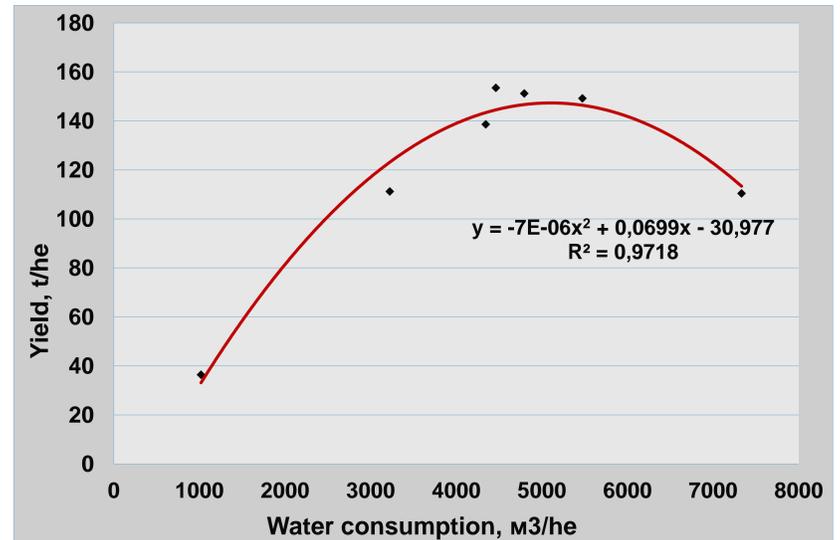
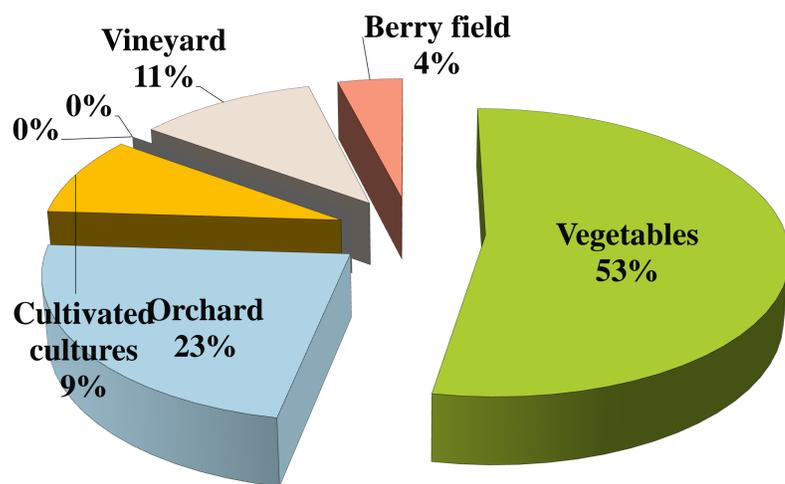


### Volumes and field of application of the drip irrigation in the Ukraine

Areas of a drip irrigation in the Ukraine constitute about 75 hectares, of which 90% are located in the Steppe zone. Traditional crops that are grown using drip irrigation is fruit, berry, grape plantations, vegetables and melons, potatoes. Recently, / since 2012 / farmers began to use this method of irrigation on corn, soybeans, sugar beets and medical herbs. Since 2015 began studies of a drip irrigation on rice.



Dependence "Water consumption-Yield" under drip irrigation of tomatoes

The overall result of the carried research is establishment of optimal levels of pre-irrigation soil humidity, parameters of yield and water consumption for 20 major agricultural cultures. Determined that for obtaining of the maximum yields levels the drip irrigation is not a means of saving irrigation water compared to sprinkler irrigation, but its application dramatically reduces the unit costs of water for the formation of 1 ton of product.

### Parameters of optimal modes of drip irrigation of cultivated cultures for the Steppe zone of Ukraine

Crops	Years of research	Optimal level of moistening, % of MMHC	Number of watering	Irrigation rate m <sup>3</sup> /ha	Total water consumption, m <sup>3</sup> /ha	Water consumption coefficient, m <sup>3</sup> /t	Productivity, t/ra
Tomato	2009-2011	80-85-70	40	3036	4841	32,0	<b>151,9</b>
Sweet pepper	2010-2013	90-80	42	3657	5022	74,9	<b>67,0</b>
Eggplant	2010-2013	75-85	53	4084	5332	112,7	<b>47,3</b>
Water melon	2006-2009	75-75-75	15	714	1615	35,6	<b>45,4</b>
White cabbage	2005-2009	80-80-70	25	2073	2471	20,2	<b>122,1</b>
Carrot	2004-2006	80-70	15	2485	5073	73,3	<b>69,8</b>
Sweet corn	2007-2009	80	29	2457	3111	178,8	<b>17,4</b>
Bulb onions	2011-2013	90	42	2940	4608	56,3	<b>81,9</b>
Early potatoes	2006-2010	80	17	1250	2290	30,1	<b>76,0</b>
Grain corn	2011-2013	75	14	3250	4520	248,4	<b>18,2</b>
Soy bean	2010-2013	80-80-70	31	4118	5110	837,7	<b>6,12</b>
Sugar beets	2010-2013	80-70	26	2583	5350	44,1	<b>121,4</b>

Field-oriented institution for scientific support of functioning and development of irrigation in the country is the Institute of Water Problems and Land Reclamation. In different areas of the country from 2000 are 5 research technological test sites from the development of Irrigation's technology for different agricultural cultures.

Priority issues that scientists of institute are working out in this area, the following:

- Investigation of the processes of water exchange of plants under regulated water regime as the basis for the creation of new irrigation technologies

- Development of the optimal irrigation regimes, building of dependencies "Water-harvest";

- Improvement of calculation methods for destination irrigation's timing, development of operational systems for drip irrigation's management;

- Research of dependencies of drip irrigation influence on soil properties and products quality.

Application part of experimental researches aimed at developing of technologies for growing agricultural cultures based on drip irrigation. In this part Institute closely cooperates with the Ukrainian representative of «Monsanto» and «KWS» companies.