

FEED AND FEEDING FOR TROUT



Feeding is a very important part for the successful fish farming in uplands. Feed and size of pellets control the growth variation of fish among individuals of the same group. The major constraint in the trout farming is only the non availability of formulated trout feed.



Directorate of Coldwater Fisheries Research

(Indian Council of Agricultural Research)

Bhimtal -263 136, Nainital (Uttarakhand)

Phone: 05942- 247280/247279, Fax: 05942- 247693

Email: director@dcfr.res.in, Website: www.dcfr.res.in



*D*ietary protein requirement of trout is in the range of 30-45% on dry matter basis. Trout has an exclusive requirement of n-3 or w3 PUFA in their diet. 10-14% lipid may be included in the trout diet.

Fish meal (Sterilized having >60% protein), solvent extracted soybean meal, mustard oil cake, wheat flour, Starch, fish oil, Brewer's yeast powder, Linseed oil cake and Vit. & min. mixture may be used for formulation of trout diet.

Data on growth performance and nutritional value revealed that 50% protein and 14 % lipid for starter feed, 45% protein and 16 % lipid for fingerlings feed and 35% protein and 14% lipid for grow out feed is required for proper growth.

Requirement of Arginine (6.427%) is comparatively higher than the other essential amino acids.

1. Solvent extracted soybean meal (SESM) contain 48% protein and has best amino acid profile and is highly palatable, digestible to trout (Digestion coefficient 80%). It also contain Arginine (3.91% of dry basis), an important amino acid for the trout. 40% fish meal can be replaced by SESM without impairing feed intake, growth and FCR. Protein utilization of the trout diet may be improved by adding papain in the diet of the trout. Papain is the principal and most active enzyme and possesses a very powerful digestive action superior to pepsin and pancreatin.

Turmeric powder as anti-biotic, asafetida as appetizer for improving feed intake and Ashwagandha (*Withania somnifera*) as anti stress may be incorporated in the trout diet in little proportion for better feed performance.

Production of unwanted ammonia in trout rearing water may be reduced by reducing protein content in the diet.

DCFR trout grow out feed is environmentally friendly, cost effective, nutritious diet for trout with 35% protein and good FCR- 1.26.

The production cost of this feed is Rs. 78/- per kg.(depends on ingredients cost)

Characteristic features

- ❖ High Growth
- ❖ Better survival
- ❖ Low ammonia excretion
- ❖ Less water flow requirement
- ❖ Anti stress
- ❖ Better protein utilization
- ❖ Better FCR
- ❖ Cost effective



Proximate composition (%)	
Moisture	3.64
Crude protein	35.26
Crude lipid	14.20
Crude fibre	3.78
Total ash	13.67
NFE	19.20
Gross Energy (kJ/g)	19.12



Feeding for Trout

Being carnivorous and delicate fish, trout need high protein content of quality feed.

Feeding schedule

Size of the Fish	Protein Content	% of body weight	Times
< 10 gm	40 %	5-10 %	7-8
<50 gm	35 %	5- 6 %	3-4
> 50 gm	35 %	2-3 %	2-3

Dry floating pelleted feed is used for the feeding of grow -out stock. Trout feed processing involves grinding, mixing, agglomerating, heating, drying, screening, pelleting and crumbling.



Water temperature for normal feeding & growth-14-20°C

Water flow rate

One litre of water per minute per age- month is needed for every 1,000 fry/fingerlings/yearlings.

Edited & Compiled by

Dr. N. N. Pandey, Sr. Scientist (Aquaculture)

Dr. S.K. Srivastava, Sr. Scientist

Dr. S.K.Gupta, Scientist

Published by

Director, DCFR Bhimtal