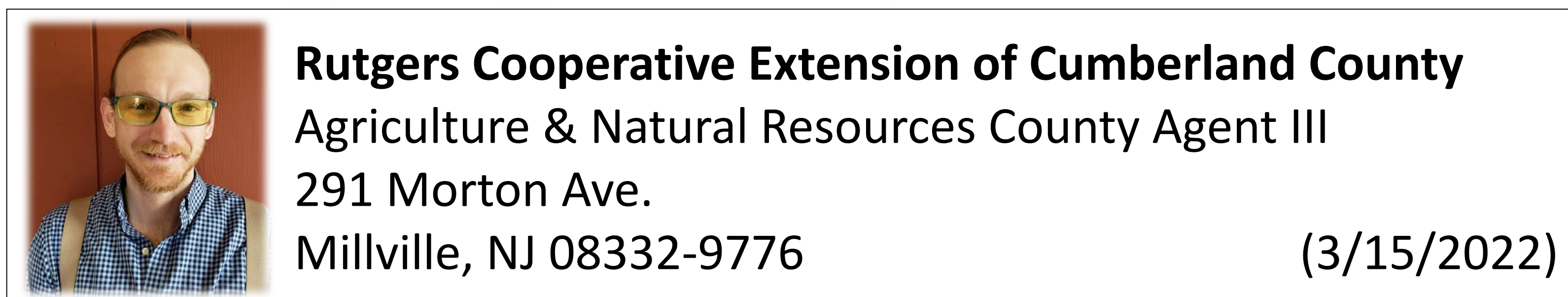


Pest Scouting Using Growing Degree-days – Extension deliverables and Programing to solidify Green Industry Adoption

Timothy J. Waller, PhD – Commercial Nursery Crop Production

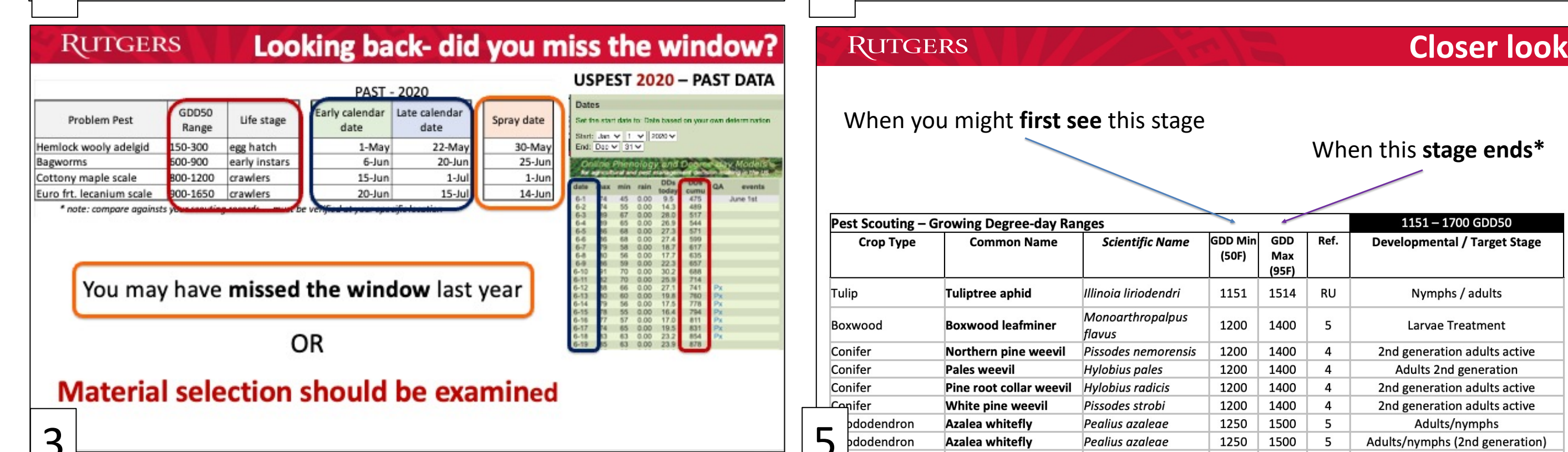
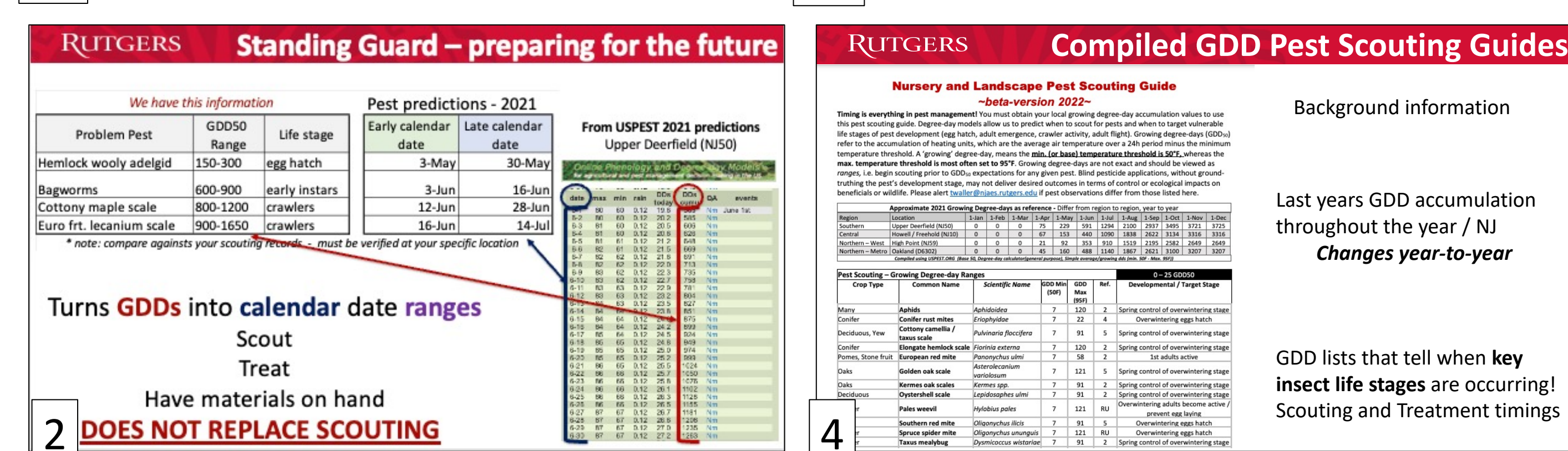
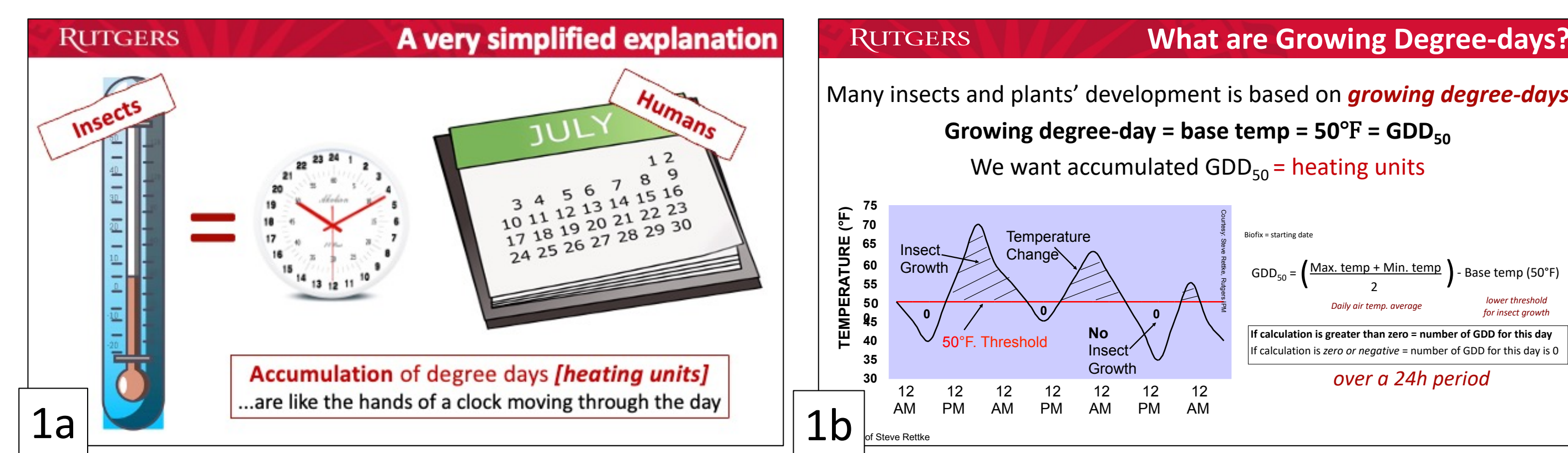


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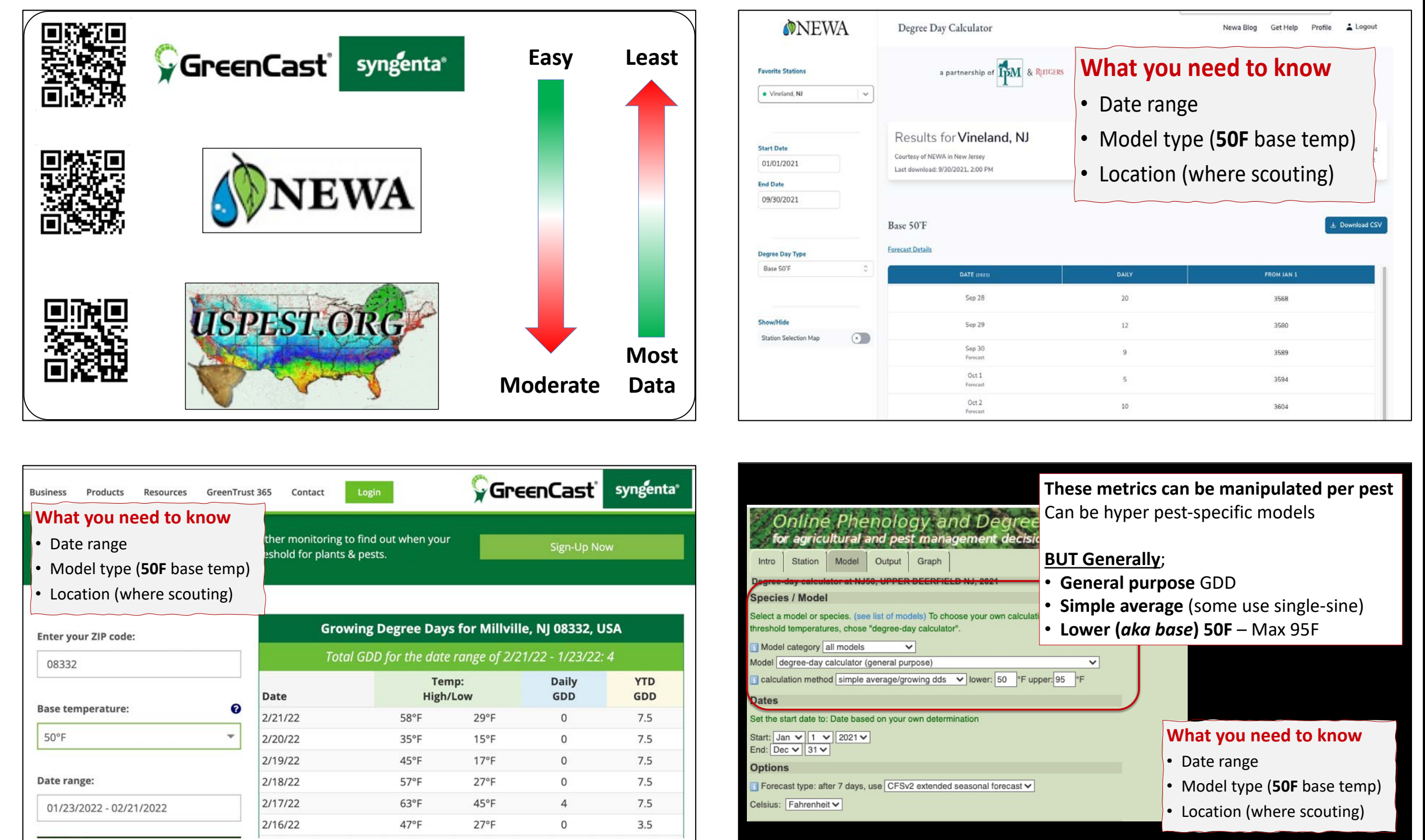
Summary- The green industry is a highly diverse stakeholder group that encompasses commercial nursery production, landscape professionals, components of diversified farm stands, municipality and environmental stewards, and multiple sectors of distribution / trucking networks, yet they all utilize the same crops supplied through commercial nurseries. As such, regardless of the green industry sector, plants are damaged by the same or similar pests and therefor the entire green industry stands to benefit from synchronized pest management approaches, via the use of growing degree-days (GDD) and pest scouting guides. If each sector is treated individually, the Extension requirements become exponentially more difficult. In efforts to field requests as an Agricultural agent related to scouting and management of the extreme diversity of insect pests in this crop system, two scouting guides were compiled (Nursery and Landscape, and Conifer), along with multiple educational sessions, booths at professional tradeshow and gatherings, and related online resources to educate interested green industry groups. Many previously expressed interest in utilizing GDDs but were concerned with the perceived, yet misleading, level of technical difficulty. Merging outreach efforts surrounding this key IPM tool, has greatly streamlined grower adoption and utilization of print and online resources. One manager said, *“these guides are critical to our success”*.

Needs and Goals Statement - Identify limiting factors to growing degree-day adoption and educate multiple sectors of the green industry on this IPM tool, while also providing the resources required to bring this approach into mainstream pest management of commercial nursery produced plants in the Northeastern USA.

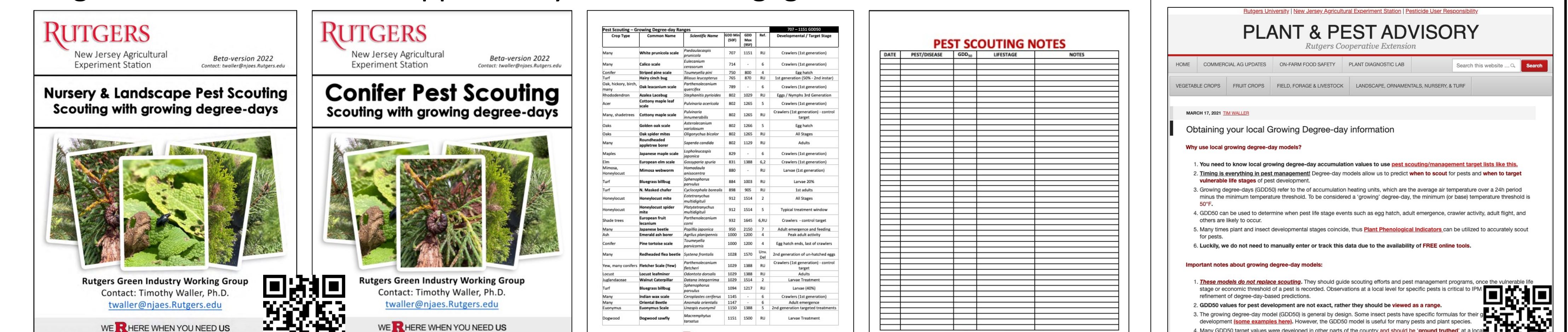
Education on growing degree-days (GDD) - What they are, why they are important, and how to best use them has been the focus of over 10 educational sessions, bi-weekly Rutgers Plant and Pest Advisory posts and email alerts, and one-on-one walk-throughs with online tools. Here are a few example slides that demonstrate what they are (1a,1b), how to use GDD to prepare for scouting (2), using GDD to understand why controls may have failed (3), and Pest Scouting Guide descriptions to ease use (4,5).



Examples of online degree-day calculators available to stakeholders – A key factor to green industry adoption of GDD is the ability to provide expertise on multiple resources that are fundamentally the same, yet one may make more sense to their operation and needs. Here are examples slides used in educational contexts, where similarities (date range, location, and model type) are contrasted against the kinds of data that can be gathered from these resources. Moreover, this approach adds valuable interest towards future online endeavors and resources.



Compiling multiple sources of GDD information into a single document–(sources sited within Pest Scouting Guides) – Our intention was to develop a single deliverable (one for nursery and landscape and another for conifers) that could be viewed online, but also printed and put into work vehicles. This guide outlines host, pest, vulnerable life stages based on GDD throughout the season. Additionally, there are links (web) and QR codes (physical) that provide more information and how-to steps (bottom right). The final page is for notes, as this guide is meant to be an opportunity to further engage with our stakeholders.



Reaching our diverse green industry audiences – Multiple forms of stakeholder engagement allowed for more opportunities to discuss programs. Here Rutgers agents developed twilight, full day sessions, and organized, presented, and had presence (booths) at regional meetings. Each opportunity provided the ability to share current research and bring more people into the offerings of Extension.

Rutgers led educational programing with GDD topics



Rutgers web-presence (used as slide and handouts)



Educational session coordination, seminar delivery, and tradeshow booths. These associations represent a large cross-section of local green industries. Pictured: (L-R) Bill Errickson (RCE Agent, promoting an upcoming educational session with GDD talks, Dr. Lauren Errickson (Director of Rutgers Gardens), Dr. Tim Waller (promoting the pest scouting guides)