

# Nutrient Needs Of Wildlife Related Plants in the Southeastern United States



**USDA Natural Resources Conservation Service**  
**Jamie L. Whitten Plant Materials Center**  
**Coffeeville, Mississippi**

Wildlife habitat plantings known as food plots or green fields typically require lower maintenance applications of fertilizer than plantings where large amounts of biomass (hay or seed harvest) are removed annually.

This note is offered as a guide and not as an alternative to soil testing. The results of a soil test provide the land manager with precise commendations for nitrogen (N), phosphorus (P), potassium (K) and lime to adjust the pH of the soil for optimum plant growth.

# Cool Season Plants

	Pounds at Establishment (per acre)			pH Range	Fertilizer for Establishment (per acre)	Pounds for Annual Maintenance (per acre)			Fertilizer for Annual Maintenance (per acre)	Application Notes
	N	P	K			N	P	K		
Oats	40	25	25	5.8-6.5	100 lbs 8-24-24+ 100 lbs 34-0-0	50	0	0	150 lbs 34-0-0	Apply N in February if seed crop is desired.
Rye	40	25	25	5.8-6.5	100 lbs 8-24-24 + 100 lbs 34-0-0	50	0	0	150 lbs 34-0-0	Apply N in February if seed crop is desired.
Wheat	40	25	25	5.8-6.5	100 lbs 8-24-24 + 100 lbs 34-0-0	50	0	0	150 lbs 34-0-0	Apply N in February if seed crop is desired.
Arrowleaf Clover	0	0	0	5.8-6.8	none	0	50	50	250 lbs 0-20-20	Apply P & K the fall after establishment.
Ball Clover	0	0	0	5.5-7.0	none	0	50	50	250 lbs 0-20-20	Apply P & K the fall after establishment.
Crimson Clover	0	40	40	5.6-7.0	200 lbs 0-20-20	0	30	30	150 lbs 0-20-20	Apply P & K once stand is established and again if reseeding is evident next fall.
Ladino Clover	0	40	40	5.8-7.0	200 lbs 0-20-20	0	30	30	150 lbs 0-20-20	Apply P & K at establishment and yearly in the fall as needed.
Red Clover	0	40	40	5.8-7.0	200 lbs 0-20-20	0	30	30	150 lbs 0-20-20	Apply P & K at establishment and yearly in the fall as needed.
Subterranean Clover	0	40	40	5.8-7.0	200 lbs 0-20-20	0	30	30	150 lbs 0-20-20	Apply P & K once stand is established and again if reseeding is evident next fall.

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	Pounds at Establishment (per acre)			pH Range	Fertilizer for Establishment (per acre)	Pounds for Annual Maintenance (per acre)			Fertilizer for Annual Maintenance (per acre)	Application Notes
	N	P	K			N	P	K		
Alfalfa	0	75	150	6.5-7.5	150 lbs 0-46-0 + 250 lbs 0-0-60	0	50	10 0	100 lbs 0-46-0 + 150 lbs 0-0-60	8-10 lbs of Boron may be added at establishment. Apply P & K maintenance rates at first mowing each season.
Austrian Winter Pea	0	20	20	5.6-7.0	100 lbs 0-20-20	n/a	n/a	n/a	none	P & K levels would be low to warrant a fertilizer application.
Birdsfoot Trefoil	0	30	60	5.8-7.0	200 lbs 0-15-30	0	30	60	200 lbs 0-15-30	Apply P & K at establishment and yearly in the fall as needed.
Vetch	0	30	30	5.4-6.8	150 lbs 0-20-20	0	20	20	100 lbs 0-20-20	Apply P & K at establishment and yearly in the fall as needed.
Chicory	15	15	15	5.5-7.0	100 lbs 15-15-15	35	0	0	100 lbs 34-0-0	Applying N in the late winter / early spring will promote plant growth.
Brassicas	15	15	15	5.5-7.0	100 lbs 15-15-15	35	0	0	100 lbs 34-0-0	Applying N in the late winter / early spring will promote plant growth.

# Warm Season Plants

	Pounds at Establishment (per acre)			pH Range	Fertilizer for Establishment (per acre)	Pounds for Annual Maintenance (per acre)			Fertilizer for Annual Maintenance (per acre)	Application Notes
	N	P	K			N	P	K		
Browntop Millet	50	25	25	5.0-7.0	100 lbs 8-24-24 + 100 lbs 46-0-0	n/a	n/a	n/a	none	N rates above 50 lb/acre will promote more vegetative growth and less seed production.
Proso Millet	(split) 60	30	30	5.5-7.0	150 lbs 0-20-20 + 200 lbs 34-0-0	n/a	n/a	n/a	none	Half the N rate should be applied 14 days after emergence.
Foxtail Millet	(split) 60	30	30	5.5-7.0	150 lbs 0-20-20 + 200 lbs 34-0-0	n/a	n/a	n/a	none	Half the N rate should be applied 30 days after emergence.
Japanese Millet	(split) 60	30	30	5.2-7.0	150 lbs 0-20-20 + 200 lbs 34-0-0	n/a	n/a	n/a	none	Half or more of the N rate should be applied 30 - 45 days after emergence depending on maturity date.
Corn	(split) 160	40	40	5.8-7.0	200 lbs 0-20-20 + 450 lbs 34-0-0  (N may be split into 3 app.)	n/a	n/a	n/a	none	All P & K should be applied before or at planting. Half the N rate can be applied at planting with the remainder applied 20-30 days after emergence.
Egyptian Wheat	60	20	20	6.0-7.0	100 lbs 0-20-20 + 200 lbs 34-0-0	n/a	n/a	n/a	none	Excessive N rates or seeding rates may promote lodging.
Grain Sorghum	(split) 120	30	30	5.6-7.0	150 lbs 0-20-20 + 350 lbs 34-0-0	n/a	n/a	n/a	none	Apply 1/3 of N at planting and remainder when plants are at the four leaf stage.
Alyceclover	0	0	0	6.2-7.0	none	0	50	30	100 lbs 0-46-0 + 50 lbs 0-0-60	Apply P & K once stand is established.
Aeschynomene	0	20	20	5.0-6.5	100 lbs 0-20-20	0	20	20	100 lbs 0-20-20	Apply P & K at establishment and yearly in the fall as needed.

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	N	P	K			N	P	K		
Cowpeas	0	30	30	5.2-7.5	150 lbs 0-20-20	n/a	n/a	n/a	none	Apply P & K preplant.
Lablab	0	30	30	5.5-7.5	150 lbs 0-20-20	n/a	n/a	n/a	none	Apply P & K preplant.
Annual Lespedeza	0	20	20	5.8-6.5	100 lbs 0-20-20	0	20	20	100 lbs 0-20-20	Apply P & K at establishment and yearly in the fall as needed.
Partridge Pea	0	0	0	4.8-7.5	none	0	20	20	100 lbs 0-20-20	Apply P & K once stand is established to promote reseeding.
Soybeans	0	25	30	5.5-7.0	50 lbs 0-46-0 + 50 lbs 0-0-60	n/a	n/a	n/a	none	P & K levels would be low to warrant a fertilizer application.
Soybeans, Forage	0	25	30	5.5-7.0	50 lbs 0-46-0 + 50 lbs 0-0-60	n/a	n/a	n/a	none	P & K levels would be low to warrant a fertilizer application.
Buckwheat	50	20	20	6.0-7.0	100 lbs 0-20-20 + 150 lbs 34-0-0	n/a	n/a	n/a	none	Apply fertilizer once stand is established.
Small Burnett	30	30	30	6.0-7.0	200 lbs 15-15-15	15	15	15	100 lbs 15-15-15	Apply fertilizer once stand is established.
Sunflower	(split) 120	30	30	5.4-7.0	150 lbs 0-20-20 + 350 lbs 34-0-0	n/a	n/a	n/a	none	All P & K should be applied before or at planting. Half the N rate can be applied at planting with the remainder applied 10 - 14 days after emergence.
Chufa	50	20	20	5.5-7.0	100 lbs 0-20-20 + 100 lbs 46-0-0	50	20	20	100 lbs 0-20-20 + 100 lbs 46-0-0  (only if stand reoccurs)	Responds to N, watch for adequate 2nd and 3rd year stands before applying additional fertilizer.

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