

Concerns for Whitefly Management in Multi-crop Communities

Draft Guidelines for Cross-Commodity Management
of Whiteflies in Arizona

- Expanded registrations of IGR and neonicotinoids:
 - Applaud/Courier : cucurbits, cotton, lettuce
 - Actara/Platinum: cotton, melons, leafy vegetables
 - Assail: cotton, leafy vegetables
- 2) Multiple applications allowed by labels.
- 3) Risk of increased selection pressure on whiteflies
- 4) The necessity to sustain the efficacies of these valuable chemistries for whitefly control.

Arizona Cross Commodity Working Group

- **Arizona Cotton Growers Association**
- **Arizona Cotton Res & Prot Council**
- **Western Growers Association**
- **Arizona Veg Growers Association**
- **Yuma Veg Shippers Association**
- **Cotton Incorporated**
- **Arizona Department of Agriculture**
- **University of Arizona**
- **PCA's**

Objective:

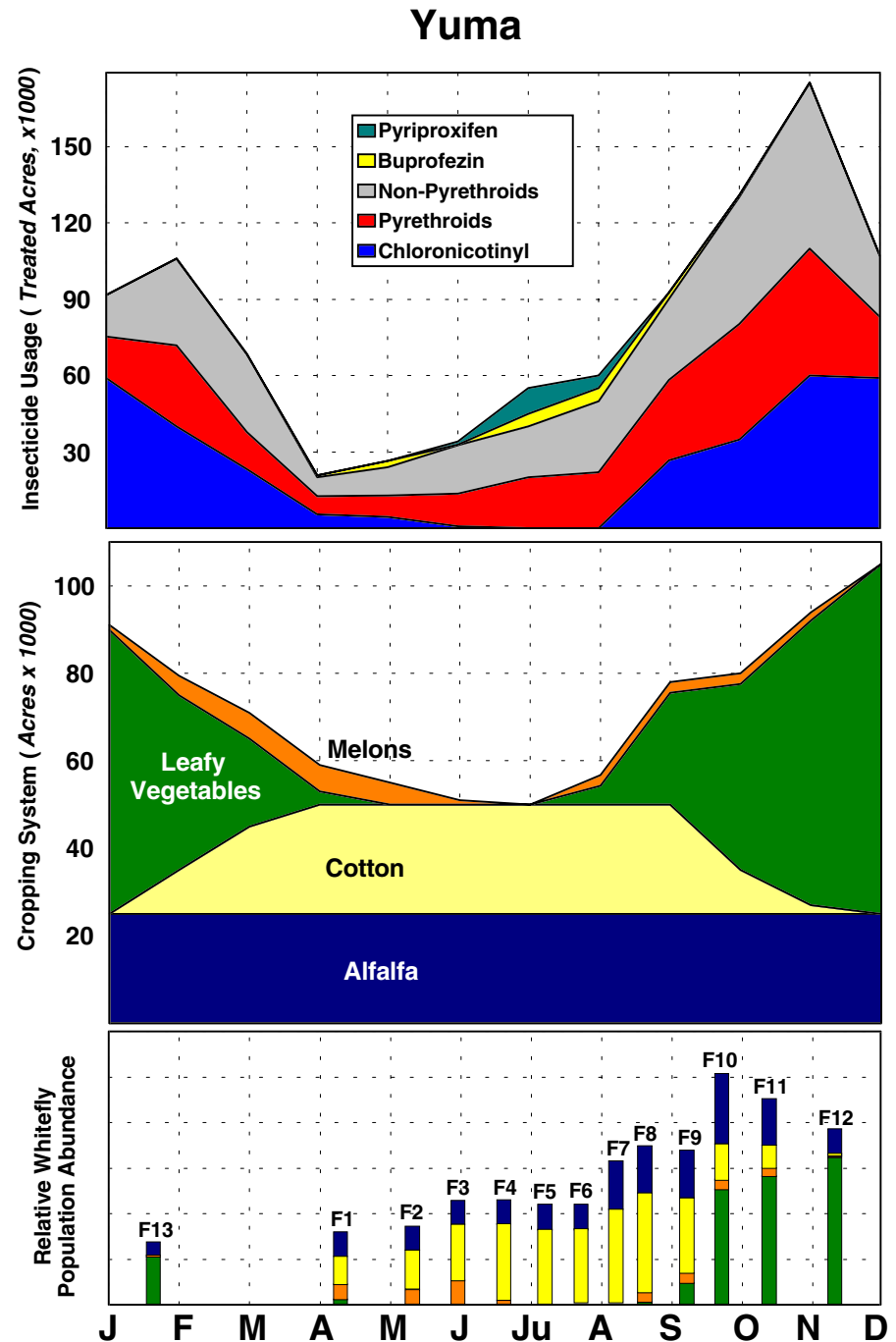
Harmonize and Sustain Effectiveness of Shared Chemistries While Managing Whiteflies Across Commodities.

- 1) **Regional cropping systems**
- 2) **WF population dynamics**

Multi-crop Community

more than one host-crop is grown in significant acreage within the same community.

- Yuma Co.
- Maricopa Co. (e.g. Aguila)
- Pinal Co. (e.g., MAC)

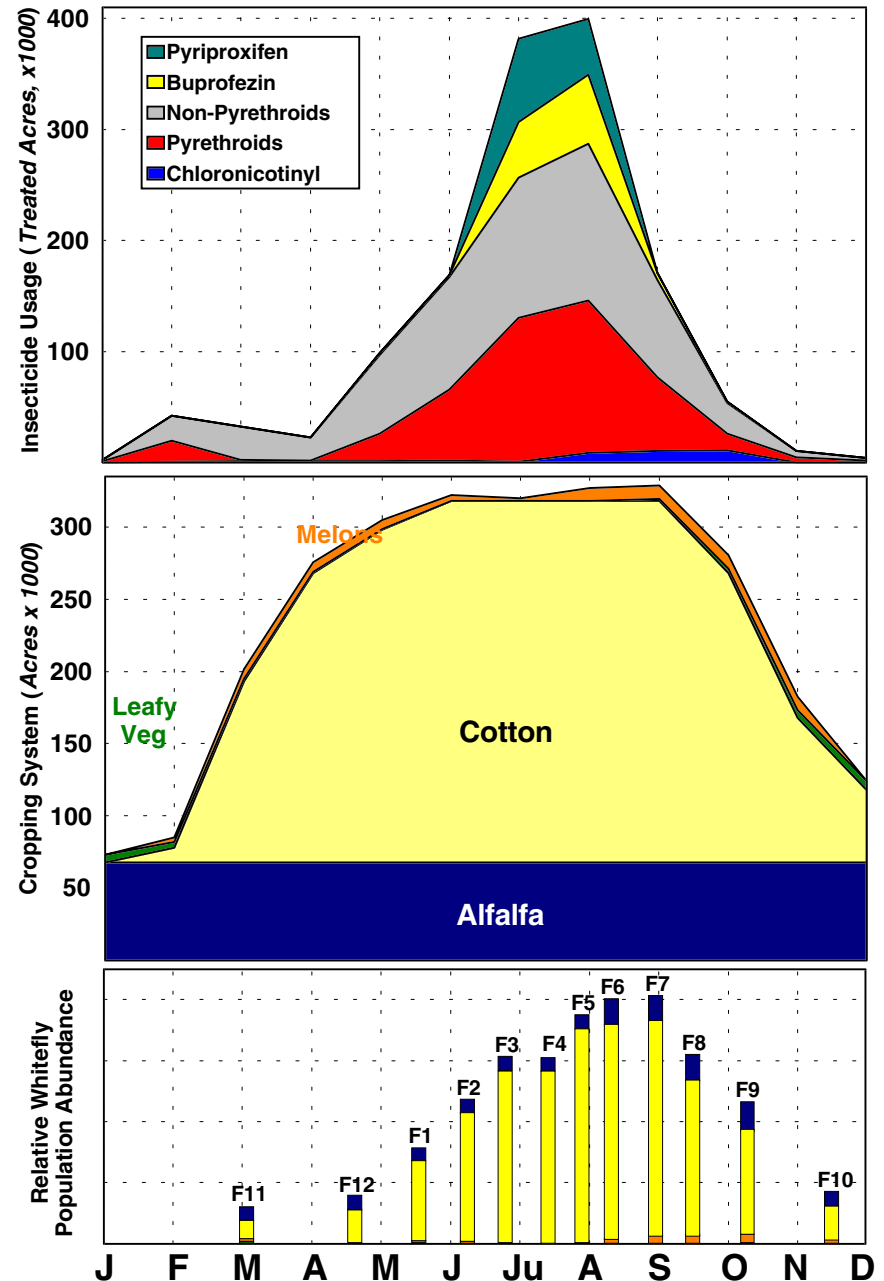


Cotton-intensive Community

cotton is the dominant WF host crop grown in a crop community.

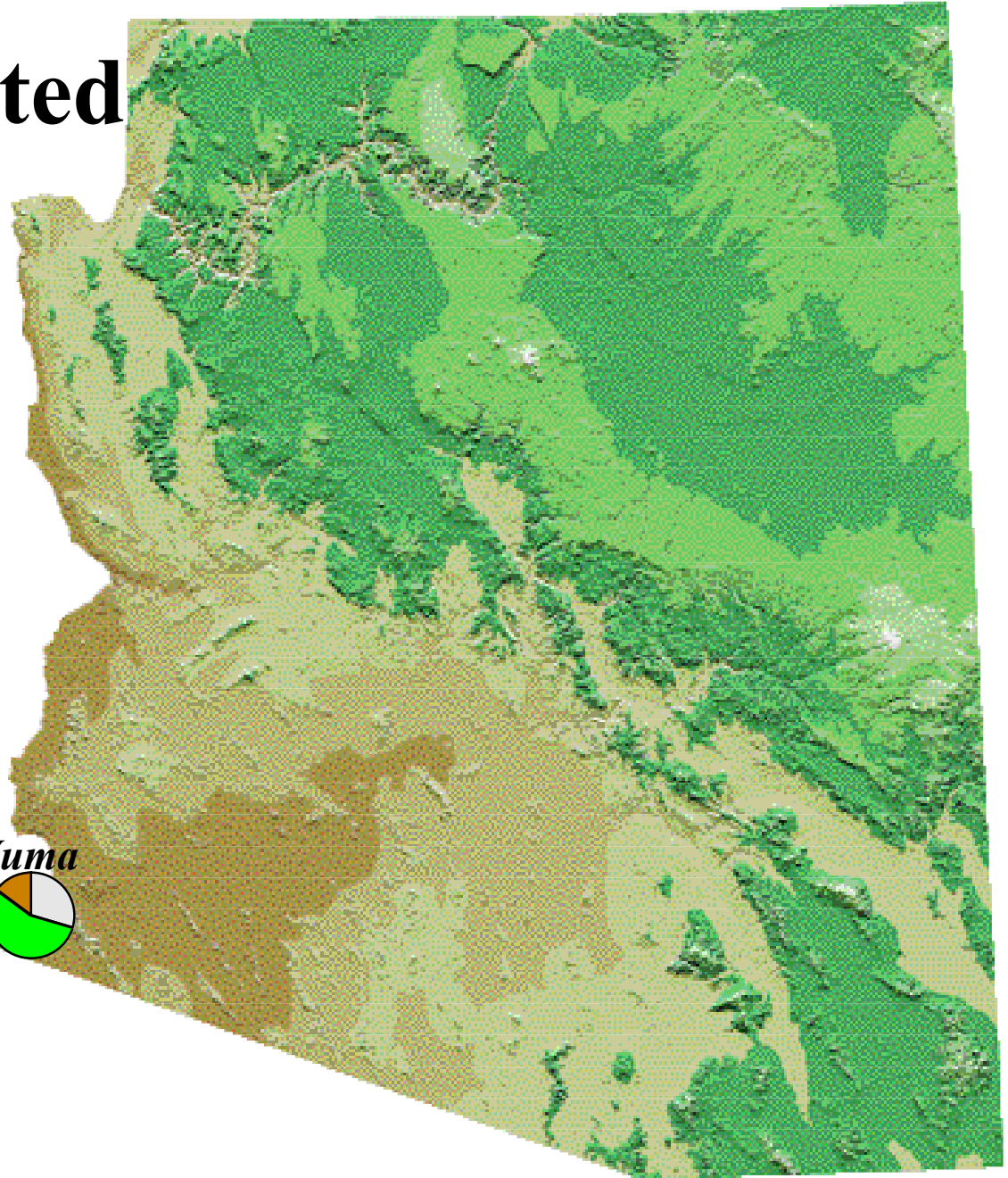
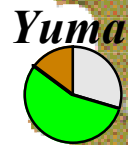
- Maricopa Co. (e.g. Buckeye)
- Pinal Co. (e.g. Casa Grande)
- Pima Co. (e.g. Marana)

Central Arizona- Low



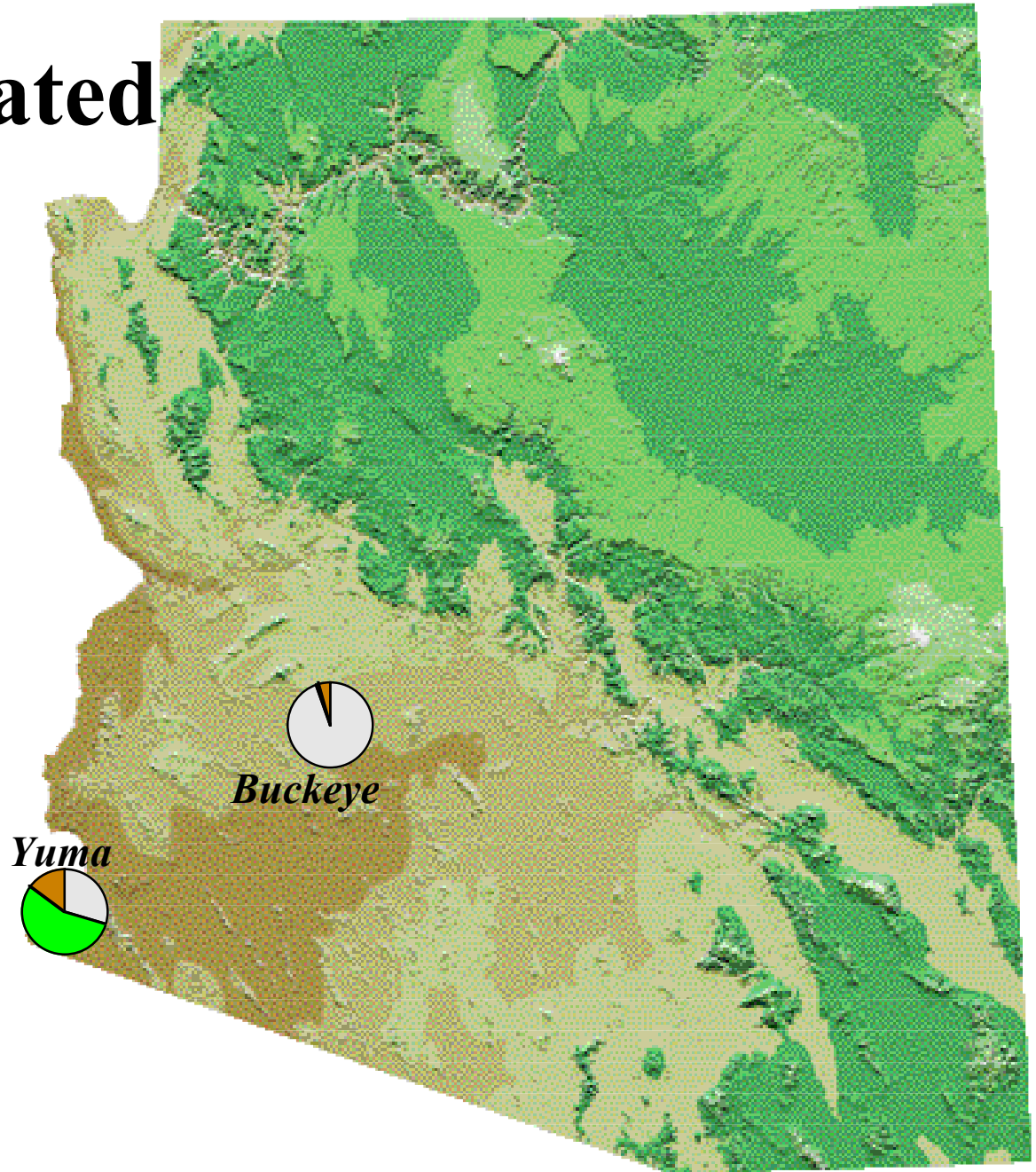
Principal Treated WF Hosts by Community

- Cotton
- Vegetables
- Melons

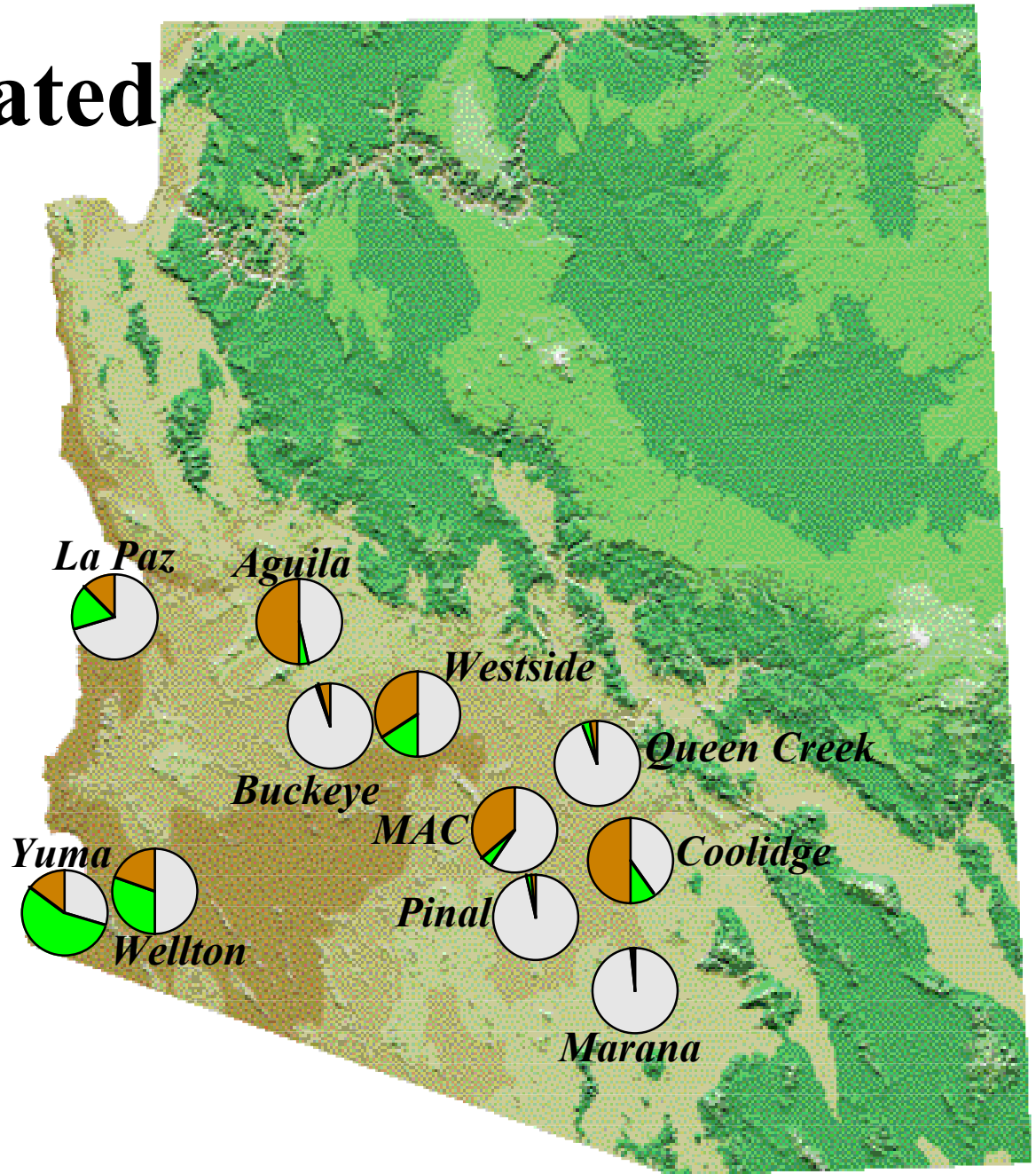


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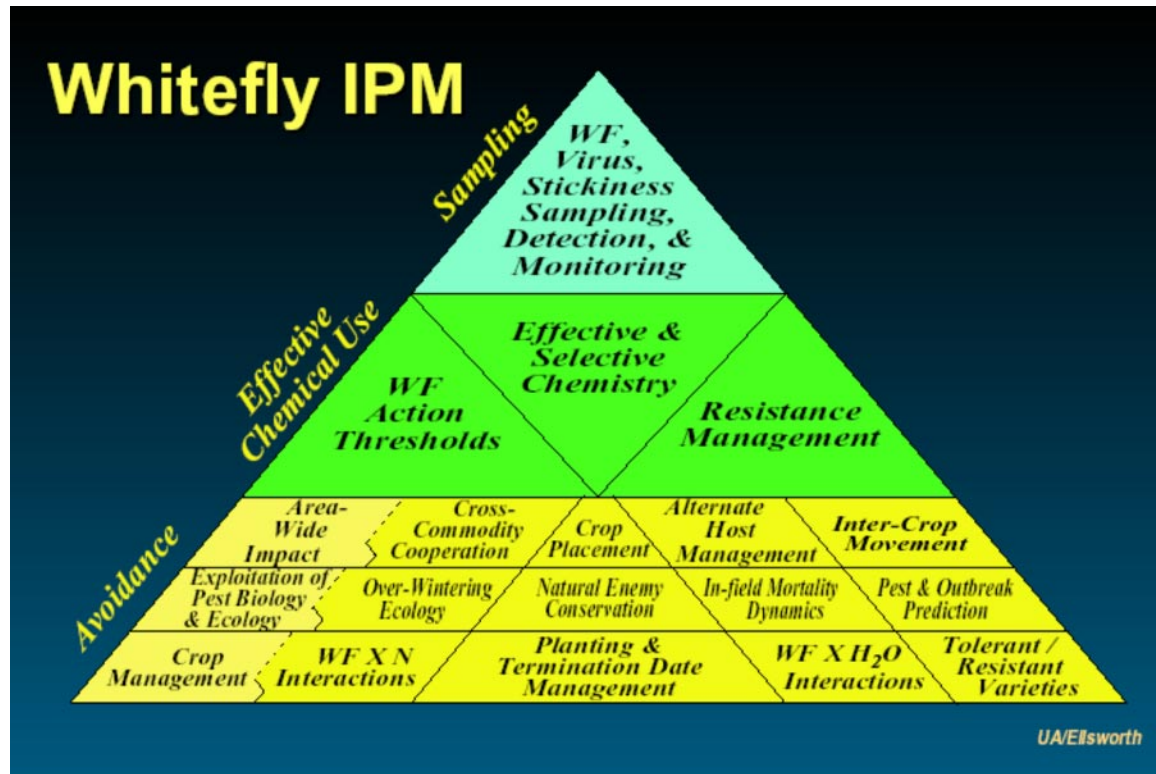


Principal Treated WF Hosts by Community



General Whitefly Management Guidelines

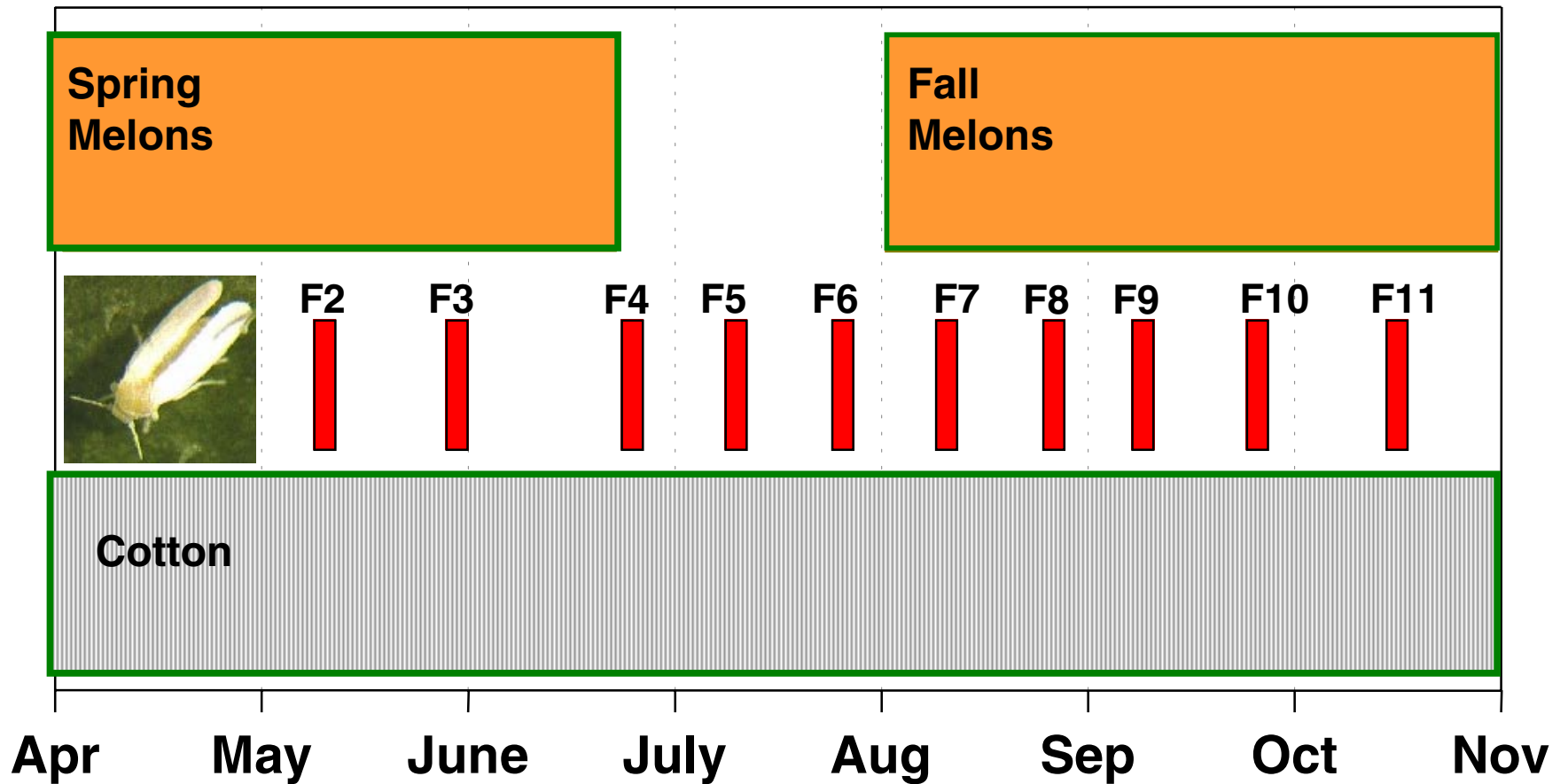
- Avoidance
- Sampling
- Effective Chemical Use (1 IGR use / crop season)



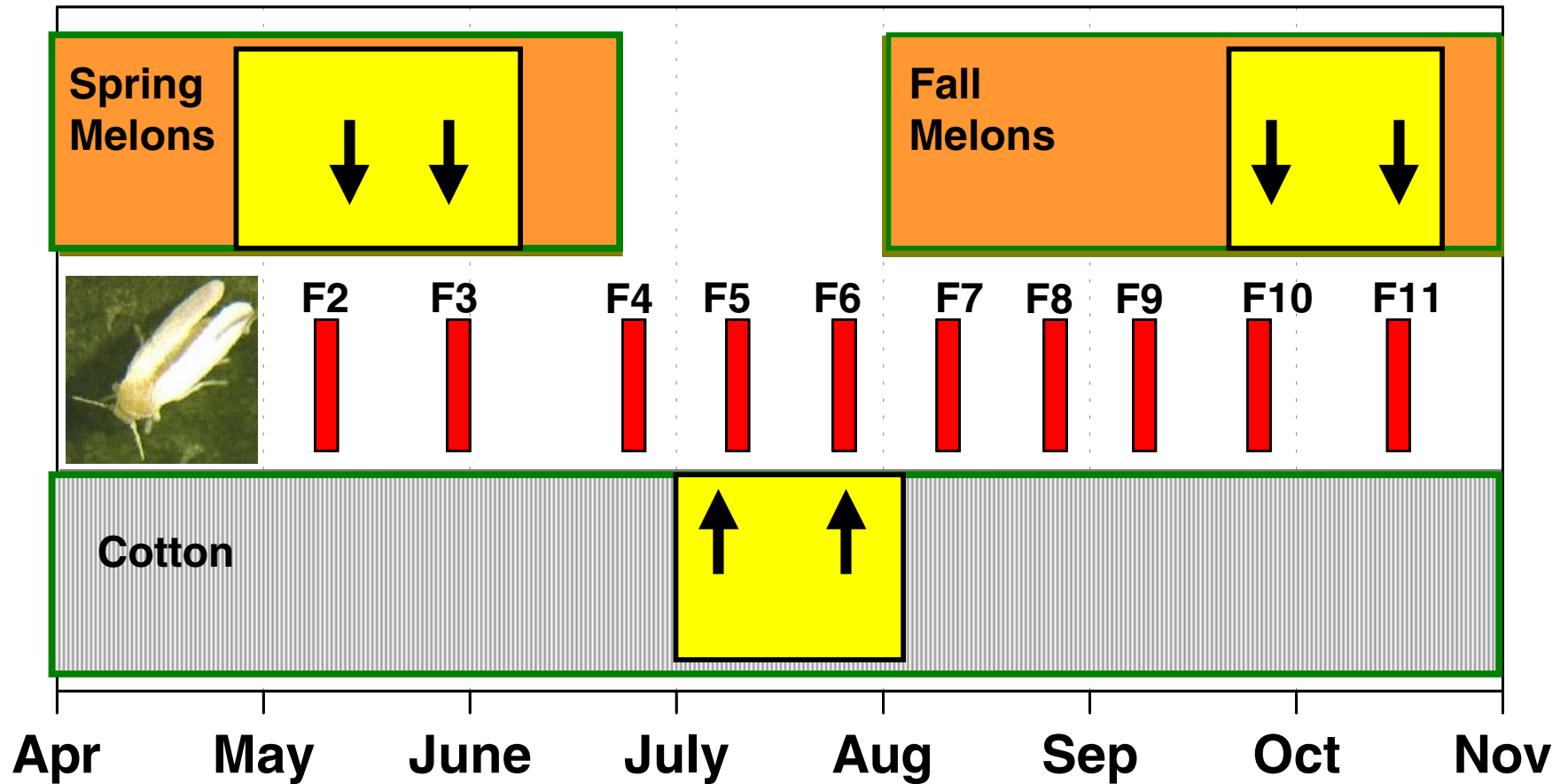
Cross-commodity Guidelines for Applaud/Courier

- Limit use to 1 application per crop season.
- 2) Restrict use to no more than 3 applications per year in a *multi-crop community*.
- 3) Do not expose multiple, sequential generations of whitefly to Applaud/Courier (or any WF chemistry).
- 4) Coordinate treatments of adjacent fields such that, when thresholds indicate the need for Applaud applications:
 - they are made within 1 week (within the same whitefly generation),
OR
 - the interval between Applaud sprays is more than 4 weeks, or at least 2 whitefly generations.

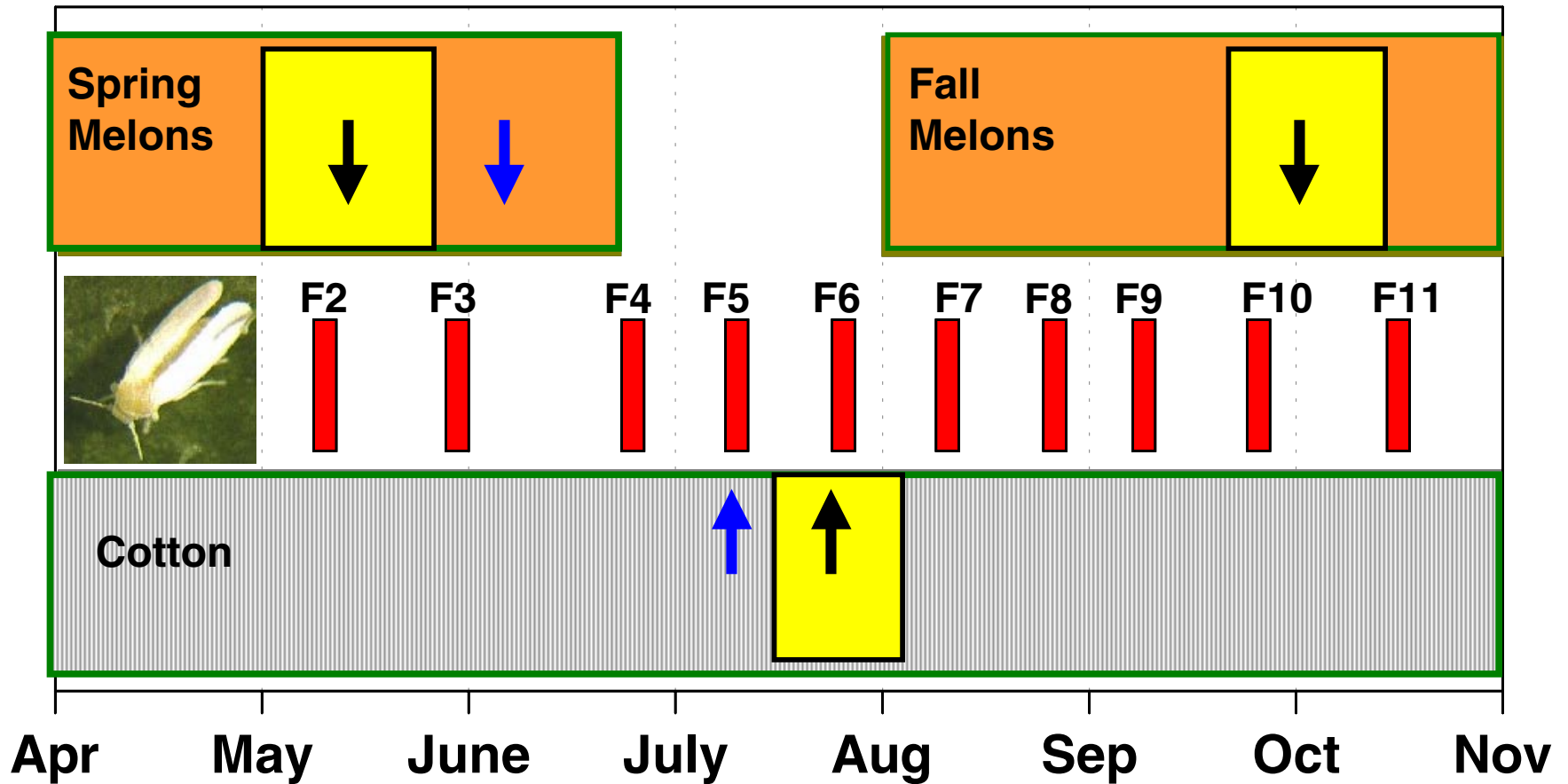
Multi-crop Community



Applaud[®] in *Yuma* – Potential Label Max Use

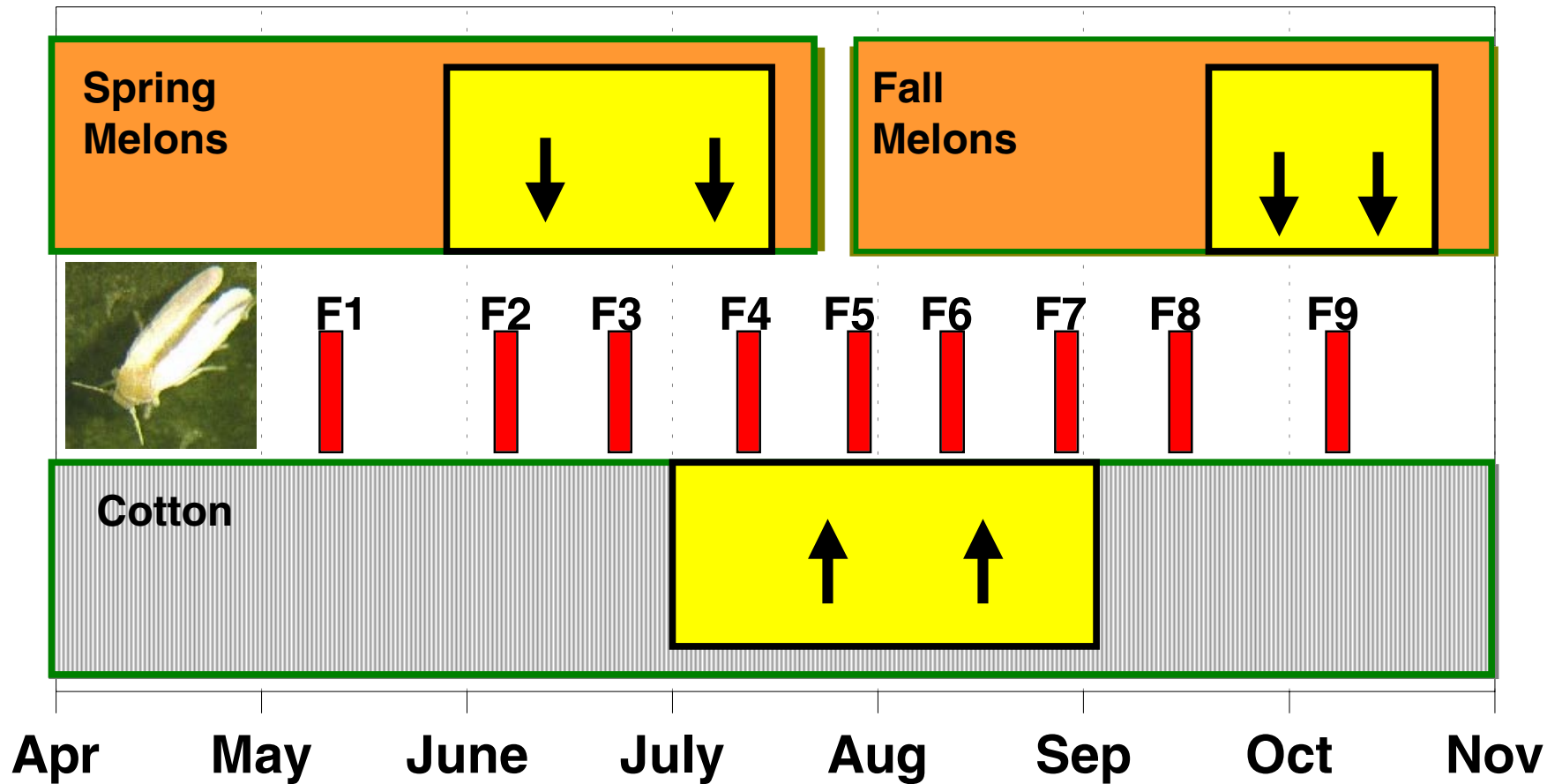


Applaud[®] in *Yuma* – Recommended Use

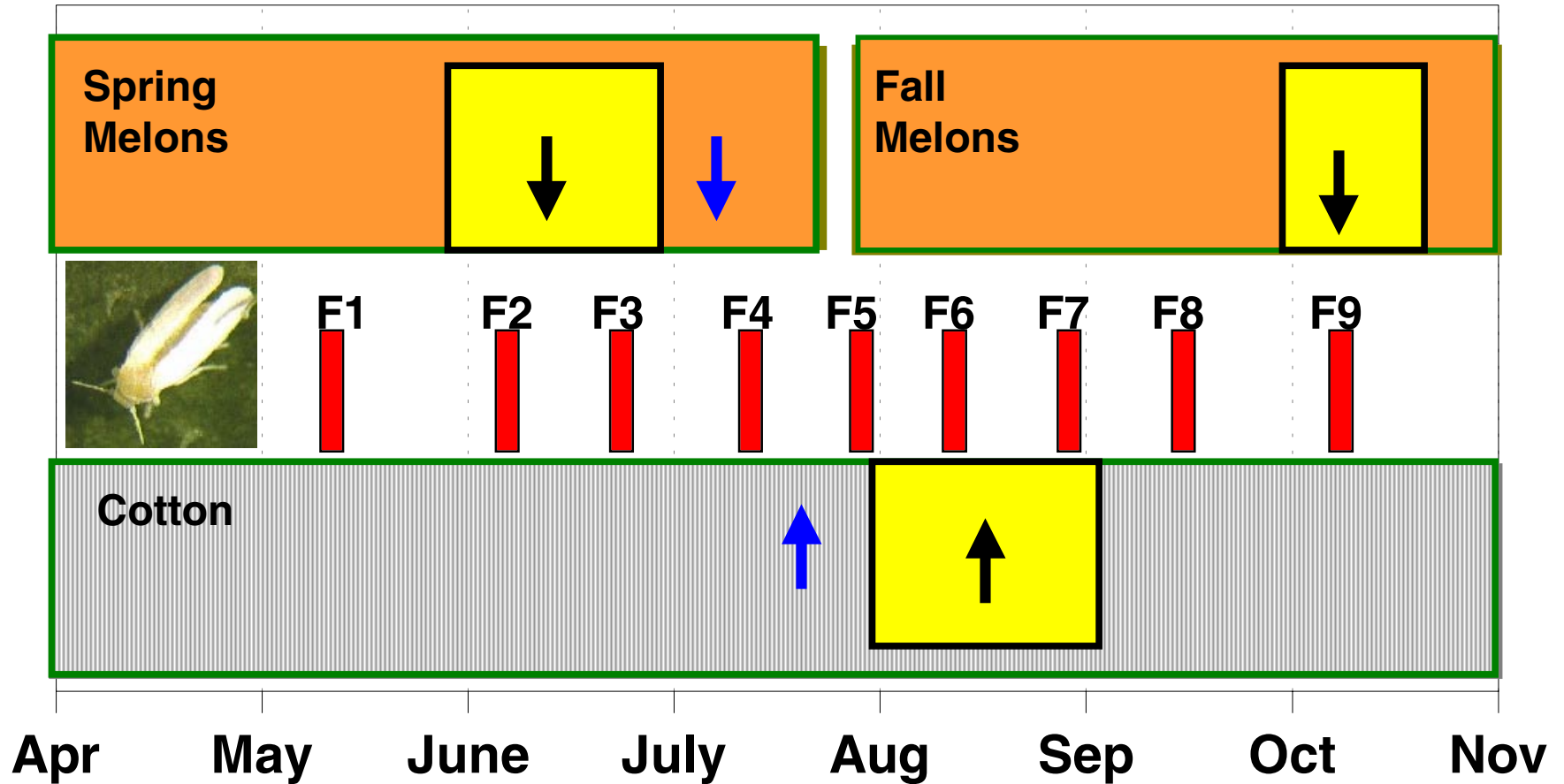


→ If WF control is required, use an alternative insecticide (i.e, KNACK in cotton)

Central Arizona - Multi crop (Potential Label Max)



Central Arizona - Multi crop (Recommended Use)



 If WF control is required, use an alternative insecticide (i.e, KNACK in cotton)

Cross-commodity Guidelines for Neonicotinoids

1) Multi-crop Communities

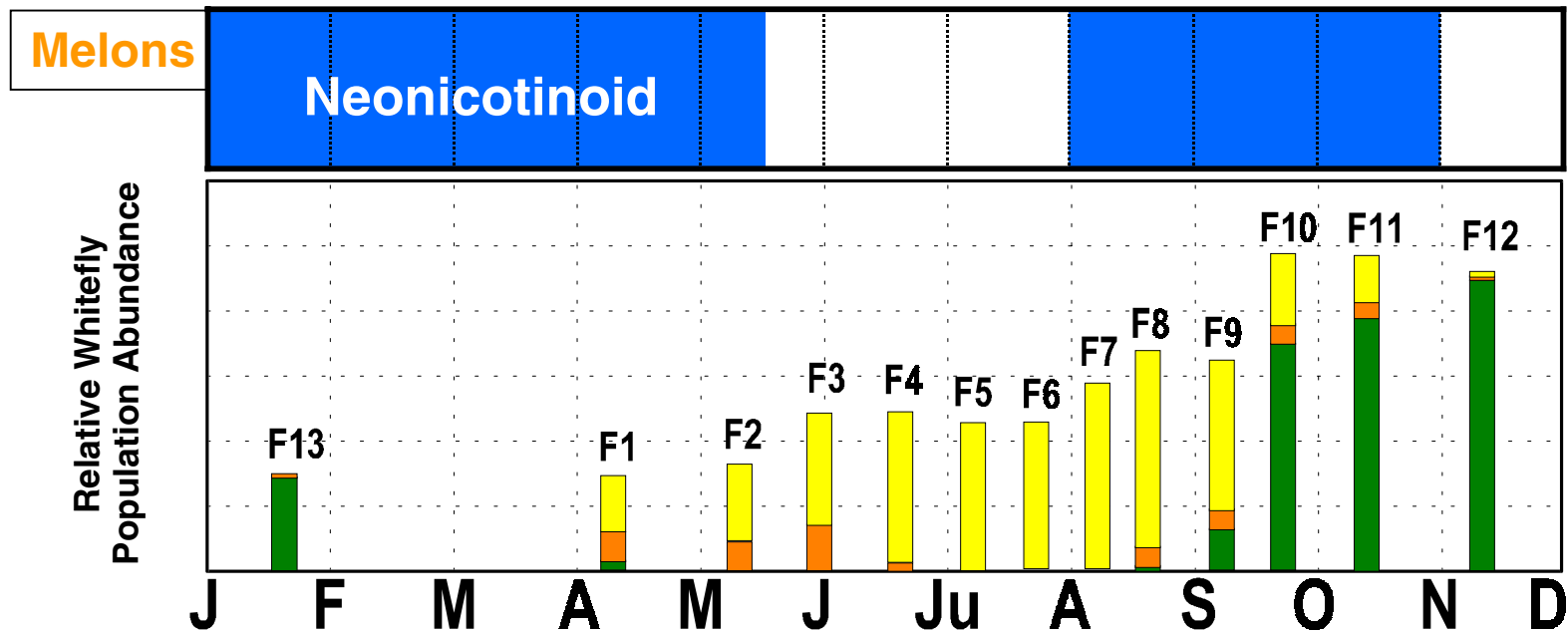
Cotton: Do not apply neonicotinoids.

(Centric/Actara, Provado/Leverage, Assail).

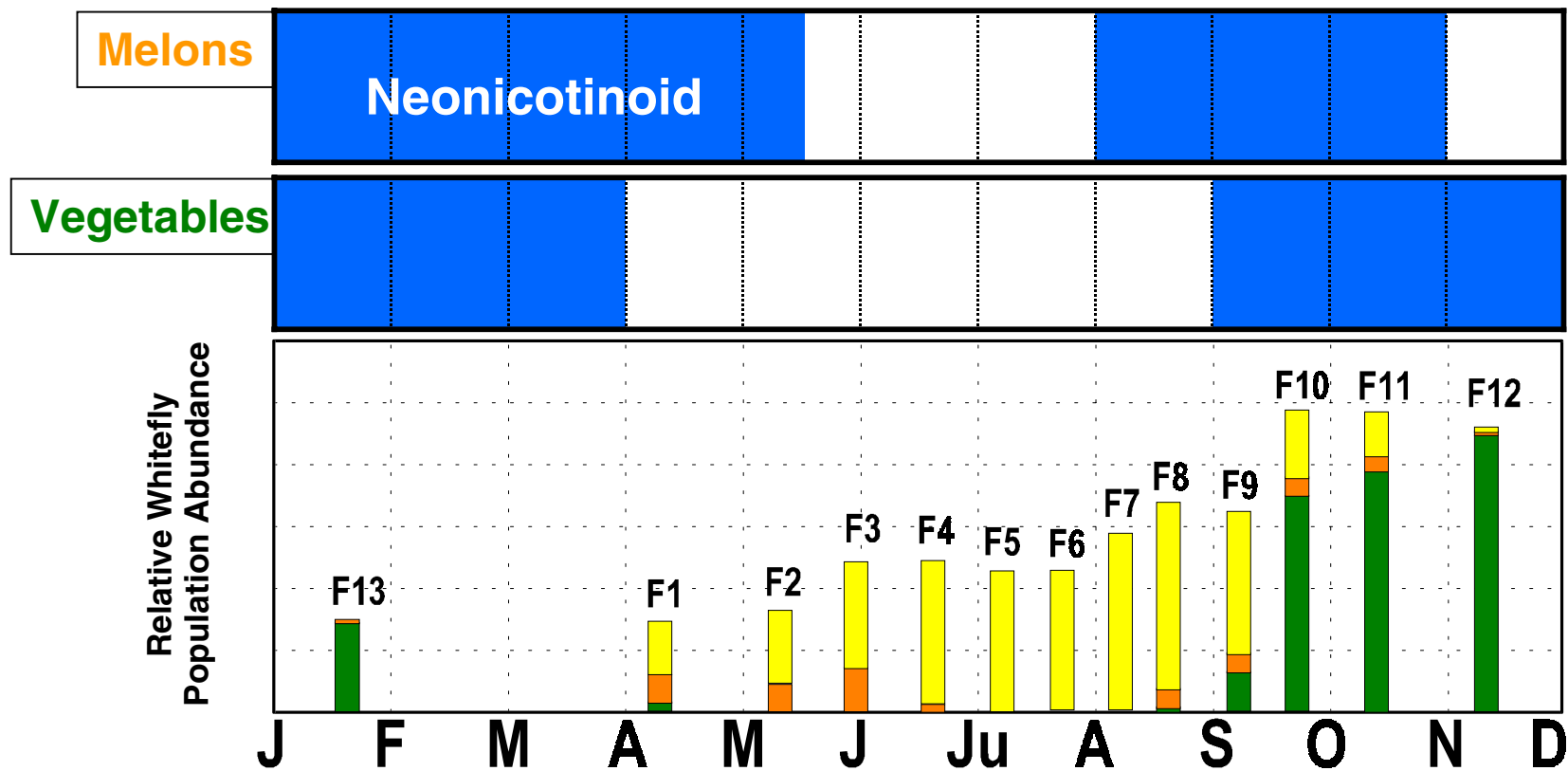
Melons /Vegetables :

- **A single neonicotinoid use (soil or foliar) per crop**
- **Do not apply a foliar neonicotinoid spray following the use of a soil application of Admire or Platinum.**
- **Soil or foliar neonicotinoids should not be applied during the following periods:**
 - Yuma:* After April 1 or before Aug 1**
 - Aguila:* Before May 1 or After Sept 1**
- **Consider foliar alternatives for vegetables that are planted after WF movement subsides and harvested before aphids typically become abundant.**
(eg, Oct 7th ~ Nov 7th in Yuma Valley)

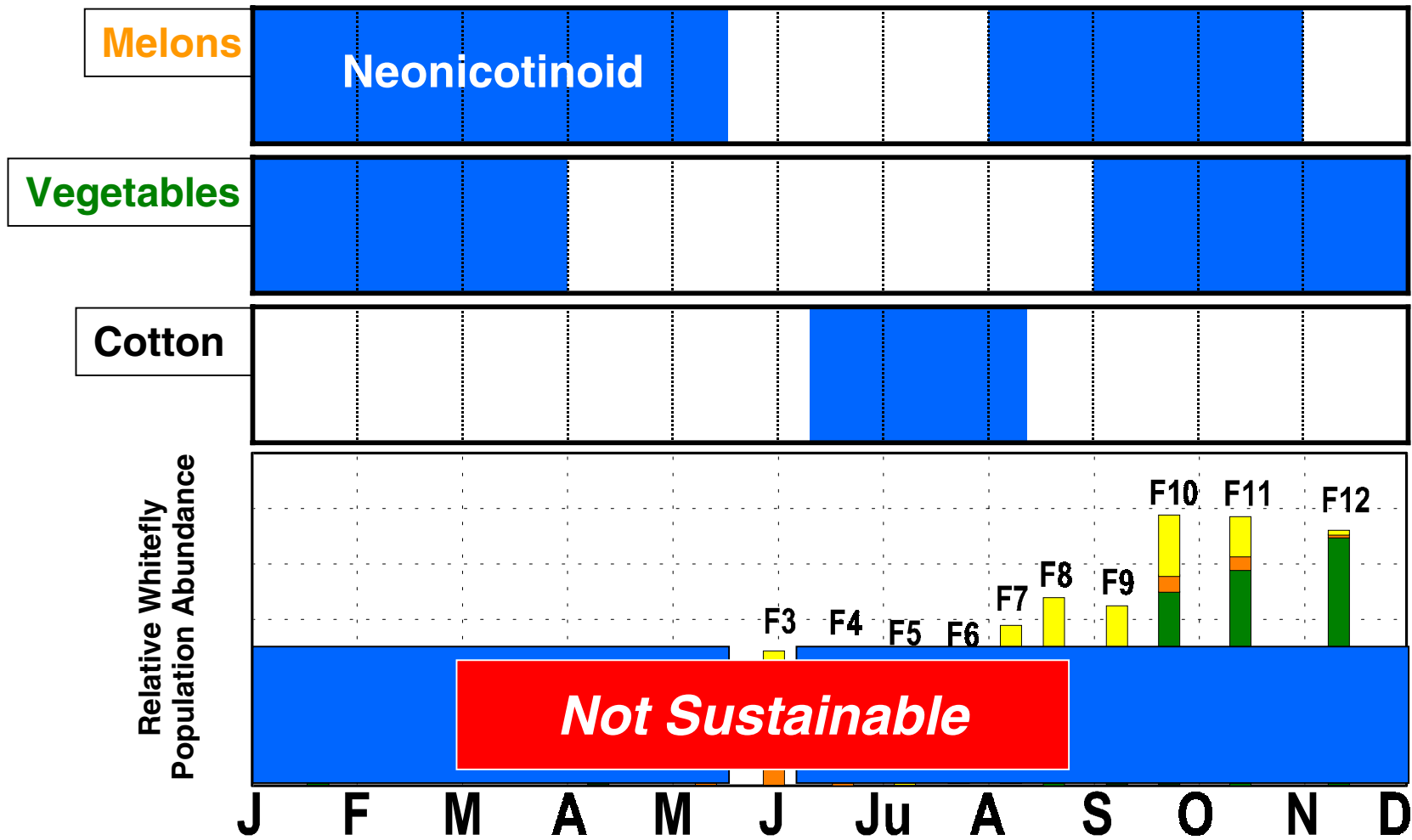
Resistance Risks Associated with Shared Neonicotinoid Uses in a Multi-Crop Community (eg., Yuma – current usage)



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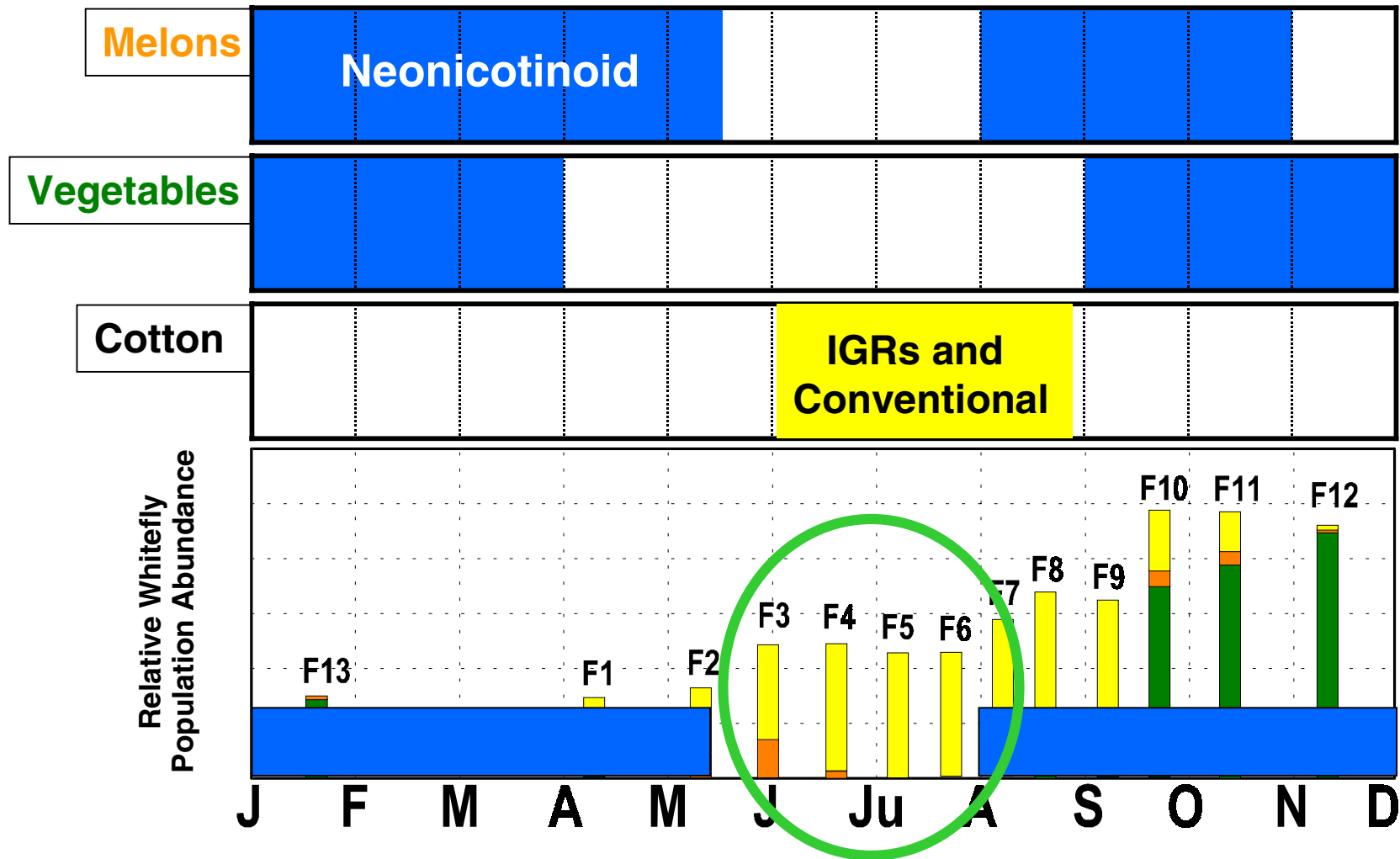


Resistance Risks Associated with Shared Neonicotinoid Uses in a Multi-Crop Community (eg., Yuma – potential usage)



Preserve a *Neonicotinoid-free Period* in Multi-Crop Communities

(e.g., Yuma-Recommended)

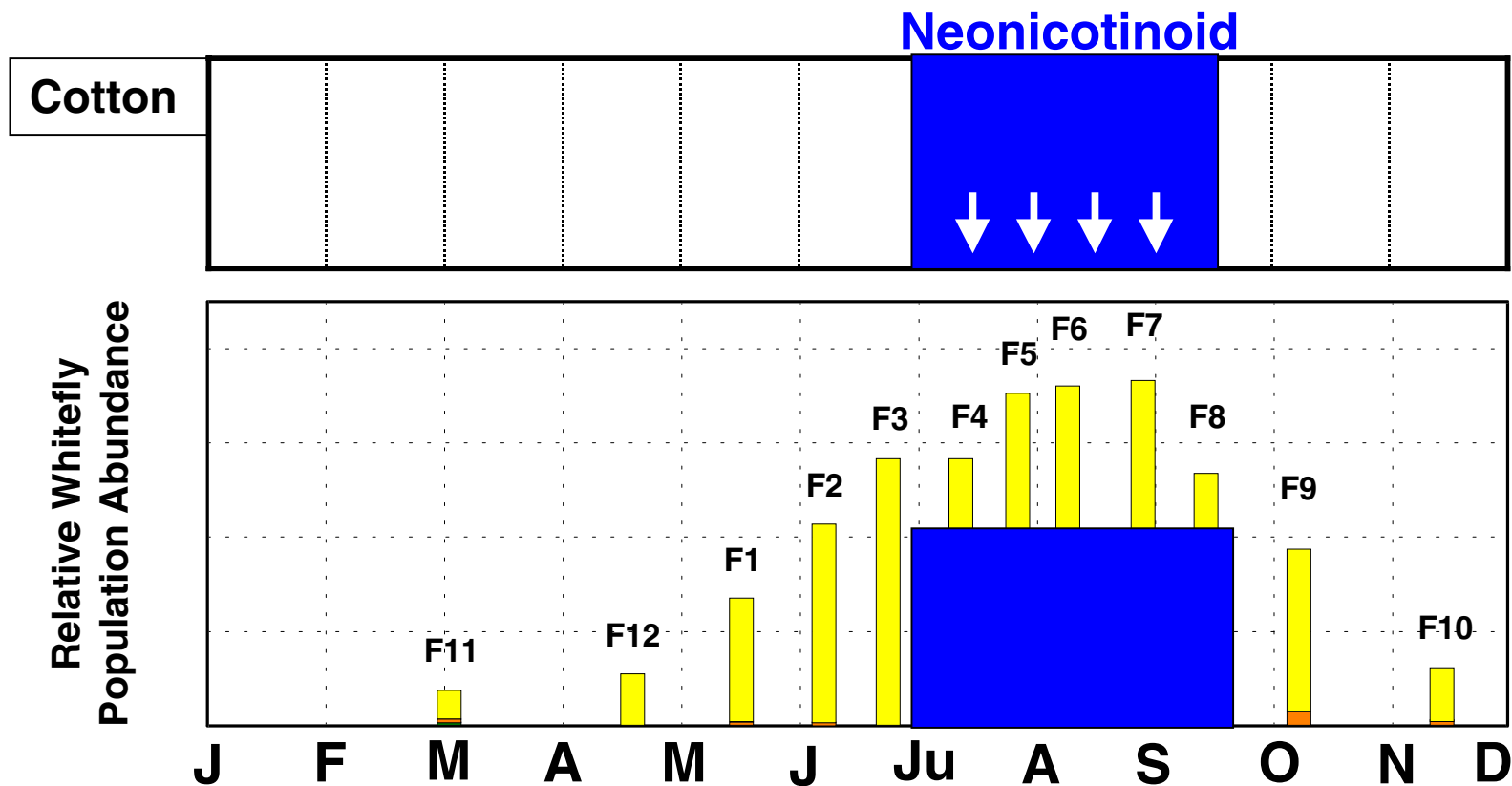


Cross-commodity Guidelines for Neonicotinoids

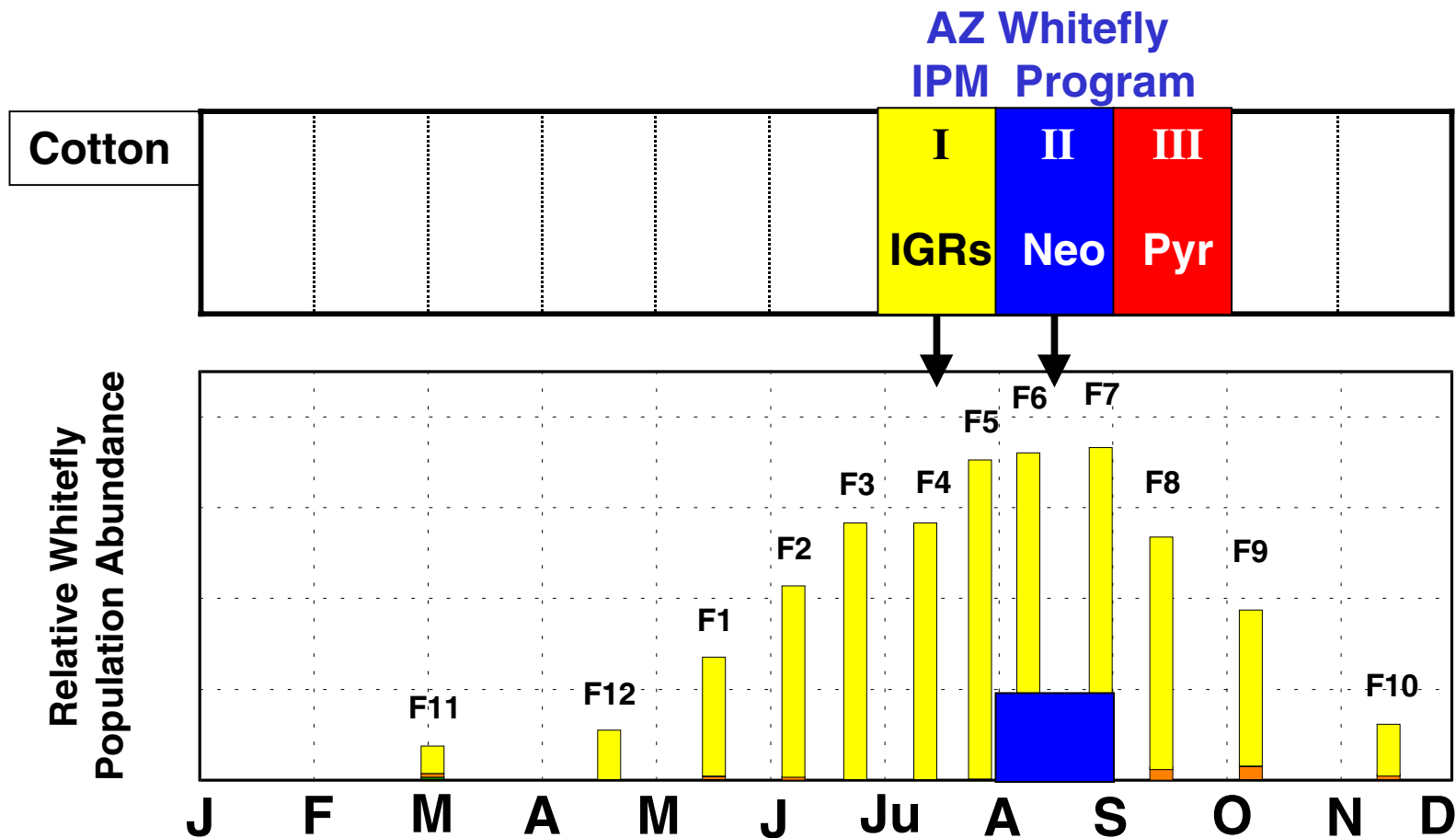
- **Cotton–intensive community**
 - **No more than 2 neonicotinoid uses per cotton crop (soil, foliar or seed treatment)**
 - **Sprays should only be used following an initial IGR applications (Stage II of Whitefly IPM Program)**
 - **Sprays should not to be applied consecutively, but rotated with conventional chemistries (Stage II or III)**

Resistance Risks Associated with Neonicotinoid Uses in a Cotton-intensive Community

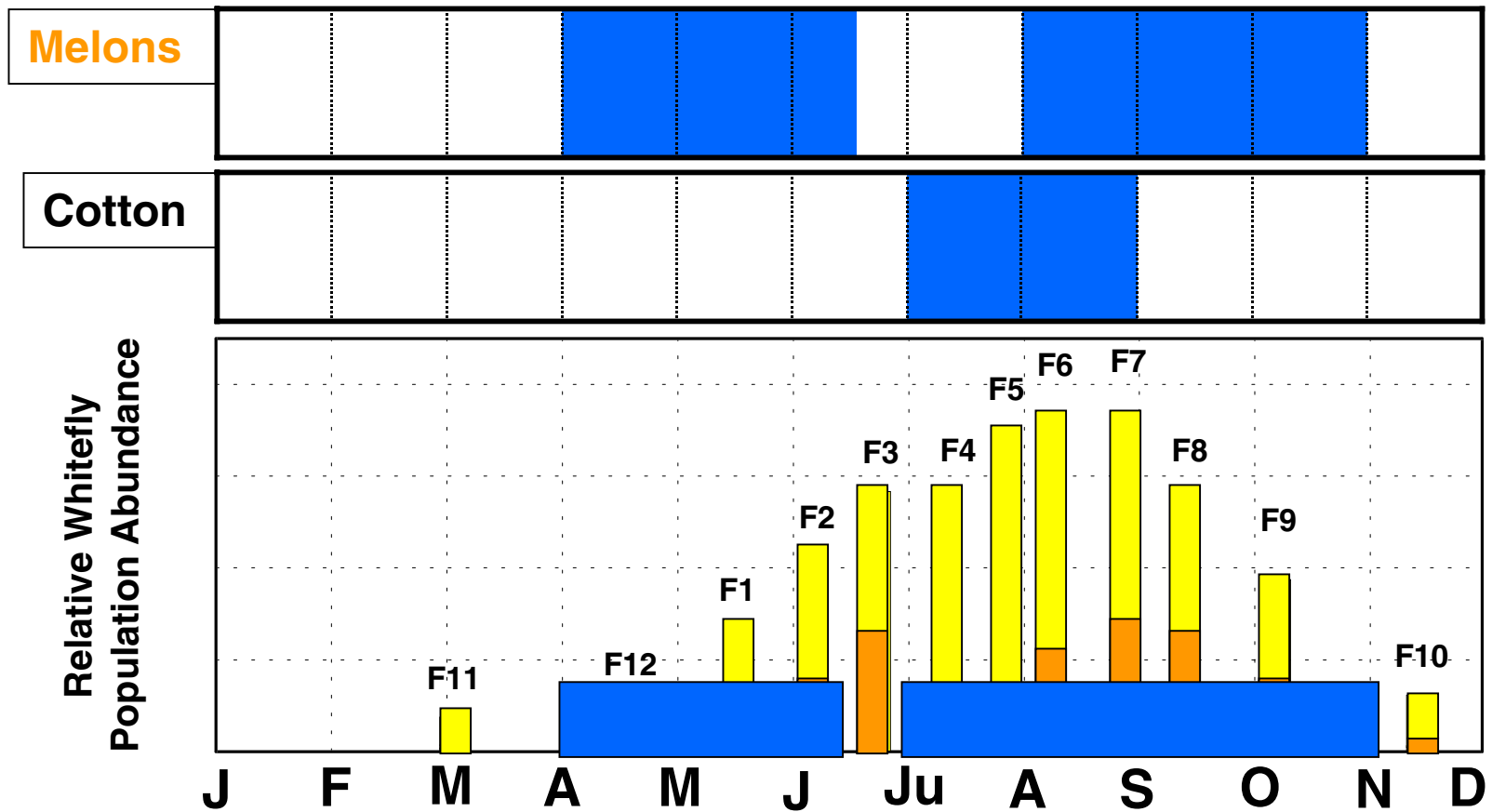
(e.g., Buckeye-label max)



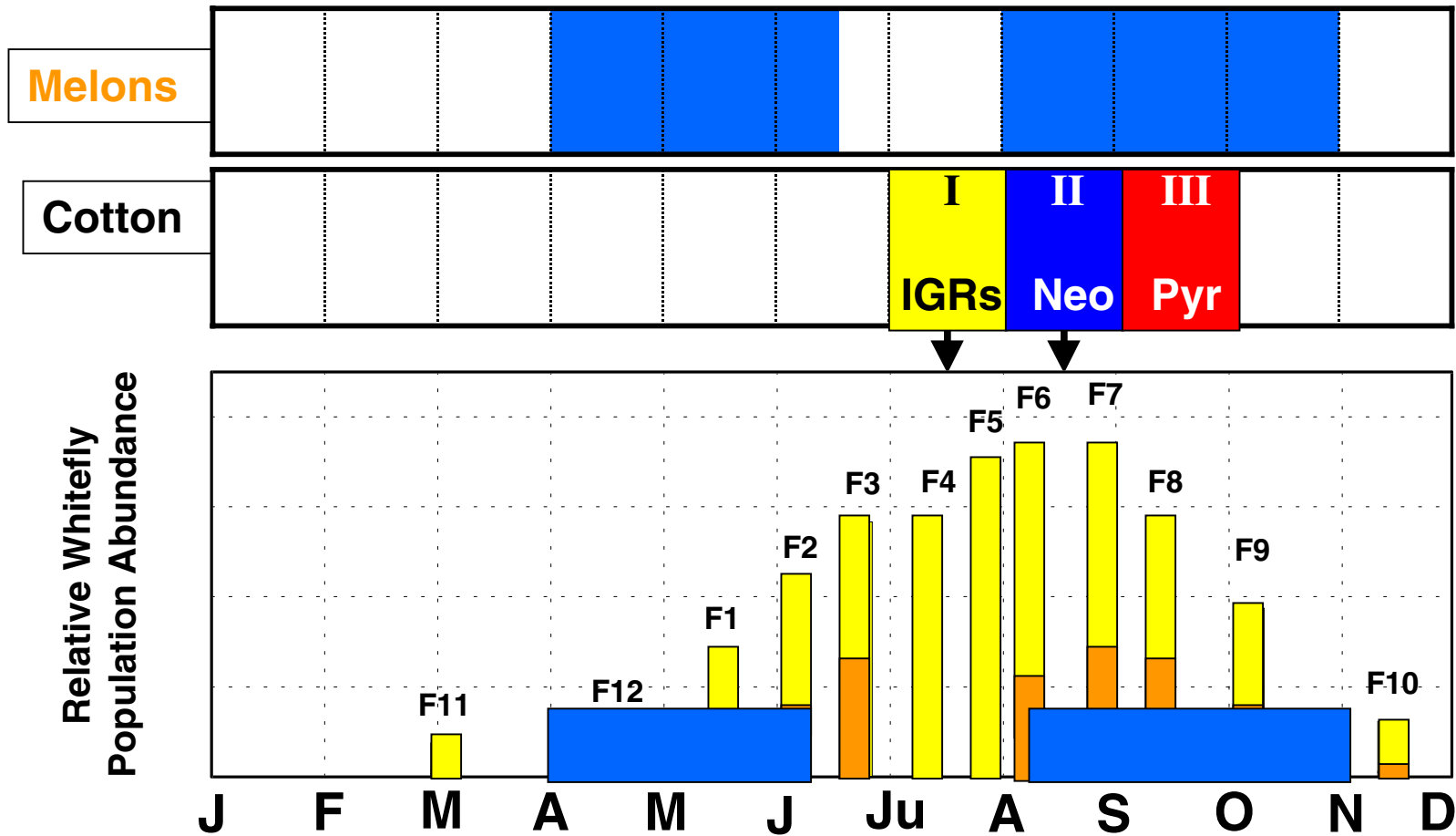
Resistance Risks Associated with Neonicotinoid Uses in a Cotton-intensive Community (e.g., Buckeye-recommended use)



Resistance Risks Associated with Neonicotinoid Uses in a Cotton-Melon System (central Arizona- potential use)



Resistance Risks Associated with Neonicotinoid Uses in a Cotton-Melon System (central Arizona-recommended use)





	Label	Proposed CC Guidelines
Applaud/ Courier	2 uses per crop	1 use / crop, narrowed use window
Assail, Actara, Adage, Provado, Leverage	2-4 uses per crop	No use on Cotton in MCC Limit use in Veg / Melon No more than 2 non- consecutive uses in cotton intensive communities, and only after Stage I - IGR