

**Pest Survey and Surveillance  
for Exportable Herbs  
(Amla, Sikakai, Pakhanved,  
Nagbeli) of Nepal**

## List of diseases of Herbs

### Amala

S N	Distri ct	Part s Affe cted	Speci men Num ber	Date of Coll ectio n	Kingdo m	Divisi on	Sub- divisi on	Class	Order	Genus	Speci es	Commo n Name	Verified methods	Seconda ry Source
1	Gorkh a	leaf	1.1, 2.2, 2.3	14/7 /207 8	Mycota	Deute romyc ota	Deute romyc otina	Coelom ycetes	Melanco niales	<i>Pestalo ptiopsis</i>	spp.	Pestaloti oopsis leaf spot	Sympto ms, microsc opy, review	None
2	Gorkh a, Salyan	Leaf , fruit	1.4, SADE 2	14/7 /207 8	Mycota	Eumy cota	Basidi omyc otina	Basidio mycete s	Uredinial es	<i>Ravenel ia</i>	spp.	Rust	Sympto ms, microsc opy, review	None
3	Kaski	Leaf , Fruit	PVL 1.3	21/1 1/20 78	Mycota	Eumy cota	Deute romyc otina	Hypho mycete s	Monilial es	<i>Alternaria</i>	spp.	Alternari a leaf spot	Sympto ms, microsc opy, review	None
4	Gorkh a, Kaski, Salyan	Fruit	1.3, PVL 1.2, SADE	14/7 /207 8	Mycota	Eumy cota	Deute romyc otina	Hypho mycete s	Monilial es	<i>Penicill ium</i>	spp.	Blue mold	Sympto ms, microsc opy,	None

			3										review	
5	Kaski	Fruit	2.3	15/7 /207 8	Mycota	Amastigomycotina	Ascomycotina	Sordariomycetes	Diaporthales	<i>Phomopsis</i>	<i>vexans</i>	Phomopsis fruit rot	Symptoms, microscopy, review	None
6	Gorkha, Kaski, Dankuta	Bark / stem	1.2, 2.2, 7.2D	14/7 /207 8	-	-	-	-	-	<i>Strigula</i>	spp.	Lichen	Symptoms, microscopy, review	None
7	Gorkha, Kaski, Salyan, Dankuta	<b>Stem,</b> Leaf, Fruit	2.1, PVL 1.3, SADE 1, A711 D, 7.3D	15/7 /207 8, 15/7 /207 8, 15/7 /207 8	Mycota	Eumycota	Deuteromycotina	Coleomycetes	Melanconiales	<i>Colletotrichum</i>	<i>gloeosporoides</i>	Anthracnose	Symptoms, microscopy, review	None

### Sikakai

S N	Distri ct	Par ts Affe cted	Speci men Num ber	Date of collecti on	King dom	Divisio n	Sub-Division	Class	Order	Genus	Speci es	Commo n Name	Verifie d metho ds	Second ary Source
1	Banke , Kailal i	Roo t and stem	RB3, KD1	17-06-78	Mycot a	Eumyc ota	Deutero mycotina	Hypho mycete s	Monilia les	<i>Fusariu m</i>	<i>solani</i>	Crown rot	Sympto ms, microsc opy, review	None
2	Banke , Kailal i	Leaf	001, KS 1, RB2	17-06-78, 14-11-78, 12-01-78	Mycot a	Eumyc ota	Deutero mycotina	Hypho mycete s	Monilia les	<i>Alternaria</i>	spp.	Alternari a Leaf spot	Sympto ms, microsc opy, review	None
3	Banke	Pod	004, 005	17-06-78, 12-01-78	Mycot a	Eumyc ota	Deutero mycotina	Hypho mycete s	Monilia les	<i>Penicill ium</i>	spp.	Pod rot	Sympto ms, microsc opy, review	None

### Pakhanved

S N	District	Parts affected	Specimen Number	Date of Collection	Kingdom	Division	Sub-division	Class	Order	Family	Genus	Species	Common name	Verified methods	Secondary Source
1	Salyan	Leaf	SID 2	19-01-79	Mycota	Eumycota	Ascomycotina	Loculoascomycetes	Dothidiales	Capnodiaceae	<i>Capnodium</i>	spp.	Sooty mold	Symptoms, microscopy, review	None
2	Dailekh, Dhadhing	Root,	SID 3, GPD 4	11-01-79, 23-06-79	Mycota	Eumycota	Deuteromycotina	Hyphomycetes	Tuberculariales	Tuberculariaceae	<i>Fusarium</i>	spp.	Crown rot	Symptoms, microscopy, review	None
3	Dailekh, Dhadhing, Baglung	Leaf	GD1, GD2, GD3 GPD 3 1.3b	11-01-79, 23-06-79, 12-07-78	Mycota	Eumycota	Deuteromycotina	Hyphomycetes	Moniliales	Dematiaceae	<i>Alternaria</i>	spp.	Leaf blight	Symptoms, microscopy, review	None

## Nagbeli

S N	Distri ct	Part s affected	Speci men Number	Date of Collection	King dom	Divisi on	Sub-division	Class	Order	Family	Genus	Spec ies	Comm on name	Verified methods	Secon dary Source
1	Baglu ng, Dhan kuta	Leaf , root, stem	3.1N, 2.1N, N 4.P1.1 D	13-07-78	Mycot a	Eumy cota	Deutero mycoti na	Agono mycete s	Agono mycetal es	Agonom ycetacea e	<i>Rhizoct onia</i>	<i>sola ni</i>	Root and stem blight	Sympto ms, microsco py, review	None
2	Baglu ng , Sindu palchowk	Leaf ,root , stem	2.3N, 1.4N,	13-07-2078 , 21-06-2078	Mycot a	Eumy cota	Deutero mycoti na	Hypho mycete s	Monilia les	Tubercul ariaceae	<i>Fusariu m</i>	spp.	Root rot	Sympto ms, microsco py, review	None
3	Dhan kuta, Baglu ng, Dolak ha	Leaf and stem	N 4.P1.1 D, 3.3N, 3.4N, NB1.3	16-12-78	Mycot a	Eumy cota	Deutero mycoti na	Hypho mycete s	Monilia les	Dematia ceae	<i>Alterna ria</i>	spp.	Leaf Blight	Sympto ms, microsco py, review	None

## List of insects of Herbs

### Amala

S N	District	Code Number	Date of collection	Common name	Order	Family	Genus	Species	Verified methods	Secondary Source
1.	Gorkha	A3, A6	14/7/2078	Short-horn grasshopper	Orthoptera	Acrididae	<i>Hieroglyphus</i>	<i>banian</i>	Visual observation	None
2.	Dhankuta, Kaski	A2	14/7/2078	Short-horn grasshopper	Orthoptera	Acrididae	<i>Heteropternis</i>	spp.	Visual observation	None
3.	Dhankuta, Gorkha	A5, A8	14/7/2078	Metallic shield bug	Hemiptera	scutelleridae	<i>Scutellera</i>	<i>nepalensis</i>	Visual observation	None
4	Kaski, Gorkha	K5, G2	23/11/2078, 14/7/2078	Apical twig gall maker	Lepidoptera	Thyrididae	<i>Betousa</i>	<i>stylophora</i>	Visual observation	None
5	Kaski, Gorkha, Sarlahi	K1	23/11/2078	Mealy bug	Hemiptera	Pseudococcidae	<i>Nipaecoccus</i>	<i>viridis</i>	Visual observation	None
6	Gorkha, Kaski, Dhankuta	K2, G1	23/11/2078	Bark eating caterpillar	Lepidoptera	Cossidae	<i>Indarbela</i>	<i>tetraonis</i>	Visual observation	None
7	Kaski	K3	23/11/2078	Rice skipper	Lepidoptera	Hesperiidae	<i>Pelopidas</i>	<i>mathias</i>	Visual observation	None
8	Kaski, Dhankuta	K4	23/11/2078	Tiger moth	Erebidae	Lepidoptera	<i>Nyctemera</i>	spp.	Visual observation	None

## Sikakai

S N	District	Code Number	Date of collection	Common name	Order	Family	Genus	Species	Verified methods	Secondary Source
1	Banke	S4	17-06-78,	Red flour beetle	Coleoptera	Tenebrionidae	<i>Tribolium</i>	<i>castaneum</i>	By visual observation	None
2	Banke	S5	17-06-78,	Common Grass Yellow	Lepidoptera	Pieridae	<i>Eurema</i>	<i>hecabe</i>	By visual observation	None
3	Banke	S2	17-06-78,	Long headed grasshopper	Orthoptera	Acrididae	<i>Acrida</i>	<i>exaltata</i>	By visual observation	None
4	Banke	S1	17-06-78,	American bird grasshopper	Orthoptera	Acrididae	<i>Crytacent</i> <i>hacris</i>	<i>tartarica</i>	By visual observation	None

## Pakhanved

S N	District	Date of collection	Code Number	Common name	Order	Family	Genus	Species	Verified methods	Secondary Source
1	Dailekh	2079/01/11	Pa4	Leaf Beetle	Coleoptera	Chrysomelidae	<i>Monocesta</i>	<i>coryli</i>	By visual observation	None
2	Dailekh	2079/01/11	Pa10	Cowpea pod borer	Lepidoptera	Lycaenidae	<i>Lampides</i>	<i>boeticus</i>	By visual observation	None
3	Salyan	2079/01/18	Pa6	Red Cotton Bug	Hemiptera	Pyrrhocoridae	<i>Dysdercus</i>	<i>cingulatus</i>	By visual observation	None



### Nagbeli

S N	District	Code Number	Date of Collection	Common name	Order	Family	Genus	Species	Verified methods	Secondary source
1	Dhankuta,	N2,	2078/07/09	Short-horned grasshopper	Orthoptera	Acrididae	<i>Oxya</i>	<i>hyla</i>	By visual observation	None
	Dhading,	N3,	2078/06/23							
	Dolakha	B1	2078/12/18							
2	Dhankuta,	N1, KB1	2078/07/09	Indian Fritillary	Lepidoptera	Nymphalidae	<i>Argynnis</i>	<i>hyperbius</i>	By visual observation	None
	Baglung		2078/07/12-13							
3	Dhankuta,	N2, N3, N4, N5, N8	2078/07/09	Clouded yellow	Lepidoptera	Pieridae	<i>Colias</i>	<i>croceus</i>	By visual observation	None
	Dhading		2078/06/23							
4	Dhankuta,	N6,	2078/07/09	Pea blue	Lepidoptera	Lycaenidae	<i>Lampides</i>	<i>boeticus</i>	By visual observation	None
	Sindhupalchok	SM1	2078/06/21							
5	Dhankuta	N1,	2078/07/09	Brush-footed butterfly	Lepidoptera	Nymphalidae	<i>Cethosia</i>	<i>biblis</i>	By visual observation	None
	Sindhupalchok,	SM2	2078/06/21							

## List of weeds

### Amla

#### List of weeds of Amla

SN	Name of Weed	Local Name	Scientific Name	Family	Geographical Location	Altitude (masl)	Types of Damage	Nature
1	Goat weed	Seto gandhe	<i>Ageratum conyzoides</i>	Asteraceae	Gorkha-1, Laxmibazar, Gorkha/22, Kalaband, Kaski	700/ 1149	Competition	Invasive
2	Sessile joyweed	Bhiringi jhar	<i>Alternanthera</i> sp.	Euphorbiaceae	Gorkha-1, Laxmibazar, Gorkha/22, Kalaband, Kaski	700/ 1149	Competition	
3	Gallant soldier	Chitlange jhar	<i>Galinsoga</i> sp.	Asteraceae	Gorkha-1, Laxmibazar, Gorkha/22, Kalaband, Kaski	700/ 1149	Competition	Invasive
4	Black jack	Kalo Kuro	<i>Bidens pilosa</i>	Asteraceae	Gorkha-1, Laxmibazar, Gorkha/22, Kalaband, Kaski	700/ 1149	Competition	Invasive
5	Candy grass		<i>Eragrostis nigra</i>	Poaceae	Gorkha-1, Laxmibazar, Gorkha	700	Competition	
6	Tridax daisy	Putali jhar	<i>Tridax procumbens</i>	Asteraceae	Gorkha-1, Laxmibazar, Gorkha	700	Competition	
7	Thickhead	Anikale jhar	<i>Crassocephalum crepidioides</i>	Asteraceae	Gorkha-1, Laxmibazar, Gorkha	700	Competition	
8	Chinese bur		<i>Triumfetta</i> sp.	Malvaceae	Gorkha-1, Laxmibazar, Gorkha	700	Competition	
9	Garden spurge	Dudhe jhar	<i>Euphorbia hirta</i>	Euphorbiaceae	Gorkha-1, Laxmibazar, Gorkha	700	Competition	

SN	Name of Weed	Local Name	Scientific Name	Family	Geographical Location	Altitude (masl)	Types of Damage	Nature
10	Foxtail grass		<i>Setaria glauca</i>	Poaceae	Gorkha-1, Laxmibazar, Gorkha	700	Competition	
11	Spiderwort	Sankha puspi	<i>Leucas cephalotes</i>	Lamiaceae	Gorkha-1, Laxmibazar, Gorkha	700	Competition	
12	Chaff flower	Dattiwan	<i>Achyranthus</i> sp.	Amaranthaceae	Pokhara-22, Kalaband, Kaski	1149	Competition	
13	Elegant tape vine	Batullo pate	<i>Stephania</i> sp.	Menispermaceae	Pokhara-22, Kalaband, Kaski	1149	Competition	
14	Bamboo grass	Damsaru	<i>Pogonatherum panicium</i>	Poaceae	Pokhara-22, Kalaband, Kaski	1149	Competition	
15	Signal grass	Bans pate	<i>Brachiaria</i> sp.	Poaceae	Pokhara-22, Kalaband, Kaski/ Joktal-7, Dhangadi	1149/ 174.6	Competition	
16	Lovegrass		<i>Eragrostis</i> sp.	Poaceae	Pokhara-22, Kalaband, Kaski	1149	Competition	
17	Creeping woodsorrel	Chari amilo	<i>Oxalis corniculata</i>	Oxalidaceae	Joktal-7, Dhangadi	174.6	Competition	
18	Cogon grass	Siru	<i>Imperata cylindrica</i>	Poaceae	Joktal-7, Dhangadi	174.6	Competition	
19	Marsh Pepper	Pirre Jhar	<i>Polygonum hydropiper</i>	Polygonaceae	Hariwan-8, Sarlahi	160	Competition	
20	Loranthus	Aijeru	<i>Loranthus parasiticus</i>	Loranthaceae	Pakhribas-7, Dhankuta	1429		

## Sikakai

### List of weeds of Sikakai

SN	Name of Weed	Local Name	Scientific Name	Family	Geographical Location	Altitude (masl)	Types of Damage	Habit
1	Piper plant	Pipla	<i>Piper longum</i>	Piperaceae	Jaraiya, Banke	119	Competition, Climbing	Climbing herb
2	Chaff flower	Dattiwan	<i>Achyranthus</i> sp.	Amaranthaceae	Mohanpur, Banke	119	Competition	Herb

## Pakhanved

### List of weeds of Pakhanved

S N	Name of Weed	Local Name	Scientific Name	Family	Stage of Infestation	Type of Damage	Geographical Location	Altitude (m)
1	Moss		<i>Bryopsida</i>		vegetative, reproductive	competition	Galchhi-6, Dhading	1700.0
2	Clubmoss		<i>Sellaginella</i> sp	Sellaginellaceae	vegetative, reproductive	competition	Kathekhola-3, Baglung	2600.0
3	Fern	Unnyu	<i>Tracheophyta</i> (Division)	Aspidiaceae	vegetative, reproductive	competition	Kathekhola-3, Baglung	2600.0
4	Mock strawberry	Bhui kaphal	<i>Potentilla indica</i>	Rosaceae	vegetative, reproductive	competition	Guthichaur-5, Jumla	2187.5
5	Moss		<i>Prionodon</i> sp.	Prionodontaceae	vegetative	competition	Guranse-5, Dailekha	2187.5
6	Lemon grass		<i>Cymbopogon</i> sp.	Poaceae	vegetative	competition	Guranse-5, Dailekha	2187.5

## Nagbeli

### List of weeds of Nagbeli

SN	Name of Weed	Local Name	Scientific Name	Family	Types	Geographical Location	Altitude (masl)	Types of Damage	Nature
1	St John's wort	Urali	<i>Hypericum uralum</i>	Hypericaceae	Dicot	Melamchi-2, Jyotis gaun, Sindhupalchock	1802	Competition	
2	Stone breaker	Khareto	<i>Phyllanthus niruri</i>	Phyllanthaceae	Dicot	Melamchi-2, Jyotis gaun, Sindhupalchock	1802	Competition	
3	Fragrant Wintergreen	Dhasingare	<i>Gaultheria fragrantissima</i>	Ericaceae	Dicot	Melamchi-2, Jyotis gaun, Sindhupalchock	1802	Competition	
4	Melastome	Angeri/Chulesi	<i>Melastoma melabathricum</i>	Melastomataceae	Dicot	Melamchi-2, Jyotis gaun, Sindhupalchock/ Helumbu-3, Pangba ban, Sindhupalchowk	1802/1900	Competition	
5	Pearly everlasting plant	Buki phool	<i>Anaphalis</i> sp.	Asteraceae	Dicot	Melamchi-2, Jyotis gaun, Sindhupalchock/ Helumbu-3, Pangba ban, Sindhupalchowk/ Kahtekhola-3, Deurali, Baglung/ Kahtekhola-7, Baur, Baglung	1802/1900/2500/2000	Competition	
6	Devil plant, Boneset	Banmara	<i>Ageratina adenophora</i>	Asteraceae	Dicot	Melamchi-2, Jyotis gaun, Sindhupalchock	1802	Competition	Invasive
7	Fern		<i>Tracheophyta</i>		Fern	Melamchi-2, Jyotis gaun, Sindhupalchock/ Kahtekhola-3, Deurali, Baglung/ Kahtekhola-3, Ekchhane, Baglung/ Pakhribas-4, Nagidada, Dhankuta	1802/2500/2200/1983.2	Competition	
8	Bamboo grass		<i>Pogonatherum</i> sp.	Poaceae	Grass	Melamchi-2, Jyotis gaun, Sindhupalchock	1802	Competition	

SN	Name of Weed	Local Name	Scientific Name	Family	Types	Geographical Location	Altitude (masl)	Types of Damage	Nature
9	Spike moss		<i>Selaginella</i> sp.	Sellaginellaceae	Moss	Melamchi-2, Jyotis gaun, Sindhupalchock	1802	Competition	
10	Fetterbush	Angeri	<i>Lyonia ovalifolia</i>	Ericaceae	Dicot	Helumbu-3, Pangba ban, Sindhupalchock	1900	Competition	
11	Woodsorrel	Chari amilo	<i>Oxalis</i> sp.	Oxalidaceae	Dicot	Helumbu-3, Pangba ban, Sindhupalchock/ Pakhribas-4, Nagidada, Dhankuta	1900/1983.2	Competition	
12	Cogon grass	Siru	<i>Imperata cylindrica</i>	Poaceae	Grass	Helumbu-3, Pangba ban, Sindhupalchock/ Kahtekhola-3, Deurali, Baglung	1900/2500	Competition	
13	Horseweed		<i>Conyza sumatrensis</i>	Asteraceae	Dicot	Helumbu-3, Pangba ban, Sindhupalchock	1900	Competition	
14	Mugwort	Titepati	<i>Artemisia dubia</i>	Asteraceae	Dicot	Helumbu-3, Pangba ban, Sindhupalchock	1900	Competition	
15	wood ferns	Unyu	<i>Dryopteris</i> sp.	Dryopteridaceae	Fern	Helumbu-3, Pangba ban, Sindhupalchock	1900	Competition	
16	Candy grass		<i>Eragrostis</i> sp.	Poaceae	Grass	Helumbu-3, Pangba ban, Sindhupalchock/ Kahtekhola-7, Baur, Baglung	1900/2000	Competition	
17	Himalyan Strawberry	Bhui kaphal	<i>Potentilla</i> sp.	Rosaceae	Dicot	Helumbu-3, Pangba ban, Sindhupalchock/ Pakhribas-3, Dhankuta/ Kahtekhola-7, Baur, Baglung	1900/2015.1/2000	Competition	
18	Signal grass	Bans pate	<i>Brachiaria</i> sp.	Poaceae	Grass	Helumbu-3, Pangba ban, Sindhupalchock/ Kahtekhola-7, Baur, Baglung	1900/2000	Competition	
19	Barberry	Lek Chutro	<i>Berberis erythroclada</i>	Berberidaceae	Dicot	Pakhribas-3, Dhankuta	2015.1	Competition	
20	Black jack	Kalo kuro	<i>Bidens pilosa</i>	Asteraceae	Dicot	Pakhribas-3, Dhankuta	2015.1	Competition	Invasiv

SN	Name of Weed	Local Name	Scientific Name	Family	Types	Geographical Location	Altitude (masl)	Types of Damage	Nature
									e
21	Indian pennywort	Ghod tapre	<i>Centella asiatica</i>	Apiaceae	Dicot	Kahtekhola-3, Deurali, Baglung	2500	Competition	
22	Joepye weed	Banmara	<i>Ageratina adenophora</i>	Asteraceae	Dicot	Kahtekhola-3, Deurali, Baglung/ Pakhribas-4, Dhankuta	2500/1983.2	Competition	Invasive
23	Catfoot	Kairo jhar	<i>Gnaphalium</i> sp.	Asteraceae	Dicot	Kahtekhola-3, Deurali, Baglung/ Pakhribas-4, Dhankuta/ Bhimeswor-8, Boach, Dolakha	2500/1983.2/2120	Competition	
24	Moss		<i>Porella</i> sp.	Porellaceae	Moss	Kahtekhola-3, Deurali, Baglung/ Pakhribas-4, Dhankuta	2000/1983.2	Competition	
25	Moss		<i>Prionodon</i> sp.	Prionodontaceae	Moss	Kahtekhola-3, Deurali, Baglung/ Pakhribas-4, Dhankuta	2000/1983.2	Competition	
26	Wild ginger		<i>Asarum</i> sp.	Aristolochiaceae	Dicot	Bhimeswor-8, Boach, Dolakha	2120	Competition	