

Pesticidal and antimicrobial activities

Pesticidal activity against *Sitophilus oryzae* (%)

		Plant extract	ZnO-NPs	Control	
T1 (0.75 %)	24H		3	9	37.7
	48H		5	25	64.4
	72H		7	34	91.1
T2 (1.5%)	24H		5	16	55.5
	48H		7	29	80
	72H		12	43	95.5
T3 (3%)	24H		9	20	75.55
	48H		16	36	86.6
	72H		23	58	100
T4 (6%)	24H		16	23	89.5
	48H		18	38	93.2
	72H		25	74	95.5

Pesticidal activity against *Tribolium castaneum* (%)

		Plant extract	ZnO-NPs	Control	
T1 (0.75 %)	24H		5	9	33.3
	48H		7	27	62.2
	72H		9	43	88.8
T2 (1.5%)	24H		9	18	51
	48H		16	34	77.7
	72H		23	56	93.33
T3 (3%)	24H		12	20	71.1
	48H		20	45	84.4
	72H		28	69	97.7
T4 (6%)	24H		18	25	89.5
	48H		27	45	93.2
	72H		43	78	95.5

Antibacterial activity of Silybum marianum against Clavibacter michiganensis (mm)

	Plant extract	ZnO-NPs	Control	
T1 (0.5%)		6	8	19.8
T2 (1.5%)		12	14	26.8
T3 (3%)		17	18	33.6

Antibacterial activity of Silybum marianum against Pseudomonas syringae (mm)

	Plant extract	ZnO-NPs	Control	
T1 (0.5%)		8	10	20.3
T2 (1.5%)		15	19	28.8
T3 (3%)		20	25	35.4

Antifungal activity gainst Aspergillums niger (mm)

	Plant extract	ZnO-NPs	Control	
T1 (0.5%)		7	10	15.2
T2 (1.5%)		11	12	27.3
T3 (3%)		18	19	30.1

Antifungal activity gainst Fusarium oxysporum (mm)

	Plant extract	ZnO-NPs	Control	
T1 (0.5%)		12	13	17.4
T2 (1.5%)		15	16	30.8
T3 (3%)		18	21	35

