

Summary Report on the Demonstration of Potato Applied with Yongye Plant Nutrient

Yongye Plant Nutrient is a type of water soluble fertilizer containing humic acid produced by Inner Mongolia Yongye Biotechnology. Temporary registration number of the Ministry of Agriculture: Provisional MOA No. [2007] 2630 for Fertilizer. In order to verify the effect of the product on the potatoes of Wuchuan County, a medium shed demonstration of the fertilizer was carried out in the county in 2009, and it is summarized as below:

1. Material and Method

1.1 Overview of experimental field and farmer

The experimental field is located in Wuchuan County, Hohhot. The soil in the region is mainly chestnut soil with low fertility and the organic content is only 12.72g/kg. The farmer is Bi Qiang.

Wuchuan County, Hohhot is typically a dry farming area in North China. The area is almost hit by drought nine out of ten years and spring comes early each year, which is the climatic characteristic of the area. Potato is the main crop that boasts the largest planting area in the county.

1.2 Fertilizer for experiment

Type of fertilizer for experiment: Yongye Plant Nutrient, with humic acid $\geq 50\text{g/L}$, $\text{N}+\text{P}_2\text{O}_5+\text{K}_2\text{O} \geq 200\text{g/L}$, and $\text{Mn}+\text{Zn}+\text{B}+\text{Mo} \geq 10\text{g/L}$. It is provided by Inner Mongolia Yongye Biotechnology.

1.3 Crop for experiment

The crop for experiment is potato which is of the variety "Kexin 1".

1.4 Treatment of experiment

The demonstration field covers an area of 0.4mu (1 mu $\approx 1/6$ acres), and the contrast field 0.1mu. The spraying concentration is 1: 5000X, and the fertilizer was sprayed three times during the whole growth season, on May 27, June 9 and June 20 to be specific.

2 Conclusion and Discussion

2.1 Conclusion

Table 1 Investigation on the growing period of potato

Treatment	Sowing period	Emergence period	Squaring stage	Flowering season	Harvesting time
Contrast	April 14	May 5	June 1	June 2	July 13
Spraying	April 14	May 5	May 29	May 30	July 13

Table 2 Statistics of potato yield (kg)

Treatment	Plant number/mu	Sampled plant number and yield		Yield/mu	Increased yield/mu	Rate of increase (%)	Yield of Grade 1 potato
		Plant number	Yield				
Contrast	3000	150	72.6	1452.0	—	—	405.0
Spraying	3000	150	85.1	1702.0	250.0	17.22	455.0

Based on the above analysis, the potatoes in the demonstration field that were sprayed with the plant bios produced by Inner Mongolia Yongye Biotechnology had their yield increased by 250kg compared with the contrast field with conventional fertilizer, a rate of increase up to 17.22%. The yield of high-grade potatoes increased 50.0kg each mu. The market price of potato in supermarkets is RMB2.0/kg and the investment in plant bios is RMB42 /mu, with an input-output ratio of 1:11.9.

2.2 Discussion

Compared with the contrast field, potatoes sprayed with Yongye Plant Nutrient in the dilution concentration 500X, had their yield increased by 250.0kg/mu. The effect of increase in yield is obvious. In addition, the yield of equivalent Grade I potatoes increased by 12.3%. It may be further applied to potatoes.

Wuchuan Industrial Crops Workstation of Hohhot, Inner Mongolia

Seal

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