EFFECT OF SEED GERMINATION OF INTERCROPPING COTTON AND PEANUT

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The formation of full and vigorous seedlings throughout the cultivated area is of great importance in agriculture, as it determines the quality and weight of the future harvest.
In the desert zone, especially in the sandy soils of the desert region, this is considered a very hard work to achieve.
The reason is that the moisture retention property of the sandy soils of the desert region is very poor, and due to the low amount of precipitation and high evaporation in this region, moisture is quickly lost in the soil surface (0-5 cm), especially in the 0-3 cm layer. Strong winds in this area accelerate this process even more.
As a result, it will be necessary to give wet water 1-2 times and carry out additional treatments in order to collect the planted seeds.
In our research, the field germination of crops was studied by co-planting cotton with groundnut.
The researches were carried out in the conditions of degraded sandy soils of the desert region of Fergana region, Yozyovon district, with very low productivity.
Seedlings harvested later are easily damaged by soil salinity and strong winds, insects (rootworm) and many die. As a result, seedlings will become sparse across the cultivated area.
If the crops are planted early (April 5-15), deeper (4-5 cm), they will germinate in a long time (15-20 days) due to insufficient heating of the soil and will give small and sparse sprouts.
During these periods, when it rains, due to the formation of mud, the germination decreases sharply, and "waves" are formed across the field area. Also, sprouts are damaged by strong seasonal winds that occur in April-May. As a result, less crops are grown.
In the experiment, seeds with high germination of cotton and peanut crops were sown in the second ten days of April (13.04) at a depth of 4-5 cm. by today it was 86.1-86.7 % (Table 1).

Table 1 cotton germination under intercropping conditions, 2019 year

Planting method	Returns	seed germination, %		
		Day 9 22.04	Day 12 25.04	Day 15 28.04
Cotton is planted without partner crops	I	56,9	75,7	86,1
	II	57,8	76,2	87,3
	III	57,5	77,1	86,7
	average	57,4	76,3	86,7
Cotton and peanut are planted together	I	81,1	89,8	95,2
	II	82,6	92,2	95,6
	III	81,4	90,3	94,7
	average	81,7	90,8	95,2
Cotton and peanuts are planted alternately in separate rows	I	59,3	77,2	87,7
	II	57,8	75,8	86,4
	III	57,2	76,0	86,2
	average	58,1	76,3	86,6

Especially when cotton is planted together with groundnut crop, early and vigorous seed germination is ensured and field germination is dramatically improved.

In this case, the seed germination rate in the first ten days was 81.7 (24.3 % more) and 95.2 % (8.5 % more) on the 15th day.

It is noteworthy that during the first week of germination, the groundnut raised the soil and provided easy germination of the seed, its field germination in the first ten days was 36.3 %, and in the next 3-4 days, it germinated rapidly and reached 97.3 % on the 15th day (Table 2).

Table 2 Peanut germination under intercropping conditions, 2019 year

Planting method	Returns	seed germination, %		
		Day 9 22.04	Day 12 25.04	Day 15 28.04
Cotton is planted without partner crops	I	35,8	73,7	96,7
	II	37,4	75,2	98,1
	III	35,7	74,3	97,2
	average	36,3	74,4	97,3
Cotton and peanuts are planted alternately in separate rows	I	31,3	67,1	94,9
	II	32,6	68,9	96,0
	III	33,7	72,0	96,4
	average	32,5	69,3	95,8

In conclusion, it can be said that by co-planting cotton with groundnut in the sandy soils of the desert region:

- Achieving field seed germination of not less than 95 %;
- Ensuring early germination of seeds for 2-3 days;
- It will be possible to form full and strong seedlings throughout the cultivated area.

References

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