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Product Code 13460

OVAPLANT

- *Ovaplant* is effective in advancing maturation and ovulation
- *Ovaplant* contains a synthetic analogue of Salmon GnRH
- *Ovaplant* uses a safe controlled release compound
- *Ovaplant* has been tested in tropical fish species

RECOMMENDED DOSAGE & ADMINISTRATION METHOD.



- Injected as a single implant dose
- Can be injected 3 -4 weeks prior to normal spawning
- Spawning of groups can be advanced and synchronized
- Repeat injections can be given to fish treated long before normal spawning

SEDATION FOR HANDLING

If sedation is required, use a plastic or glass tank of sufficient size to hold the fish. Anesthetize with TMS (Tricaine Methanesulfonate) or Tranquil at the recommended level, being sure to mix thoroughly BEFORE adding the fish. Always handle fish gently. Avoid contact between the anesthetic solution and eggs or milt.

INJECTING *Ovaplant*

	<ul style="list-style-type: none"> • <i>CLEANLINESS</i> - Ensure that all equipment is clean and, if possible, sterilized. Wear gloves. • <i>INJECTION</i> - <i>Inject</i> using the supplied injection needle and RalGun into the dorsal sinus. Ensure that both males and females are injected at the same time. Inject <i>Ovaplant</i> carefully, and quickly remove the needle. Gently place the fish into a container of fresh, aerated water. • <i>RECOVERY</i>- After the fish has recovered from sedation (5 to 10 minutes), return it to the breeding tank. More than one fish may be induced at the same time.
<i>PRESENTATION</i>	<ul style="list-style-type: none"> • <i>Ovaplant</i> is formulated to provide correct dosing for the normal sized spawning salmon
<i>SAFETY PRECAUTIONS</i>	<ul style="list-style-type: none"> • <i>Ovaplant</i> contains a physiological agent used to stimulate ovulation or spermiation. Workers should avoid direct contact. Keep out of reach of children
<i>STABILITY & STORAGE</i>	<ul style="list-style-type: none"> • Stored at refrigerated temperature (4°C) and out of direct sunlight, the shelf-life of <i>Ovaplant</i> exceeds 18 months.
<i>GENERAL REMARKS</i>	<ul style="list-style-type: none"> • <i>Ovaplant</i> is manufactured from GMP source products. • Applications for drug registrations in several countries • <i>Ovaplant</i> has been used successfully in trials with Atlantic salmon in British Columbia. • Environmental conditions will play a significant role in the reproductive process and may affect the response to <i>Ovaplant</i>.

Using Ovaplant to Induce Maturation in Cultured Fish

Features

Ovaplant can advance and synchronize spawning dates in cultured fish. As well, Ovaplant is quick and easy to use. The results are predicable and reliable without affecting fecundity, fertility and survival. In males, milt production is increased for extended times. In females, maturation of ova is complete without adverse affects. Ovaplant can be used in a variety of cultured fish and in many applications: re-start stalled maturation, synchronize spawning times, induce maturation in hard to breed fish and ensure breeding in endangered stocks. Ovaplant has emerged worldwide as a key tool in broodstock management.

Product Description

Ovaplant contains a potent analogue of a naturally-occurring brain peptide. This peptide initiates maturation in all species of fish through the fishes' own internal mechanisms. Ovaplant comes as pellet that is implanted into the fish prior to spawning date. The controlled release of the peptide over time ensures the safe induction of spawning. The peptide vehicle is 100% biodegradable and is made from all natural compounds. Moreover, the ingredients of the implants will not harm the fish or humans.

Method of action

The active ingredient of Ovaplant is the analogue of salmon GnRH or sGnRH_a. The native peptide is released from brain cells of the hypothalamus that then bind to receptors on pituitary cells. The sGnRH_a in Ovaplant acts in this fashion except that

- it travels to the pituitary from the pellet through the blood,
- it is present in greater than physiological amounts and
- binds to the pituitary receptors with a greater affinity than native peptide and hence is more potent.

These three factors, external source, greater availability and greater potency, induce and increase a continued liberation of maturational hormones from the pituitary. These pituitary hormones elicit gonad maturation together with the constituent and complementary hormone production from the gonads. The result is the earlier, complete production of viable eggs and milt.

Applications

Ovaplant can be used in a population of fish with a well-defined breeding or spawning period. Ovaplant can advance maturation dates by 4-6 weeks in populations with a uniform and short spawning period. In other cases, Ovaplant can move spawning dates by 3 weeks. When used in the normal spawning season, using Ovaplant will compress the spawning season to within 1-2 weeks post-implantation. Ovaplant can also be used in fish that have been photoperiod controlled. There is no substitute for well-described broodstock performance and the best results for using Ovaplant are in stocks with a recorded spawning history.

Typical uses

Here are four main uses of Ovaplant:

1. To advance spawning date in a population. An advanced spawning date gives producers a greater flexibility in marketing ova and offspring. It also has many beneficial downstream effects that are realized when spawning is confined to a predictable and defined period.
2. To compress the spawning season. Often fish in a population will spawn over a protracted period. Ovaplant can compress and shorten the spawning season that permits optimization of time and resources.
3. To restart stalled maturation. Sometimes handling or other stress causes valuable broodstock to stop maturing after the process has begun. Ovaplant can help to restart maturation in a natural way without effecting gamete viability.
4. To increase milt production. Chronic problems of milt shortages are commonplace in aquaculture. This may disrupt detailed breeding programs. Ovaplant serves to increase milt production and lengthen the time males will produce.

Species list

Ovaplant can be used in all species of fish. The forms of GnRH that naturally occur in the brains of fishes differ throughout the more than 25,000 fish species. However, the salmon form of GnRH is present in most of these fish and thus the sGnRH_a in Ovaplant is the peptide of choice. Among the other types of GnRH found in the other fishes, there is such a conservation of form and function that Ovaplant works successfully. For specific application of Ovaplant to your fish, consult Syndel Labs.

Critical Requirements

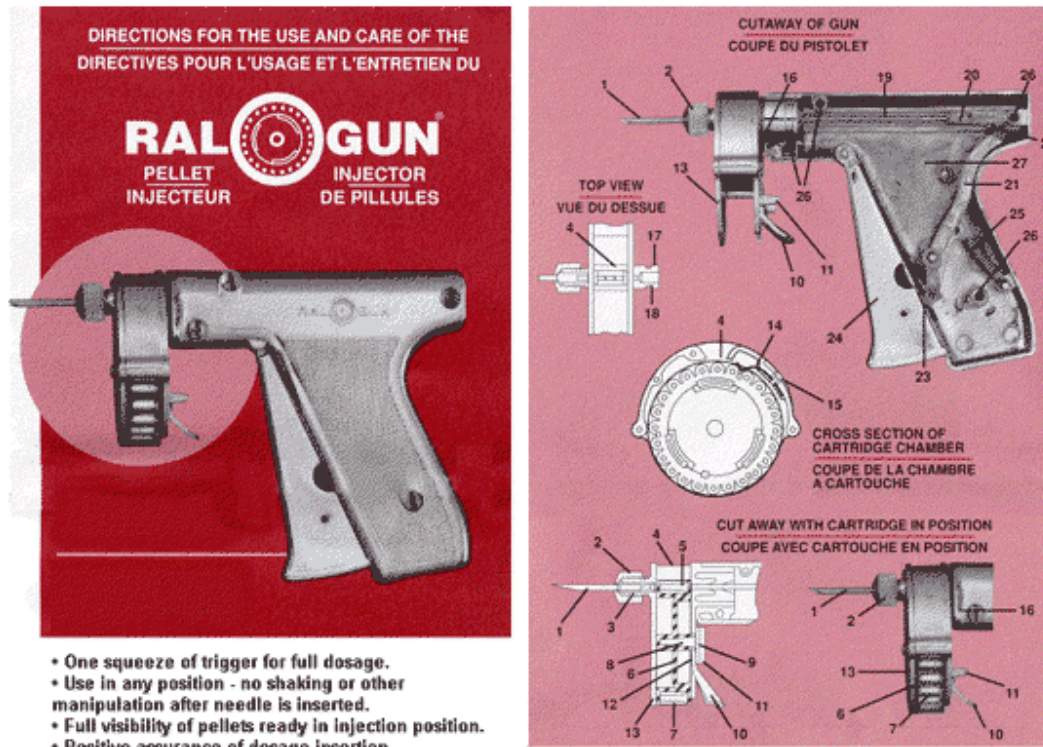
It is primary important that the protocols of Ovaplant be used for successful results. Paramount is defining the intended purpose: advanced maturation, compressed spawning, re-starting maturation or increased milt production. In each of these applications the timing of Ovaplant use differs. Generally, the closer to normal spawning date that Ovaplant is used, the greater the success.

Another consideration is sample size. Fish spawn in a season that may span weeks or months. By implanting only a few fish from a population, it is equally likely that late and early spawning fish could be chosen. This would give results concomitant with the reproductive state in individual fish: all fish would spawn earlier than normal (eg weeks earlier), but it would be impossible to determine which fish were moved forward the most or at all. The solution is to try Ovaplant on a larger sample of fish with a well-defined history of spawning dates.

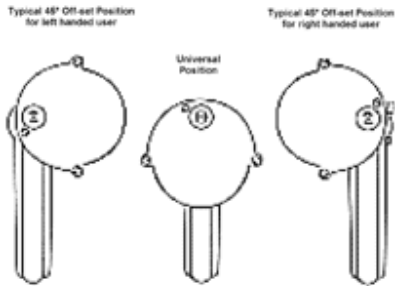
Packaging and Presentation

Ovaplant comes in a cassette that contains 24 implants. The cassettes fit into an implanting gun that is easy to use and is autoclavable. The removable implanting needles are disposable and can be sterilized. Simply insert the needle, pull the trigger and withdraw the needle. The implants contain enough sGnRH_a to accommodate a range of fish weights with a wide range of therapeutic efficacy.

RalGun Pellet Injector- used for Veterinary purpose only



Ralgun & REG; parts as per cutaway diagrams		
1. Needle	10. Cartridge release tab	19. Plunger
2. Chuck cap	11. Tab stop	20. Plunger guide
3. Collet	12. Tab spring	21. Lever
4. Pellet sighting port	13. Cartridge holder, front	22. Upper connector
5. Pellets in injection position	14. Indexing spring	23. Lower connector
6. Cartridge	15. Indexing spring rivet	24. Trigger
7. Cartridge magazine (transparent)	16. Direction of rotation indicator	25. Plunger retraction spring
8. Cartridge axle, rear	17. Cartridge holder shank	26. Gun assembly screws
9. Cartridge axle positioning hole	18. Cartridge holder retaining tongue	27. Gun stock



**TYPICAL PREFERRED POSITIONS
OF THE CARTRIDGE HOLDER**

TO CHANGE POSITION OF THE CARTRIDGE HOLDER

The holder may be adjusted to any position in full circle orbit. Loosen the two front gun stock assembly screws with a screw driver or coin until the holder is loose enough to be rotated. Avoid loosening so much that the holder comes out of the stock. Turn the cartridge holder in either direction to the desired position. Retighten the two front assembly screws.

TAKING CARE OF THE GUN

It is the nature of the pellet injection operation that a certain amount of blood, scales, dirt, etc. , will be deposited on the plunger and carried back into the gun mechanisms. As with any precision mechanism, the injector gun should be kept clean for the smoothest operating results.

Clean the plunger with the needle removed and the plunger extended during use.

Disassemble the gun stock halves for cleaning the internal plunger surfaces as necessary to keep the plunger mechanisms working smoothly. The internal mechanisms are exposed for cleaning by removing the gun stock assembly screws (26) and prying apart the halves with the gun lying flat and the needle facing to the left. Clean the plunger, plunger guide and slide surfaces with a detergent solution or alcohol. Do not oil the plunger, plunger guide or slide surfaces. Lubrication of these parts is not necessary although a little pencil lead or dry teflon aerosol lubricant on parts may give smoother action.
