

METAREX[®]

ALL WEATHER SLUG AND SNAIL BAIT

Your best bet in any weather.



The Problem...

Snails

Snails have become significant pests of crops and pastures as agricultural practices focus more on soil conservation. Reduced tillage combined with the retention of pasture and crop residues (stubble) enables greater snail survival within agricultural systems.



Native to the Mediterranean region of Europe, there are four main snail species that have become established and now cause a variety of problems across southern Australia.

Snails can reduce crop yield by feeding directly on seedlings, buds, leaves and fruit. They can also be responsible for financial loss due to contamination of produce such as export citrus, table and wine grapes, fresh fruit and vegetables.

Slugs

Slugs are a serious pest of many crops, particularly during the critical establishment phase. They can kill seeds by eating the plant tissue essential for germination, even if the whole seed is not consumed. Similarly, slugs can eat out the growing points of young seedlings leading to plant death.



The damage caused by slugs is often underestimated because they are mostly active at night. Damage symptoms can be consistent with other pest damage, or blamed on poor germination when the damage occurs underground and out of sight. Signs of slug damage can include poor emergence, plants eaten down to ground level or irregular areas eaten from leaves.

Slugs prefer soils with some clay content and do not fare as well in fine, light or compacted soils. As is the case with snails, slugs are becoming more of a problem under minimum tillage, with soil stubble retention and increased soil organic matter providing ideal conditions for their survival. All pest slugs in Australia have been introduced from overseas, with the two main species being *Deroceras reticulatum* and *Milax gagates*.

The Solution...

Metarex[®] All Weather Slug & Snail Bait

Metarex[®] All Weather Slug and Snail Bait was originally developed for European conditions, and performs long after inferior products have collapsed. Metarex remains attractive and effective even in wet conditions to reduce the need to re-apply baits following rainfall or irrigation. This means lower costs of application and more cost-effective control of slugs and snails.

Metarex has received a strong following in the Australian market after many years of controlling slugs and snails. Many growers have discovered how effective the results are from monitoring the slug or snail population and baiting with the appropriate rate based on pest numbers and crop timing.

In the case of slugs, knowing the population prior to sowing is essential and can be achieved through a monitoring program. If slugs are coming from within the soil profile, Metarex can be sown in the drill row, either mixed with the seed or through a small granule box at seeding. A broadcast (surface) application of Metarex will provide optimum control of surface slug populations before or after sowing. With a range of rates registered, Metarex should be used at the higher level when slug populations are high.



Metarex mixed with wheat seed

Baiting early with a high quality bait is the key to successful control. Metarex is attractive, palatable and remains active in any weather.

Broadacre crops

Use an integrated approach of cultural, mechanical and baiting techniques.

Actions:

1. Monitor slug and snail numbers (by placing a wet sack or tile on ground overnight and count) and have a strategy.
2. Control summer weeds to reduce alternative food sources and refuge.
3. Manage stubble by burning, rolling, cabling or slashing.
4. Use timely bait applications.

Broadcast baits:

1. If pressure is high, apply Metarex prior to sowing.
2. Time baiting prior to egg laying (generally starting 2-4 weeks after first heavy autumn rains and continuing through winter). Ideally apply baits when moist conditions are forecast.
3. Reapply if required.
4. Bait fencelines to combat reinvasion.
5. Plan pre- and post-harvest strategies to clean grain.

Drill with seed:

Metarex can be applied with seed to control slug activity. A broadcast application will also be necessary to control surface populations of both slugs and snails.

Grapes

Snails move up into the crop in spring, aestivate (shut down) over the heat of summer in the crop canopy and can cause serious problems at harvest. They migrate down to breed and overwinter in the groundcover in autumn.

Actions:

1. Control weeds and other plant matter to reduce alternative food sources and refuges.

2. Bait in autumn after rain and prior to egg laying to significantly reduce numbers. Treat all parts of the vineyard and perimeters.
3. Bait also in spring in the vine lines prior to snails moving up into the crop canopy.

Vegetables and nurseries

Slugs and snails are active year-round whenever temperature and moisture conditions are favourable. While this may vary by species, damp, mild, calm conditions are ideal.

Actions:

1. Monitor slug and snail numbers, reduce weeds, crop litter and materials that harbour and/or provide a food source.
2. Cultivate a fine seed bed (vegetables).
3. Bait with Metarex prior to populations building up and especially in autumn prior to most species laying eggs.
4. Bait again under moist conditions if pressure continues.

Poppies

Actions:

Apply Metarex prior to or at crop emergence, ideally at seeding. Reapply if necessary. Consider perimeter baiting to reduce reinvasion.

General principles

- Time Metarex application prior to breeding and egg laying (after first major autumn rains for most snails) to reduce population pressure.
- Ideally spread Metarex when moist conditions are forecast and pests are most active.
- Monitor numbers by placing a wet sack or tile on the ground overnight.



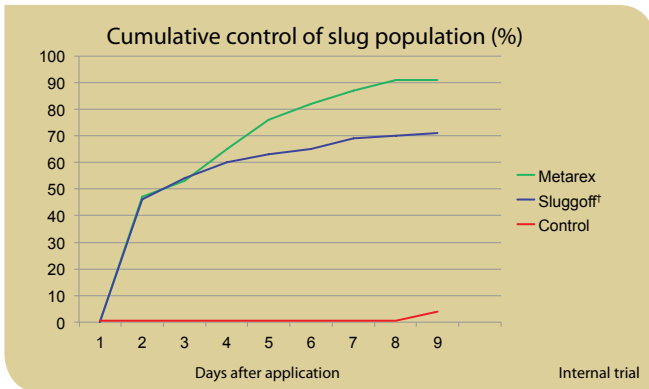
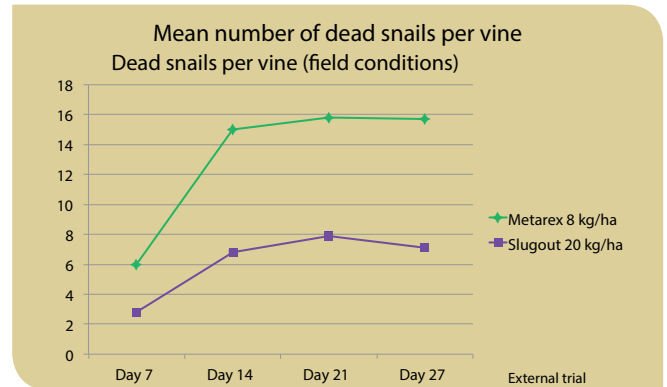
The Reason...

1. Superior efficacy

Metarex was introduced as the first protein-based wet formulation bait in Australia, and has been designed specifically for use in agriculture. With the active ingredient homogeneously mixed through the bait, Metarex continues to work until the last piece is consumed.

Metarex has the highest level of active ingredient per hectare at registered rates to provide reliable control of slugs and snails.

Independent and in-house trials over many years have consistently shown fewer damaged plants and more dead slugs and snails when Metarex is used compared to using any other product at label rates.

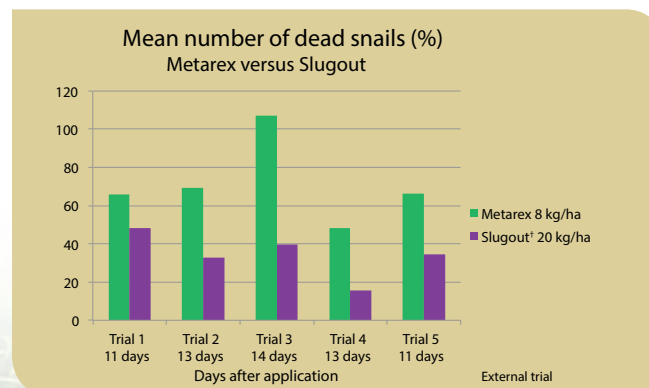
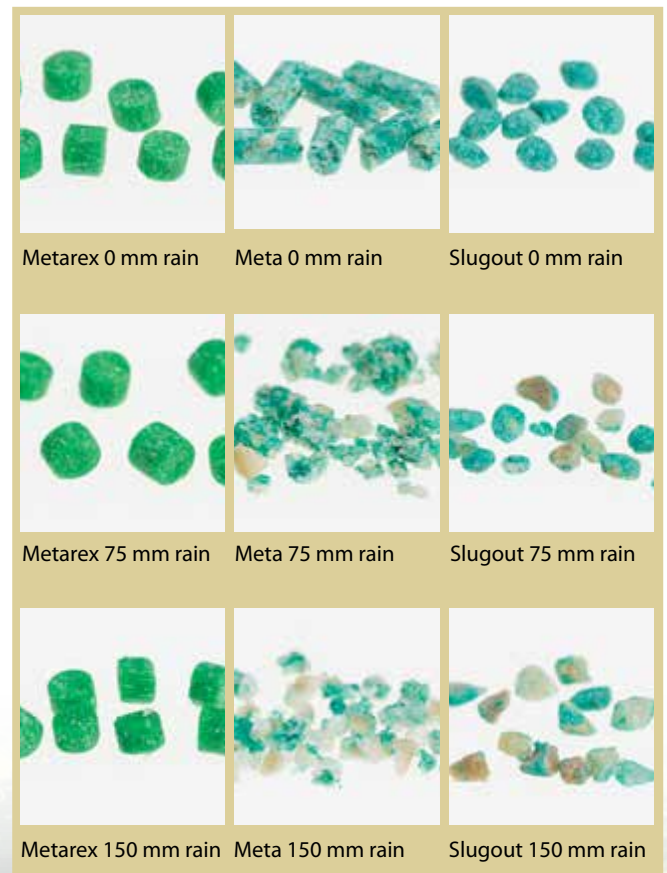
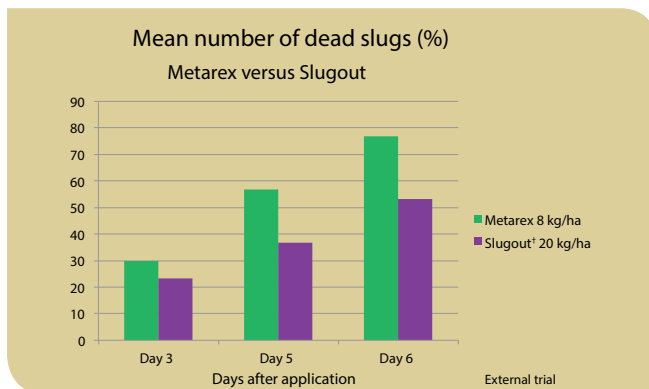


2. Lasts longer

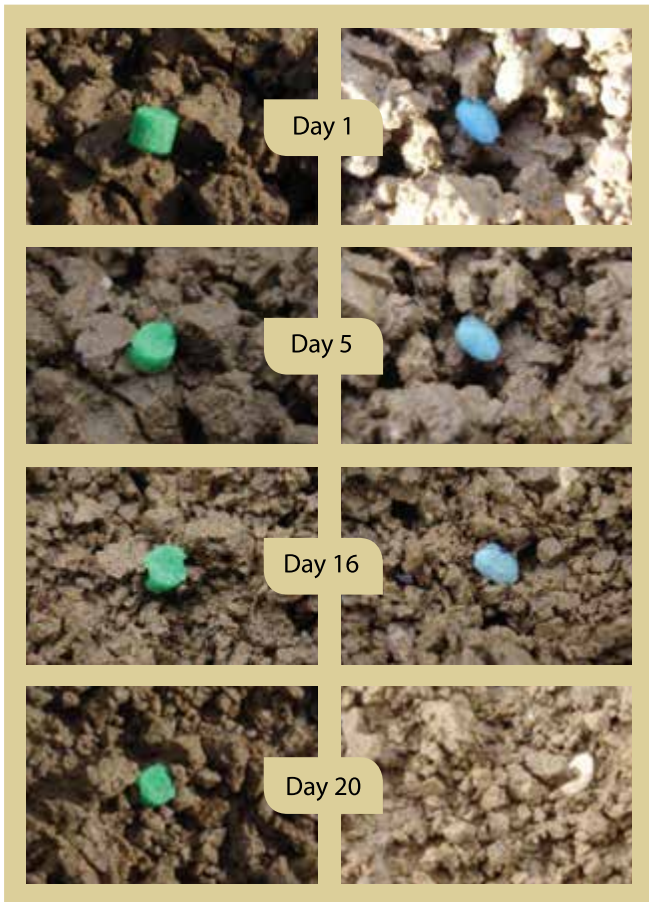
Metarex works under harsh climatic conditions, and lasts for many weeks in alternating wet and dry conditions.

How rainfast is Metarex?

In a trial demonstration, Metarex consistently out-performed Meta⁺ and Slugout⁺. After 75 mm and 150 mm of simulated rainfall, Metarex was still intact, while Meta was reduced to an unappetising slurry and Slugout to grains of sand with little active ingredient remaining.



External trial



Comparison of Metarex and Sluggoff after 60 mm rain over 20 days. (Note: Trial conducted in France, where Sluggoff is coloured blue)

3. Highly attractive

Metarex is a unique bait formulation containing ingredients that attract slugs and snails. While other products rely on random encounter, slugs and snails actually seek Metarex out!

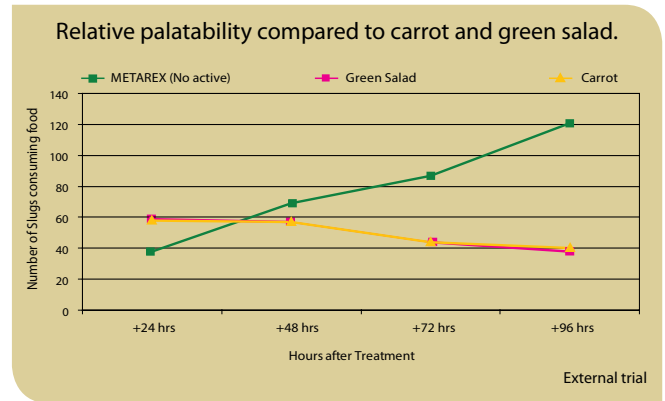
Replicated trials, each involving 100 slugs, have demonstrated conclusively that up to 80% are attracted to Metarex in preference to canola seedlings... and slugs love canola seedlings.

In another trial, 100 slugs in individual test dishes were given the choice between a Metarex bait and a Sluggoff pellet. The results: 99% found Metarex more attractive than Sluggoff.



4. Highly palatable

In a cage trial, slugs chose Metarex over green salad or carrots, some of their favourite foods.



Metarex is easily consumed



Immature slug eating Metarex

5. Excellent ballistics for even spreading

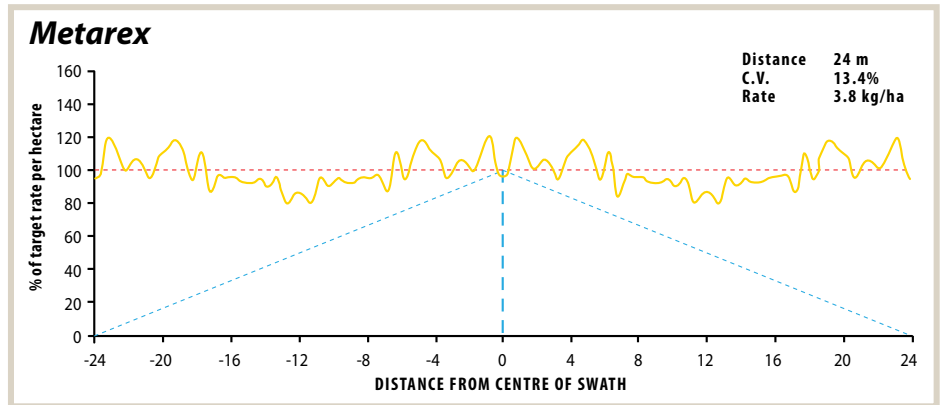
Ballistic performance is essential for even coverage of the area to be treated, and hence, for achieving optimum control of slugs and snails. Metarex baits are consistent in size and density, with excellent ballistics that allows flexibility across all types of application equipment.

Independent research in Europe has confirmed that correctly spread slug and snail baits will have a coefficient of variation (C.V.) of 15% or less*; this means that the evenness of spread will not vary by more than 15% from the target rate.

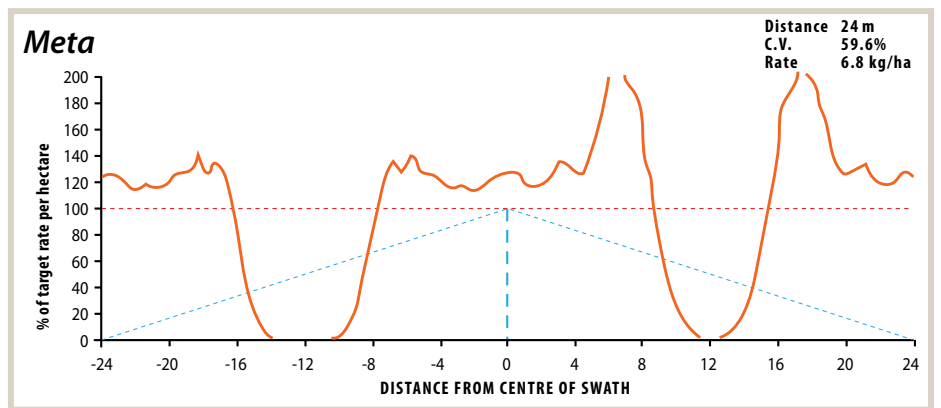
In the first graph opposite, Metarex has a C.V. of less than 15%, which indicates a relatively even spread across the full swath.

In the second graph, Meta has a C.V. of almost 60%. This indicates a very uneven spread with areas of the swath being either over-dosed or under-dosed. Control of slugs and snails under these circumstances would be highly variable.

* IRSTEA, France, 2008



Collection of baits out to 24 metres
NB. Applications made with a 24 metre swath and overlapping passes

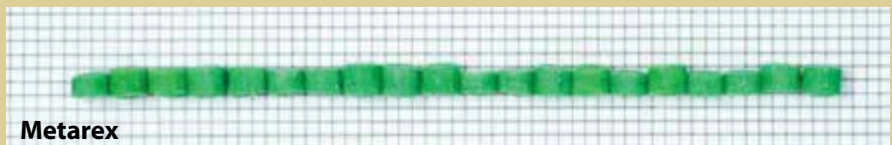
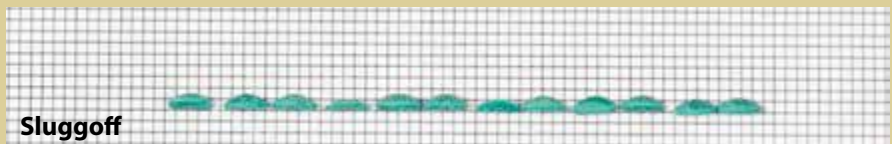
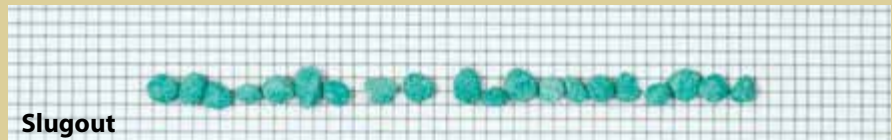


Collection of pellets out to 24 metres
NB. Applications made with a 24 metre swath and overlapping passes

Uniformity of Metarex bait compared to other products available in Australia

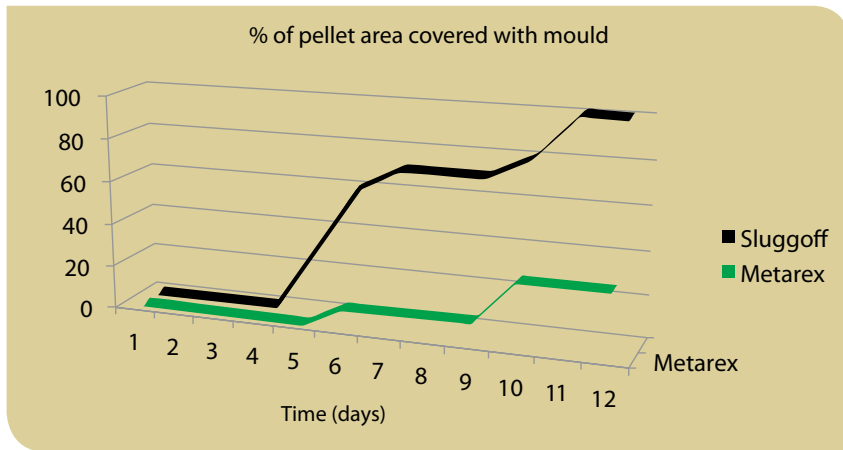
Metarex bait is consistent in size and density across every batch, as demonstrated in the chart to the right.

Combining these aspects with a dust-free formulation that is less likely to shatter during spreading ensures that Metarex has ideal ballistics for even application.



6. Mould resistant

Metarex is manufactured to a specific protein-based formula that is attractive to slugs and snails, yet retains its unique shape and resists moulding, despite the weather.



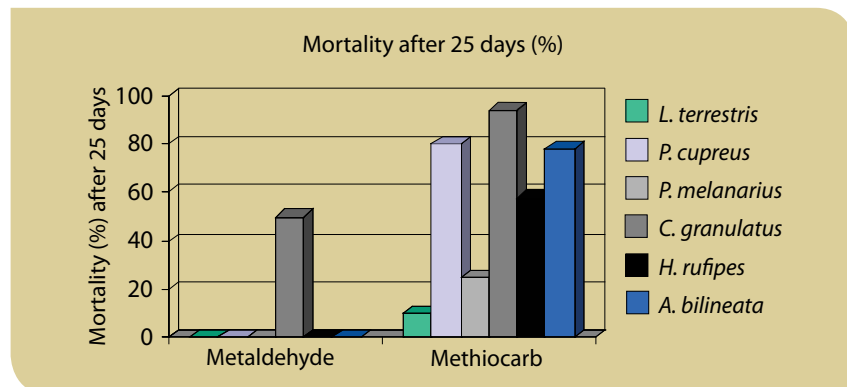
7. Flexible application

Metarex can be applied broadcast pre- or post-sowing, or by direct drilling with seed, and is registered on a wide range of broadacre and horticultural crops.

8. Higher loading & mode of action

Metarex contains 5% of the active ingredient metaldehyde, which is at a level high enough to control multiple slugs and snails per bait. Other products containing 3% or less active ingredient can require more than one pellet to effectively control slugs and snails.

Metaldehyde acts mainly through ingestion, with symptoms caused by the irreversible destruction of mucous cells leading to death of snails and slugs, even under difficult conditions (rain and cold). The first visible symptom of metaldehyde poisoning is excessive production of mucus. This very specific mode of action provides a high level of safety to other fauna, earthworms, carabid beetles and ants.



Effects of metaldehyde and methiocarb on different species of carabid beetles and earthworms (*L. terrestris*)

9. Economical

Metarex provides unsurpassed economy based on formulation and mode of action. With an optimum number of highly attractive bait points, Metarex attracts slugs and snails to reduce crop damage, yet lasts and lasts, despite the weather.

Each Metarex bait is effective and highly palatable to the last piece and, with a monitoring program, can be used to control slugs and snails before costly crop damage occurs.

Other products provide false economy; some collapse after light rain and require regular reapplication, or don't have the active ingredient when it is needed. Others just aren't as effective as Metarex.

According to the latest research presented by the GRDC, unless your bait application is even, your product is rainfast with at least 3% active ingredient, and is attractive and palatable, it's a waste of money.

Choose Metarex and apply early.

Metarex is the effective bait product for control of slugs and snails.



Innovation. Quality. Solutions.

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ALL WEATHER SLUG AND SNAIL BAIT

1. Superior efficacy
2. Lasts longer
3. Highly attractive
4. Highly palatable
5. Excellent ballistics
6. Mould resistant
7. Flexible application
8. Higher loading & mode of action
9. Economical

Packaging



Rates

Metarex is registered for use in the rate range 5 to 8 kg/ha. Where small brown snails (*Microxeromagna vestita*) are present, 10 kg/ha should be used.

READ THE PRODUCT LABEL THOROUGHLY BEFORE OPENING OR USING METAREX.

Metarex contains Bitrex deterrent to help with pet safety.

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Data referred to herein were generated using products and rates that were registered at the time. Always read and follow product labels. AgNova Technologies Pty Ltd shall not be liable for any consequential or other loss or damage relating to the supply or subsequent handling or use of this product, unless such liability by law cannot be lawfully excluded or limited. All warranties, conditions or rights implied by statute or other law which may be lawfully excluded are so excluded. Where the liability of AgNova Technologies Pty Ltd for breach of any such statutory warranties and conditions cannot be lawfully excluded but may be limited to it re-supplying the product or an equivalent product or the cost of a product or an equivalent product, then the liability of AgNova Technologies Pty Ltd for any breach of such statutory warranty or condition is so limited.

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