

# Cornell Cooperative Extension



# Cold Frames and Season Extension

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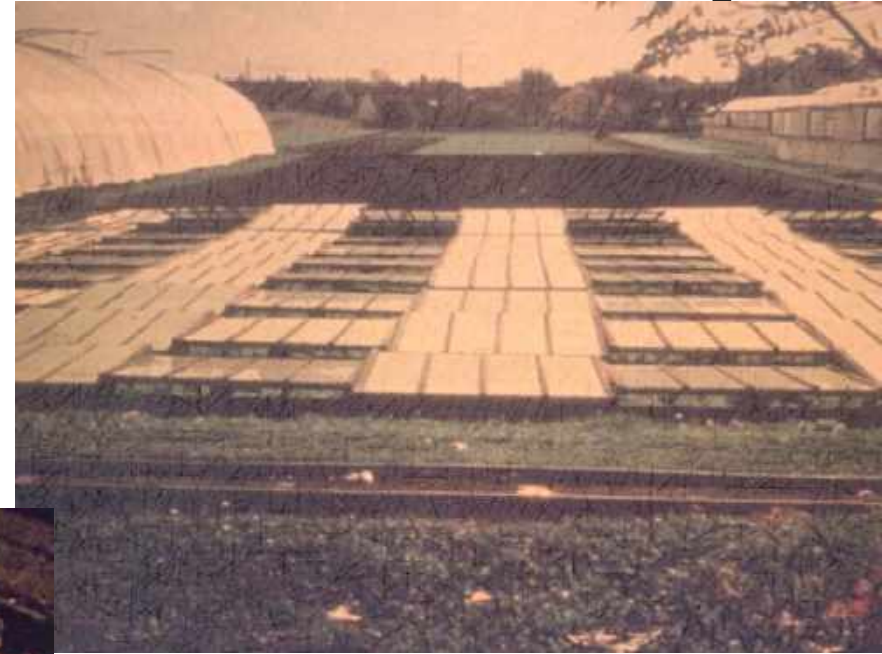


# History of Season Extension In Europe



Top left: Cloches, small scale greenhouses, a bell-shaped jar

Source:  
<https://www.definingfrance.com/2017/08/27/french-cloche/>



Top right: Farm outside of Paris in the 1970s using traditional cold frame techniques

Middle: Dutch lights



Source: "Year Round Vegetable Production with Eliot Coleman"

# What is a cold frame?

- A bottomless box with a glass or transparent plastic top to let in sunlight
- Windows face south and structure is tilted for best solar efficiency
- Used for hardening off seedlings
- Allows for earlier start in spring and extends season into fall/winter



Photo Credit: Sarah Ann Horton

# Building a Cold Frame

- Two basic parts:
  1. The sides (the box)
    - Variety of materials including:
      - concrete blocks, bales of hay, logs, and wood
  2. The top (light)
    - Glass, often from storm windows



Photo Credit: Samuel Anderson



Source:

<http://itsasmalltownlife.blogspot.com/2012/02/straw-bale-cold-frame.html>

# Urban ag considerations for cold frame construction

- Excessive heat may be a problem, be sure to vent frequently
- Use untreated wood
- Direction of wind



Cold Frames on top of raised beds on a rooftop farm (Green City Growers in MA)

Automatic Vent Opener

Source: <https://greencitygrowers.com/urban-farming-products/cold-frames/>

# How the Cold Frame Works

- Temperature
  - Daytime temp difference is 7-10°F on cloudy, early spring day
- Moisture
  - Protects crops inside from pounding rains
- Wind
  - Provides a windbreak



Source: Yolanda Gonzalez

# What can you grow in cold frames?

- Mâche (corn salad)
- Radicchio
- Frisée endive
- Claytonia (winter's purslane)
- Minutina (buckshorn plantain)
- Wild Arugula (Sylvetta)
- Dandelion
- Escarole
- Leeks
- Mizuna
- Mustard Greens
- Parsley
- Sorrel
- Tatsoi
- Turnip
- Spinach



Mâche Source:  
<https://www.gardenista.com/posts/8-winter-garden-greens-to-grow-now/>



Claytonia

Source: <https://www.johnnyseeds.com/vegetables/greens/specialty-greens/claytonia-specialty-green-seed-388.html>



Planting Date: Sept. 25<sup>th</sup>  
& Harvest Date: Nov. 6<sup>th</sup>



# Planting and Harvesting Dates for Cold Frame Crops

## Cold Frame Crops for Fall and Winter Consumption

Crop	Planting Dates	Harvest Dates
Arugula	8/1-8/21	10/1- spring
Endive	7/10- 7/20	9/15-11/30
Escarole	7/10- 7/20	9/15-11/30
Italian dandelion	8/1-8/15	10/1- spring
Lettuce	7/21-9/7	9/15-11/30
Mizuna	8/1-8/15	9/15-11/30
Parsley	6/1-7/15	10/1- spring
Radish	9/1-10/15	10/1- 11/30
Scallion	7/1-7/15	10/1- spring
Spinach	8/1-8/30	10/15- 11/30
Swiss chard	7/1-8/1	10/1- spring
Tatsoi	8/1-8/15	9/15-11/30

# Planting and Harvesting Dates for Cold Frame Crops cont'd

## Cold Frame Crops for Winter and Spring Consumption

<b>Crop</b>	<b>Planting Dates</b>	<b>Harvest Dates</b>
Carrot	8/1	12/1- spring
Claytonia	8/1- 9/1	11/1-spring
Italian dandelion	8/1- 8/15	10/1-spring
Kohlrabi	8/1-8/15	11/1- spring
Mâche	9/15-11/15	12/1-spring
Parsley	6/1-7/15	10/1-spring
Radicchio	6/1-8/1	12/1- spring
Scallion	7/15-8/1	11/1-spring
Sorrel (perennial) transplant	9/1	11/1- spring
Spinach	9/15-10/15	12/1- spring
Sugarloaf chicory	7/1-7/15	11/1- spring

Source: "Four- Season Harvest" by Eliot Coleman

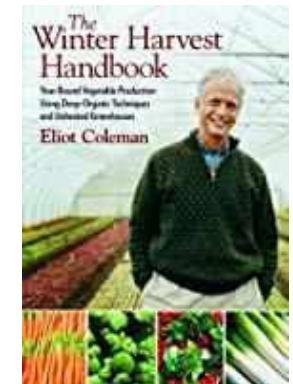
# Other forms of season extension



Source: Yolanda Gonzalez

# Resources

- Cornell Small Farms Urban Farming Guide “Season Extension”:  
<https://smallfarms.cornell.edu/2017/05/10-season-extension/>
- National Sustainable Agriculture Information Service publication,  
“Season Extension Techniques for Market Gardeners”
- Eliot Coleman, author of “Four Season Harvest” and “The Winter Harvest Handbook”



# Funding Opportunity for Season Extension

## Agricultural Management Assistance

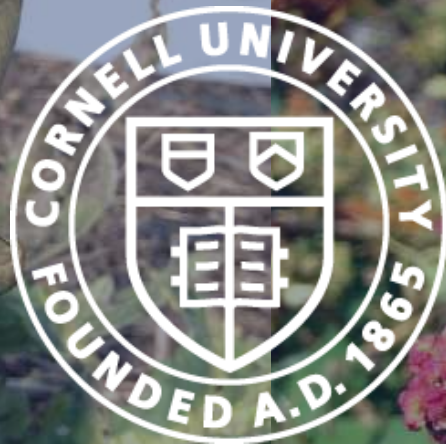
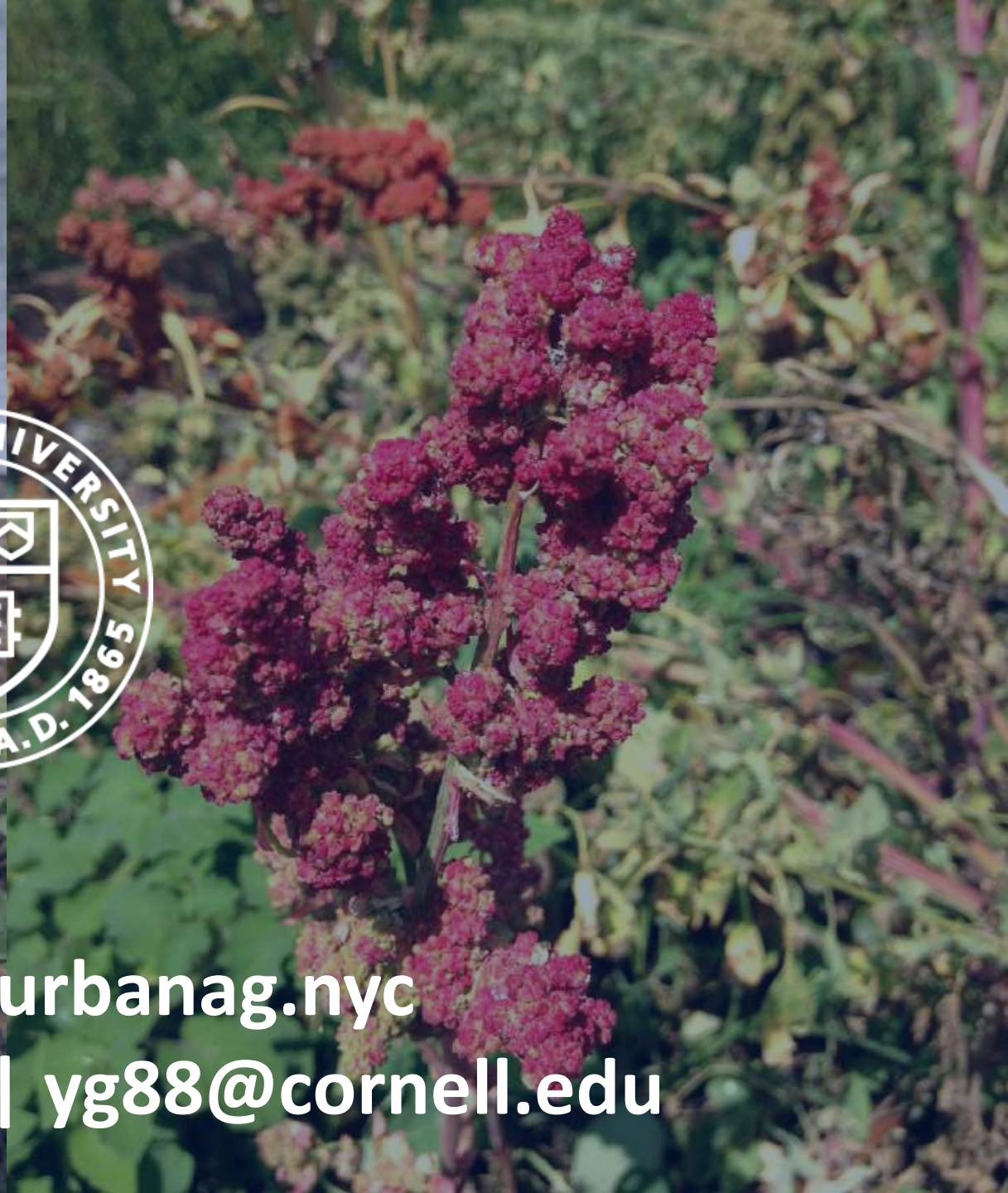


USDA's Natural Resources Conservation Service (NRCS) in New York is announcing a sign-up for technical and financial assistance for agricultural producers in areas identified to be in the Urban Priority area. This special program offers an exciting opportunity for urban farmers to compete for funding in a program developed to meet their needs. The application deadline is **April 24, 2020**

Producers whose land is located within the Urban Priority Area will be eligible to apply for consideration in 2020. All applications are competitive and are ranked based on national, state and locally identified resource priorities and the overall benefit to the environment. Below is the Urban Priority Area map.



[https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ny/programs/financial/?cid=nrcs144p2\\_027061](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ny/programs/financial/?cid=nrcs144p2_027061)



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