

The Dark Side of Weeding

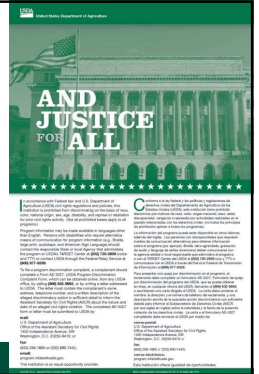
Emily How
NDSU Extension | Ward County

NDSU | EXTENSION

1

Nondiscrimination Statement

NDSU does not discriminate in its programs and activities on the basis of age, color, gender expression/identity, genetic information, marital status, national origin, participation in lawful off-campus activity, physical or mental disability, pregnancy, public assistance status, race, religion, sex, sexual orientation, spousal relationship to current employee, or veteran status, as applicable. Direct inquiries to Vice Provost, Title IX/ADA Coordinator, Old Main 201, (701) 231-7708, ndsu.eoaa@ndsu.edu.



NDSU | EXTENSION

2

Occultation vs. Solarization

Occultation

- Dark plastic or other material
- Blocking light
- Does not heat soil

Solarization

- Clear plastic (2-6 mil)
- Trapping heat
- Greenhouse effect

NDSU | EXTENSION

3

Why Occultation

- Soil microorganisms
- Can reuse plastic
- Available materials
- Depletion of resources



NDSU | EXTENSION

4

Process

- Mow short
- Cover with dark tarp
- Weigh down
- Wait
- Remove

NDSU | EXTENSION

5



NDSU | EXTENSION

6



7



8



9

Timing

Spring vs Winter

Before Planting

Cover Crop Termination

NDSU | EXTENSION

10

Timing

Weed	Weeks to Kill
Black Medic	2
Dandelion	16
Fescue	6
Field Bindweed	8-10
Clover	4
Yellow Woodsorrel	14
Johnson Grass	6
Sow Thistle	4+

NDSU | EXTENSION

11

Seeds and Rhizomes

Photo Credit: <https://commons.wikimedia.org/wiki/User:Panek>
File: Sparganium erectum with rhizomes.jpg

12

Dormancy and Perennial Weeds

- Two-year average dormancy
- Depletion of seed bank
- Depletion of resources



NDSU | EXTENSION

13

Results

NDSU | EXTENSION

14



NDSU | EXTENSION

15



16

Pros

- Low tech
- No tilling, no chemicals
- Not heating the soil
- Weakens the perennial weed roots
- Kills annual weeds

NDSU | EXTENSION

17

Cons

- Time
- Labor intensive (moving rocks, staking down)
- Finding large enough tarp
- Not permanent solution
- Pulling out the weed roots
- Season dependent

NDSU | EXTENSION

18



Contact:

Emily How
 NDSU Extension Agent
 Horticulture
 Ward County


Office: 701.857.6444
 Cell: 701.822.1101
 Email: emily.how@ndsu.edu



19

Reference

- <https://crops.extension.iastate.edu/encyclopedia/fate-weed-seeds-soil>
- https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/spes/spes-616/SPES-667.pdf
- <https://umaine.edu/weedecology/2017/06/01/comparing-solarization-occultation/>
- <https://www.unh.edu/unhtoday/news/release/2016/09/19/unh-research-finds-black-tarps-benefit-organic-no-till-vegetable-gardens>
- <https://extension.umn.edu/planting-and-growing-guides/solarization-occultation>



20