

## Developing a cotton IPM system in Uganda

Working in collaboration with the National Cotton Research Programme, NRI developed An IPM system appropriate for cotton smallholders to manage a pest complex consisting primarily of aphid, lygus, bollworms, and stainer bugs

### The IPM package

Once validated the system was promoted as a basket of options, from which they could select preferred components. The full system consisted of : 1. Action thresholds based on scouting using a 'pegboard'. 2. Delayed first spray – using soapy water to control early season aphids. 3. Avoid insecticides for lygus bugs unless flower damage was detected. 4. All subsequent sprays based on scouting. 5. Timely uprooting and stalk destruction.



**Smallholder cotton in Uganda**



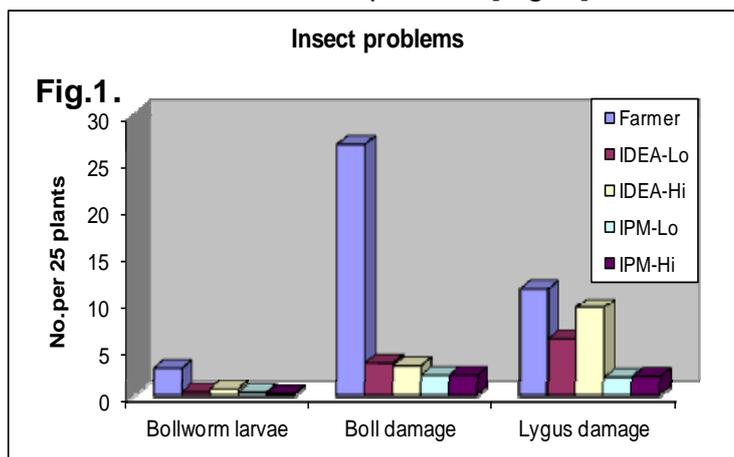
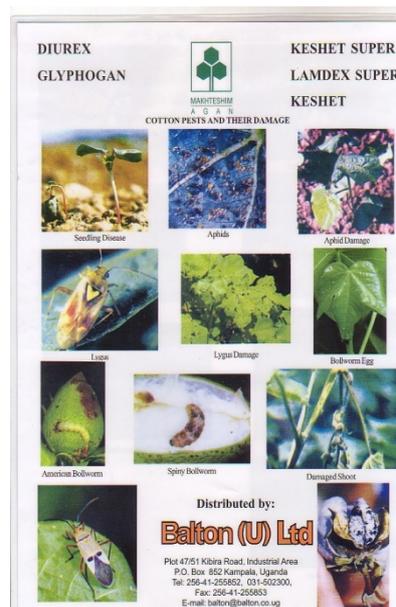
**Pest scouting using The pegboard**

### The research findings

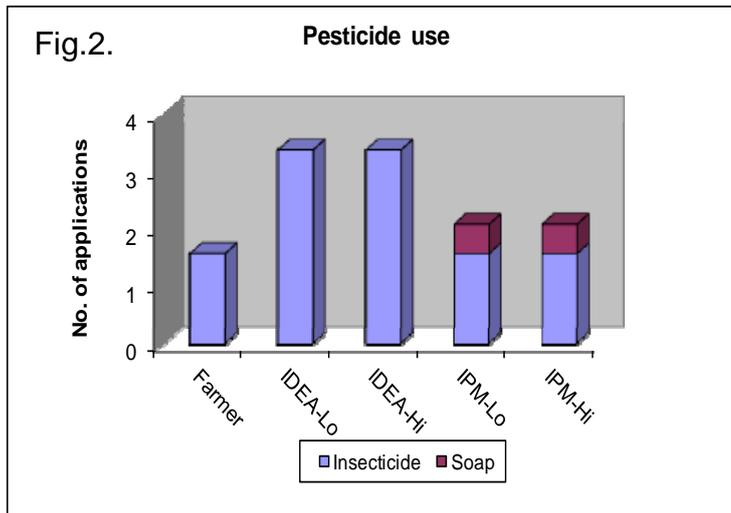
Pest damage was much higher in the plots managed by farmers than in the research-managed plots. All the research treatments whether based on calendar spraying or on scouting [IPM] greatly decreased pest damage.

### The treatments

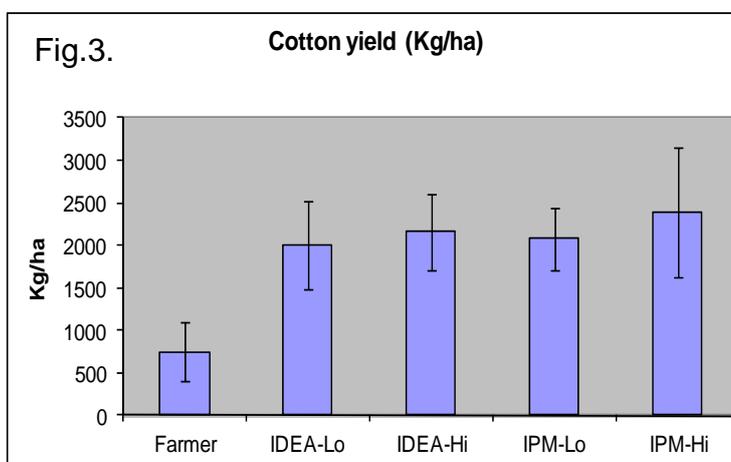
Calendar-based spraying [IDEA] was compared to scouting-based [IPM] and one half of these plots was unfertilised the other received fertiliser. The 4 test plots were compared to farmer practice [Fig.1.].



**The project produced a laminated field guide to pests and natural enemies**



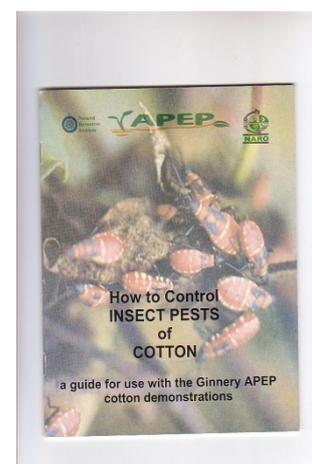
Although calendar-based spraying and scouting-based, both decreased pest Damage, scouting-based [IPM] required fewer insecticide sprays [Fig.2.]



All the research treatments resulted in yields more than double that achieved by the farmers but highest yields were obtained by using the full IPM package combined with fertiliser application [Fig.3.]

In the first season of IPM trials, pest pressure was average but in the second season bollworm numbers were much higher and the scouting-based spray regime led to the application of one more Spray than the 4 sprays in the recommended calendar regime. Nevertheless, the IPM system still resulted in higher yields and greater cost benefit, due to much better timing of the sprays.

The IPM package was scaled-out to 12,000 cotton farmers by using a large number of demonstration plots sponsored by the USAID APEP project. Each of 600 participating farmers hosted a demonstration for 2 years and another 600 in the second period of 2 years. Each farmer was expected to bring at least 10 neighbours to the demonstration. Every 10 demonstrations was technically supported by trained Site Supervisors.



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**Manual used to train demonstration site supervisors**