

Agrichem® (International) Limited

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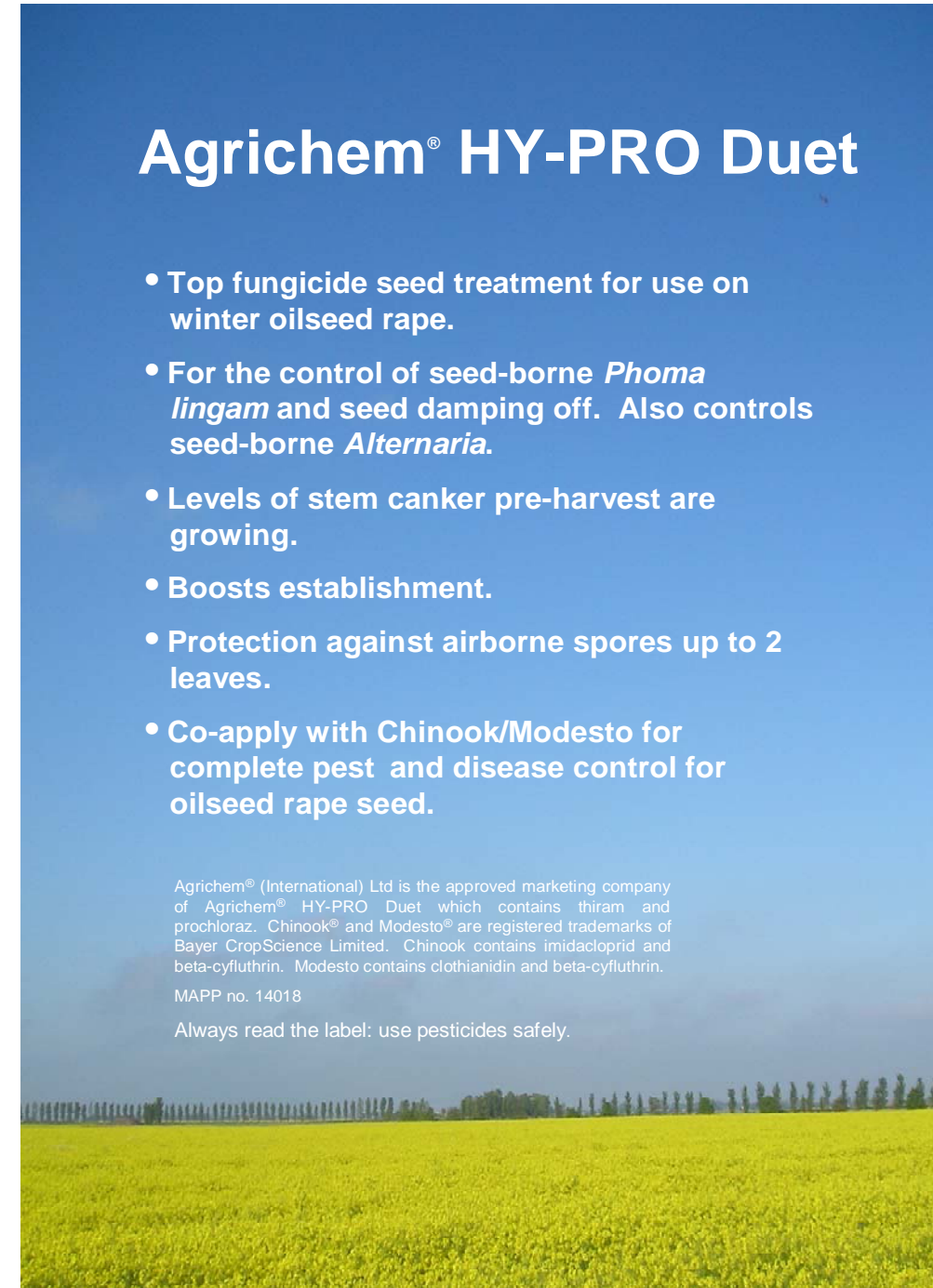
Agrichem® HY-PRO Duet

- Top fungicide seed treatment for use on winter oilseed rape.
- For the control of seed-borne *Phoma lingam* and seed damping off. Also controls seed-borne *Alternaria*.
- Levels of stem canker pre-harvest are growing.
- Boosts establishment.
- Protection against airborne spores up to 2 leaves.
- Co-apply with Chinook/Modesto for complete pest and disease control for oilseed rape seed.

Agrichem® (International) Ltd is the approved marketing company of Agrichem® HY-PRO Duet which contains thiram and prochloraz. Chinook® and Modesto® are registered trademarks of Bayer CropScience Limited. Chinook contains imidacloprid and beta-cyfluthrin. Modesto contains clothianidin and beta-cyfluthrin.

MAPP no. 14018

Always read the label: use pesticides safely.



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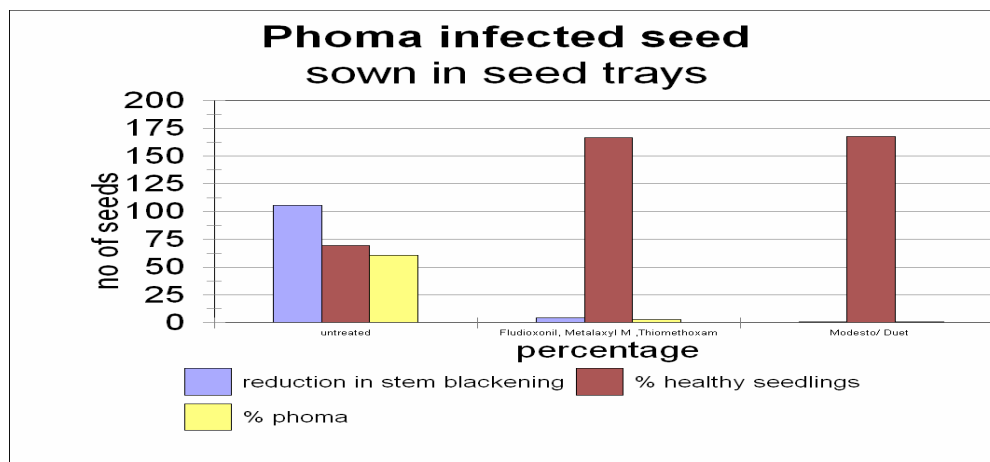
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Phoma lingam is one of the major diseases in oilseed rape crops throughout the UK. In the 2006/07 season crop disease surveys* indicated that at full leaf cover in the autumn, 90% of crops were infected. Whereas at pod ripening of the previous crop 94.9% of crops were infected with stem canker, compared with the long term average of 48%. In 2008 at pod ripening 81.3% of crops were infected. These results suggest that there will be a greater proportion of phoma pod spotting which ultimately leads to seed infection. Agrichem[®] HY-PRO Duet controls seed-borne *P. lingam*, so removing one of the potential sources of the Stem Canker inoculum for the next years crop. Other sources of Stem Canker include spores released from trash to infect seedling rape plants. The two active ingredients in Agrichem[®] HY-PRO Duet are not systemic, but they do have some effect on these sources of aerial infection (see comments below graph).

Recent trials results suggest that Agrichem[®] HY-PRO Duet is the best treatment available for controlling *Phoma lingam*.



Each tray was sown with 200 seeds and you can see that the untreated plots had 60% infection and only 69% healthy plants and this was after only 28 days following sowing. The fludioxonil, metalaxyl-M and thiamethoxam treatment had 4.5 seedlings showing stem blackening and 2.93% diseased seedlings which would most likely result in a significant loss of the 166 healthy plants after some further time in the seed trays. Modesto/Duet had more healthy plants and less disease and less stem blackening.

Efficacy against seed-borne *Phoma lingam* proven in trials.

In 22 trials on seed infected with *P. lingam*, to the extent of 7.75% - 99% disease loading was reduced following treatment with the prochloraz/thiram mixture by an average of **98.5%**. When seed-borne disease was at 30% infection with *P. lingam* or lower then control was 100%.

Protection against airborne spores.

In trials, Agrichem[®] HY-PRO Duet reduced infection of the cotyledons from aerial spores by 77% compared with the control. This benefit was still present at leaf 2 where the reduction was 39%.

The performance of Agrichem[®] HY-PRO Duet was more consistent than that of the fludioxonil, metalaxyl-M and thiamethoxam combination, as the latter did lead to some seedling infection.

As Agrichem[®] HY-PRO Duet also contains thiram it is effective in preventing 'damping off' due to soil-borne fungi and thiram has also been long recognised as having an effect in reducing seed-borne *Phoma* and *Alternaria* (Humpherson-Jones & Maude 1984), although most of the control is by the prochloraz content.

Both Chinook, Modesto and Agrichem[®] HY-PRO Duet have proved very safe to the seed, but Agrichem[®] is also seeing an additional benefit in establishment terms from using Agrichem[®] HY-PRO Duet alongside Chinook and Modesto.

Alternaria Control

Trials carried out this spring on seed infected with *Alternaria* also demonstrated that Agrichem[®] HY-PRO Duet is superior to fludioxonil, metalaxyl-M and thiamethoxam in controlling seed-borne *Alternaria*.

In laboratory trials the untreated control had 157.75 colonies 5 days after sowing, and this increased to 193.25, 14 days after sowing. Over this same time period the Modesto/Agrichem[®] HY-PRO Duet had no infection at all. The fludioxonil, metalaxyl-M, thiamethoxam combination had 32.25 colonies after 5 days and 135.5 colonies after 14 days.

*Central Science Laboratories Crop Monitor

For further information please contact

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Testing has confirmed that these 30 CVs can be safely treated with Agrichem® HY-PRO Duet

For many cultivars safety has also been tested for the co-application of Agrichem® HY-PRO Duet with Chinook and also with Modesto.

Cultivars satisfactorily tested for safety to Agrichem HY-PRO Duet				
Barrel ^C	Caracus ^C	Excalibur ^C	Kalif ^{MC}	Royal
Betty ^C	Catalina ^C	Excel	Komando ^{MC}	Temple ^{MC}
Bravour ^C	Cohort	Expert ^C	Labrador ^C	Tequilla ^C
Campala ^C	Courage ^C	Flash ^{MC}	Lioness ^C	Toccata ^C
Canberra ^C	Disco ^C	Fortis ^C	NK Grace ^{MC}	Trabant ^{MC}
Candis ^C	Epure ^{MC}	Grizzly ^C	NK Victory ^C	Tradition ^C
Cantana ^{MC}	ES Astrid ^{MC}	Hammer ^{MC}	Pollen ^C	Verona ^C
Canti ^{MC}	Escort	Hornet ^C	Pronto	Victory ^C
Castille ^{MC}	Exact ^C	Ibex	Recital	Winner ^C

Those marked with ^C in the table above have been tested and proved safe to a co-applied treatments of Agrichem HY-PRO Duet and Chinook and those marked with ^M have proved safe to the Modesto/Agrichem HY-PRO Duet combination. In fact no cultivar has shown intolerance to the combined treatments. Both treatments must be applied according to the label recommendations.

If you require confirmation of safety on your variety for 2009 sowing please contact Agrichem as soon as possible.

Agrichem HY-PRO Duet is a ready to use water based Flowable formulation containing 150g/l Prochloraz and 333g/l Thiram. It should be applied as the concentrate to winter oilseed rape at 900mls per 100kg seed.

Chinook® and Modesto® are registered trademarks of Bayer CropScience Limited. Chinook contains Imidacloprid and beta-cyfluthrin. Modesto contains clothianidin and beta-cyfluthrin. Agrichem® HY-PRO Duet is a trade mark of Agrichem® (International) Limited and contains prochloraz and thiram.

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