

## INSTRUCTIONS

This form should always be carried with you in the field when making surveys for Desert Locust. Survey and control results should be entered on this form, even if no locusts were found or control was not carried out. When stopping at a location to make a survey, the results should be recorded in a separate column; the first stop in the first column, the second in the second and so on. There is enough columns on this form for six stops.

Use more forms if necessary.

<b>1</b>	<b>SURVEY STOP</b>	
1-1	date	write the day / month / year of the survey
1-2	name	write the local name of where you have stopped (? = name unknown)
1-3	latitude (N)	degrees / minutes / seconds North; use a GPS
1-4	longitude (E or W)	degrees / minutes / seconds West or East; use a GPS
<b>2</b>	<b>ECOLOGY</b>	
2-1	area (ha) of survey	estimated area of survey at the stop in ha (this can be based on the estimated area of green vegetation at the site)
2-2	habitat (wadi, plains, dunes, crops)	describe the site of the survey stop (wadi, plains, dunes, crops, etc.)
2-3	date of last rain	write day / month / year (if known), or estimate (i.e. 2 days, 3 months, etc), or ? if unknown
2-4	rain amount (mm, Low Moderate High?)	exact (mm), or circle <b>L</b> for low (1-20 mm), <b>M</b> for moderate (21-50 mm), <b>H</b> for heavy (50+ mm), or ? if unknown
2-5	vegetation (dry, greening, green, drying)	write <b>dry</b> , <b>greening</b> (becoming green), <b>green</b> (already green), <b>drying</b> (becoming dry)
2-6	vegetation density (Low Medium Dense)	circle <b>L</b> for low (more bare ground than vegetation), <b>M</b> for medium (same amount of bare ground and vegetation), <b>D</b> for dense (more vegetation than bare ground)
2-7	soil moisture (wet/dry)	circle <b>W</b> for wet (if the soil is moist to about 10-15 cm), <b>D</b> for dry
<b>3</b>	<b>LOCUSTS</b>	
3-1	present or absent	circle <b>P</b> if any stage of locusts are present or <b>A</b> if locusts are absent
3-2	area infested (ha)	write the estimated number of hectares that contain locusts at the survey stop
<b>4</b>	<b>HOPPERS</b>	<b>(if individual hoppers or groups are present, indicate the details)</b>
4-1	hopper stages (H123456F)	circle which instars ( <b>1,2,3,4,5,6</b> ), hatchlings ( <b>H</b> ) or fledglings ( <b>F</b> ) are present
4-2	appearance (solitary, transiens, gregarious)	circle <b>S</b> for solitary (green colour), <b>T</b> for transiens (green/black), <b>G</b> for gregarious (black or yellow/black)
4-3	behaviour (isolated, scattered, groups)	circle <b>I</b> for isolated (individual hoppers), <b>S</b> for scattered (several hoppers), <b>G</b> for groups (clumping together)
4-4	hopper density (/site, /m2, Low Med High)	examine at least ten samples of 1 m2 each (or 10 bushes) & record the lowest & highest number seen in one sample; or if you make a rough estimate, circle <b>L</b> for low, <b>M</b> for medium, <b>H</b> for high
<b>5</b>	<b>BANDS</b>	<b>(if hopper bands are present, indicate the details)</b>
5-1	band stage (H12345F)	circle which instars ( <b>1,2,3,4,5</b> ), hatchlings ( <b>H</b> ) or fledglings ( <b>F</b> ) are present
5-2	band density (/m2 or Low Medium High)	number of hoppers per bush or m2, or write <b>L</b> for low (more bare ground or vegetation visible than band), <b>M</b> for medium (same amount of bare ground and band), <b>D</b> for dense (more band than bare ground); (EX: 30/m2)
5-3	band sizes (m2 or ha)	write the estimated size of band in m2, or indicate the minimum and maximum sizes
5-4	number of bands	write the number of bands present at the survey site
<b>6</b>	<b>ADULTS</b>	<b>(if individual adults or groups are present, indicate the details)</b>
6-1	maturity (immature, mature)	circle <b>I</b> for immature, <b>M</b> for mature, or both if present; try to estimate the percent of each maturity & record in the Comments
6-2	appearance (solitary, transiens, gregarious)	circle <b>S</b> for solitary (brown colour), <b>T</b> for transiens (brownish/pink or brownish/yellow), <b>G</b> for gregarious (pink or yellow)
6-3	behaviour (isolated, scattered, groups)	circle <b>I</b> for isolated (individual hoppers), <b>S</b> for scattered (several hoppers), <b>G</b> for groups (clumping together)
6-4	adult density (/transect, /ha, L M H)	count the number of adults when walking about 250-400 m (and indicate the length and width of the foot transect); or estimate the number of adults per hectare. (EX: 4/1000m2 or 20/ha); or circle <b>L</b> for low, <b>M</b> for medium, <b>H</b> for high
6-5	breeding (copulating, laying)	circle <b>C</b> for copulating, <b>L</b> for laying
<b>7</b>	<b>SWARMS</b>	<b>(if swarms are present, indicate the details)</b>
7-1	maturity (immature, mature)	circle <b>I</b> for immature, <b>M</b> for mature, or both if present; try to estimate the percent of each maturity & record in the Comments
7-2	swarm density (/m2 or Low Medium High)	number of adults per bush or m2, or write <b>L</b> for low (more bare ground or vegetation visible than swarm), <b>M</b> for medium (same amount of bare ground and swarm), <b>D</b> for dense (more swarm than bare ground)
7-3	swarm size (km2 or ha)	write the estimated size of the swarm in km2 or ha
7-4	number of swarms	write the number of swarms present at the survey site
7-5	breeding (copulating, laying)	circle <b>C</b> for copulating, <b>L</b> for laying
7-6	flying (direction, time passing)	the direction swarms are flying FROM and TO, the time (hours, minutes) that they took to pass overhead
7-7	flying height (Low Medium High)	estimated height of flight, or write <b>L</b> for low (less than 100m), <b>M</b> for medium (100-500m), <b>H</b> for high (500+ m)
<b>8</b>	<b>CONTROL</b>	<b>(if control was carried out, indicate the details)</b>
8-1	pesticide name & formulation	write for example MAL for Malathion, FEN for fenitrothion, etc., and formulation (ULV, EC, dust, bait)
8-2	application rate (l/ha or kg/ha)	write the number of litres or kg used per hectare
8-3	quantity (l)	write the total number of litres or kg used
8-4	area treated (ha)	write the total number of hectares sprayed
8-5	ground or air	circle <b>G</b> for ground or <b>A</b> for aerial control
8-6	estimated % kill	estimate the number of locusts killed out of 100. Examine several 1 m2 samples
<b>9</b>	<b>COMMENTS</b>	<b>(write any other information that is not indicated above)</b>
		Write important information that could not be indicated above. For example, if there were more of one type of locusts present than another type (such as more transiens than solitary or more fifth instar hoppers than second), or if you tried to estimate the percent of immature and mature adults present, or if crops are present, or what the ecology between survey stops, or unconfirmed reports from nomads, etc., or if you know the time of swarm departure or arrival, or if it was a ground or aerial survey.

Was a GPS used to determine locations? Indicate: yes no Is a brief interpretation or analysis of the results included? Indicate: yes no

Country : the name of your country Locust Officer : name of person who made the survey date : the date when this form was completed

cleared by : name of the authorizing officer date : the date when it was approved

### What to do with this form after completion

The information on this form should be transmitted from the field to the National headquarters and to FAO Rome. This can be done by radio or fax to the National HQ directly from the field, or the survey officer can take it to the National HQ. In any case, it should be sent by facsimile or e-mail to FAO HQ and if possible to the appropriate FAO Regional Locust Commission within 48 hours of the end of the survey. A short interpretation should be sent with the form suggesting what the results mean to you. This is your opinion based on your experience. The officer should keep a copy for his records.

### Questions and problems

Please contact the Desert Locust Information Service (DLIS) at FAO HQ: +39 06 570 52420 (tel), 570 55271 (fax), ecllo@fao.org (email)

