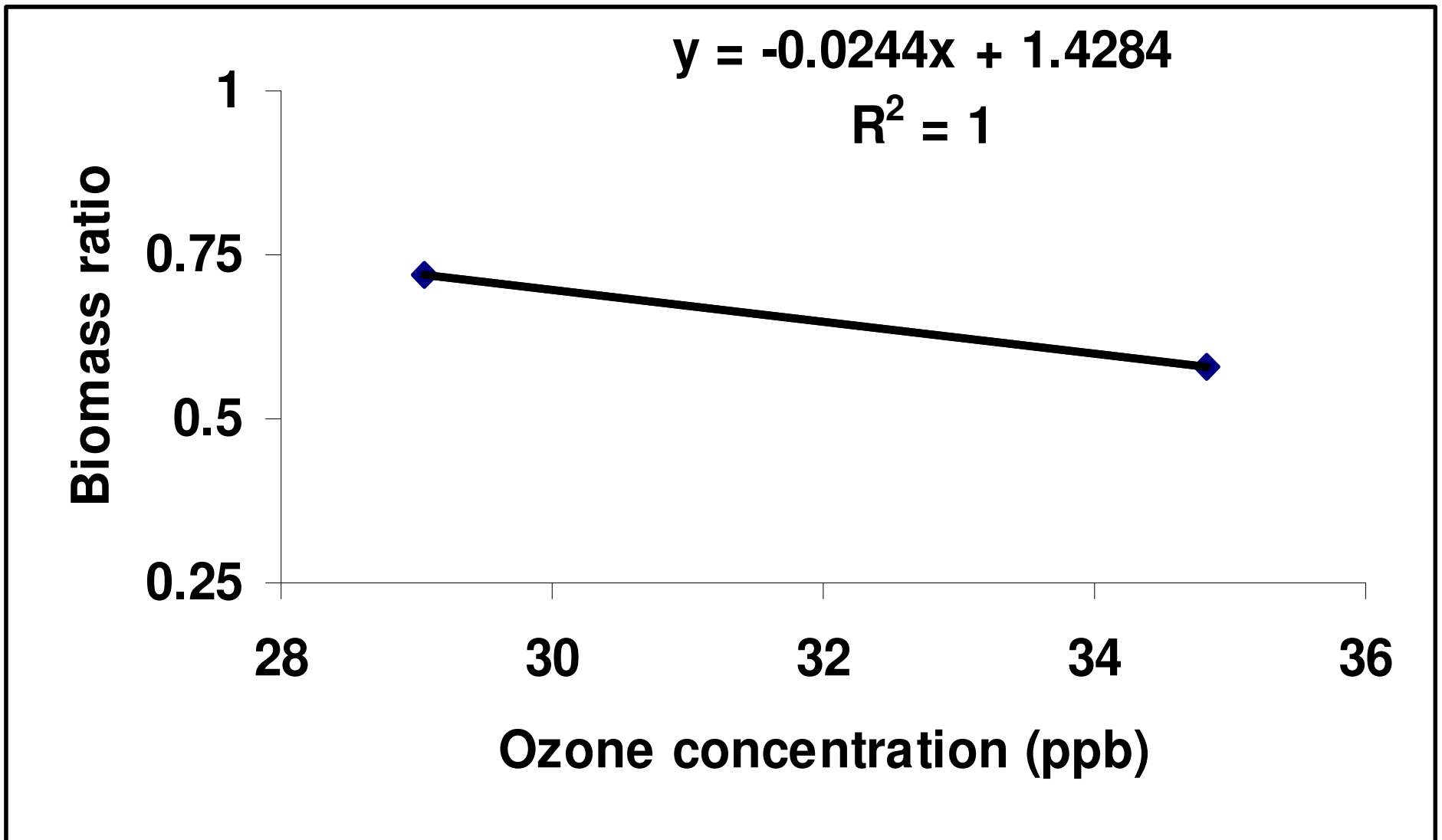
Time	Concentration (ppb)
MAY 2007	29.11
June 2007	34.77

Table . Visual injury in NC-S at different harvesting period

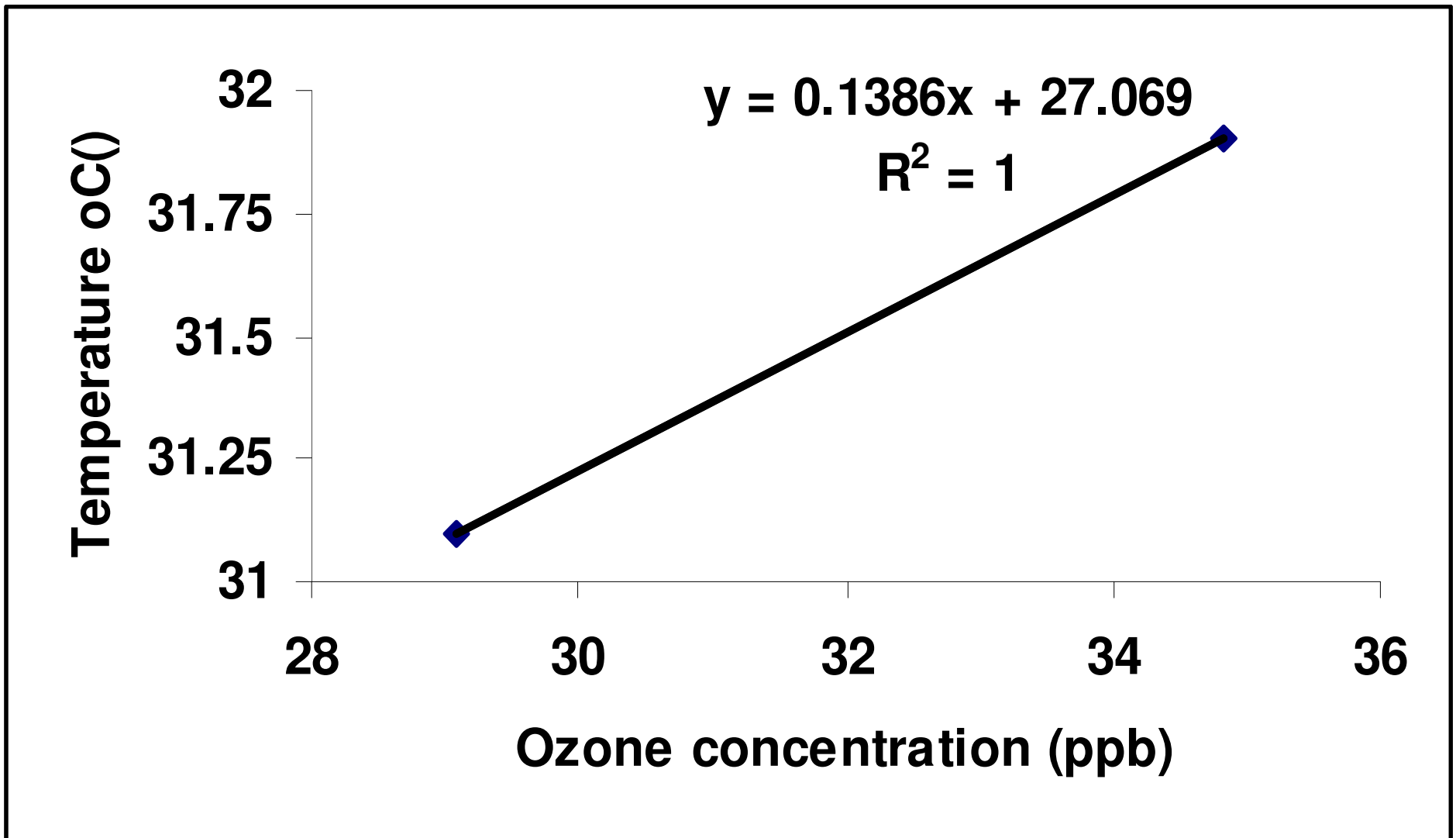
Harves ting period	Ozone injured plant	Very slight injury (up to 1% injured leaves) among injured plant	Slight injury (up to 1% injured leaves) among injured plant
1st harves t	50%	60%	40%
2nd harves t	55%	60 %	40%
3rd harves t	45%	40%	60%



Trend of yield increasing with time (NC-R)



Effect of tropospheric ozone on biomass ratio



Effect of temperature on ozone formation in troposphere



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Expected outcome of the experiment

- ❖ **The highly ozone polluted site in Bangladesh will be selected where recommended to reduce ozone originated sources.**
- ❖ **Crop yield loss by ambient ozone should be minimized through identifying**
- ❖ **ozone symptom detection in right time**
- ❖ **It will be opened the door of study with impact of ambient ozone on crops in Bangladesh environment.**