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Outline Report of the
Agent Orange Working Group
Science Panel
Subcommittee on Exposure

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VA/AOPO

November 1982

Factors that must be considered in the development of an exposure index model include nature of the chemical and target, time after application of the herbicide and distance from application site.

I. Factors that Influenced Exposure to Herbicide:

- Herbicide Formulation

  Chemical/Physical Characteristics
  Solubility
  Vapor Pressures

- Dissemination of Herbicides

  Application Parameters
  Target Vegetation

- Route of Exposure

  Dermal
  Inhalation
  Ingestion

- Environmental Fate

  In Air
  On Vegetation
  In Soil
  In Water

II. Dissemination System

1. RANCH HAND KC 123/A/A45Y-1 Dispenser Internal Defoliant
2. UH-1B/D Helicopter Spray System (Agrinautics)
3. Buffalo Turbines

4. Power-Driven Decontamination Apparatus (PDDA)

5. Back-Pack Sprayers (2 and 5 gallons)

6. "Jerry-Rigged" or Field Expedient Devices.

III. Factors described by Weighted Systems

A. Toxicity of Herbicide

B. Fate of TCDD

Location of Mission
Jungle
Mangrove
Crop
Other

C. Type of Mission

RANCH HAND
Perimeter
Herbicide Abort occurrence

D. Time After Exposure

Days

- within 1
- within 2
- within 3

E. Distance from Exposure Type (Application Site)

- within 0.5 km
- within 1.0 km
- within 1.5 km
- within 2.0 km

IV. Assignments of Weights

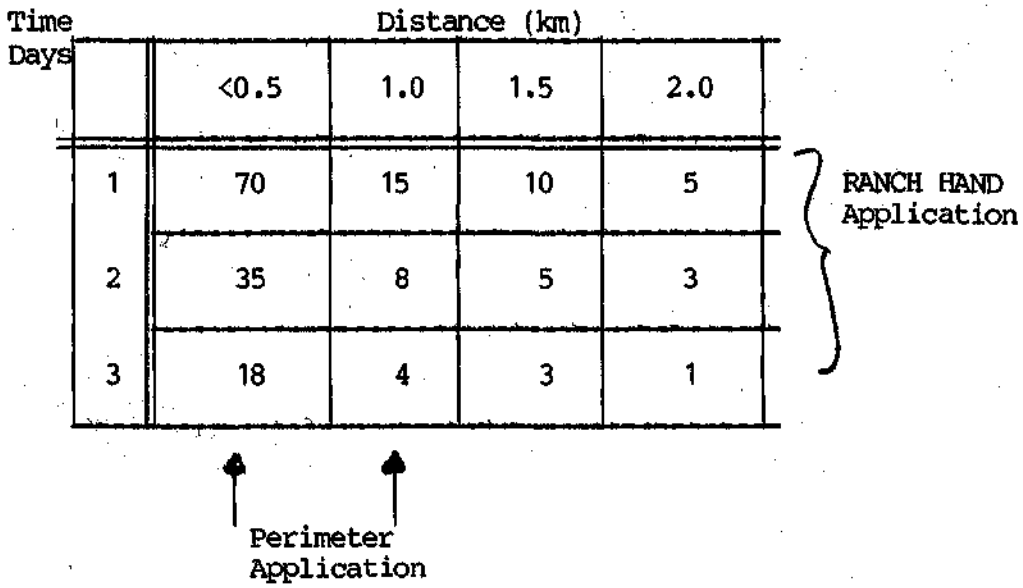
° Toxicity of Herbicides		Weight Score
Orange	600 mg/kg	5
Blue	2600 mg/kg	2
White	3100 mg/kg	1

° Location of Mission

Defoliation

Jungle (Heavy Canopy)	10% Penetration	1
Mangrove (Light Canopy)	32%	3
Crop/Abort Missions	100%	10
Perimeter Applications	70%	7

Time/Distance Matrix*



* Values in Time/Distance matrix established in percent of herbicide particles falling within specified distance from height of release (RH Mission) and impact of environmental degradation or binding over specified time intervals.