

The Four Seasons ScrubcutterORIGIN

The Four Seasons Scrubcutter was submitted for trial by the Manufacturers. Two types, the Mark VI and the Mark 25C, were included in the trial; *neither of the machines were new.*

DESCRIPTION

The two test machines were generally similar in design but the Mark 25C is powered by a larger engine and has some additional features. Both machines use a revolving cutter disc on a vertical shaft driven by belt from a vertically mounted engine. They are mounted on two wheels and are hand propelled. Some details are:-

		<u>Mark VI</u>	<u>Mark 25C</u>
Engine	-	98 c.c. Villiers 2 stroke	147 c.c. Villiers 2 stroke
Weight	-	98 lbs.	120 lbs.
Clutch	-	None	Slipping belt
Width of cut	-	18 inches (2 cutters on disc)	21 inches (4 cutters on disc)
Wheel diameter	-	20 inches (overall) pneumatic tyres	20 inches (overall) solid tyres
Price	-	£52.10s. (Retail)	£69.10s. (Retail)
Manufacturers	-	The Standard Insulator Co. Ltd., Standard Works, Camberley, Surrey.	

OBSERVATIONS

1. Both machines were tested on:-

- (a) the destruction of dense undergrowth
- (b) weeding between the lines of plants in a young plantation.

The operators did not show any particular preference for one machine over the other. Whilst the Mark VI owing to its light weight was less tiring to operate, the more powerful engine, wider cut and the availability of a clutch were valuable assets on the Mark 25C. Strange to say, the smaller machine did best on the really heavy undergrowth, whilst the larger model excelled on the more straightforward work of cutting weeds between lines of young trees. This may largely be due to the variation in technique between different operators.

- (i) *Dineen* ¹²
- (ii) *Mr. Berrington* ^{6/12}
- (iii) *Mr. Packard*
- (iv) *Mr. Stott* ^{4/12}
- (v) *2 M.C. Richardson*
- (vi) *Mr. Brimmer*
- (vii) *Mr. O'Shaughnessy*

2. The rate of output of the Mark VI on thick undergrowth of bramble, thorn and willow-herb growing to a height of 4-6 feet amongst young oak about 6 feet high was 132 sq. yds. in 1 hour 33 minutes. At the end of this test the operator was very exhausted and could certainly not have continued at that rate of output. The largest stem cut during this trial was 4 inches (Birch). All the vegetation except the largest stems was cut into small shreds and no subsequent clearance was necessary. A photograph of the Mark VI machine cutting this area is attached to this report.
3. During a prolonged test devoted to weeding in young plantations at Chawton Park, Alton, it was shown that the Mark 250 machine produced excellent results. All vegetation, grass, bracken, brambles and willow herb 18-30 inches high was cut down to ground level and it was possible to go very close to the small plants without damaging them. The actual output of one man with the machine was 0.5 acres per day. Whilst this did not compare favourably in cost with hand weeding (a man under identical conditions did 0.65 acres per day) the quality of the work done by the machine was much better since the ground was left bare of unwanted vegetation. Hand weeding only removed the growth close to the plants and the worst of the remainder so it was not truly comparable. Whether the extra cost of using the Four Seasons machine is more than offset by the higher quality of the work can only be proved later when it is seen if the lapse of time before the next weeding is necessary, is substantially increased.
4. No undue damage was suffered by either machine as a result of striking occasional stumps buried in vegetation if reasonable care was used.
5. Fuel consumption worked out at $1\frac{1}{2}$ -2 gallons of Petrol per working day.
6. All the tests were carried out on unploughed ground. It is clearly impracticable to use this or any other wheel mounted machine of this type on ground that has been single furrow ploughed.

7. Mechanical Reliability. The trial extended over a period of
X 16½ hours work by the Mark VI and 87 hours by the Mark 250.

During that time the following defects were recorded.

Mark VI

Mark 250

Direct

*Surely, it must have
been obvious, without*

*trial, that these
fract machines
could not be
expected to stand
up to such conditions.*

Holland

Several tyre punctures. X

Two wheels collapsed. X

Two driving belts worn out. X
(Possibly due to rough
handling by a number of
different operators)

The cutting knives were sharpened daily. The life of the knives
is simply a matter of what obstructions they hit. Persistent
hitting of stones and stumps will destroy a set of blades in a
day but under good conditions they will last 50 or more working
hours. A set of four blades can be changed in 10 minutes and
their cost is small.

CONCLUSIONS

The results of this trial show that either model of the Four
Seasons machine is able to do work of a high standard in clearing
rough vegetation, the Mark 250 being the more versatile model
for general forest use. Physical exhaustion of the operator is
the limiting factor when tackling large areas. Though a man
cutting by hand can, in many cases, keep pace with the machine,
X the standard of hand work is far lower.

R. G. SHAW

MACHINERY RESEARCH OFFICER

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·x· But presumably adequate

Ch's



Photograph of the Four Seasons Mark VI machine taken during the clearance of vegetation mentioned at Observation 2.