

crease of 100—seed weight and weight per pod, harvest index, and biomass.

Besides, the improvement of yield was closely correlated with the shortening of plant height and decreasing of the numbers of nodes on main stem and branches.

The improved varieties also showed the relatively short whole growth periods but the long reproductive growth stages, especially the long pod filling periods.

The result suggested that the further yield advances could be obtained by coordinating the relationship among seed weight per plant, the number of pods per plant, and the number of seeds per plant, based on the current 100—seed weight, also by properly increasing the number of pods per plant, the number of seeds per pod, and biomass, and furthermore increasing the harvest index.

**Key words** Summer soybean; Varietal replacement; Seed yield

## 大豆籽实含锌量调查报告

为从矿物质营养元素——锌含量方面认识利用大豆, 1988~1990年围绕与大豆籽实含锌有关因素调查研究, 在全国10个省采样254份, 用湿灰化法、原子吸收分光光度计测定结果含量范围在18.5~54.2ppm, 平均34.1ppm。与有关影响因素: 品种、土壤含锌量、种子含锌量、土壤施锌的关系试验调查结果:

1. 品种: 在缺锌的土壤上种植吉林省30个大豆品种资源, 锌含量在28.1~47.3ppm, 超过40ppm的有和龙早黄豆、和龙熟豆、辉南黄铁荚、靖宇小白豆、通化八月忙、吉林茶里花等六个品种。种植吉林省8个生产应用品种含锌23.7~31.0ppm, 以吉林18号含锌最高, 绥农4号含锌最低。

2. 土壤有效锌含量: 选含锌26.6ppm、30.3ppm、35.2ppm三种含量的吉林20号种子, 分别种植在有效锌1.32ppm、0.81ppm、0.63ppm的土壤上结果: 在土壤有效锌含量高的土壤上所结籽实含锌量提高到33.7ppm、35.9ppm、39.0ppm, 有效锌含量中等的土壤所结籽实含锌亦是中等为30.3ppm、32.3ppm、31.1ppm, 有效锌含量低的土壤结籽实含锌量低为26.3ppm、26.2ppm、28.4ppm。又在东部含有效锌平均1.53ppm的大豆产区调查22个籽实样本含锌23.5~42.9ppm, 平均34.2ppm; 在中部含有效锌平均1.19ppm的大豆产区, 调查21个籽实样本, 含锌25.1~47.4ppm, 平均29.4ppm; 在西部含有效锌平均0.41ppm的大豆产区, 调查24个籽实样本, 含锌20.2~34.3ppm、平均26.9ppm。

3. 种子含锌量: 上述试验结果高含锌量35.2ppm的种子所结籽实在三种土壤类型上分别比含锌26.6ppm种子所结籽实高5.3ppm、1.1ppm和2.1ppm。

4. 土壤施锌: 在东部白浆土、中部黑土和西部淡黑钙土上共19组试验结果, 施锌对籽实含锌量没有规律性的影响。

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