Indonesian Journal of Innovation Studies
Vol. 8 (2019): October
DOI: 10.21070/ijins.v8i0.146

Resources for Mechanical Mechanism for Fighting Plants

Z.A Turgunov Andijan branch of Tashkent State Agrarian University
R.Z Salieva

Currently, agricultural crops around the world are affected by pests and weeds. Chemical combat against them presents some difficulty in the field. This appliance facilitates the use of chemicals against diseases, weeds and especially pests. This is because the equipment sprayed the plant from the bottom.

Introduction

Various biological, chemical or physical processes take place in every plant from planting to harvesting. Expected results can be obtained only if all the agricultural requirements are planted and care is taken care of. Apart from the above processes, the effect of atmospheric air on the development of plants and fruits is also very strong. As you know, every plant or fruit is free of pests and insects that are unique to them. For example, many of us have seen pests of peppers, the simplest of which are very bitter. We do not have a large number of pests and insects found in the regions (cotton, sunflower, wheat, chickpeas, etc.) that are necessary for our daily sweet-sugar fruits and for our daily needs. We all understand that pests in their own name can adversely affect the productivity of any plant.

Initially, pests are mechanically (albeit in small quantities), chemical and biological. Various pests can also be found in the cultivation of cotton plants. In order to combat these, it is mainly chemical and biological. One of the main pests that occur in cotton is the spider, which is very small in size and can be around 0.2 mm in length and females 0.4.0.0 mm in size. So it's hard to see. Its structure is blue in summer and reddish in the early spring. The spider develops in eggs, larvae, mature mites. The larva has three pairs of legs and 4 pairs of mature mites. The spider spends winter on plant residues and soil cracks. The winter spider's average temperature is + 7C in March. Depending on the weather, the general development period lasts 8-30 days. Spiders produce 12-20 times a year in Central Asia. The higher the temperature, the faster the mite will develop. The best temperature for canoe spawning is between 27-30 ° C and 35-50% air humidity. Of course, every year, at different times, different pests will start to attack the plants immediately. Especially in the cotton industry are trips, spiders, aphids, molluscs and so on. It is desirable to carry out regular preventive measures, such as in humans, to prevent any disease.

Main part

That is to say, the plant is immune to the disease. This ensures healthy and harmonious development of the plant. Practical application of such activities in plants has also been shown in the experiments to be quite effective. That is, in order to prevent the plant from causing any pests or insects, the second seed or cultivation was treated with suspension in the cultivation of young cotton seedlings. The transfer was provided. Also in the fourth cultivation, before flowering, cotton was treated with wormwood. Of course, for this purpose a special device was designed and maintained (Figure 1).

Figure 1.

Figure 1. The process of the operation of a parallel pest processing plant in cultivation.

As you can see in the picture, this unit consists of three straight vertical 0.5-inch polyethylene tubes mounted on the cultivator with longitudinal axles attached to the fastening locks. Four sprayers were mounted on each vertical tube.

The following figure shows how the appliance operates in saline mode (Figure 2).

Figure 2.

Figure 2. Process of salinity or static testing of the device.

As you can see in Figure 1, the device consists of several parts. The suspension tank contains 200 liters, barrel, 4 pump (2,4,6, and 8 kg / cm2) liquid pump, reducer, snowflake, fluid pipes and fittings for fastening. The fluid pump moves the tractor from the rear axle of the power mechanism.

Whenever the tractor is operated, its engine capacity will be maximized. In most cases, the power factor of the tractor engines is very low. Usually it is advisable to use the tractor engines in the range of η = 0.8 ... 0.95.

Also, one of the most urgent issues today is the development and implementation of multiple resource-saving techniques that allow parallel operation of a few tractors while minimizing the field access to the tractor. Whenever possible, it is desirable to try to ensure that the tractor engine is fully loaded.

This device fully meets today's requirements. The validity of this can be justified as follows. It can be seen that the same cotton variety achieved two different yields in two years. The experiments were conducted on the farm Safarobod Yulduzi of Altinkul district. According to statistics, the farm harvested 26.9 to 31 centners per hectare during the first cotton harvest (2018), while this year (2019), the first harvest of 13 hectares was 46.5 tons. On average, it was 35.83 centners per hectare. Generally, each hectare yielded about 4.8 centners more than the previous year. The remaining 14 hectares were harvested at 49.5 tonnes per hectare, with a total yield of 35 centners per hectare. It was found that this was about 4 ... 4.8 centners per hectare more than the previous year. Upon completion of the first harvest, it was found that each cotton bush had an average of 2.5, more than 2.5. According to the head of the farm, members of the farm and many experts, the basis of this efficiency is that it has saved more crop yields every year due to the timely treatment of pests, insects and rodents. Of course, the efficiency and quality of the rows are dependent on many factors. The quality of joining tractor wheels and tractor wheels when moving the tractor and the quality of the shaft loosening depth depend on the weight of the tractor, agricultural and other equipment. In particular, special ballast was mounted on the front of the tractor and the wheels in order to improve the traction force of the tractor assembly. The aim is to improve the traction quality, albeit partially, by reducing the tension of the leading wheels. If the proposed device is mounted on a tractor, there will be no need to load additional luggage. The power of the tractor engine is fully utilized for useful work. The efficiency of the tractor engine is determined by their gravitational pull. Whenever possible, the tractor is mounted on the tractor, which improves the quality of the tractor wheels, and probably increases the tractor engine's performance. This can be calculated analytically. Prepared and practiced equipment consists of several parts with a total weight of about 500 kg: suspension tank, carcher pump, reducer, snowflake valve, fluid pipes and fittings.

It can also be noted that if the additional load on the tractor increases, the subsidence of the agricultural machinery hanging on the tractor increases. This will have a positive effect on the soil's well-watering and better penetration of air and moisture to the roots of the plant.

It is known that the power consumption of the tractor during the operation of the tractor will be independent of the tractor's own movement of the tractor and the sum of the masses of the resistant forces Rq and the proposed equipment from the soil into the agricultural machine.

$P_f = f_{туп}(G_{тр} + G_{қхм} + G_{қур})$; (1)

where f = 0,15 – wheel coil resistance coefficient

$G_{тр}$=3300kg – weight of the tractor; $G_{қхм}$=1350 kg-- agricultural machine weight;;

$G_{қур}$= 265 kg— total weight of the device;

$G_{қур} = G_б + G_{ред} + G_{кар} + G_{нас} + G_{бош}$; (2)

$G_{бош} = G_{арм} + G_{қув} + G_{фор}$;(3)

$G_б$=200 kg -- joint weight of liquid in liquid tank..

$G_{ред}$=30кг – weight of the reducer.

$G_{кар}$ = 15 кг— telescopic snow shaft weight mpass.

$G_{бош}$= 20 кг— other parts of the device.

When adding all the masses $G_{\sum}$=4915 kg.

Then the expression (1) is equal to P_f=737 kg isotope.

CONCLUSION.

It can be concluded that the tractor weighing traction can be improved several times and will increase the efficiency of the tractor pulling. It also provides a deeper penetration of agricultural machinery working bodies into the soil. This will lead to the effective implementation of the agrotechnical requirements. In the future, it would be desirable to establish a theoretical framework for cotton fiber cultivation. In conclusion, we can say that, along with the cultivation of cotton fields, preventive measures against pests can be identified based on yield indicators.

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