Jiangsu pesticide use to reduce by 500 tonnes in 2017

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On 14 Feb., 2017, the 20th Jiangsu Pesticides and Sprayer Facilities Information & Technology Exchange Meeting was held in Nanjing City. It is revealed at the meeting that the province intends to decrease pesticide use by 500 tonnes in 2017, despite the estimated trend of serious pest & disease occurrence. To meet this goal, actions will be taken to promote environmentally friendly agricultural production technology in accordance with the 2017 No. 1 Central Document.

Pesticide consumption in 2016

In 2016, Jiangsu reduced the pesticide use by 1,100 tonnes (= 1.4%) YoY (= year on year) to 77,000 tonnes in total, striving to realise the goal of "zero growth in pesticide use" by 2020. Notably, significant changes included:

1. Decreased insecticide use

The year 2016 saw slighter occurrence of rice pests, especially rice plant hopper and leaf roller, compared with 2015. In accordance with this, local departments promoted application of environmentally friendly technology for pest & disease control and prevention, significantly reducing provincial insecticide use and meanwhile putting pests under effective control. Particularly, the province placed its emphasis on increasing application of high efficacy, low toxicity & low residue chemical pesticides and biopesticides, such as pymetrozine, nitenpyram and bisamides.

2. Increased fungicide use

Jiangsu witnessed heavy/ extreme occurrence of wheat head blight and rice sheath blight, as well as moderate/ heavy occurrence of rice blast in the year. Given this, the province increased its use of fungicides to curb diseases. That aside, the government promotion of “3 resistant” pesticide mixtures (pest & disease resistant, dry-hot wind resistant and premature senescence resistant) increased their overall applied area and usage amount per ha.

3. Slightly reduced herbicide use

Occurrence area of rice weeds, especially weedy rice, Chinese sprangletop and barnyardgrass in direct seeding fields, went up slightly in the year. However, affected by frequent rain in some planting areas, farmers failed to apply targeted herbicides timely, thus reducing use of some innovative herbicides like penoxsulam, cyhalofop-butyl and metamifop.

4. Expanded application of high efficacy, low toxicity & low residue pesticides

In 2016, the provincial coverage rate of high efficacy, low toxicity & low residue pesticides on major crops (especially grains) reached 77.2%, up 3.0 percentage points over 74.2% in 2015. According to investigation into 906 users (large farms, family farms and agricultural service stations).

Pesticides on rice: 5.56% were of micro toxicity, 84.77% of low toxicity, 9.55% of medium toxicity and 0.12% of high toxicity

Pesticides on wheat: 5.33% were of micro toxicity, 89.32% of low toxicity, 4.46% of medium toxicity and 0.89% of high toxicity 5. Optimised pesticide consumption structure Of the total provincial pesticide use in 2016, insecticides/ acaricides accounted for 35.58%, fungicides for 37.02%, herbicides for 26.65%, plant growth regulators for 0.47% and rodenticides for 0.28%. Specific figures differed among crops. For instance,

- *Rice*

Insecticides accounted for 41.66%, fungicides for 40.67%, herbicides for 17.66% and plant growth regulators for 0.01%

Leading products by usage amount (in decreasing order): tricyclazole, abamectin, butachlor, isoprothiolane, pretilachlor, pymetrozine, diazinon, emamectin benzoate, jingangmycin A and thifluzamide

- *Wheat*

Insecticides accounted for 16.76%, fungicides for 54.11%, herbicides for 29.12% and plant growth regulators for 0.01%

Leading products by usage amount (in decreasing order): carbendazim, isoproturon, triadimefon, fluroxypyr-mepthyl, thiram, fenoxaprop-P-ethyl, phoxim methyl, clodinafop-propargyl, pymetrozine, tebuconazole and phenamacril

Pest & disease occurrence prediction for 2017

Occurrence of pests, diseases and weeds is a key factor influencing pesticide use.

In 2016, Jiangsu found an overall moderate occurrence of pests and diseases on crops – mainly wheat head blight, wheat powdery mildew, rice leaf roller and spodoptera litura, with rice borer and foot rot in some parts. Yet, occurrence of major pests and diseases are estimated to strike heavier in 2017. Affected by the increased temperature in the winter of 2016 and decreased rainfall in the spring of 2017, more pests and fungi were found in fields this year than previous years. According to monitoring conducted by the Jiangsu Crop Protection Station (JCPS), from late Oct. to early Dec. 2016, the weighted average of asiatic borers in field reached 145.1, up 14.0% YoY (1,000+ in hills and parts of northern Jiangsu); averaged distribution density of corn borers increased by 27.6% YoY to 47.2 head/100 plants.

Meanwhile, weak pest/ disease-resistance of crops and increased resistance to common pesticides among pests/ fungi significantly impacted the prevention & control effect. In particular, wheat head blight, wheat sheath blight and rape sclertiniose are predicted to strike heavily and corn rough dwarf to strike moderately, with moderate to heavy occurrence of pests & diseases on rice, fruit trees and other vegetables.

Pesticide demand and use for 2017

Despite the heavier pest & disease occurrence in 2017, Jiangsu intends to reduce 500 tonnes of pesticide use in 2017.

Zhang Shaoming, director of the Pesticides & Agricultural Machinery Department of JCPS, introduced: “We plan to control the provincial total pesticide use at around 76,500 tonnes this year.” Specifically,

Insecticide /acaricide: 27,500 tonnes, 35.9% of the provincial total

Fungicide: 28,000 tonnes, 36.6% of the provincial total Herbicide: 19,500 tonnes, 25.5% of the provincial total

Plant growth regulator: 1,500 tonnes, 2.0 of the provincial total

“High efficacy, low toxicity & low residue pesticides and biopesticides will be further promoted. In contrast to this, application of high-toxic pesticides will continue to decrease. Additionally, with supports of advanced agricultural technology, the provincial pesticide utilisation rate is expected to improve by 2.0 percentage points to 40.0%+,” added Zhang Shaoming.

That aside, Jiangsu also increases effort to optimise crop planting structure, as the national agricultural supply-side reform moves deeper. Currently, the province sees increasing planting area of grains, vegetables, melons, fruits and coarse cereals, as well as decreasing area of rape and cotton. These changes may pose impacts on pesticide use over the coming period.

Source Cnchemicals