

# Feeding Analysis of Carnation Plants

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Some 3 to 4 million old carnation plants are discarded each year in Colorado during the replanting season. Most often these are hauled away at the expense of the greenhouse operator. Some plant material and disbuds have been utilized in the fresh state as feed for poultry and livestock. Since this by-product should have a value, a feeding analysis was recently made on the entire tops of 2-year-old plants with only the roots removed.

The following analysis of carnation plants and an average analysis of alfalfa hay (1) show that carnation plants have a relatively high nutritive value. The carnation plants in this analysis were higher in % nitrogen-free extract (mainly carbohydrates) and phosphorus than the average for alfalfa hay. Carnation was also higher in ash content, slightly lower in crude protein though still a high protein forage. The % ether extract, principally made up of pigments, fats and waxes was about half that for the average of alfalfa.

Table 1. Feeding analysis on a dry weight basis for carnation plants compared to an average analysis for alfalfa hay (1).

	<u>Carnation</u>	<u>Alfalfa</u>
% Crude protein	14.53	19.3
% Ether extract	1.31	3.0
% Crude fiber	26.87	27.4
% Ash	12.99	9.0
% Nitrogen-free extract	44.30	41.3
% Phosphorus	1.27	0.38
% Calcium	1.39	1.61

Since greenhouse carnations are luxury fed compared to field grown forage crops, they could be expected to contain high levels of all major and trace minerals.

The insecticides used on carnation might be above tolerable residue limits for livestock feed. Should this be the case, the dried, ground carnation feed could be used as a supplement so the insecticide content of the total feeding mixture could be kept low. Tests for organophosphorus residues would need to be made before carnation plants were used in large scale feeding.

For each one pound of dry matter per plant (4 lbs. fresh weight), the estimated annual yield of carnation forage for Colorado is over 1500 tons of high quality livestock feed.

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1. Miller, D. F. 1958. Composition of cereal grains and forages. Agr. Bd. Nat. Acad. Sci., Nat. Res. Council Pub. 585.