

## Caxide Scholar Sample Project Timeline

Week	Goals to Accomplish
Week 1 May 12-16	Extract RNA from liver samples and remove genomic DNA project
Week 2 May 19-23	Determine RNA quality using Agilent 2100 Bioanalyzer
Week 3 May 26-30	Normalize RNA concentrations and perform Reverse Transcription to convert mRNA to cDNA
Week 4 June 2 - 6	Optimize primers for Real Time RT-PCR
Week 5 June 9-13	Obtain quantifiable gene expression data using Real-Time RT-PCR
Week 6 June 16-20	Perform statistical analysis on obtained data
Week 7 June 23-27	Write up findings
Week 8 June 30-July 4	Optimize protein extraction methods from liver samples
Week 9 July 7- 11	Extract protein from liver samples
Week 10 July 14-18	Optimize antibodies used in protein expression
Week 11 July 21-25	Perform protein expression analysis
Week 12 July 28- August 1	Perform statistical analysis on obtained data
Week 13 August 4-8	Begin to write up findings
Remaining weeks of summer	Continue to write up findings and prepare to submit paper for publication Prepare presentation for Caxide Scholar Symposium

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Milestones	Dates/Weeks	Breakdown of Tasks
Pre-Project Preparation	Spring 20XX semester	<ul style="list-style-type: none"> <li>• Meet with project mentor to finalize timeline and project approach</li> <li>• Continue calibration approaches for low cost sensors</li> <li>• Correspond with CESE to reserve equipment and determine pick-up dates</li> <li>• Complete IDEA grant online course</li> <li>• Order equipment for project around at the end of April</li> <li>• Begin construction of enclosures if possible</li> <li>• Correspond with UConn Farm Services to remind them of the project</li> </ul>
Equipment Set-Up and Location Survey	1 week - DATES	<ul style="list-style-type: none"> <li>• Pick up equipment from CESE and go through training</li> <li>• Construct environmental enclosures for low cost sensors</li> <li>• Finalize locations for monitor placement on the farm and the garden</li> <li>• Complete an initial monitor test to ensure the sensors are operating properly and that they are in waterproof enclosures</li> </ul>
Data Collection – Part 1	3 weeks- DATES	<ul style="list-style-type: none"> <li>• Set up low cost monitors, nitrogen and pesticide samplers, and the weather station at the SVSF and EcoGarden</li> <li>• Correspond with UConn Farm Services to identify key sampling dates</li> <li>• Set up DustTrak and NOx monitors for key sampling dates</li> <li>• Meet with project mentor to determine success of data collection</li> <li>• Send nitrogen and pesticide samples to CESE for sampling at the end of each week if deemed necessary (i.e. one of the six weeks for analysis)</li> <li>• Free time will be spent optimizing MatLab code for future analysis, writing the introduction or methodology</li> </ul>
Mid-Project Assessment	1 week - DATES	<ul style="list-style-type: none"> <li>• Perform initial data analysis of findings</li> <li>• Re-evaluate monitor location or enclosure design to improve sensitivity of findings</li> <li>• Meet with project mentor to discuss my suggested changes to the data collection process</li> <li>• Continue to collect samples but place greater emphasis on evaluating the effectiveness of early findings rather than on additional analysis this week</li> <li>• Schedule a meeting with the farm manager to go over the first data collection period</li> </ul>

		<ul style="list-style-type: none"> <li>• Use this week as a buffer for the first data collection period in case there are unexpected barriers</li> </ul>
Data Collection – Part 2	6 weeks - DATES	<ul style="list-style-type: none"> <li>• Tasks will be updated based upon the earlier data collection period</li> </ul>
Data Analysis	1 week - DATES	<ul style="list-style-type: none"> <li>• Return borrowed equipment to CESE</li> <li>• Verify that all samples have been submitted to CESE</li> <li>• Conduct analysis of sensor data using MatLab</li> <li>• Begin drafting introduction and methodology section for thesis</li> </ul>
Project Findings	1 week - DATES	<ul style="list-style-type: none"> <li>• Meet with project mentor to discuss project outcomes</li> <li>• Formulate conclusions on the effect of drift between the UConn farmland and the SVSF</li> <li>• Send draft of introduction and methodology sections to project mentor for suggestions and revisions</li> <li>• Create document on how to use and analyze the low-cost monitors for fellow lab members</li> </ul>
Present Findings	Beginning of Fall Semester	<ul style="list-style-type: none"> <li>• Create PowerPoint presentation of findings for presentation at Caxide Scholar Symposium</li> <li>• Arrange a meeting with the farm manager and other interested parties to present project findings</li> </ul>