Weed Management in Peanuts

David Jordan

Department of Crop and Soil Sciences

North Carolina State University

General Production Practices

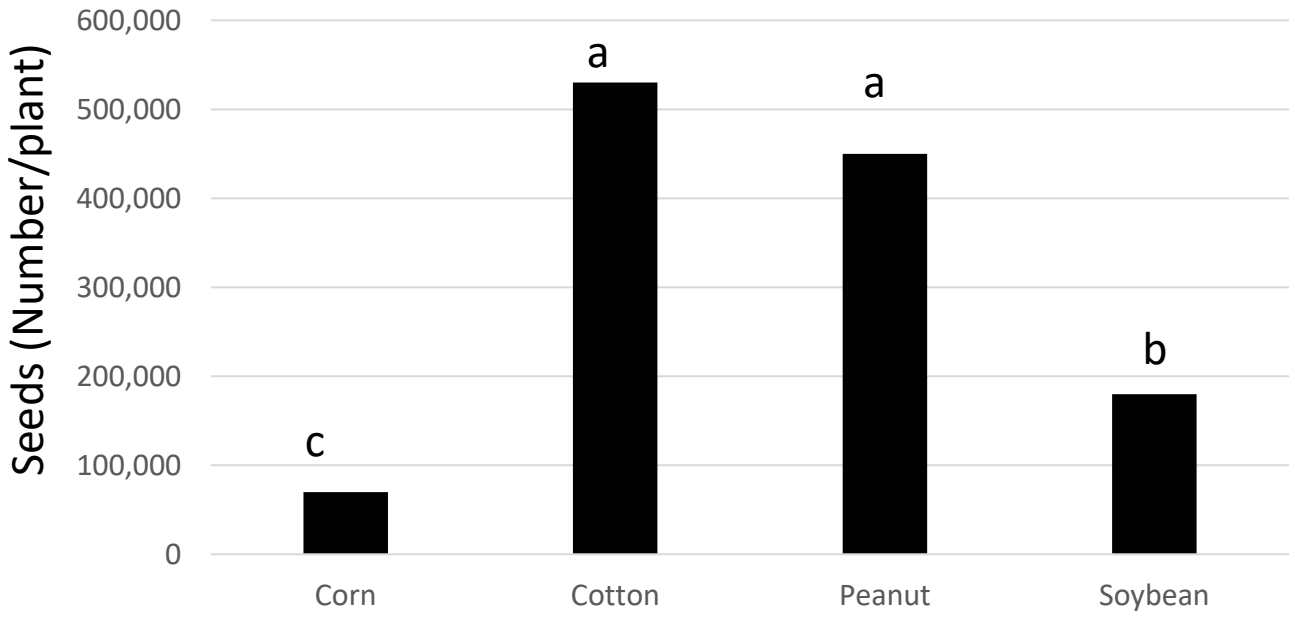
- Apply nutrients based on soil test (pH 5.8 to 6.2)
- Avoid excessive Mg and K
- Avoid fields with zinc
- Establish good rotations (cotton, corn, sorghum)
- Plant a disease-resistant variety in May
- 5 plants per foot of row on 36-inch rows
- Conventional tillage
- Inoculate with *Bradyrhizobia* for BNF
- Apply calcium at pegging
- Apply boron and manganese as needed
- Dig based on pod mesocarp color
- Control pests using IPM practices

Figure caption. Weeds in peanut early in the cropping cycle (left) and in a research trial late in the cropping cycle (bottom right)

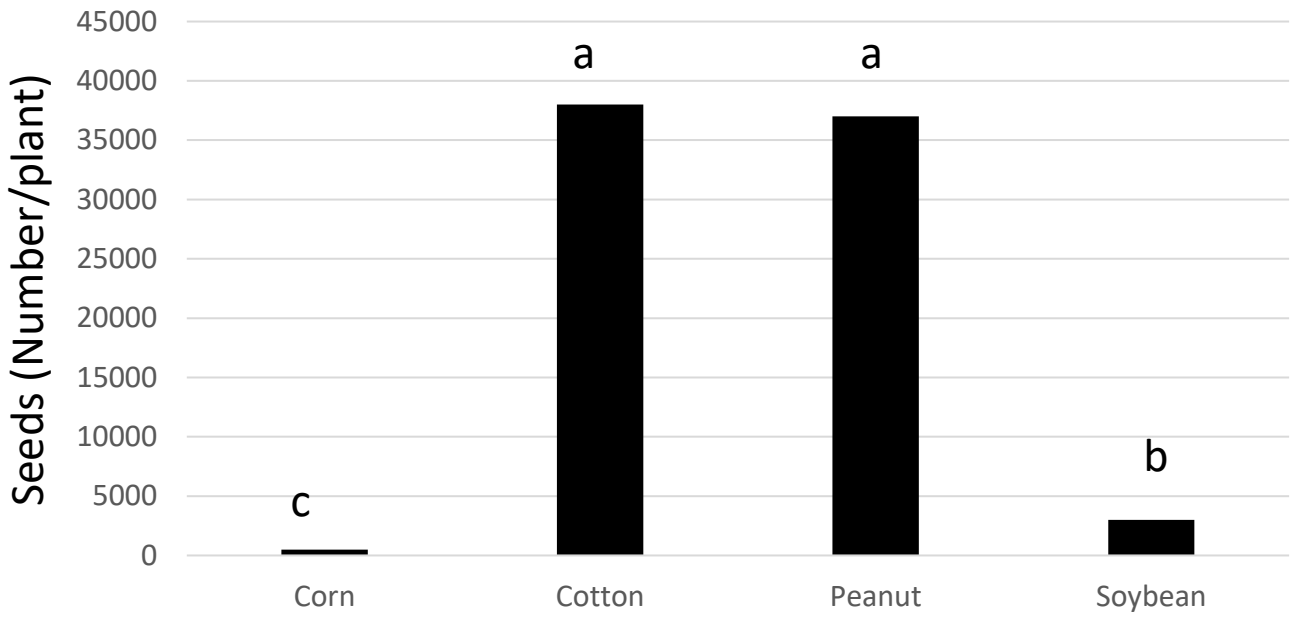
Comparison of Actual and Percent Yield Loss and Economic Loss for Cotton, Corn, Peanut, and Soybean under Similar Weed Pressure

Weeds: 2 cocklebur, 2 signalgrass, 3 lambsquarters, 1 pigweed

Crop	Actual loss (lbs/acre)	Loss (%)	Loss ($/acre)
Corn 150 bu/acre @ $4/bu	9.7	6.5	$39
Soybean 42 bu/acre @ $8/bu	8.4	20.1	$67
Cotton 905 lb lint/acre @ $0.65/lb lint	298	32.9	$194
Peanut 3900 lb/acre @ $535/ton	1,673	42.9	$434



Seed production of female Palmer amaranth when weeds emerged with the crop. Means followed by the same letter are not significantly different at $p \leq 0.05$.



Seed production of female Palmer amaranth when weeds emerged three weeks after the crop emerged. Means followed by the same letter are not significantly different at $p \leq 0.05$.

Note Scale

Components of Weed Management

- Crop Competition
- Crop Rotation
- Cultivation
- Weed Scouting
- Herbicides

Challenges of Managing Weeds in Peanut

Relatively weed-free conditions are needed throughout the season

- Peanuts are low growing and are very susceptible to weed interference.
- Peanuts have to be dug and inverted, and pod loss can be high if weeds are present.
- Multiple fungicide applications are needed to control diseases. Weeds can prevent uniform and adequate fungicide deposition into the peanut canopy.

Preplant Incorporated Options

- Prowl, Sonalan, Dual, Dual Magnum, Warrant, Outlook, Pursuit, and Strongarm
- Mixtures of herbicides are needed to control complexes of grass and broadleaf weeds and sedges

Preemergence Options

- Dual, Dual Magnum, Warrant, Outlook, Pursuit, Strongarm, Valor SX, Spartan Charge, and Brake
- Mixtures of herbicides are needed to control complexes of grass and broadleaf weeds and sedges

At-Cracking Options and Postemergence

- Dual Magnum, Warrant, Outlook, Pursuit, Strongarm, Zidua, Anthem Flex
- Paraquat
- Paraquat with Basagran
- Paraquat with Basagran and residual herbicides

Postemergence Options

- Paraquat applied within 28 days after emergence
- Basagran, Ultra Blazer, Storm, Cobra
- Cadre and Pursuit
- Various formulations of 2,4-DB
- Clethodim (various formulations), Poast, and Poast Plus
- Dual, Dual Magnum, Warrant, Outlook, Zidua, Anthem Flex
- Paraquat (wiper/roller application)

Figure caption. Palmer amaranth plants late in the cropping cycle

Herbicide Rotation Restrictions

See *Peanut Information* and product label

Restrictions on Feeding Herbicide-Treated Vines to Livestock

See *Peanut Information* and product label

Selecting the Best Herbicide

Ultimately, the product label is the law

Figure caption. Herbicide efficacy chart from *Peanut Information* guide

Table 4-5. Weed Response to Postemergence Herbicides — Peanuts (continued)

Species	Butyrac 200	Gramoxone[1]	Gramoxone + Basagran	Gramoxone + Storm	Basagran	Basagran +Butyrac 200	Ultra Blazer	Ultra Blazer + Butyrac 200	Ultra Blazer + Basagran[2]	Storm	Storm + Butyrac 200	Pursuit + Butyrac 200	Cadre or Impose	Cobra	Cobra + Basagran	Cobra + Basagran + Butyrac 200	Cobra + Cadre or Impose	Cobra + Pursuit	Poast or Poast Plus	Clethodim products
Lambsquarters	PF	F	G	G	FG	G[4]	G	G	GE	G	G	P	PF	P	FG	G	PF	P	N	N
Morningglory, Pitted	FG	F	FG	E	P	G	E	E	E	E	E	G	GE	G	G	G	GE	G	N	N
Morningglory, Others	E	F	FG	E	P	E	GE	E	E	GE	E	E	G	G	G	E	G	E	N	N
Nutsedge, Yellow	N	PF	FG	G	G[3]	G	N	N	G	F	F	F	G	N	G[3]	G[3]	G	F	N	N
Nutsedge, Purple	N	PF	PF	PF	NP	P	N	N	P	N	N	FG	G	N	P	P	G	FG	N	N
Palmer amaranth and other pigweeds	PF	G	G	E	N	P	E	E	E	E	E	E	E	E	E	E	E	E	N	N
Prickly sida	F	F	G	G	G	G	N	F	G	FG	G	P	G	G	G	G	G	G	N	N
Purslane	FG	—	G	G	G	G	E	E	E	GE	GE	FG	—	E	E	E	E	E	N	N
Sicklepod	G[3]	G	G	G	N	G[6]	NP	G[6]	NP	NP	G[6]	G[6]	E	P	P	G[6]	E	F	N	N
Smartweed	PF	G	E	E	E	E	GE	E	E	E	E	G	F	F	E	E	F	G	N	N
Spurge spp.	P	F[1]	F[1]	F[1]	P	P	F[1]	F[1]	F[1]	PF[1]	PF[1]	PF[1]	—	F[1]	F[1]	F[1]	F[1]	—	N	N
Spurred anoda	P	P	FG	G	G	GE	P	P	G	F	F	F	G	F	G	GE	G	F	N	N
Texas panicum	N	GE	G	GE	N	N	NP	NP	NP	NP	NP	NP	G	N	N	N	G	NP	E	E
Tropic croton	PF	F	F	G	F	F	G	G	G	G	G	P	P	G	G	G	G	G	N	N
Velvetleaf	P	F	G	FG	G	G	PF	PF	FG	FG	FG	FG	G	G	G	G	G	G	N	N

E = excellent control, 90% or better; G = good control, 80% to 90%; F = fair control, 50% to 80%; P = poor control, 25% to 50%; N = no control, less than 25%; — = inadequate data; not rated.

[1]Assumes weeds are 2 in. tall or smaller. [2]Assumes optimum rates and ratios of Basagran and Blazer; see labels. [3]Two applications, 10 to 14 days apart. [4]Assumes optimum conditions and addition of crop oil concentrate. [5]Ratings assume weeds in one- to two-leaf stage. [6]Assumes follow-up treatment with 2,4-DB.

Figure caption. Herbicide details from *Peanut Information* guide

Table 4-3. Chemical Weed Control in Peanuts (continued)

Herbicide and Formulation	Pounds Active Ingredient per Acre	Precautions and Remarks
Postemergence: Annual broadleaf weeds (continued)		
bentazon, MOA 6 (Basagran 4 L)	0.75 to 1 (1.5 to 2 pt)	Apply when weeds are small and actively growing. Use minimum of 20 GPA and high pressure (40 to 60 psi). See label for addition of oil concentrate, species controlled, and maximum weed size to treat. Basagran may also be applied at 1 pt per acre for control of cocklebur, jimsonweed, and smartweed 4 in. or shorter. Do not apply more than 4 pt of bentazon per acre per season. Can be applied with residual herbicides for improved control.
bentazon, MOA 6 (Basagran 4 L) + acifluorfen, MOA 14 (Ultra Blazer 2 L)	0.5 to 1 (1 to 2 pt) + 0.25 to 0.38 (1 to 1.5 pt)	See above comments for Ultra Blazer and Basagran. See labels for weeds controlled, maximum weed size to treat, and use of adjuvants. Can be applied as a tank mixture or as Storm 4L. Can be applied with residual herbicides for improved control.
bentazon, MOA 6 + acifluorfen, MOA 14 (Storm 4L)	0.5 + 0.25 (1.5 pt)	These rates of bentazon and acifluorfen (Ultra Blazer and Basagran) may not provide consistent control of lambsquarters, prickly sida, spurred anoda, and morningglory. Can be applied with residual herbicides for improved control.
bentazon, MOA 6 (Basagran 4 L) + acifluorfen, MOA 14 (Ultra Blazer 2 L) + 2,4-DB, MOA 4 (Butyrac 200 2 L)	0.5 (1 pt) + 0.25 (1 pt) + 0.125 to 0.25 (8 to 16 fl oz)	Adding 2,4-DB will improve control of larger morningglory, cocklebur, common ragweed, pigweed, jimsonweed, and citron. Add surfactant or crop oil according to label directions. Apply when peanuts are at least 2 weeks old. Do not apply after pod filling begins. See comments for Ultra Blazer and Basagran alone. Can be applied with residual herbicides for improved control.

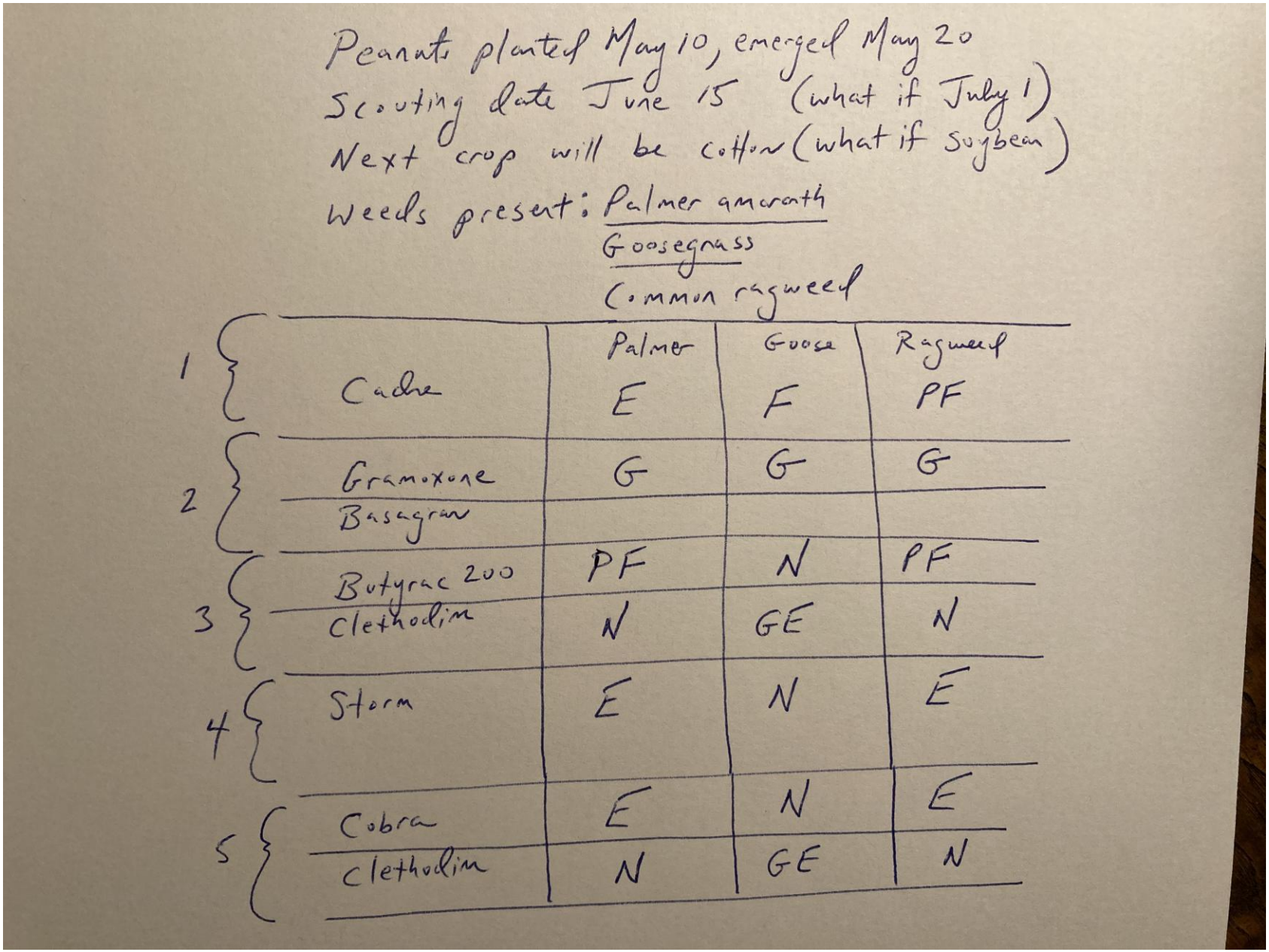


Figure caption. Sample grid for selecting the most effective herbicide(s)

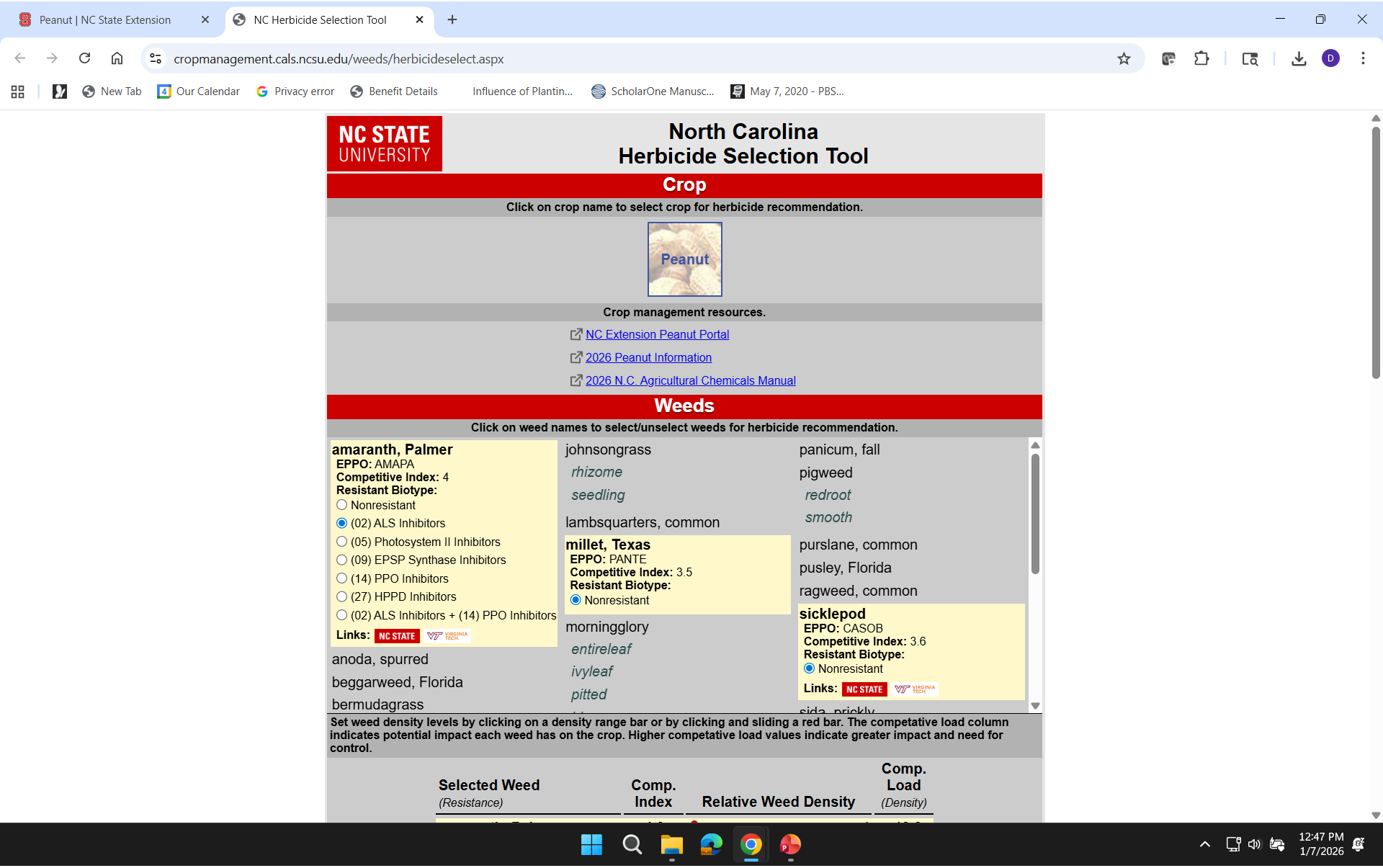


Figure caption. Weed selection step in Herbicide Selection Tool

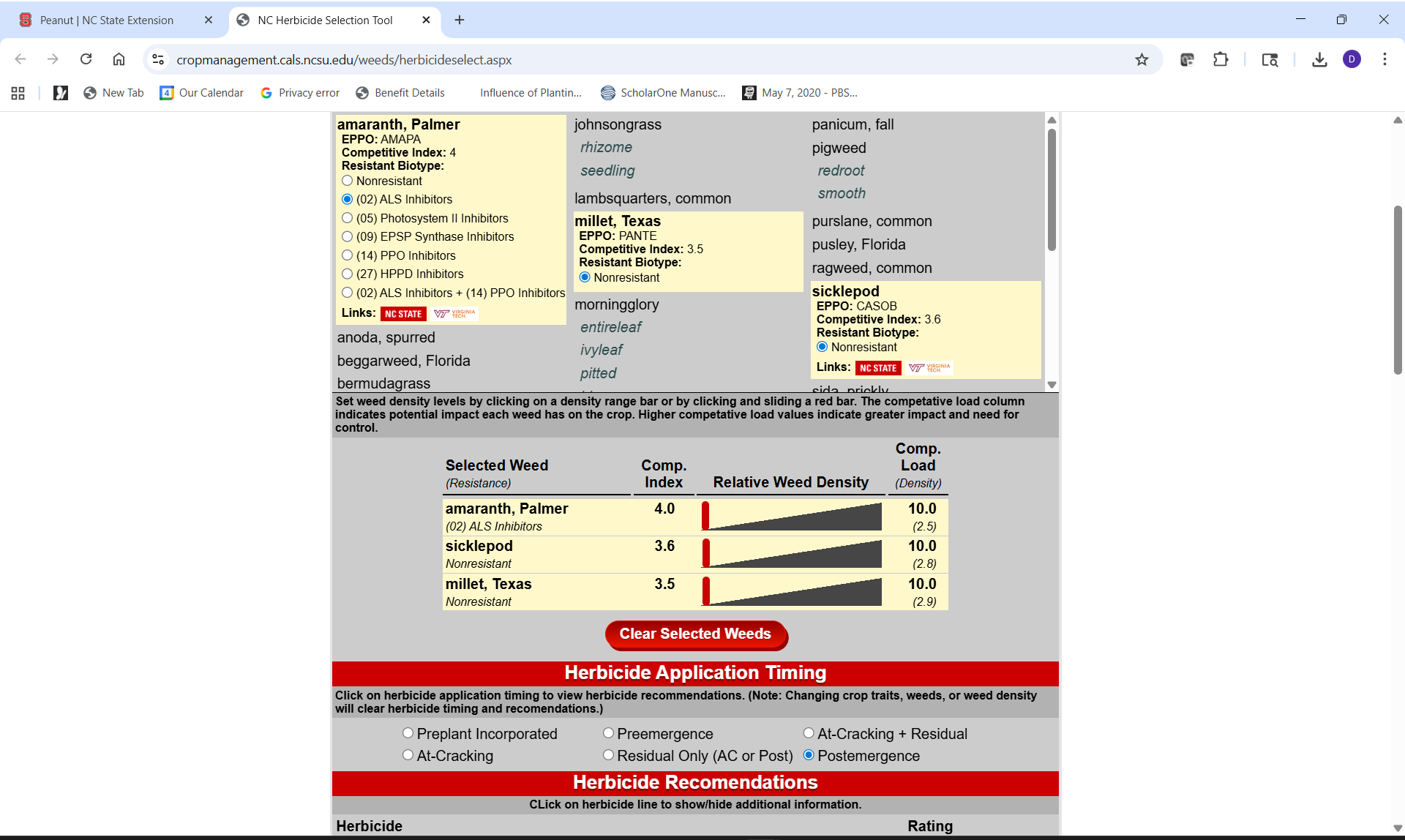


Figure caption. Selection of method or timing of herbicide application

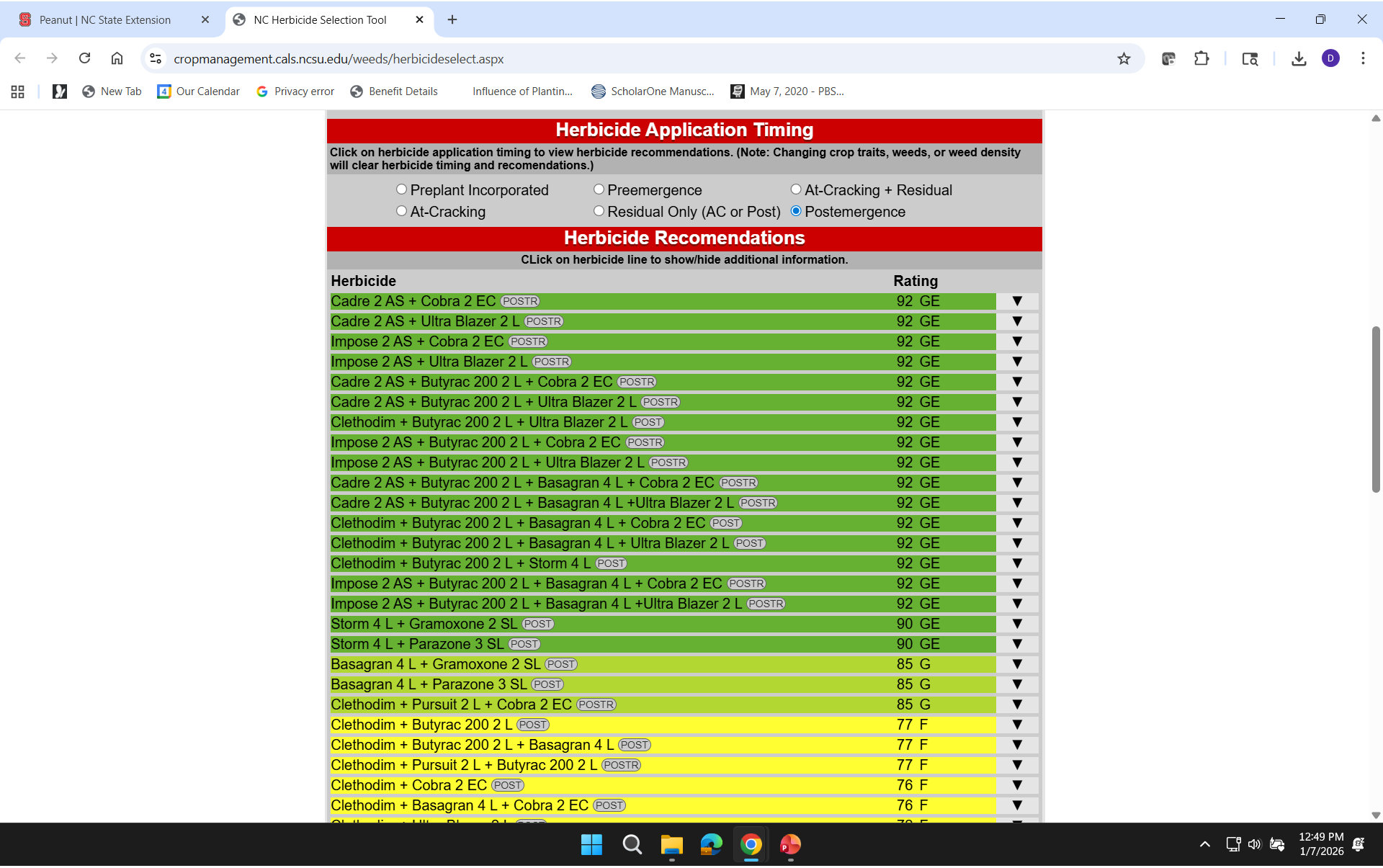


Figure caption. Herbicide recommendations

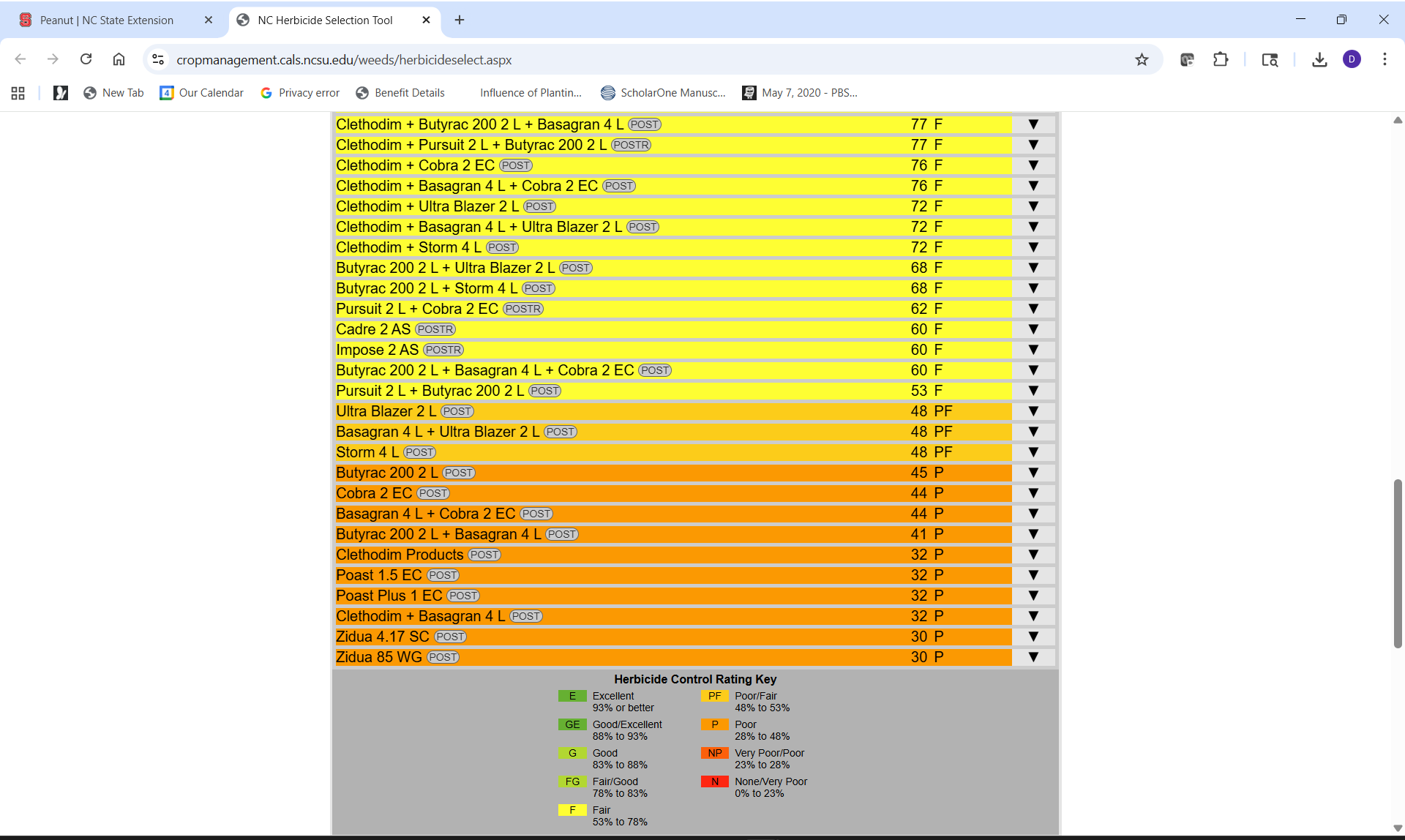


Figure caption. Herbicide recommendations

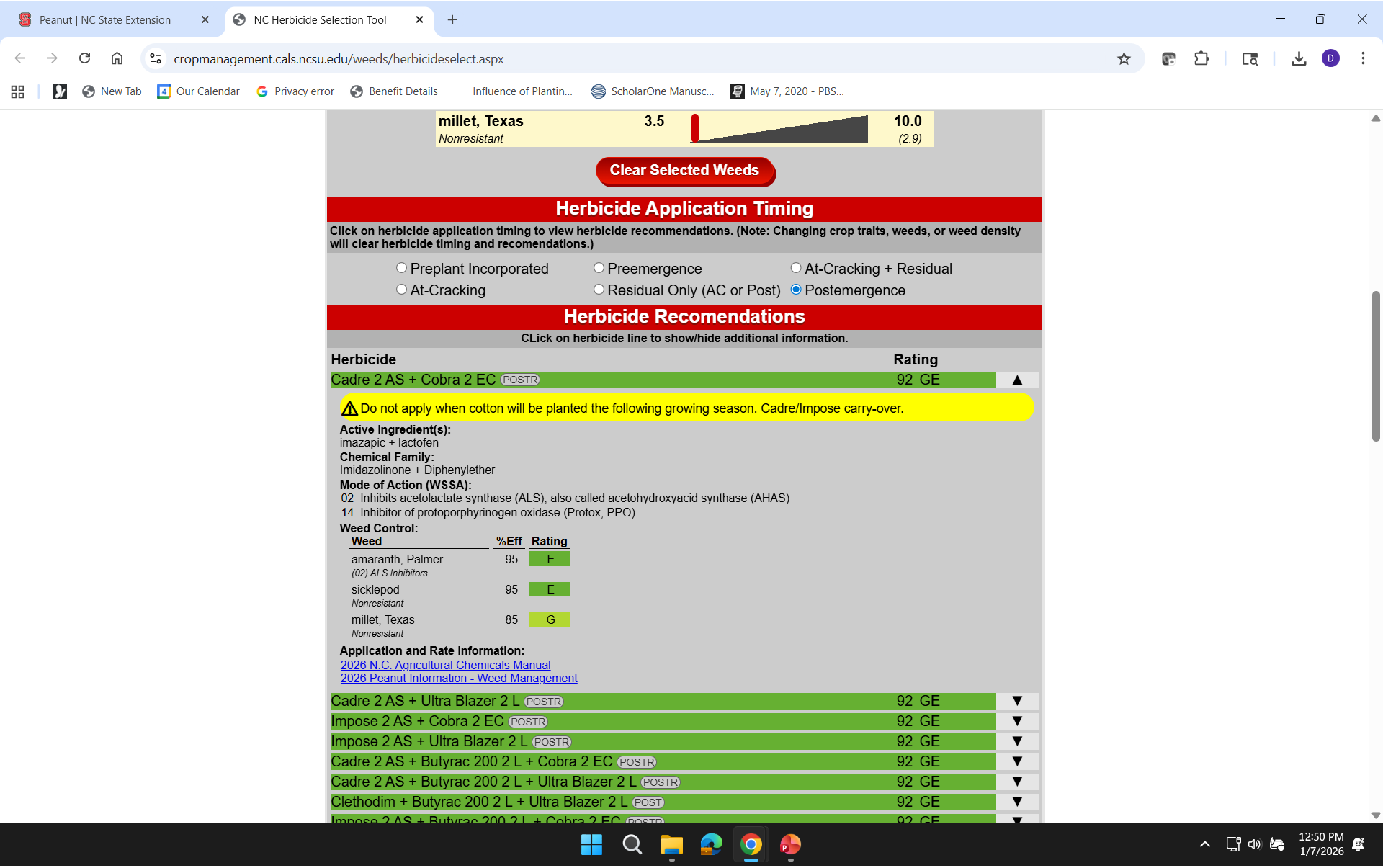


Figure caption. Precautions for use of the herbicide selected

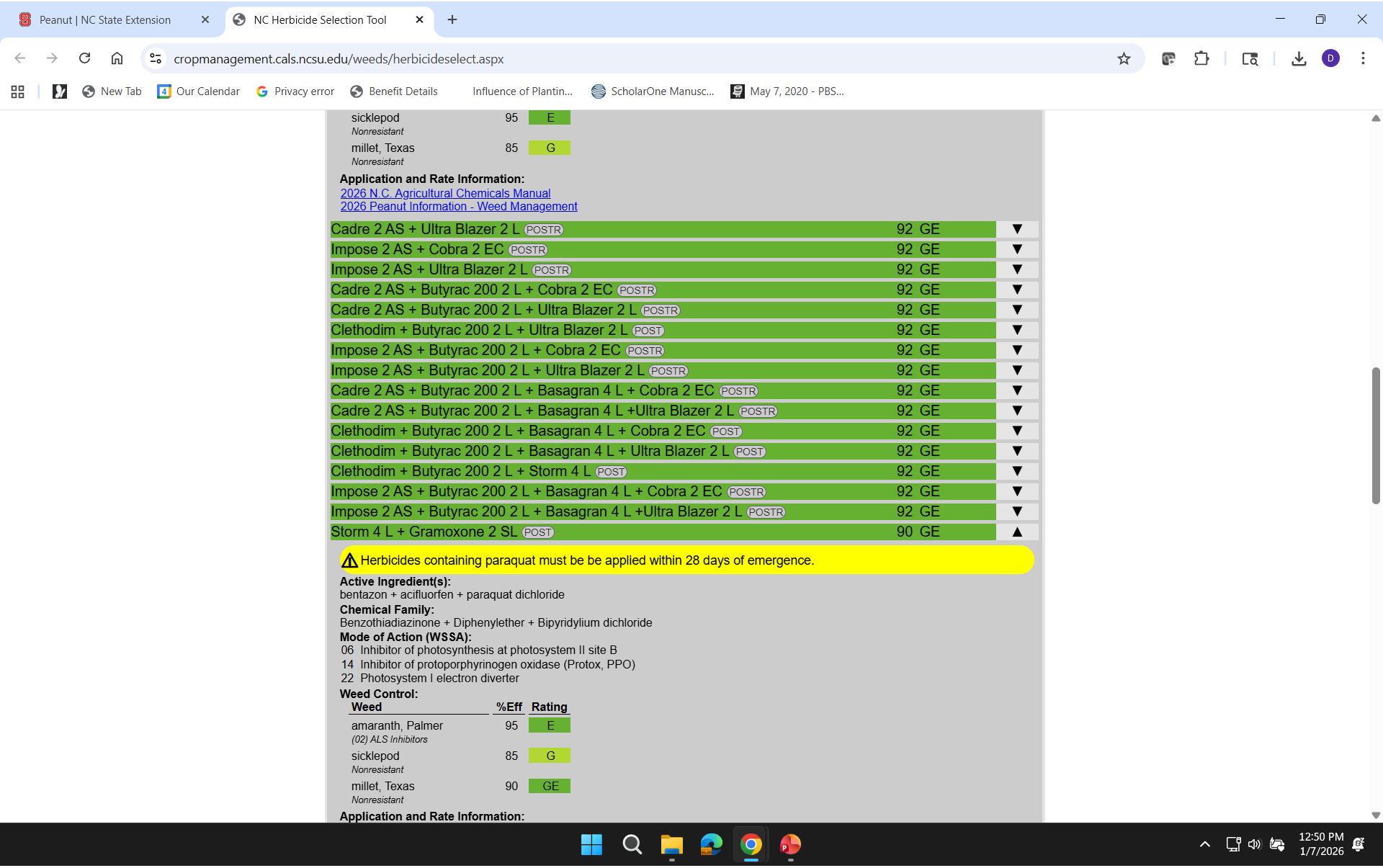


Figure caption. Precautions for use of the herbicide selected

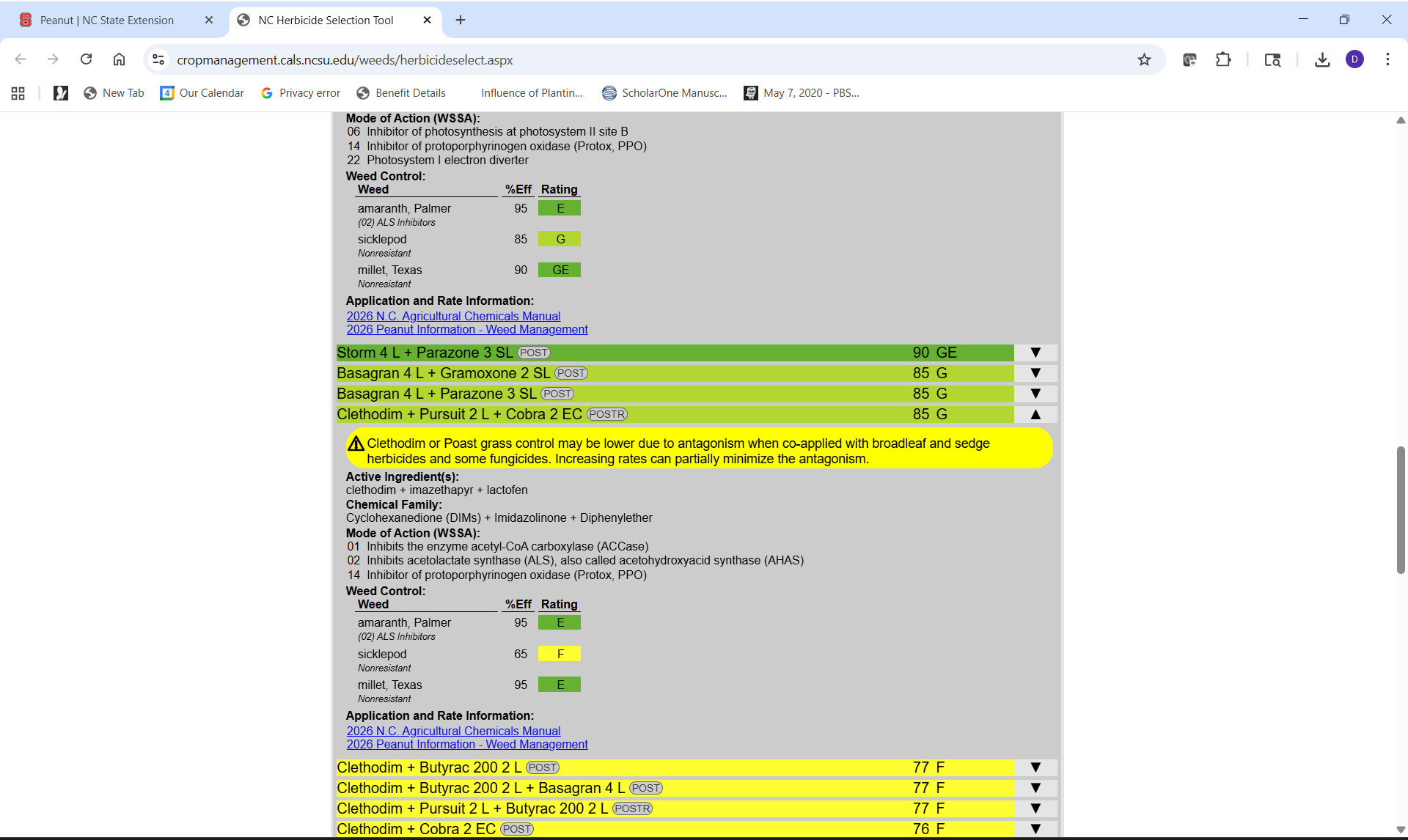


Figure caption. Precautions for use of the herbicide selected

Herbicide Resistance Management

Residual herbicides

Timely applications

Multiple MOAs

Prevent production of weed seed