JOURNAL OF MULTIDISCIPLINARY SCIENCES AND INNOVATIONS
VOLUME 04, ISSUE 08
MOPNTHLY JOURNALS
ISSN NUMBER: 2751-4390
IMPACT FACTOR: 9,08

USE OF COTTON PICKING MACHINES IN UZBEKISTAN

Khudaykuliev Rajabboy Rozimatovich
(KHMITI),
Kupaisinova Hurshidahon Arabboy kizi
(UzR FA MISMI)
Urinov Dear Pardayevich
(Faculty of Science of the Republic of Uzbekistan),

Introduction

Uzbekistan Republic in the economy village agriculture , especially cotton farming field important place Cotton not only of the country main export product , maybe light industry raw material as well as strategic importance has . Therefore cotton cultivation and picking and gathering to take processes mechanization republic agrotechnician of the policy priority from directions one is considered . Last in years cotton dial of cars wide application labor fertility increase , harvest short in terms of time and good quality collecting to take opportunity is giving .

Cotton dial of cars importance
Traditional hand from work use very many time and requires resources . However modern cotton dial machines :
Productivity increases – one car one on the day an average of 50–60 people his/her work does ;
Cotton good quality gathers – in the field of cotton mold to leave reduces ;
Labor expenses shortens – worker to the power was need reduces ;
Harvest fast collecting to take opportunity gives , this and weather from the influence come outgoing losses reduces .
In Uzbekistan cotton dial machines types
In Uzbekistan mainly following cars wide is being used :
CHTPZ and “Case IH” type cotton dial cars – high productivity and modern technologies with separated stands .
Local working issued cars (Pakhtakor-1, Pakhtakor-2) – Uzbekistan to the conditions customized to be , to serve show expenses relatively cheap
China and Turkey working issuer of companies techniques – some in the regions from the test is being held .

Practical application

Currently of the republic all cotton clusters cotton harvest mechanization according to programs done is increasing . Statistics to the information According to , cotton in 2023 of the harvest about 70 percent cars using picking taken If so , by 2025 this indicator from 90 percent increase is expected .

From cars effective use for following to factors attention being addressed :
Cotton varieties to the car adaptation ;

Land areas leveling and agrotechnician events thorough to do ;
Technical service to show modern system current to grow ;
Operators qualification increase

Problems and solutions
Machines wide to be used despite some There are also difficulties :
Techniques expensive and them purchase to do for big Funding requirement ;
Some in the regions of the fields unevenness car work fertility reduce ;
Service services enough at the level on the road not being placed .
This problems eliminate to grow for local working to release development , service services expansion and cotton cultivation technologies adaptation necessary .

Cotton dial of cars efficiency following main indicators through is evaluated :

Machine Efficiency (W):

$$W=\frac{Q}{T}$$

this on the ground :

Q – collect taken cotton quantity (kg or t),

T – spent time (hour).

Productivity (P) :

$$P=B\bullet V\bullet K$$

this on the ground :

B– car coverage width (m),

V – worker speed (m/s),

K – use coefficient .

Cotton collection quality coefficient (K_{s}):

$$K_s\frac{Q_m}{Q_u}\cdot 100\%$$

this on the ground :

Qm – car using assembled cotton (kg),

Qu – general yield (kg).

Labor fertility increase coefficient (K_{m}):

$$K_m\frac{W_m}{W_{hand}}$$

this on the ground :

Wm – car productivity (kg/ h),

W hand - hand labor productivity (kg/ hour).

Calculations

If the Case IH 2555 cotton dial car in 1 hour average 3.5 tons of cotton collect and hand in labor one A worker can produce 60 kg of cotton in 1 day (8 hours). torso :

Machine productivity :

$$W=\frac{3500}{1}=3500\,kg/h$$

Hand labor productivity :

$$W_{hand}=\frac{60}{8}=7{,}5\,kg/h$$

Labor productivity increase coefficient :

$$K_m=\frac{3500}{7{,}5}\approx 467$$

So, one piece car one per hour about 467 workers his/her work will do .

Machines using collecting taken of cotton average quality The index Ks =92−95%.

Cotton in the harvest losses hand to work 2–3 times more than less

From cars use labor up to 60–70% of their expenses shortens .

Conclusion

In Uzbekistan cotton dial of cars application village on the farm efficiency in increasing important factor become service is doing . Mechanization process cotton farming modernization to do , to work resources saving and the harvest good quality collecting to take opportunity is giving . In the future technician service show system further development , local working to release support and new technologies current to grow through cotton dial of cars efficiency further increase possible .