



**DIVISION OF AGRICULTURE
RESEARCH & EXTENSION**

University of Arkansas System

ARKANSAS NEMATODE DIAGNOSTIC LABORATORY

2025 ANNUAL REPORT

CONTACT

@ nemalab@uada.edu

📞 870-899-0089

🌐 aaes.uada.edu/technical-services/nematode-diagnostic-laboratory/

Dr. Lynhe Demesyieux
Ext. Nematology Educator
Nematode Diagnostic Lab
362 Highway 174 North
Hope, AR 71801

Plant-parasitic nematodes are economically important pests affecting all major crop groups in Arkansas, including row crops, horticultural crops, turfgrass, trees, and shrubs. The Arkansas Nematode Diagnostic Laboratory (ANDL) provides bioassay, identification, and diagnostic services that support decision-making in sustainable crop production systems. The laboratory receives soil samples from in-state and out-of-state agricultural consultants, county Extension agents, commercial producers, research and Extension faculty, industry representatives, and regulatory inspectors.

During calendar year 2025, the ANDL processed a total of 1,921 samples, representing a 27% reduction compared to the previous year (2,642 samples) (Figure 1). Soil samples were also received from seven states outside Arkansas, reflecting more than a 50% decrease in out-of-state submissions relative to 2024 (Figure 2). In-state samples accounted for approximately 75% of total submissions and originated from 30 of the 75 counties in Arkansas (Figure 3). The overall decline in sample volume was associated with changes in staffing capacity during 2024 and a temporary pause in accepting samples while laboratory operations were under review.

Sample submissions peaked in October and were the lowest in the first quarter and were consistent with trends observed in previous years (Figure 4). Submissions were primarily associated with soybean (667), corn (438), and cotton (310), which together represented approximately 76% of the samples received. The remaining ~23% were collected from turfgrass (~17%), specialty crops, and unknown or unidentified hosts (Figure 5).

The most frequently detected nematodes were root-knot (*Meloidogyne* spp.), stunt (*Tylenchorhynchus* spp.), lesion (*Pratylenchus* spp.), and spiral (*Helicotylenchus* spp.) nematodes. While these nematodes were abundant in agronomic crops, stunt, sting (*Belonolaimus* spp.), ring (*Criconema* spp.), and lance (*Hoplolaimus* spp.) nematodes were more prevalent in turfgrass samples (Figure 6). Samples were processed from 16 host categories, and 15 genera of nematodes were detected (Table 1).

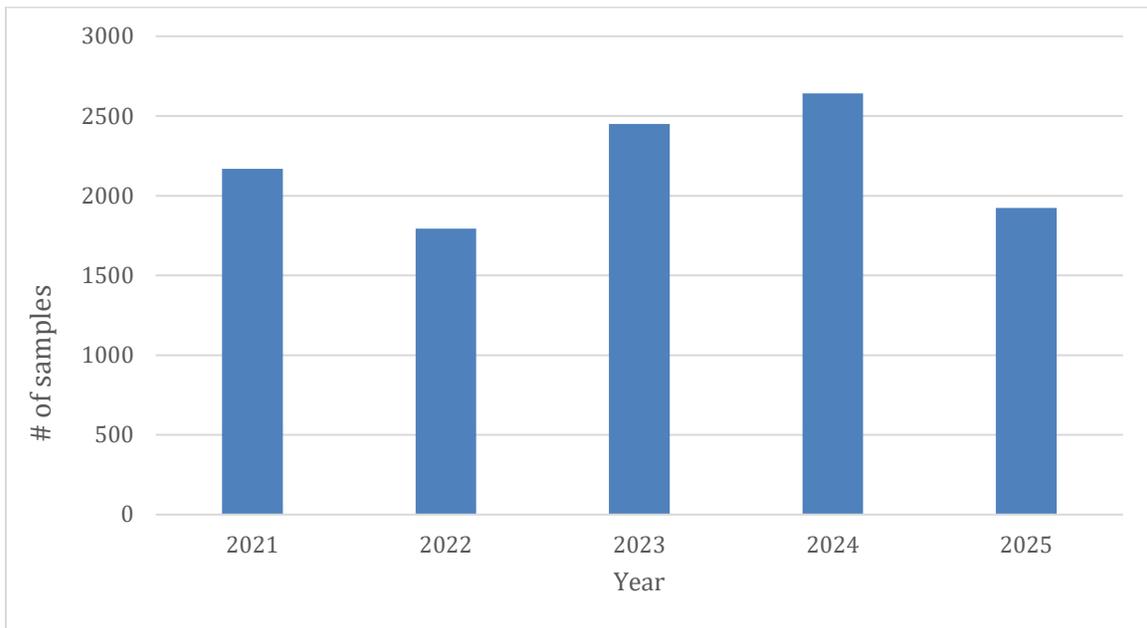
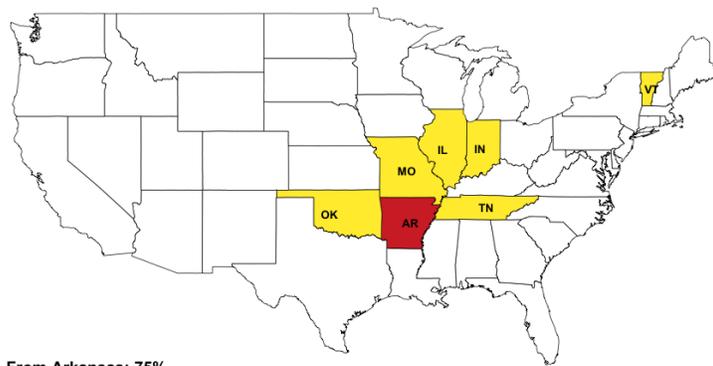


Figure 1. Annual nematode samples processed by Arkansas Nematode Diagnostic Laboratory from 2021-2025

Grower State	Samples Received
AR	1445
TN	177
MO	158
OK	105
VT	16
IL	12
IN	8
Grand Total	1921



From Arkansas: 75%

From Other States: 25%

Figure 2. Nematode samples processed by state in 2025

County	# of Samples	County	# of Samples
Arkansas	13	Lincoln	1
Ashley	15	Lonoke	4
Baxter	1	Miller	3
Benton	1	Mississippi	23
Chicot	3	Newton	1
Clark	1	Poinsett	9
Clay	5	Prairie	1
Craighead	22	Pulaski	16
Crawford,	6	Randolph	1
Crittenden	2	Saline	2
Desha	62	Sebastian	12
Drew	7	White	5
Faulkner	7	Woodruff	30
Greene	11	Yell	7
Johnson	1		
Lawrence	2		

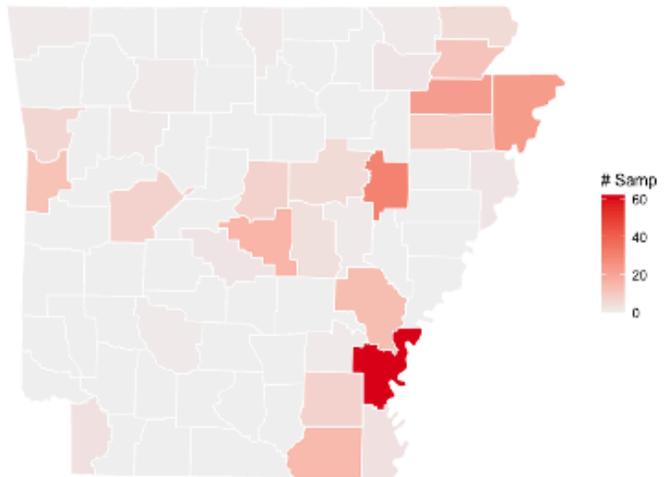


Figure 3. Nematode samples submitted by county in 2025 (Excluding phytosanitary and research samples)

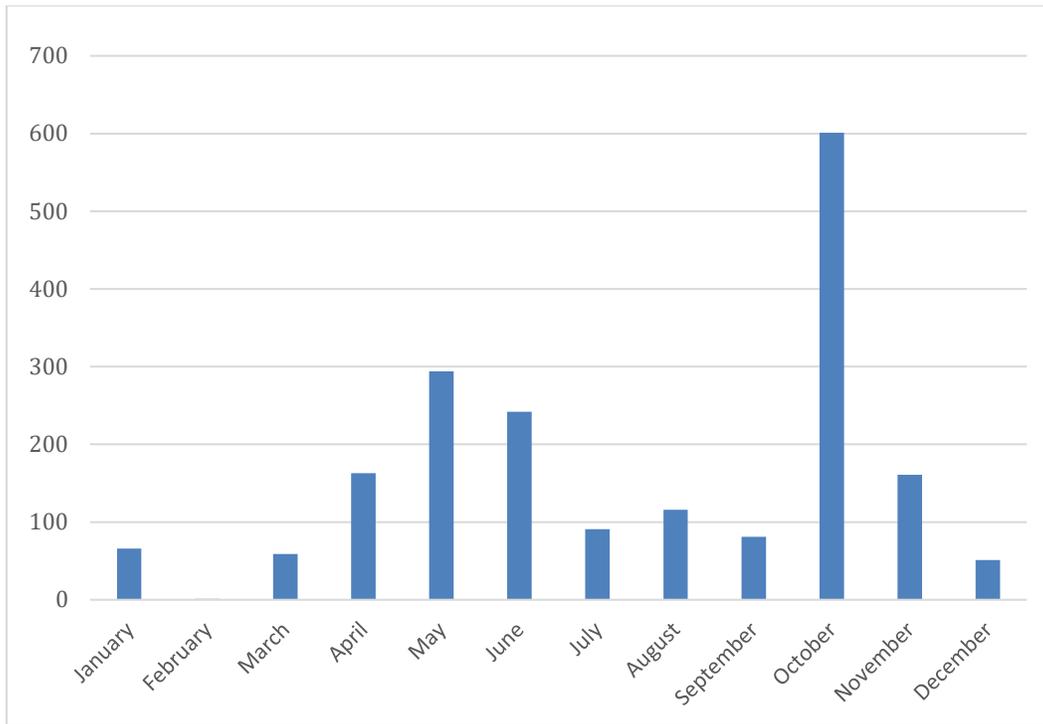


Figure 4. Monthly distribution of diagnostic samples processed in 2025. Sample volume peaked in October and May, reflecting seasonal submission patterns

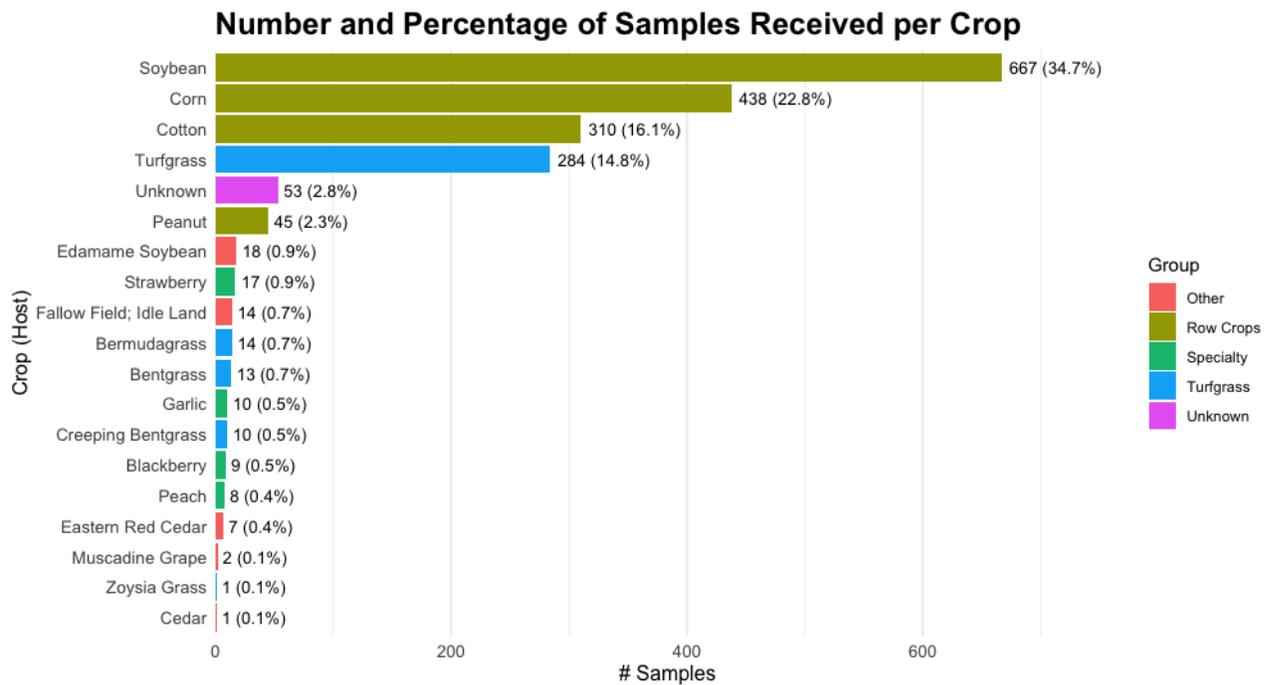


Figure 5. Number and percentage of samples received per crop in 2025. Soybean, corn, and cotton accounted for the majority of submissions

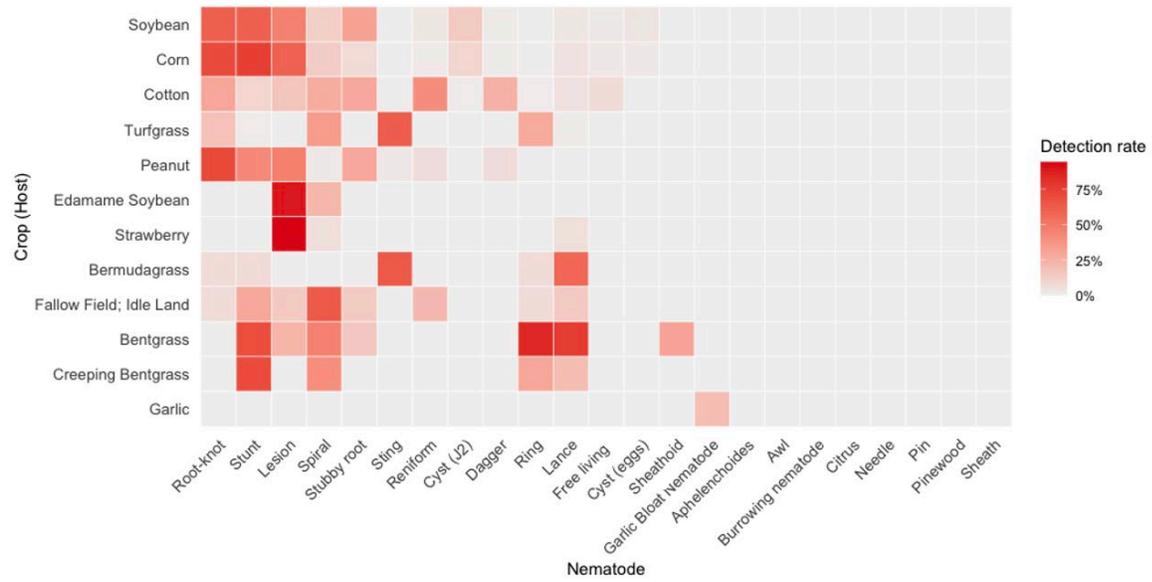


Figure 6. Detection rate of major nematodes by crop (≥ 10 samples). Darker color = higher detection percentage.

Table 1. Appendix of nematodes by host in 2025

Host	# of samples	Nematode found
Soybean	667	<ul style="list-style-type: none"> • Root-knot — 409 • Stunt — 406 • Lesion — 306 • Stubby root — 209 • Cyst (J2) — 101 • Spiral — 84 • Cyst (eggs) — 26 • Lance — 23 • Reniform — 23 • Dagger — 10 • Sheathoid — 1
Corn	438	<ul style="list-style-type: none"> • Stunt — 327 • Root-knot — 308 • Lesion — 264 • Spiral — 59 • Cyst (J2) — 44 • Stubby root — 35 • Lance — 21 • Cyst (eggs) — 9 • Reniform — 7 • Dagger — 6 • Ring — 1

Cotton	310	<ul style="list-style-type: none"> • Reniform — 126 • Root-knot — 93 • Stubby root — 89 • Spiral — 83 • Dagger — 76 • Lesion — 53 • Stunt — 31 • Lance — 16 • Cyst (J2) — 3 • Ring — 3 • Sting — 1
Turfgrass	284	<ul style="list-style-type: none"> • Sting — 178 • Spiral — 98 • Ring — 80 • Root-knot — 51 • Lance — 5 • Stunt — 3
Unknown	55	<ul style="list-style-type: none"> • Lesion — 40 • Stunt — 16 • Dagger — 12 • Spiral — 11 • Cyst (J2) — 8 • Lance — 2
Peanut	45	<ul style="list-style-type: none"> • Root-knot — 32 • Lesion — 21 • Stunt — 19 • Stubby root — 13 • Dagger — 3

		<ul style="list-style-type: none"> • Reniform — 3 • Spiral — 1 • Sting — 1
Edamame Soybean	18	<ul style="list-style-type: none"> • Lesion — 16 • Spiral — 4
Strawberry	17	<ul style="list-style-type: none"> • Lesion — 16 • Lance — 1 • Spiral — 1
Bermudagrass	14	<ul style="list-style-type: none"> • Sting — 9 • Lance — 8 • Ring — 1 • Root-knot — 1 • Stunt — 1
Fallow Field; Idle Land	14	<ul style="list-style-type: none"> • Spiral — 9 • Stunt — 4 • Reniform — 3 • Lance — 2 • Lesion — 2 • Stubby root — 2 • Ring — 1 • Root-knot — 1
Bentgrass	13	<ul style="list-style-type: none"> • Ring — 11 • Lance — 10 • Stunt — 9 • Spiral — 6 • Sheathoid — 4 • Lesion — 3 • Stubby root — 2

Creeping Bentgrass	10	<ul style="list-style-type: none"> • Stunt — 7 • Spiral — 4 • Ring — 3 • Lance — 2
Garlic	10	<ul style="list-style-type: none"> • Garlic Bloat Nematode — 2
Blackberry	9	<ul style="list-style-type: none"> • Lesion — 8 • Spiral — 5 • Dagger — 3 • Stunt — 3 • Ring — 1
Peach	8	<ul style="list-style-type: none"> • Lesion — 5 • Dagger — 4 • Root-knot — 1 • Stunt — 1
Muscadine Grape	2	<ul style="list-style-type: none"> • Dagger — 2 • Lesion — 1 • Spiral — 1 • Stunt — 1