The present situation of soil pollution in agricultural production and the Countermeasures

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Abstract: Agriculture is the basic industry on which people depend for existence, which provides a continuous power for the development of national economy and guarantees the development of human and society. But in agricultural production, due to the abuse of chemical fertilizer and pesticide, soil pollution is caused. Soil pollution is a result of long-term accumulation. A large number of pollutants accumulated in the soil will further lead to the expansion of pollution, such as groundwater pollution. It is difficult to control soil pollution. We should start from many aspects, such as strengthening the propaganda of soil pollution control, strengthening the control of agricultural production, to prevent and solve the soil pollution in agricultural production. At the same time, it is a long-term process to repair the polluted soil.

1. Preface:
Agriculture is a kind of basic industry, which provides endless power for the development of national economy. In a certain sense, agriculture is the basis of human survival and development. Soil pollution not only seriously affects people's health, but also causes the quality of water resources, even the deterioration of the atmospheric environment, which has a negative impact on the ecological balance. In agricultural production, there are many sources of soil pollution, such as pesticides, fertilizers, plastic films. So we should focus on prevention and control. First, we should strengthen the publicity of soil pollution prevention and control, strengthen the awareness of agricultural producers of soil pollution prevention and control, and avoid problems from the source. For the polluted soil, it should be repaired by effective way. At the same time, the agricultural department should strengthen the supervision in the whole agricultural production and soil prevention and control to ensure that the soil is used scientifically.

2. Soil pollution in agricultural production
Agriculture is the basic industry on which people depend for existence, which provides a continuous power for the development of national economy and guarantees the development of human and society. In the past, the relationship between agricultural production and soil pollution was not significant, but with the development of society and economy, the increasing population of the world requires the production efficiency of agriculture. Therefore, it requires the growing speed of crops to be faster and faster, the unit output to be higher and higher, the abuse of chemical fertilizer, pesticide and other problems to occur generally, and the problem of soil pollution is very serious[1].
2.1 Agriculture is the basis of human survival and development

Agriculture is a kind of basic industry, which provides endless power for the development of national economy. In a certain sense, agriculture is the basis of human survival and development. According to some data, China's agricultural imprint can be traced back to ten thousand years ago. With the development of society and economy, the number of global population is increasing, and the dependence of human beings on agriculture is also increasing day by day. Agriculture has become the performance of the overall competitiveness of a country or region.

2.2 Definition and basic characteristics of soil pollution

Soil pollutants refer to the reduction of soil quality, such as the precipitation of harmful chemical elements, heavy metals and fertility. There is no mobility in soil, and soil pollution is a long-term accumulation result. A large number of pollutants accumulated in the soil will further lead to the expansion of pollution, such as groundwater pollution. It is difficult to control soil pollution. Soil pollution is a large-scale horizontal and vertical pollution. If we want to control the polluted land, we have to go through a long period of time. It is the soil quality that can be picked up, or all this soil can be replaced. Therefore, it is very difficult.

| Contaminated soil     | PH minimum | PH maximum | PH mean value |
|-----------------------|------------|------------|---------------|
| Lightly polluted soil | 8.45       | 9.47       | 8.96          |
| Moderate Contaminated soil | 7.73       | 9.18       | 8.46          |
| Heavy Contaminated soil | 7.26       | 8.38       | 8             |

2.3 Soil pollution caused by agricultural production is adverse to human beings

Agricultural production is supposed to contribute to the economy and benefit human beings. However, due to the nonstandard production, the soil pollution caused by agricultural production is not conducive to human beings. In terms of pesticides and chemical fertilizers, we can't deny that appropriate amount of pesticides and chemical fertilizers are conducive to crop growth. However, in recent years, due to the excessive pursuit of interests and other reasons, the widespread abuse of pesticides and chemical fertilizers has become a thorny problem. The abuse of pesticides and chemical fertilizers has led to serious soil pollution and fertility decline, and it will also cause pollution to groundwater and rivers, which is extremely harmful to human health.

2.4 Serious situation of soil pollution

At present, the situation of soil pollution caused by agricultural production is serious and needs to be solved. Green water and green mountains are just like Jinshan and Yinshan. However, many areas with serious soil pollution problems can no longer see green water and green mountains. Due to soil pollution, rivers are eutrophic, aquatic animals die in large areas, and soil fertility drops. Therefore, it is necessary to increase the dosage of chemical fertilizer, leading to a vicious cycle. In recent years, the situation of soil pollution in agricultural production has improved, but on the whole, it is still very serious[2].

| Project             | Cleaner | Light pollution | Heavy pollution |
|---------------------|---------|-----------------|-----------------|
| Case number         | 97      | 36              | 3               |
| Proportion/%        | 71.3    | 26.5            | 2.2             |

3. Analysis on the causes of soil pollution in agricultural production

The purpose of agricultural production is to solve the problem of people's diet, which is the basis of human survival. Therefore, it can be said that whether agricultural production is green or not determines people's physical quality. To solve the problem of soil pollution in agricultural production, first of all, we should explore the causes of soil pollution in agricultural production, and then the
agricultural sector to solve it.

3.1 Serious abuse of chemical fertilizer and pesticide
As long as we talk about chemical fertilizers and pesticides, we hope that, in fact, an appropriate amount of them is conducive to agricultural production and will not have a bad impact on the human body. However, the abuse of pesticides and fertilizers will lead to a series of problems, first of all, soil pollution. Soil pollution is a long-term accumulation process, but also a vicious circle. Excessive pesticides and fertilizers lead to the decline of soil fertility, and harmful substances precipitate in the soil, even infiltrate into the underground waterways, resulting in greater impact. However, the decline of soil fertility will lead to the need for more pesticides and fertilizers for the next cultivation, which will have unimaginable consequences in the long run[3].

3.2 Illegal use of inferior plastic film
The illegal use of inferior plastic film is also one of the soil pollution problems. Due to production needs, plastic film is needed to ensure the temperature of soil and air, so that crops can grow faster. However, poor plastic film pollutes the soil greatly, especially in large-scale farming areas, agricultural producers generally do not choose to recycle the discarded plastic film after crop growth. Poor plastic film is difficult to degrade, chemical pollution is great, these will precipitate and accumulate into the soil, making the soil become a poison. The pollution of inferior plastic film is well known. However, due to the low cost of inferior plastic film, there are still many agricultural producers taking risks.

3.3 Agricultural producers do not have strong awareness of pollution prevention
The basic problem of soil pollution is that agricultural producers have not strong consciousness of preventing pollution. In order to avoid the occurrence of problems, we need to improve our consciousness. Only when we realize the seriousness of the problems, can we effectively avoid the occurrence of problems. The same is true in agricultural production and soil pollution prevention. Many agricultural producers don't have a clear and accurate understanding of the seriousness of the soil pollution, or even the soil pollution. Then we need to repair the polluted soil.

4. Countermeasures against soil pollution in agricultural production
According to the analysis of soil pollution in agricultural production and its causes, through a series of effective ways, soil pollution prevention and control and repair.

4.1 Agricultural departments should strengthen the monitoring of agricultural soil
The agricultural sector should improve the sense of responsibility, adopt the responsibility system, and take a responsible attitude towards human health, and carefully monitor agricultural producers and agricultural soil. We should strictly enforce the law according to the relevant laws and regulations, and stop and seriously deal with the abuse of pesticides and chemical fertilizers. To be responsible for the monitoring of regional soil, establish a big data platform, and carry out scientific restoration for the polluted land; for the land with potential risk of pollution, it is necessary to strengthen the management to avoid the occurrence of pollution.

4.2 Remediation of contaminated soil, rational use of chemical fertilizers and pesticides
In view of the polluted soil, identify the pollution source, utilize microorganism, quicklime and native animals such as earthworm to absorb and explain the chemical pollutants such as potassium, zinc and heavy metal pollutants in the soil, so as to repair the polluted soil. The rational use of chemical fertilizers can be used in a small amount or not in the case of heavy pollution. The less polluting or pollution-free chemical fertilizers can be selected to help the production of crops in a reasonable and appropriate amount. To control the use of pesticides, pesticides not only pollute the soil greatly, but also do great harm to human health. We should not put the interests above human health, and let
people eat safely and safely[4].

4.3 Use environmentally friendly and degradable plastic film
Poor plastic films do great harm to the soil. Agricultural producers should choose environmentally friendly and degradable plastic films, and encourage the recovery of plastic films after use, so as to ensure that the soil will not be polluted by the use of plastic films and maintain the soil quality.

4.4 Improve the publicity and awareness of agricultural producers on pollution prevention
At present, the problem of soil pollution is more and more serious, and the treatment of soil pollution has reached an urgent stage. Starting from the source of pollution, that is, agricultural producers, agricultural departments and other relevant organizations should enhance the publicity of soil pollution prevention and control, and widely publicize the prevention and control of soil pollution through the network, television, offline publicity and other ways, so that agricultural producers can improve the awareness of soil pollution prevention and control from their own ideas, and put an end to the occurrence of soil pollution problems from the source[5].

5. Conclusion:
Agricultural production is intended to nurture human beings, but soil pollution caused by irregular agricultural production is not conducive to human beings. Agricultural departments should strengthen the monitoring of agricultural soil, adopt the responsibility system, and monitor agricultural producers and agricultural soil. Through microorganism, quicklime and soil animals such as earthworm, it is clear that fertilizer and pesticide should be used reasonably. Environmental friendly and degradable plastic film should be used to ensure that the soil is not polluted by plastic film and maintain the soil quality. We will increase publicity efforts, widely publicize soil pollution prevention and control through the Internet, television, offline publicity and other means, and raise the awareness of agricultural producers to prevent pollution.

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