POLLEN/FOOD/LATEX CROSS-REACTIVITY

ALLERGY ASTHMA & IMMUNOLOGY
OF EAST ALABAMA

Birch

Apple Peach Plum Pear Cherry Apricot Almond

Rosaceae

Carrot Celery Parsley Caraway Fennel Coriander Aniseed

Apiaceae

Soybean Peanut

Fabaceae
(old Leguminosae)

Hazelnut

Betulaceae

Ragweed

Cantaloupe Honeydew Watermelon Zucchini Cucumber

Cucurbitaceae

Banana

Musaceae

Mugwort

Celery Carrot Parsley Caraway Fennel Coriander Aniseed

Apiaceae

Bell pepper — Black pepper — Garlic — Onion

Solanaceae — **Piperaceae** — **Liliaceae**

Mustard Cauliflower Cabbage Broccoli

Brassicaceae

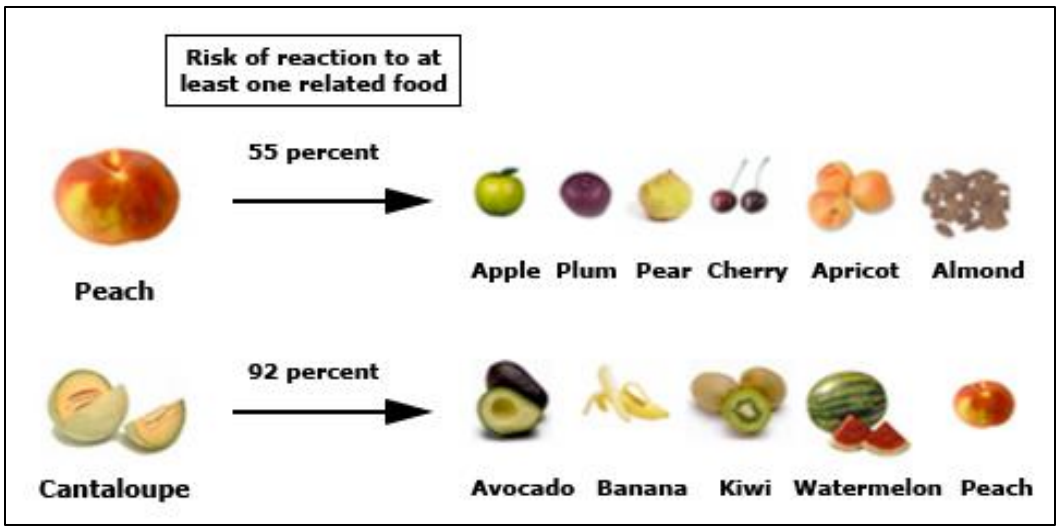
Birch
also avocado, banana, chicory, fig, kiwi, nectarine, parsnips, black/white/green peppers, potato, prunes, strawberry, tomato and wheat; maybe mango, peanut, Brazil nut, walnut, and other herbs/spices (basil, dill, lovage, marjoram, oregano, paprika, tarragon, thyme, and wormwood)

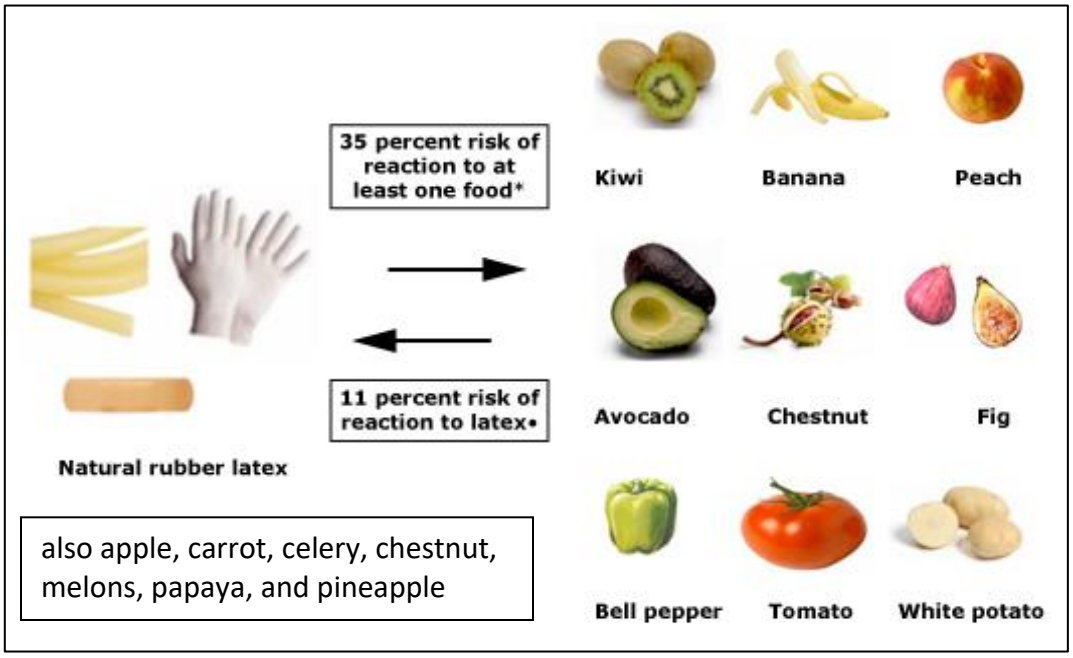
Ragweed
also artichoke, echinacea, dandelion, hibiscus, and chamomile

Mugwort
also peach, chamomile, sunflower seed; maybe peanut and melon

Grass pollen
fig, melons, oranges, tomato; maybe apple, garlic, green peas, kiwi, onion, peach, peanuts, and potatoes

Possible cross-reactions to any of the above birch, grass, mugwort, or ragweed pollens: berries (strawberry, blueberry, raspberry, etc), citrus (orange, lemon, etc), grapes, mango, figs, peanut, pineapple, pomegranates, and watermelon.





1. **Timothy grass** seems to share allergens with Kiwi extract
2. **Mugwort, Ragweed, and Timothy** pollen also share IgE-binding epitopes with glycoprotein Latex allergens.

Syndrome or association	Relevant allergen components involved
Alternaria-spinach syndrome	Al t a 1
Mite-shrimp syndrome	Der p 10 tropomyosin
Cat-pork syndrome	Fel d 2 cat serum albumin
Bird-egg syndrome	Gal d 5 alpha-livetin (chicken serum albumin)

References

https://acaai.org/allergies/allergic-conditions/food/pollen-food-allergy-syndrome/
https://www.thermofisher.com/allergy/us/en/living-with-allergies/understanding-allergies/cross-reactivity.html
Popescu FD. Cross-reactivity between aeroallergens and food allergens. World J Methodol. 2015 Jun 26;5(2):31-50. doi: 10.5662/wjm.v5.i2.31. PMID: 26140270; PMCID: PMC4482820.

Profilin from mango has a structure similar to birch tree profilin: it is responsible for cross-reactions between mango and pear, apple, and peach. A panallergen with a structure similar to mugwort defensin (Art v 1) which cross-reacts with celery, carrot, peanuts, pepper, aniseed, and caraway -https://aacijournal.biomedcentral.com/articles/10.1186/s13223-018-0294-1