

Department of Tsetse and Trypanosomiasis
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30th September, 1960.

A REPORT ON THE SCHEFENACKER MACHINES USED IN
THE MASEME SPRAYING OPERATIONS

Ten Schefenacker machines were used on the Maseme Spraying Operations. These proved to be extremely satisfactory though there were of course a few minor difficulties which are mentioned below.

The machines were numbered 1 to 10 and exact records of performance were kept in a separate book for each machine. Data were recorded under the following headings:

Date
Hours run
Fuel used
Routine adjustments and miscellaneous modifications
Faults occurring during operation or found on service
Sparcs fitted

The machines were cleaned and serviced each afternoon after spraying. They were then tested before being passed out for the next day's spraying. The importance of insisting on this routine cannot be stressed too greatly.

A summary of running times and fuel used is as follows:

<u>Machine No.</u>	<u>Hours run during the operation</u>	<u>Fuel used during the operation</u>
1	73 hours 31 minutes	22 galls. 5 pts
2	51 " 17 "	17 " 2 "
3	72 " 7 "	22 " 5 "
4	73 " 2 "	23 " "
5	73 " 25 "	23 " 3 "
6	67 " 23 "	22 " 2 "
7	61 " 33 "	24 " "
8	61 " 33 "	24 " "
9	60 " 23 "	21 " 4 "
10	60 " 23 "	21 " 4 "
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654 hours 37 minutes		222 gallons 1 pint

Sparcs used during the operation in maintenance and at the end of the operation to put the machines into good order again for the next campaign were as follows:-

	£	S	D
Sparking plug terminal caps (62) 7 @ 2/4 each	0	16	4
Air filter elements (236) 19 @ 19/8 each	18	13	8
Fuel tap (465) 1 @ 9/6 each	0	9	6
Insecticide control tap (510) 9 @ 8/6	3	16	6
Insecticide tank lid gasket (532) 15 @ 1/4 each	1	0	0
Lance hose (500) 1 @ 45/6	2	5	6
Polythene tubing heavy duty for insecticide lines - 30' @ 2/3 a foot	3	7	6
	£30 9 0		

It should be mentioned that £65 worth of spares were carried during the operation, that is 9.2% of the total cost of the machines.

The dusting valve and control and the dust air delivery hoses (430 and 431) were removed from all machines. This modification was carried out because there was a tendency for operators to fiddle with and to open the dusting valve. The holes remaining in the delivery bend after the hoses were removed were closed with rubber bungs.

Faults experienced with the machines during the operations were as follows - various modifications are suggested here.

1. The polythene insecticide tank was affected by the extreme Zambesi valley temperatures and tended to swell. Towards the end of the operation it was extremely difficult to remove the tank from the dust hopper. A metal tank might be a better proposition under these conditions.
2. The insecticide tank lid gaskets (532) perished very rapidly and pieces from these caused blockages in the insecticide delivery. It is probable that the insecticide used (dioldrex 15) was the cause of this. These gaskets should be made of a substance resistant to currently used insecticide.
3. The polythene insecticide lines were also affected by heat. A heavy duty polythene tube was fitted whenever replacement became necessary and it is suggested that this should be a standard fitting.
4. The insecticide control taps (510) soon became stiff and unworkable. Cleaning and greasing helped a bit but generally these are most unsatisfactory - the operator is constantly working the tap and a stiff tap soon chafes the fingers. A press button type of control is recommended.
5. The lance hose (500) broke on six machines and in all cases the break occurred about six inches from the bayonet coupling. It would seem that the hose requires strengthening at this point. Repairs were effected by turning the hose around and binding the break up with 3" wide elastoplast.
6. Air filter elements (236) proved to be an expense.

It was found that under the very dusty conditions in which we were operating these only had a life of about 35 hours. The manual indicated that the filter element can be cleaned by tapping on a flat surface but I am afraid that this does not work. The first indication that the element is blocked is poor starting. An urgent modification is required here.

7. The hole in the cover plate (415) for the spark plug is too small. Engine movement, especially when pulling the rope start, causes the spark plug bakelite cap to hit against the cover plate with resulting damage to the former. It is also very difficult to get a spanner through the whole to remove the plug - the plugs are generally off centre.

David R. Korman

ENTOMOLOGIST

3rd October, 1960.

DFL/ER

A REPORT ON THE FONTAN SPRAYING MACHINE WHICH WAS TRIED
OUT DURING THE MASEME SPRAYING OPERATION - 19th AUGUST
TO 19th SEPTEMBER, 1960.

The Fontan spray machine was kindly lent to us for trial by Fisons Pest Control.

The machine was run for 16 hours 49 minutes and during this period it used 4 gallons 1 pint of fuel.

Generally the Fontan is a very compact and accessible machine and from an insecticide spray point of view it is very precise and economical. These attributes, however, are, I think outweighed by a very temperamental engine and a most awkward spray lance.

It is not recommended that this make of machine be considered for purchase.


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