



Friday, September 25, 2020 Vol 27:18

Maturity Report

Fruit maturity at Highmoor Farm on Thursday, September 24

PLUMS (European plums): Castleton is harvest is wrapping up, only a few fruit remain. Long John is ready for harvest.

APPLES – A high degree of variability in stage of ripening occurs with Honeycrisp among different orchards, so check each one rather than relying on regional averages.

Honeycrisp is at a stage of ripeness where they need to be conditioned before cold storage. Hold them at warm temperature (50 to 70 °F) for five to seven days before they go into cold storage. If temperatures are above 70 °F, the conditioning can be shortened to five days. Recommended storage temperature is 37 °F. Conditioning and colder temperatures (35 – 36 °F) can reduce bitter pit, but is a risk for soft scald and soggy breakdown. In the past, soft scald has been severe when drought occurs at harvest, so irrigate if possible.

McIntosh are dropping and should be harvested immediately unless treated with ReTain or Harvista. At this time, they can be picked for short-term storage, but are too ripe for long-term unless the orchard received ReTain or Harvista. SmartFresh can be used to maintain firmness in storage and to prevent superficial scald.

Gala apples are ready to harvest for storage. They are not prone to disorders in short-term storage, but will develop internal browning in storage longer than six months.

Cortlands are still starchy, but OK for long-term storage. This variety is very susceptible to superficial scald after three months storage. For long-term storage, treat fruit with DPA with or without SmartFresh.

SnowSweet holds up well in short-term storage and is not prone to disorders. With SmartFresh, it will maintain flavor and firmness into January in simple cold storage.

Sweet 16 has a sweet and fruity flavor, but becomes mealy in cold storage. Market this variety quickly after harvest.

The Apple Starch Index is on a scale of 1 to 8. Starch breakdown values are expected to be off from normal because of the extended dry weather.

	Starch index 1 – 8				Normal First Harvest
	Thu., Sep 3	Thu., Sep 10	Wed., Sep 16	Thu., Sep 24	
McIntosh (spur type)	3.8	4.2	4.7	6.0	Pick now for short-term storage. Too ripe for long-term storage.
McIntosh (nonspur)	2.6	4.3	5.1	6.5	
Honeycrisp	1.4	3.3	5.2	6.2	Pick now for long-term and short-term storage.
Gala	1.1	3.0	3.3	5.5	
Snowsweet	4.7	6.2	5.8	8.0	
Sweet 16	--	2.5	3.0	5.2	Pick now for short-term storage.
Cortland	1.0	1.1	2.5	2.8	Late September
Macoun	1.0	2.4	2.5	3.5	Late September
Northern Spy	--	1.2	1.6	2.7	Mid-October

The Delta absorbance meter is a relatively new tool for measuring maturity in fruits that show chlorophyll breakdown with ripening. McIntosh does not do this. The IAD values for McIntosh are shown to illustrate that point.

The IAD values have been useful in Honeycrisp when starch index does not follow normal patterns. The values listed below for Honeycrisp are based on two years of research in Maine. Standards for when to harvest are specific to each variety and are not fully developed for most.

	DA Meter Index				Value associated with harvest date
	Thu., Sep 3	Thu., Sep 10	Wed., Sep 16	Thu., Sep 24	
McIntosh (spur type)	2.02	1.85	1.73	1.30	Unknown
McIntosh (nonspur)	2.03	1.90	1.85	1.64	Unknown
Honeycrisp	1.32	0.98	0.73	0.51	First pick: 0.8 to 1.0 Midharvest: 0.5 to 0.7 End of harvest: 0.3 to 0.4
Gala	0.87	0.72	0.39	0.17	0.4 to 0.8, but not tested in Maine.
Snowsweet	1.01	1.23	1.58	1.46	Unknown
Cortland	2.15	1.79	1.77	1.43	Unknown
Macoun	2.03	1.93	1.94	1.76	Unknown
Sweet 16	--	1.23	1.11	0.89	Unknown
Golden Delicious	--	--	--	1.25	Unknown
Northern Spy	--	2.07	2.06	2.06	Unknown

Hard Cider Apples

Highmoor Farm has a few varieties of hard cider apples. Soluble solids measured with a refractometer is roughly equivalent to the sugar concentration or °Brix” of the juice. Research on harvest maturity and cider quality is still in progress, so clear standards are not available.

Variety	°Brix or % Soluble solids
	Sept. 24
Kingston Black (bittersharp)	15.8
Michelin (bittersweet)	14.3

Phase 2: COVID Economic Recovery Grants

From the Maine Department of Agriculture, Conservation, and Forestry:

Maine businesses and nonprofits with up to 250 employees can apply for the newly announced **Phase 2 Economic Recovery Grant Program**. The Program provides financial relief for businesses and organizations that incurred business disruptions due to the COVID-19 pandemic. Phase 2 is a new opportunity for business owners and nonprofit managers who were not able to apply in Phase 1.

"Phase 2 will make available approximately \$95 million in remaining funds from Phase 1 and expand access to the program by increasing the number of eligible businesses and nonprofits." - Governor Janet Mills

Four important Phase 2 features:

- 1) **More time to apply.** The Phase 2 Maine Economic Recovery Grant Program application portal is open now and remaining open until October 23.
- 2) **Up to 250 Employees.** Businesses and nonprofit organizations with up to 250 employees are now encouraged to [apply](#).
- 3) **Extended loss period.** The financial loss period is January to Aug 2020, which supports more seasonal businesses.
- 4) **More Support.** Increased application assistance is available for anyone needing a hand.

Refer to this website (<https://www.maine.gov/decd/economic-recovery-grants>) for eligibility and distribution criteria and the grant calculation formula. Note that businesses and nonprofit organizations awarded funds as part of Phase 1 of the Maine Economic Recovery Grant Program are ineligible for Phase 2.

For more information, **watch** -

https://zoom.us/rec/play/wck0P3fg7p3znO4FhKTHJorowBIQ3A4fSqHL8yIP51Xs4FiSRudcj-n66_ralNjojHkselqo_Y3bEQQ.BvvqrAWG9yS9ht3z

or **listen** to a recent webinar covering the application process -

<https://zoom.us/rec/play/nA2kE0kUxZabsoD9Ngz46khapgtFQZHmY0V0VLdfdMYcG9t4gW6ZLwDzvi1wmpm1o0Uc2xRL5ftGG5BH.FXzp1yUE32A91ezK>

Economic Recovery Grant Program Frequently Asked Questions

<https://www.maine.gov/decd/economic-recovery-grants/faq>

Learn more at: <https://www.maine.gov/decd/economic-recovery-grants>

The deadline for the grant application is October 23.

If you have agriculture specific questions, email to Agriculture.BizAwards@Maine.Gov

Spotted Lanternfly SLF

Mary Concklin, Visiting Extension Educator, Fruit Production and IPM, and IPM Program Coordinator for the University of Connecticut reported this week that SLF has recently been found at additional locations in Connecticut.

A key factor for the spread of SLF is presence of Tree Heaven, an important alternative host plant for this insect. The Maine Natural Areas Program categorizes the distribution of Tree of Heaven (*Ailanthus altissima*) as localized in Maine. Tree of Heaven is more likely to be found in southern Maine, and is distributed throughout southern NH, MA, and CT. The Invasive Plant Atlas distribution map shows that in addition to Cumberland County, Tree of Heaven is reported in Penobscot County.

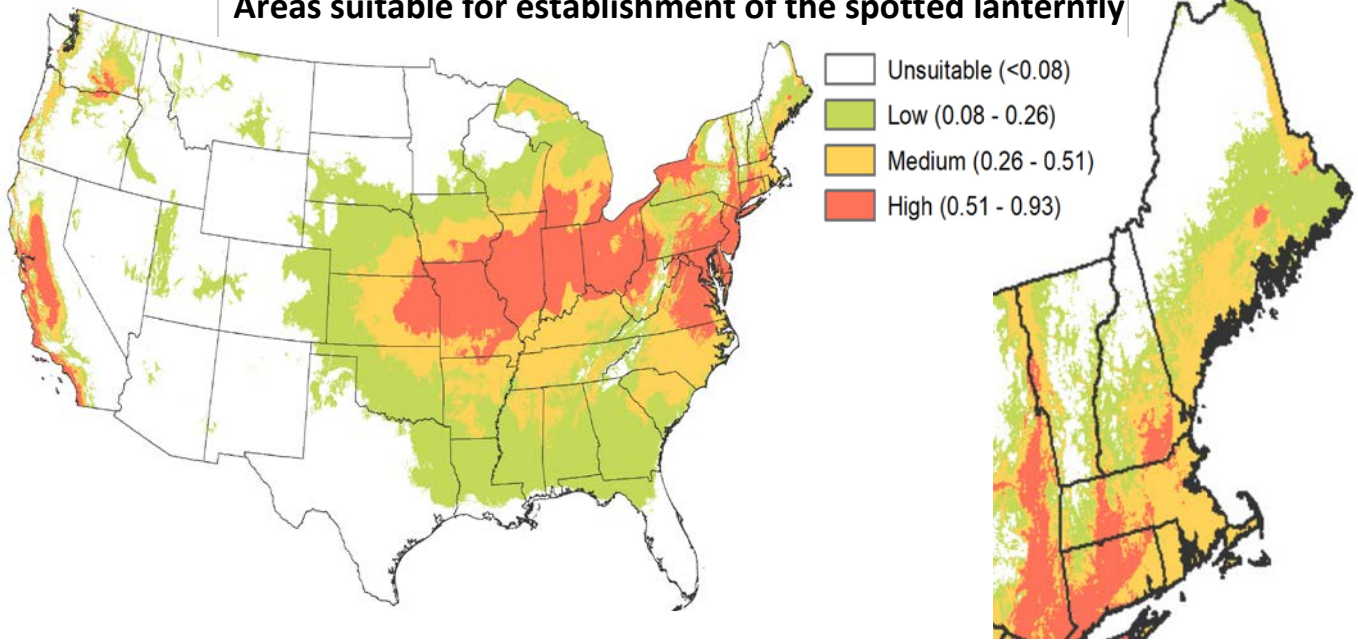
Photos to help with identifying Tree of Heaven are available at <https://www.agriculture.nh.gov/publications-forms/documents/tree-of-heaven.pdf> and <https://extension.psu.edu/tree-of-heaven>

Staghorn sumac is everywhere in Maine and can be confused with Tree of Heaven. A fact sheet at <https://njaudubon.org/how-to-correctly-distinguish-invasive-tree-of-heaven-from-native-sumac/> shows the differences in leaf edge and fruit structures to distinguish them.

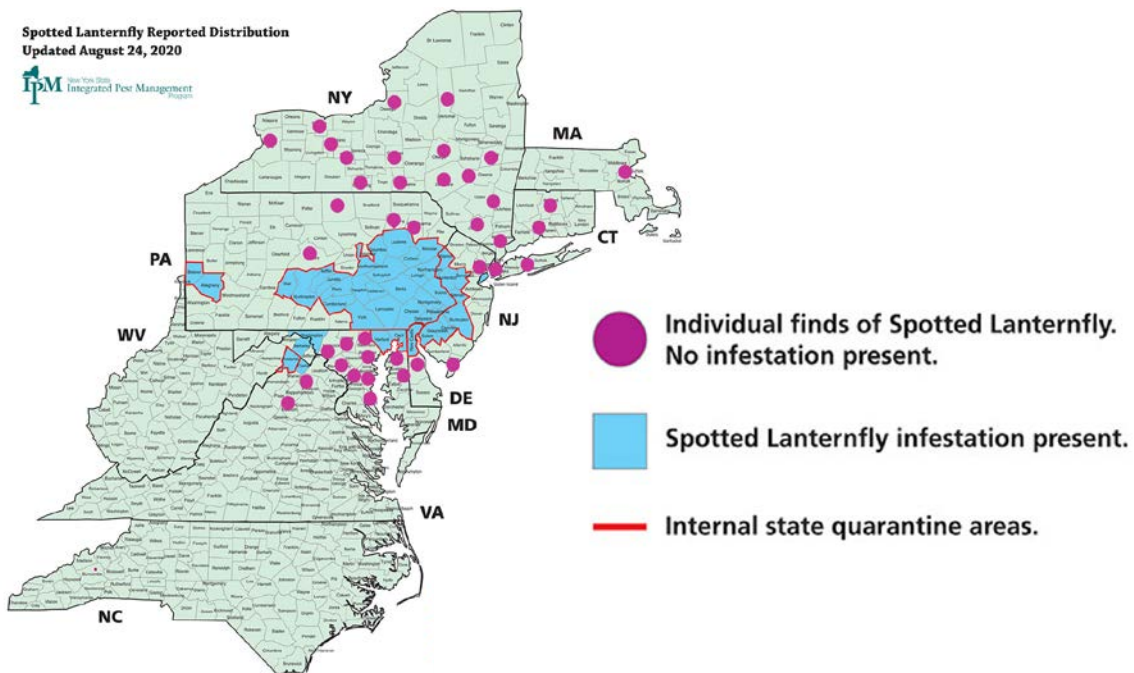
As for the pest itself, the key facts are that this sap-feeding insect can become extraordinarily abundant, weaken fruit trees and other host plants, introduce off-flavors to fruit, and stain fruit with sugary honeydew that supports sooty mold growth. SLF feeds on many agricultural crops including apples, blueberries, cherries, peaches, grapes and hops as well as hardwoods such as oak, walnut and poplar. The USDA map of suitable habitat for SLF is based on habitat suitability based on temperatures during the driest part of the year. That distribution is oddly discontinuous with a hot spot in the Bangor area.

There are good resources for information about this most recent major new invasive pest important for tree fruit and other crops in the Northeast. One is the CT state government site at: <https://portal.ct.gov/DEEP/Forestry/Forest-Protection/Spotted-Lanternfly#Why>. Another is a thorough Frequently Asked Questions (FAQ) page by Penn State Extension at <https://extension.psu.edu/spotted-lanternfly-frequently-asked-questions>.

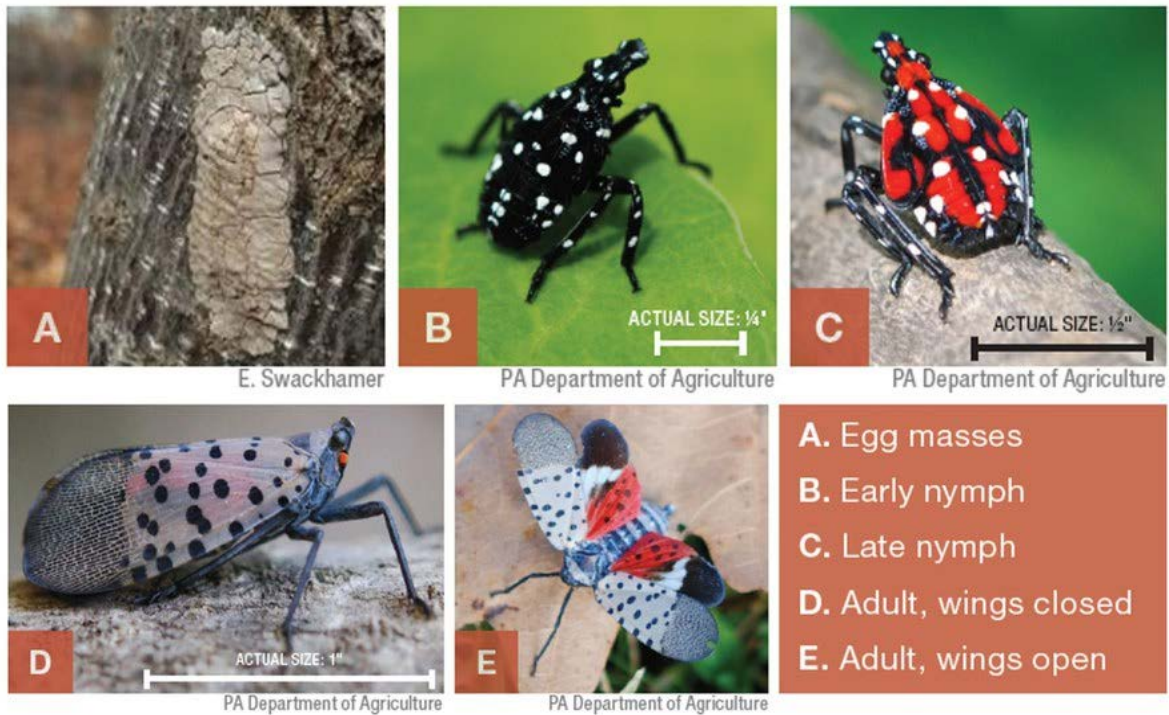
Areas suitable for establishment of the spotted lanternfly



Graphic adapted from USDA ARS <https://www.ars.usda.gov/news-events/news/research-news/2019/scientists-release-first-map-of-areas-suitable-for-spotted-lanternflies-establishment-in-us-and-world/>



Spotted lanternfly detections in the Northeastern U.S. as of August 24, 2020. Adapted from map created by the [New York State Integrated Pest Management Program](#). With multiple SLF sightings in CT this week, the area considered infested may have expanded beyond this August map.



Penn State Extension. <https://extension.psu.edu/spotted-lanternfly-what-to-look-for>

Fall Weed Management

Mary Concklin's newsletter this week also had the following summary of fall weed management considerations:

“Herbicide Applications this Fall

There are a couple of times during the year when the timing of herbicides will have the largest positive impact on your weed management – fall and spring. Herbicides applied at other times during the season are good for eliminating those few pesky weeds that managed to sneak through, often times because of extended wet periods.

Summer annual weeds: they will die off with a hard frost or freeze later this fall. Pre-emergent herbicides applied this fall will help to control new annual weed germination in the spring. It is also easier to apply this time of the year than during the busy wet spring when, in some years, it is difficult to get into the fields before germination occurs.

Fall applications: For all perennial weeds, a combination of pre- and post-emergent materials will provide the best results as long as the application is made while the emerged weeds are still alive. Applications made after they have been hit with a hard frost can be with pre-emergent materials only which aims at moving the herbicide into the root zone and impacting emergence in the spring.

Some materials perform better in the fall because of their mode of action. Glyphosate/Roundup is a systemic that moves into the plant. In late summer and fall, plants are moving food reserves to the roots. Glyphosate applied at this time will also move to the root system and kill the plant. In the spring, movement is upward in plants as they grow, so glyphosate applications made at that time have less of a chance of giving you the results you are looking for.

Organic growers also have organic herbicides available. These are contact not systemic materials and work best when applied to young weeds for knockdown. They will need to be re-applied several times throughout the growing season.

Brad Majek, Rutgers, offers the following about timing:

Apply herbicides to the tree row in established orchards twice annually, in late fall and in late spring. Herbicides applied in late October or early November control winter annuals, certain perennials, and early season summer annuals. Spring herbicide applications extend summer annual weed control through harvest. Advantages of two herbicide applications per year include:

1. Control of winter annual weeds, including camphorweed, wild lettuce and horseweed (marestail) and summer annual weed control for the same cost as most single application weed control programs.
2. Improved spring labor and equipment distribution requirements by controlling early summer annual weeds with residual herbicides applied the previous fall, thus delaying the need to spray in the spring until May or early June.
3. Increased consistency of weed control treatments, especially control of summer annual weeds when dry weather follows the spring herbicide application.
4. Decreased risk of crop injury, since each herbicide application must last less than a full year. Herbicides can be alternated and rates can be reduced or split to improve crop safety.
5. Decreased competition from established winter annual weeds and summer annual weed seedlings in March, April, and May for fertilizer and water when the trees begin to grow.

Late Fall Herbicide Applications should include a translocated post emergence herbicide, and a residual broadleaf herbicide. A residual grass herbicide may also be applied in the fall. Apply 2,4-D to control emerged winter annual broadleaf weeds tank-mixed with Princep for residual control. Consider a labeled glyphosate product if perennial weeds are present and treatment is recommended in the fall. The use of a grass herbicide in the fall depends on the product chosen. Kerb 50WP is the only grass herbicide that must be applied in the fall, if it is used, to control certain cool season perennial grasses. An additional residual annual grass herbicide is needed in the spring to provide full season summer annual grass control following a fall application of Kerb 50WP. Solicam 90DF, Surflan 80WP, Devrinol 50WP and Prowl 4EC (non-bearing only) are annual grass herbicides that should be applied in late fall or as a split application, half in the fall and the second half in the spring. Use the split application when grass pressure is heavy for best results. The use of these herbicides in spring only has resulted in inconsistent weed control when dry weather followed the application.”

Weather Outlook newsletter

The 'Weather Outlook' is now being sent as a separate newsletter. A copy of the latest issue (which includes an update from the Maine Drought Task Force) update will be sent soon (I hope). Future issues of the 'Weather Outlook' will NOT be sent to the Maine Tree Fruit Newsletter email list. If you would like to receive future editions of the 'Weather Outlook' newsletter, please send an email message to glen.koehler@maine.edu. It will continue to be issued until November as time allows, and then resume next spring.

Maine Climate Council

The "Scientific Assessment of Climate Change and Its Effects in Maine" report to the Maine Climate Council is available online at <https://www.maine.gov/future/initiatives/climate/climate-council/reports>.

A PDF file showing 24 slides by Ivan Fernandez, Robert Marvinney, and Cassandra Rose that summarize the report is attached to the email message delivering this newsletter.

Maine Agriculture - Risk and Opportunity

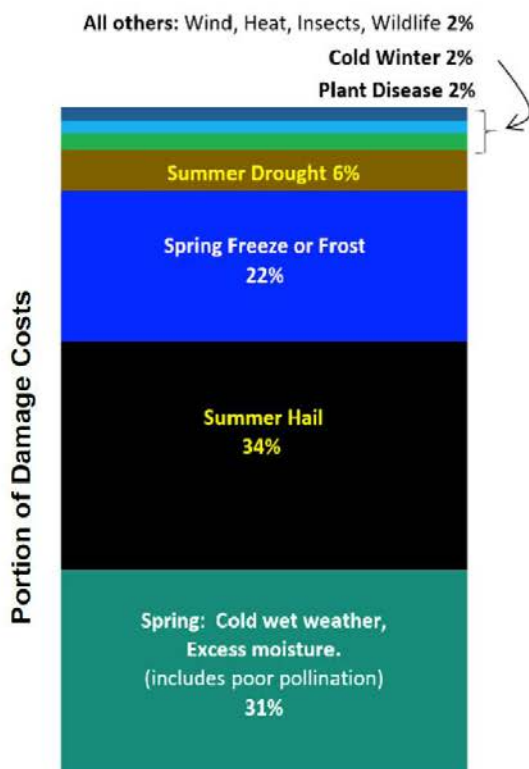


Figure 10. Roche and Koehler, 2019. Maine tree fruit crop insurance claims from 2011 to 2018.

Longer growing season and northward shift in plant hardiness zones,

Early Spring Warm-up Increases Frost/Freeze Risk

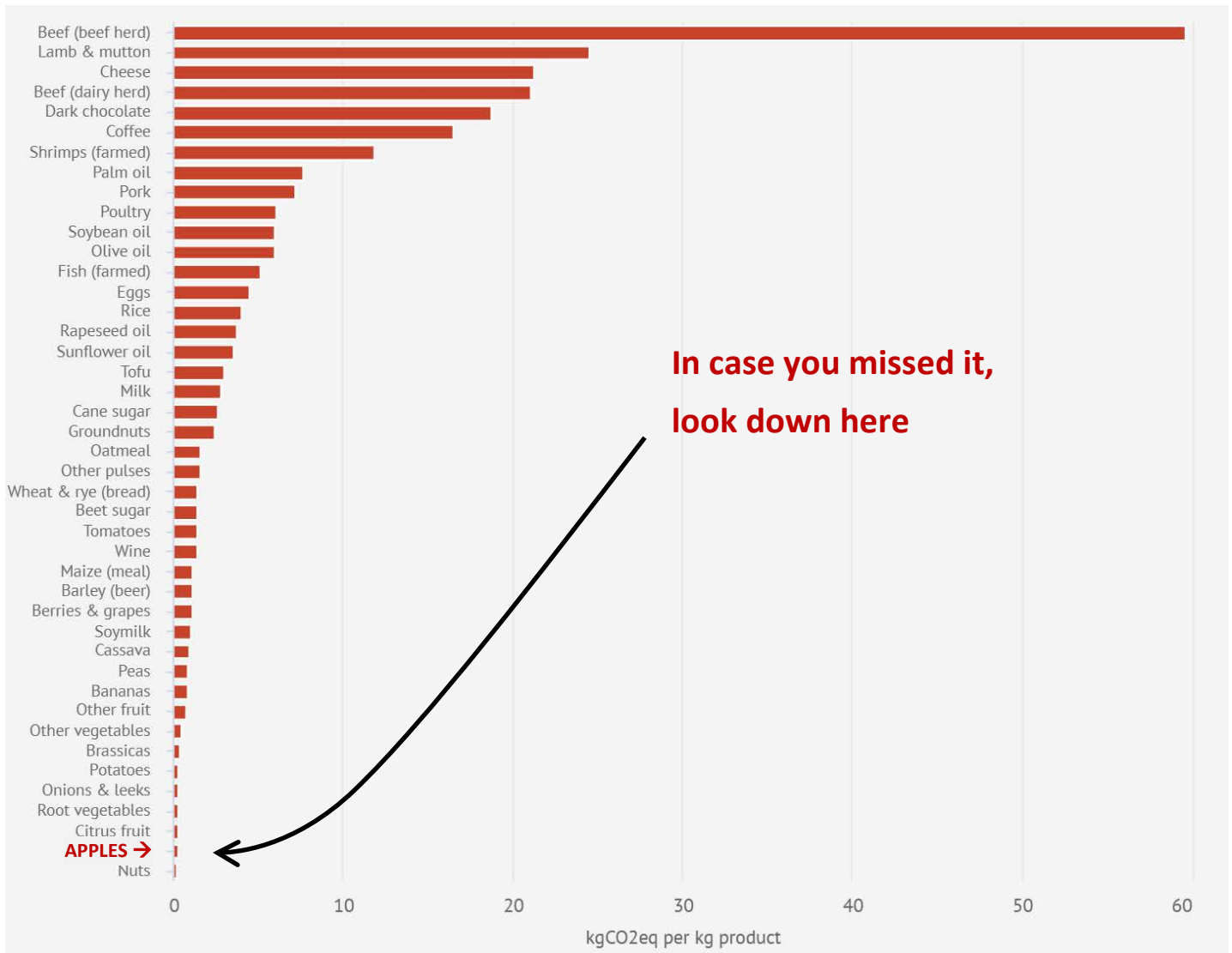
More Frequent or Intense Heat Waves

More Frequent Intense Downpours

More Frequent and Longer Dry Spells

Closing Words

Greenhouse gas emissions per kilogram for different food items



Adapted from [Dr Hannah Ritchie/Our World in Data \(2020\)](#) Data source: [Poore & Nemecek \(2018\)](#). Chart by Carbon Brief using [Highcharts](#) in “What is the climate impact of eating meat and dairy?” D. Dunne, T. Prater, & J. Goodman. <https://interactive.carbonbrief.org/what-is-the-climate-impact-of-eating-meat-and-dairy/>

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