

FAO SPRAY MONITORING FORM - INSTRUCTIONS

1 CONTROL LOCATION		
1-1	date	Write the day / month / year of the control operation
1-2	name (from DL Survey Form)	Write the local place name of where you made the control (? = name unknown). This should match the name in the same column on the Survey and Control Form.
2 VEGETATION DATA		
2-1	vegetation type (Grass, Bushes, Trees, Crop)	Circle G if grass, B if bushes, T if trees or C if crop
2-2	height (m)	Write the approximate or average height (in metres) of the vegetation
2-3	crop names and damage (%)	Write the names of the crops and estimate the percentage of damage; if there are no crops and it is natural vegetation, write Natural.
3 INSECTICIDE DATA		
3-1	trade name	Write, for example, SUM for Sumithion and DUR for Dursban, etc.
3-2	concentration (g a.i./l or %)	Write the concentration of the active ingredient in grams/litre or as a percentage
3-3	formulation (EC, ULV, Dust)	Circle E if Emulsion Concentrate, U if Ultra Low Volume or D if Dust formulation was used
3-4	expiry date	Write the expiry date of the insecticide found on the label of the drum
3-5	is insecticide mixed with water or solvent?	Circle Y if the insecticide is mixed with water or solvent or N if not mixed
3-6	if yes, what solvent and mixing ratio	Write the name of the solvent used for mixing and what ratio was used (insecticide:solvent)
4 WEATHER CONDITIONS		
	start and end of control operations:	Write the required weather conditions at the start and the end of the control operations as indicated below
4-1	time	Write the time operations started and the time operations ended
4-2	temperature (°C)	Write the temperature at the time operations started and the temperature at the end of operations, in centigrade (use the dry-bulb reading on a whirling hygrometer)
4-3	relative humidity (%)	Write the relative humidity in percentage at the start and end of operations (use a whirling hygrometer)
4-4	wind speed (m/s)	Write the speed of the wind in metres/second at the start and the end of operations (use an anemometer)
4-5	wind direction (degree from N)	Write the wind direction in degrees from the north at the start and the end of operations (use a compass)
4-6	spray direction (degree from N)	Write the spray direction in degrees from the north at the start and the end of operations (use a compass)
5 SPRAY APPLICATION		
5-1	sprayer type	Circle R for rotary, A for airblast, E for exhaust nozzle sprayer (ENS), H for hydraulic or O for other
5-2	sprayer operator	Circle P for pilot, D for driver, L for locust officer, H for hired labour or O for other operator
5-3	sprayer manufacturer	Write the name of the sprayer manufacturer or company
5-4	sprayer model	Write the model of the sprayer, for example, Micronair AU8000 or Micronair AU7010
5-5	sprayer platform	Circle A for aerial sprayer, V for vehicle sprayer or H for handheld sprayer
5-6	date of last calibration	Write the date of the last calibration done on the sprayer used in the control operation
5-7	atomizer height above ground (m)	Write the height (in metres) of the atomizer above the ground
5-8	ROTARY SPRAYERS: speed setting	Write the degree of blade angle for Micronair, pulley setting for Ulvamast or no. of batteries for Microulva
5-9	speed of atomizer (rpm)	Write the speed of the atomizer per minute using a vibrating tachometer
5-10	flow rate setting	Write the colour or size of the nozzle, or what orifice or restrictor was used
5-11	flow rate/atomizer (l/min)	Write the flow rate (in litre/minute) for each atomizer used in the control operation
5-12	number of atomizers	Specify the number of atomizers used in the control operation (i.e. the number of atomizers on the aircraft used for control)
5-13	track spacing (m)	Write the track spacing (in metres) used during spraying
5-14	BARRIERS ONLY: width and spacing (m)	Write the spraying width of a barrier and the width in between each barrier not sprayed (in metres)
5-15	forward speed (km/h)	Write the sprayer speed (in km/h). This will be the speed of aircraft, vehicle or walking operator.
5-16	AERIAL SPRAYING: support supplied	Circle GP for ground party, RC for radio communication or TG for DGPS/track guidance if it is used
5-17	ground marking (GPS, flag, Mirror, smoke, Vehicle, None)	Circle G for GPS, F for flag, M for mirror, S for smoke, V for vehicle or N if no ground marking was used during the control operation
6 CONTROL EFFICACY		
6-1	locust mortality (% dead)	Write in figures the estimated percentage of locusts killed
6-2	time after treatment (hours)	Write the time (in hours) after treatment when the mortality estimate was carried out
6-3	method of mortality estimation	Circle Q for quadrats, T for target size, V for visual, C for cages or O for other methods
7 SAFETY AND ENVIRONMENT		
7-1	protective clothing: what did the operator wear?	Circle G for goggles, M for mask, L for gloves, O for overalls and B boots
7-2	was soap and water available?	Circle Y if soap and water were available or N if they were not available during operations
7-3	who was informed of spraying?	Circle F for farmer, N for nomad, V for village, O for officials and B for beekeepers
7-4	effect on non-target organisms?	Circle Y if you noticed an effect on non-locusts in the field after operations or N if none
7-5	if yes, what?	Write what insects, animals, wildlife etc were affected (killed or sick) by the control operation
7-6	detail if anyone felt unwell or if other problems were encountered:	Write the details if any operators, ground teams or nearby inhabitants felt sick or unwell (i.e. headache, eye or skin irritation, dizziness, vomiting) after control. Write any other problems that were encountered during or after the spraying operations (i.e. broken vehicles, sudden rainfall during or shortly after control).

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How to use this form in the field

Always carry this form with you to record control details. Use this form in conjunction with the FAO Survey and Control Form. Each column represents a control location and should match the location, habitat and locust information on the survey form.

Equipment required for monitoring spraying

Gloves, clipboard, blank copies of this form, pen, anemometer (for wind speed), tachometer (for speed of rotary atomizers), whirling hygrometer (for temperature/humidity), measuring cylinder, bucket, funnel, stop watch, tape measure, compass and GPS.

Analyzing the data on this form

The form should be reviewed by the Officer-in-charge of the control campaign and the Locust Unit Head on a regular basis. Any problems that turn up (e.g. lack of protective clothing, overdosing, poor efficacy, non-target effects) should be addressed quickly for subsequent control operations.

After completion, submit both forms to the National Locust Unit Headquarters

FAO SPRAY MONITORING FORM

Attach this form to the DL Survey and Control Form and submit both to the National Locust Unit in your country whenever control operations are carried out

(indicate appropriate information as required)

1	CONTROL LOCATION	1		2		3		4		5		6														
1-1	date																									
1-2	name (from DL Survey Form)																									
2	VEGETATION DATA																									
2-1	vegetation type (Grass, Bushes, Trees, Crop)	G	B	T	C	G	B	T	C	G	B	T	C	G	B	T	C									
2-2	height (m)																									
2-3	crop names and damage (%)																									
3	INSECTICIDE DATA																									
3-1	trade name																									
3-2	concentration (g a.i./l or %)																									
3-3	formulation (EC, ULV, Dust)	E	U	D	E	U	D	E	U	D	E	U	D	E	U	D										
3-4	expiry date																									
3-5	is insecticide mixed with water or solvent?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N									
3-6	if yes, what solvent and mixing ratio																									
4	WEATHER CONDITIONS																									
	start and end of control operations:	start	end	start	end	start	end	start	end	start	end	start	end	start	end	start	end									
4-1	time																									
4-2	temperature (°C)																									
4-3	relative humidity (%)																									
4-4	wind speed (m/s)																									
4-5	wind direction (degrees from N)																									
4-6	spray direction (degrees from N)																									
5	SPRAY APPLICATION																									
5-1	sprayer type (Rotary, Airblast, ENS, Hydraulic, Other)	R	A	E	H	O	R	A	E	H	O	R	A	E	H	O	R	A	E	H	O					
5-2	sprayer operator (Pilot, Driver, Locust officer, Hired, Other)	P	D	L	H	O	P	D	L	H	O	P	D	L	H	O	P	D	L	H	O					
5-3	sprayer manufacturer																									
5-4	sprayer model																									
5-5	sprayer platform (Aerial, Vehicle, Handheld)	A	V	H	A	V	H	A	V	H	A	V	H	A	V	H	A	V	H							
5-6	date of last calibration																									
5-7	atomizer height above ground (m)																									
5-8	ROTARY SPRAYERS: speed setting (blade angle, pulley setting, no. batteries)																									
5-9	speed of atomizer (rpm)																									
5-10	flow rate setting (which nozzle or restrictor used)																									
5-11	flow rate/atomizer (l/min)																									
5-12	number of atomizers																									
5-13	track spacing (m)																									
5-14	BARRIERS ONLY: width and spacing (m)																									
5-15	forward speed (km/h)																									
5-16	AERIAL SPRAYING: support supplied	GP = ground party available RC = radio communication with aircraft TG = DGPS track guidance																								
		GP	RC	TG	GP	RC	TG	GP	RC	TG	GP	RC	TG	GP	RC	TG	GP	RC	TG							
5-17	ground marking (GPS, Flag, Mirror, Smoke, Vehicle, None)	G	F	M	S	V	N	G	F	M	S	V	N	G	F	M	S	V	N	G	F	M	S	V	N	
6	CONTROL EFFICACY																									
6-1	locust mortality (% dead)																									
6-2	time after treatment (hours)																									
6-3	method of mortality estimation (Quadrats, Target size, Visual, Cages, Other)	Q	T	V	C	O	Q	T	V	C	O	Q	T	V	C	O	Q	T	V	C	O	Q	T	V	C	O
7	SAFETY AND ENVIRONMENT																									
7-1	protective clothing: what did the operator wear?	G = goggles M = mask L = gloves O = overalls B = boots																								
		G	M	L	O	B	G	M	L	O	B	G	M	L	O	B	G	M	L	O	B	G	M	L	O	B
7-2	was soap and water available?	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	
7-3	who was informed of spraying? (Farmer, Nomad, Villager, Official, Beekeeper)	F	N	V	O	B	F	N	V	O	B	F	N	V	O	B	F	N	V	O	B	F	N	V	O	B
7-4	effect on non-target organisms	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	
7-5	if yes, what																									
7-6	details of anyone who felt unwell or if other problems were encountered:																									