Table 1. Classification of Soil Particle Sizes (according to N.A.Kachinsky)

1	2	3	4	5	6	7
Sand coarse	Silt fine	Silt medium	Silt coarse	Sand fine	Sand medium	Sand coarse
1 - 0.25	0.25-0.1	0.1-0.05	0.05-0.01	0.01-0.005	0.005-0.001	<0.001

Table 2. Water holding capacity (mm/cm depth of soil) of main texture groups. Figures are averages and vary with structure and organic matter differences.

ID	**Name (Eng)**	**Name (Rus)**	**Physical clay, %**	**FC**	**PWP**	**Available water**
1.	Loose sand	Песок рыхлый	5-Jan	0.6	0.2	0.4
2.	Bound sand	Песок связный	5.1-10	1	0.4	0.6
3.	Loamy sand	Супесчаные	10.1-20	1.4	0.6	0.8
4.	Light loam	Легкосуглинистые	20.1-30	2	0.8	1.2
5.	Medium loam	Среднесуглинистые	30.1-45	2.3	1	1.3
6.	Heavy loam	Тяжелосуглинистые	45.1-60	2.7	1.2	1.5
7.	Light clay	Легкоглинистые	60.1-75	2.8	1.3	1.5
8.	Medium clay	Среднеглинистые	75.1-85	3.2	1.4	1.8
9.	Heavy clay	Тяжелоглинистые	85.1-95	4	2.5	1.5

Table 3. Soil characteristics of research fields

Soil type	Particle density	BD	Porosity %	Fc	Typical water content (vol/vol)
Light loam	2.65	1.4	47	20	0.1-0.35

Figure 1. Soil moisture PF meter establishment (on March, 2015)

	0 30	Installed in 15 sm depth of soil profile in order to get an average value of 0-30 layer	
	    60	Installed in 45 sm depth of soil profile in order to get an average value of 30-60 layer	
	    90	Installed in 75 sm depth of soil profile in order to get an average value of 60-90 layer	
	120	Installed in 120 sm depth of soil profile in order to get the value in deep percolation layer	
	1st sensor in 15 layer connected to first channel on computer recording		
	2nd sensor in 45 layer connected to second channel on computer recording		
	3rd sensor in 75 layer connected to third channel on computer recording		
	4th sensor in 120 layer connected to forth channel on computer recording		

Figure 2. ET reference according to long-term climate datasets after “Bush land ET reference calculator”

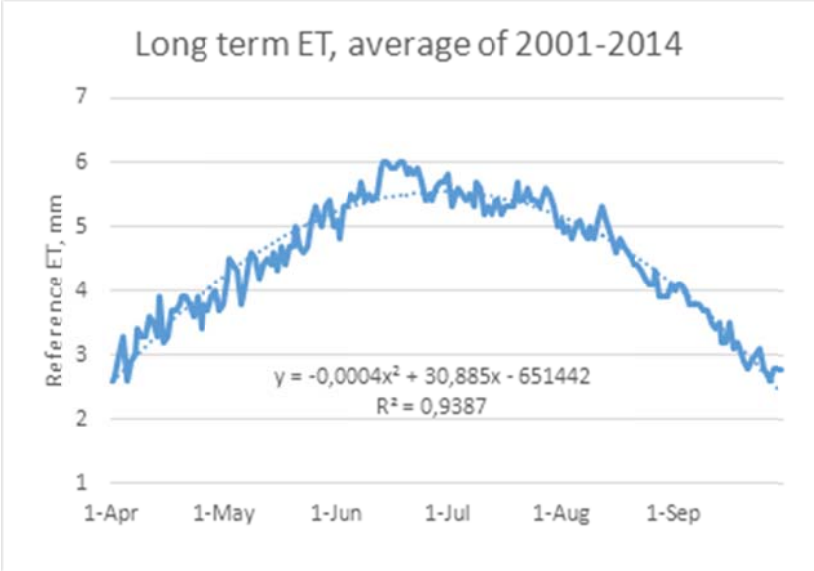

Table 4. Field capacity at Light loam soil 2/1, which means 2 mm water saturates 1 cm soil depth

Irrigation application	Dates	Irrigation water, mm	Soil depth, cm	Rooting depth, meter	Crop development stages
1	10.06.15	100	50	0.3	Initial
2	23.06.15	100	50	0.4	Development
3	05.07.15	120	60	0.5	Development
4	22.07.15	130	65	0.63	Development
5	10.08.15	120	70	0.67	Mid
6	28.08.15	100	70	0.6	Mid
	Total	670 mm			